

# **Odessa Subarea Special Study**

## **Final Environmental Impact Statement**

### **Volume 2 – Comments and Responses**

**Columbia Basin Project,  
Washington**



**U.S. Department of the Interior  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
Yakima, Washington**



**State of Washington  
Office of Columbia River  
Department of Ecology  
Wenatchee, Washington  
Ecology Publication No. 12-12014**

**August 2012**

## **Mission Statements**

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

The mission of the Department of Ecology is to protect, preserve and enhance Washington's environment, and promote the wise management of our air, land and water for the benefit of current and future generations.



# **Odessa Subarea Special Study**

## **Final Environmental Impact Statement**

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**U.S. Department of the Interior  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
Yakima, Washington**



**State of Washington  
Office of Columbia River  
Department of Ecology  
Wenatchee, Washington  
Ecology Publication No. 12-12014**

**August 2012**



# Acronyms and Abbreviations

APE	area of potential effect
BMPs	Best Management Practices
BiOp	Biological Opinion
BPA	Bonneville Power Administration
CBP	Columbia Basin Project
cfs	cubic feet per second
Corps	U.S. Army Corps of Engineers
DEIS	Draft Environmental Impact Statement
DO	dissolved oxygen
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973, as amended
FCRPS	Federal Columbia River Power System
FDR	Franklin D. Roosevelt Lake
FEIS	Final Environmental Impact Statement
GWMA	Columbia Basin Ground Water Management Area
IMPLAN	Impact analysis for PLANning
M&I	municipal and industrial
Management Program	Columbia River Basin Water Management Program
MOU	Memorandum of Understanding
NED	National Economic Development
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
Odessa Subarea	Odessa Ground Water Management Subarea
OMR&P	operating, maintenance, and replacement, and power
P&Gs	Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies
PUD	Public Utility District
RCW	Revised Code of Washington
Reclamation	Bureau of Reclamation
RMJOC	River Management Joint Operating Committee

Secretary	Secretary of the Interior
Service	U.S. Fish and Wildlife Service
Special Study Report	Odessa Subarea Special Study Report
State	State of Washington
Study	Odessa Subarea Special Study
Study Area	Odessa Subarea Special Study area
TCP	Traditional Cultural Property
USGS	U.S. Geological Survey
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife

## Comments and Responses

This document constitutes Volume 2 of the *Final Environmental Impact Statement Odessa Subarea Special Study* (FEIS). Comment letters received in response to the *Draft Environmental Impact Statement Odessa Subarea Special Study* (DEIS) and a summary of the public hearings testimony are reproduced in this document. Responses to the individual comments follow the comment letters. There are many citations of documents and publications within the responses; those references are included in the Bibliography of Volume 1 of the FEIS.

Both the DEIS and the FEIS were prepared jointly by the Bureau of Reclamation and Washington State Department of Ecology. The *Draft Environmental Impact Statement Odessa Subarea Special Study* was filed with the Environmental Protection Agency (EPA) and the *Washington State Environmental Policy Act Register* on October 20, 2010. A Notice of Availability and Public Meeting dates and locations appeared in Volume 75 Issue 205 of the *Federal Register* on October 25, 2010. Reclamation and Ecology sent a joint news release announcing availability of the DEIS and dates, times, and locations of the public meetings to area media, and the Washington State Department of Ecology published a Notice of Availability in area newspapers. The comment period ended January 31, 2011.

Approximately 1,000 copies of the DEIS were distributed to Federal, State, and local agencies; Native American Tribes; irrigation districts; interested members of organizations and entities; and the general public. The DEIS and supporting technical reports were also available online at Federal and State Web sites.

A total of 206 unique letters and 473 form letters were received during the public comment period. From these letters, a total of 1,018 individual comments were identified and addressed.

On November 17, 2010, an open house was held in the town of Coulee Dam, Washington. On November 18, 2010, an open house was held in Moses Lake, Washington. Eight people provided oral comments to the court reporter at the public hearings. The public hearing record is duplicated in this volume (labeled HRG1 and HRG2) and is also available for review at Reclamation's Columbia-Cascades Area Office in Yakima, Washington, and Pacific Northwest Regional Office in Boise, Idaho, and Ecology's Spokane and Yakima, Washington, offices. The public hearing record is also posted on the Odessa Subarea Special Study Web site, [http://www.usbr.gov/pn/programs/ucao\\_misc/odessa/index.html](http://www.usbr.gov/pn/programs/ucao_misc/odessa/index.html).

A number of identical or similar comments appeared in many of the comment documents. Where the substance of a comment has already received a response, the reader is referred to a previous response.

Table 1 provides a list of those who commented on the DEIS, the alphanumeric designation of the comment letter, and the page number where each comment letter and its response begin. Table 2 lists the names of those who sent in an identical or nearly identical form letter (see Comment Letter IND160). Following Table 2 are the comment letters submitted during the comment period. "Responses to Common Issues" (referred to "Master Responses" in this

document) follow the comment letters, and Table 3 lists each individual comment number and the response to that comment.

**Table 1—List of commenters and page numbers in this document where each comment letter and responses to that letter begins. Designation code letters identify a category of commenters, while the code number identifies a particular group or individual within that category**

Commenter	Designation	Page No.	
		Comment Letter	Response
Indian Tribes			
Confederated Tribes of the Colville Reservation	TRB1	19	660
Spokane Tribe of Indians	TRB2	32	663
Confederated Tribes and Bands of the Yakama Nation	TRB3	48	665
Federal Agencies			
Department of the Interior, U.S. Fish and Wildlife Service	FED1	52	666
Department of the Interior, National Park Service	FED2	55	666
Environmental Protection Agency	FED3	58	667
Department of Energy, Bonneville Power Administration	FED4	66	668
State of Washington			
Department of Fish and Wildlife	WAS1	72	669
Department of Natural Resources, National Heritage Program	WAS2	119	676
Parks and Recreation Commission	WAS3	121	676
Legislative			
Washington State Legislature	LEG1	125	677
Local Agencies			
Adams County Commissioner	LOC1	127	677
Adams County Commissioner	LOC2	128	678
Adams County Commissioner	LOC3	129	678
Grant County Economic Development Council	LOC4	130	678
Adams County Commissioners	LOC5	132	678

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Commenter	Designation	Page No.	
		Comment Letter	Response
Lincoln County Commissioners	LOC6	171	681
Town of Odessa	LOC7	182	682
Franklin County Commissioners	LOC8	183	682
Odessa Chamber of Commerce	LOC9	184	682
Town of Lind	LOC10	185	682
<b>Organizations</b>			
Soap Lake Conservancy	ORG1	187	682
Promoters of Wildlife and Environmental Resources	ORG2	188	682
Columbia Gorge Audubon Society	ORG3	192	682
Big Bend Resource Conservation and Development Council	ORG4	194	683
Columbia Basin Environmental Council	ORG5	195	683
Columbia Basin Ground Water Management Area	ORG6	196	683
Northwest Food Processors Association	ORG8	239	684
Kittitas Audubon Society	ORG9	252	684
Washington State Potato Commission	ORG10	253	684
Lower Columbia Basin Audubon Society	ORG11	258	685
Columbia Basin Development League	ORG12	260	686
American Rivers	ORG13	267	686
Center for Environmental Law and Policy	ORG14	270	686
Columbia River Inter-Tribal Fish Commission	ORG15	284	689
<b>Public Services and Utilities</b>			
Columbia-Snake River Irrigators Association	PUB1	301	691
Big Bend Electric Cooperative, Inc.	PUB2	305	691
Black Sands Irrigation District	PUB3	306	691
Grant County Public Utility District	PUB4	307	691

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Commenter	Designation	Page No.	
		Comment Letter	Response
Odessa School District #105	PUB5	309	691
East Columbia Basin Irrigation District	PUB6	310	691
South Columbia Basin Irrigation District	PUB7	333	69H
<b>Individuals</b>			
Kathleen Russel	IND1	336	693
John Kenneth Tolonen	IND2	337	693
Geraldine Gabriel	IND3	338	693
Tom McPherson	IND4	344	694
Gaye Hunt	IND5	346	694
Walter Butcher	IND6	347	694
Louis Nevsimal	IND7	368	697
James Baird	IND8	372	697
Jeff Greenwalt	IND9	373	697
Aaron Hintz	IND10	374	698
Glenda Pillips	IND11	375	698
Paul Scheller	IND12	376	698
Larry Zagelow	IND13	377	698
Tom McPherson	IND14	378	698
Dean White	IND15	379	698
Jane Goodman	IND16	383	698
David Greenwalt	IND17	384	699
Danna Dal Porto	IND18	386	699
Errol Kramer	IND19	388	699
Alice Parker	IND20	390	699
Richard Erickson	IND21	392	699
Jena Gilman	IND22	402	700



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Commenter	Designation	Page No.	
		Comment Letter	Response
Rex Lyle	IND24	406	701
James McClure	IND25	408	701
Phyllis Brown	IND26	438	703
Neil Fink	IND27	439	703
John Kenneth Tolonen	IND28	44	704
Bradley Greenwalt	IND29	446	704
Alan Voise	IND30	448	704
Brent Bair	IND31	449	704
Thomas Bjornberg	IND32	450	704
Julie Bjornberg	IND33	451	704
June Zagelow	IND34	452	704
Jeff Zagelow	IND35	453	704
Amber Zagelow	IND36	454	704
Adrea Bezdicek	IND37	455	704
Berend Friehe	IND38	456	704
Jeff Schibel	IND39	458	704
Jake Wollman, Jr.	IND40	461	705
Pat Gies	IND41	464	705
Rex Lyle	IND42	465	705
Clark Kagele	IND43	467	705
Dennis and Nona Thompson	IND44	468	706
Heath Gimmetstad	IND45	469	706
Sally Kagele/ Marcella Knight	IND46	471	706
Ray Jenkins	IND47	472	706
Matthew Kagele	IND48	473	706
Mark DeWulf	IND49	474	706
Rodney Schlimmer	IND50	475	706

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Commenter	Designation	Page No.	
		Comment Letter	Response
Milton Johnston	IND51	476	706
Landa Vierra	IND52	477	706
Kathy Womer	IND53	478	707
Walter R. Butcher and Norman K. Whittlesey	IND54	480	707
Titus Bowser	IND55	485	707
M. Osborn	IND56	486	707
Madge Blakey	IND57	487	707
Dina Monaghan	IND58	488	707
Kathy Cabrian	IND59	489	708
Scott Stromatt	IND60	490	708
William and Carol Barber	IND61	491	708
Ann Davis	IND62	492	708
Gloria and J.E. Baldi	IND63	493	708
Tim Gould	IND64	494	708
Janet Nazy	IND65	495	708
Stephen Hirschey	IND66	496	708
Stephen Schott	IND67	497	708
Margaret Yeoman	IND68	498	708
Scott Collin	IND69	499	708
Page Williams	IND70	500	708
Judy Fitzpatrick	IND71	501	708
Jean Jalufka	IND72	502	708
Melanie Mildrew	IND73	503	708
Christine Leva	IND74	504	708
Rita Kinney	IND75	505	709
Bonnie Thompson	IND76	506	709
Karen Johnson	IND77	507	709

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Commenter	Designation	Page No.	
		Comment Letter	Response
Nancy and Richard Rust	IND78	508	709
W.T. Soeldner	IND79	509	709
Neil Ofsthun	IND80	510	709
Jenny Hayes	IND81	511	709
Richard Badalamente	IND82	512	709
Tim Coleman	IND83	513	709
Kim Thorburn	IND84	514	709
Jack Hall	IND85	515	709
Beverly Ogburn	IND86	516	709
Jane Beaven and Dan Finn	IND87	517	709
Laura Takken	IND88	518	709
Herbert Gamber	IND89	519	709
Sheryl Krohne	IND90	520	709
Janet Marx	IND91	521	710
Dick and Nancy Watts	IND92	522	710
Connie Estep	IND93	523	710
Roger Bertsch	IND94	524	710
Michael Barrett	IND95	525	710
R.K. and Kay Smith	IND96	526	710
Lola Wear	IND97	527	710
Rachel Griffith	IND98	528	710
Edward Agnew	IND99	529	710
L. Hingst	IND100	530	710
Roger Hull	IND101	531	710
Peter Baird	IND102	532	710
Jack Corbin	IND103	533	710
Joan Bartz	IND104	534	710

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Commenter	Designation	Page No.	
		Comment Letter	Response
Brian Miller	IND105	535	710
Thelma Quay	IND106	536	710
Donald Bolstad	IND107	537	711
Jacque Smith	IND108	538	711
Michael Sarratt	IND109	539	711
Paul and Louise Clare	IND110	540	711
Joseph LePla	IND111	541	711
Julie Lee	IND112	542	711
Kathy Seabrook	IND113	543	711
Den Mark Wichar	IND114	544	711
Russell Jim	IND115	545	711
Catherine Isabel	IND116	546	711
Linda Pool	IND117	547	711
Doug and Lynn Beu	IND118	548	711
Cheryl Roberts	IND119	549	711
John Douglas	IND120	550	711
John Funaro	IND121	551	711
Marian Frobe	IND122	552	711
Michael Sullivan	IND123	553	712
W.T. Soeldner	IND124	554	712
Margaret Keene	IND125	555	712
B. Plastino	IND126	556	712
Richard Rivers	IND127	557	712
Carol Ellis	IND128	558	712
Dee Boersma	IND129	559	712
Twila Moser	IND130	560	712
Sharon and Gerald Hickman	IND131	561	712

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Commenter	Designation	Page No.	
		Comment Letter	Response
Gwen Rawlings	IND132	562	712
Lisi Ott	IND133	563	712
Julian Powers	IND134	564	712
George Cooper	IND135	565	712
Karen Averitt	IND136	566	712
Marlet Smith	IND137	567	712
Nancy White	IND138	568	712
Carol and Carl Smith	IND139	569	713
Elinor McCloskey	IND140	570	713
Brenda Wright	IND141	571	713
Ramona Martin	IND142	572	713
Jeri Prater	IND143	573	713
Kurt Erlanson	IND144	574	713
Donna and Bill Hollister	IND145	575	713
Donald Bihl	IND146	576	713
Susan Danver	IND147	577	713
Liz DeNiro and Paul Swetik	IND148	578	713
Mary Collins	IND149	579	713
Esther Larsen	IND150	580	713
Raymond Torretta	IND151	581	713
Denee Scribner	IND152	582	713
Virginia and George Gunby	IND153	583	713
Charles Hill	IND154	584	713
Beth Prinz	IND155	585	714
Robert Nuess	IND156	586	714
Carol Kulbeth	IND157	587	714
Carmen Jackson	IND158	588	714

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Commenter	Designation	Page No.	
		Comment Letter	Response
Aulin Smith	IND159	589	714
Identical or nearly identical postcard (see Table 2 for list of commenters)	IND160	590	714
<b>Businesses</b>			
Coulee Playland	BUS1	591	714
Kettle Falls Marina	BUS2	594	714
US Trust Bank of America	BUS3	598	714
Odessa Record	BUS4	599	714
<b>Public Hearings</b>			
Coulee Dam Public Hearings Comments Summary	HRG1	600	714
Moses Lake Public Hearings Comments Summary	HRG2	641	715

**Table 2 – List of commenters who submitted identical or nearly identical postcards (see IND160)**

Commenter	Commenter
Laura Ackerman	Lisa Beard
Becky Adams	Patricia Bellotti
Bob Adams	David Benson
Dany Adolf	Bonnie Berent
Peter Adrian	David Berger
Sha Agte	Ernest Berger
Morgan Ahouse	Hermas Bergman
Peter Albrecht	Carl and Debbie Berkowitz
Terrence Allen	Barry Bernfeld
Joyce Alonso	Andrew Biggs
Ina Anderson	Scott Bigham
Kirsten Angell	James Bingham
Bill Arthur	Stacy Birch
Rein Attemann	Emma Bishop
Gary Bailey	Mary Jane Blanpied
Margaret Baker	Ken Bobrow

**Table 2 – List of commenters who submitted identical or nearly identical postcards (see IND160)**

Commenter	Commenter
Norman Baker	Ines Boehnert family
John Ballinger	Travis Boggs
Casey Balzano	Mark Boswell
Suzanne Bamonte	Christopher Boudolf
Jeannette Bannink	Ivan Bowman
John and Elizabeth Baranowski	Betty Brewster
James Barei	John Brimhall
Arshavir Barthoumes	Katherine Brown
Megan Bastow	Gardner and Victoria Brown
Tianne Batson	Michael Brubaker
Sara Bayer	Renee Brune
Ruthann Bayless	Derek Buckley
Rebecca Buell-Silsbee	Scott Cornelius
Megan Burns	Tom Cottrell
Marianne Busch	Claudia Cranen
Galen Butterbaugh	LaTisha Cromer
Mariza Cabral	Tracy Croshaw
Jennifer Calvert	Kerry Crow
Mary Campbell	Dianne D'Alessandro
Beth Campbell	Beth Dannhardt
Carol Canterbury	Brenda Dau
Betsy Case	Nancy Davidson
Patricia Cedarleaf	Joseph Davis
Kristen Cejka	Richard Dawe
Edward Chadd	Jack Dawson
Suzanne Champion	Murrel Dawson
Jonathan Clapper	Fran DeBruler
Hugh Clark	Meredith Dement
Weldon Clark	James DeNike
Arnold Clausen	Ben Dennis
Frederick Claussen	Glen and Linda DePriest
Roger Cole	Gene Derig
Anne Collett	Mary Detweiler
Terry and Laura Collier	Doris Distad
Jon Comfort	Henry Dobaj
Rex Comfort	Dono and Donna Doescher
Pamela Comstock	Pat Doncaster
Jim Conca	John Douglas
Natalie Concie	Frank Dunnivant
Cordy Cooke	George and Susan Durrie

**Table 2 – List of commenters who submitted identical or nearly identical postcards (see IND160)**

Commenter	Commenter
Tom Cordell	Brian Easy
Diane Cornelius	Karen Edwards
Leslie Eickemeyer	Lydia Garvey
Wendy Eider	Sanford Gerber
Len Elliott	Keith Gersten
Phyllis Elmendorf	Bob Gillespie
Sandra Embrey	Jena Gilman
Susan Evans	Marcy Golde
Craig Fager	Peter Goldman
Duane Faletti	Barry Goldstein
Rose Fanger	Yvette Goot
Norris and Alice Faringer	John Gould
Felicia Faringer	Ben Greuel
Eric Feigl	Jeff Guay
Cynthia Ferrucci	Helmi Habib
Sandra Fish	David Hablewitz
Paul Fishburn	Bart and Lindell Haggin
Greg Flakus	Norman Hagopian
Judy Fleischmann	Pat Hall
Jeannine Florance	Jacqueline Halvorson
Edith Fogelquist	Theresa Hansen
Michael Fortman	Aaron Hansen
Steven Fox	Dean Harshbarger
Donald Foy	Lucas Hart
Sonia Fradkin	Wendolyn Hawkins
Mary Fredrickson	Denis Hayes
Randi Freeman	Fran Haywood
Bruce Gage	Michael Hegenderfer
Herbert Gamber	Paige Heggie
Richard Gammon	Marilyn Heiman
Donna Gardner	Thomas Hemken
Craig Garver	Donald Johnson
Barbara Henjum	Keith Johnson
Mary Henning	Monique Johnson
Pat Hickey	Randy Jones
Lawrence Hill	Cheryle Jones-Johnson
Alan and Laurie Hilton	Bruce Jorgenson
Donald Hobbs	Dick Judy
Alan Hodgdon	Michael Kane
Larry Hoffman	Kevin Kane



**Table 2 – List of commenters who submitted identical or nearly identical postcards (see IND160)**

Commenter	Commenter
Helen Hokom	Phillip Katzen
Suzi Hokonson	Paula Kawk
Barbara Holder	Mike Keegan
Lehman Holder	Edwin Holmes
Blair Hopkins	George Kiddoo
Alexander Howard	Mary Kiesau
Douglas Howell	David and Hannah Kliegman
Jerry Hughes	Jean Klingbeil
Katie Humphries	Everett Knowles
Walter Hunner	Sam Knox
John Hunt	Henry Koepfle
Kelly Hunt	Andrew Krawczyk
Breena Hurst	Aaron Kriss
Joan Hutchins	Claudia Kroll
Chris Inman	Karen Kronner
W. Jackson	Laurie Kulp
Gerald James	Matt Labrum
Karen James	Bea Lackaff
Bernie Jaramillo	Ellen Lamiman
Hugh Jennings	Ralph Landis
Sam Jim, Sr.	Craig Lynch
Sherrie Larimore	Arthur Lysne
Lyles Larkin	Michael MacDougall
Jill LaRue	Sam Mace
Ladonna Lasha	Nancy Mack
Mark Lawler	Michael Madsen
William Layman	Sharon Malcom
Donna Lee	Steven Malloch
Sherry Lee	Erin Mansfield
Patricia Leith	Benjamin Marlow
Joyce Levacy	Linda Marquis-Myers
Elisabeth Lewis	Kathryn Marshall
Brenda Lewis	Patricia Martin
Thomas Lewis	William Martling
Janice Liane	Lindsey Masiarek
Michael and Deborah Libbee	Dayle Massey
Diane Liebe	Jerry Mattoon
Francis Lill	James and Kay Maxfield
Nancy Lill	David Maxon
Ray Linker	James McClure

**Table 2 – List of commenters who submitted identical or nearly identical postcards (see IND160)**

Commenter	Commenter
Alice Linker	Alan McCoy
Jerry Liszak	Ken McCullough
Mildred Kellogg	Ron Lloyd
Catherine Kent	Alan Lofquist
Larry Lojo	Catherine McMahan
Linda Long	Rodney Mcneice
Judith Loomis	Brenda McWhirter
Meg Ludlum	Larry Medicine
Joe Ludwig	Mark Merhab
Lyle Lueck	Lynda Meyers
Robert Mifflin	Rick Paquette
Harold Miller	Ed Parents
Sherry Miller	Tamara Parker
Lee Miller	Karen Parks
Dale Mittge	Donald Parks
Kenneth Mondal	Russ Pascoe
Anthony Montgomery	Pauline Patterson
Marion Moos	Bernie Paul
Harvey Morrison	Marian Pearson
Cathy Morton	Virginia Pedersen
Lisa Moseinski	Lazarus Pertginides
Victor Mouter	Mary Lynn Peters
Elizabeth Murray	Marjorie Peters
Christine Myers	Kurt Peterson
Bob Narum	Debbie Pettersson
Lynne Nelson	Matthew Phillipy
Karl Neumann	Joellen Pickens
Mary Newkirk	Lewis Picton
Patsy O'Connor	Bette Pierson
Betsy O'Halloran	John Pilley
Patrick O'Keeffe	David Plemons
Kevinn O'Neill	Frances Plouffe
Kimberly Ordon	JoAnn Porter
Sue Orłowski	Mary Porter-Solberg
Flint Orr	Jane Potter
Calvin Osborn	Anne Powell
Marie Osborn	Jacqueline Powers
Gary Ostby	Denise Pritzl
Dana Packard	Gary Proctor
Elaine Packard	Curt Puddicombe

**Table 2 – List of commenters who submitted identical or nearly identical postcards (see IND160)**

Commenter	Commenter
Chris Pugh	Gustaf Sarkkinen
Genida Purcell	James Sayre
Lawrence McGee	Alicia Ramsey
JL McGourty	Jack Redinger
Charlotte Reep	Larry Seaberg
Mike Rees	Dave Seabrook
Henry and Marilyn Reimann	Lee Seymore
Pat Reynolds	Trudi Shannon
Mary Richardson	John Sheppard
Tom and Jean Richtsmeier	Lillian Slovic
Catherine Riehl	Irma Smith
Susan Risinger	Bruce Smith
Peck Ritter	James and Joanne Smith
Dan Ritzman	Rebecca Smith
John and Amy Roberson	Sandy Sollie
Julia Robertson	Philip Soucy
Mary Rohde	Rod Stackelberg
Therese Rollins	Dorothy Stanley
Richard Romanelli	Ron Stepchuk
Harry Romberg	Anne Stephenson
David Round	Mary Sterling
Geri Rowe	Yorik Stevenswajda
Michael Ruby	Jean Stewart
Thomas Rudd	Robert Stoeber
JoAnne Rude	Eva Storlie
William Rupel	Thomas Stralser
Tamara Russel	JA Strand
Richard Rutz	Jan Strobeck
William Safranek	Colleen Stromatt
Keith Salyer	Doris Strong
Maribel Sullivan	Janet Way
Mikel Swayze	Mark Weick
Kenneth Swedberg	Daniel Weinstein
Glen Swegle	Roger Wells
Michael Symonds	Mike and Jody Wende
Douglas Taylor	Karen West
Lynn Tenken	Richard White
Isabel Terrell	Ronald and Jerome White
Jeri Thelen	Paula Whitser
Sherri Thies	Nancy Wickre

**Table 2 – List of commenters who submitted identical or nearly identical postcards (see IND160)**

Commenter	Commenter
Dave Thies	Ken Wiedmer
Jessica Thompson	Giles and Darlene Wilkinson
Darlene Schanfald	Elena Toneva
Judith Schwader	Gail Toreleton
Darlene Townsend	Leigh Williams
Terri Trick	Diane Wills
Heather Trim	Ray Wilson
Tom Tuttle	Sylvia Wilson
Eli Typhina	Nancy Wilson
Clo Ann Ulrich	Robert Wilson
Kristina Umbright	Greg and Julie Winter
A. Uoskorisate	Erin Wojewodzki-Prinsen
Janice Vandenbos	Margo Wolf
Melissa Verwest	Kathy Womer
William Volmot	Edward Wood
Vicky VonDier	Scott Woodward
Karen Wahl	Steven Woolpert
Kenneth Wall	Judith Wright
Linda Walline	Steve Wright
Donna Warner	Mariel Young
Suzanne Williams	

## **Comment Letters**





Received in Mailroom

Comment Letter TRB1

JAN 27 2011

Control #: 11006715

The Confederated Tribes of the Colville Reservation  
P.O. Box 150, Nespelem, WA 99155

(509) 634-2200

FAX: (509) 634-4116



January 31, 2011

Mr. Charles A. Carnohan  
Columbia-Cascades Area Office  
U.S. Department of the Interior, Bureau of Reclamation  
1917 Marsh Road  
Yakima, Washington 98901-2058

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Re: Colville Confederated Tribes' comments on Odessa Subarea Special Study  
draft EIS (October 2010).

Dear Mr. Carnohan:

The Confederated Tribes of the Colville Reservation (CCT) provide the following comments on the October 2010 draft EIS for the Odessa Subarea Special Study. Although the draft EIS is lengthy, we believe its analysis of the impacts of the eight action alternatives can and must be improved. In particular, CCT is concerned about impacts to cultural resources, resident fish, and power generation at Grand Coulee Dam, all of which arise from the change in water levels of Lake Roosevelt caused by the proposed action's diversion of hundreds of thousands of acre-feet per year. Further, the impacts on the Columbia River system cannot be fully analyzed without taking into account the Columbia River Treaty. Significant changes to treaty-based operations of Canadian storage facilities are certain to occur beginning in 2024, concurrent with the projected development of the Odessa Subarea Project, and additional changes in the treaty and treaty operations may be negotiated between the United States and Canada in the interim. TRB1-1

Additional studies are clearly called for given the scope, complexity, cost and wide-ranging impacts of the action alternatives. The Colville Tribes cannot support moving forward with the evaluation of the project in any form unless substantial federal and state resources are committed to addressing the following serious concerns in the next round of studies:

- fund and undertake cultural resource surveys in coordination with CCT History/Archaeology Program for Banks Lake during the scheduled drawdown (2011-12) and for areas to be irrigated by the project. TRB1-2
- fund and undertake: GPS survey to determine Lake Roosevelt tributary access by resident fish and the effects of lake elevation levels on such access; continue analysis of data collected for the Columbia River Water Management Program (CRWMP) EIS up to the 3.3 foot drawdown level; and model the temperature array in Lake Roosevelt and downstream to determine temperature effects of removing the Lake's deepest and coldest water for the project. TRB1-3

These are currently the Tribes' most pressing concerns, though we describe in more detail other issues which must be addressed by the environmental review process. We request government-to-government consultation regarding these matters and the agencies' proposal to address them. TRB1-4

The Tribes' review generally focused on alternatives 2A and 2B, which are the only alternatives that approach economic viability. Our comments are organized into specific topics, with more general comments collected at the end.

### Columbia River Treaty

An EIS and feasibility study are required to present a realistic assessment of the environmental impacts, costs, and benefits of reasonable and prudent future operational alternatives in order to guide decision making. As early as 2024 the Columbia River Treaty, which governs Columbia River operations between the United States and Canada, may be terminated altogether or major provisions may be renegotiated by the parties. Even if the treaty continues in place, major changes to the Columbia River system's water supply, flood control storage and power generation will occur. In 2024, the treaty's provision for Canadian flood storage expires and converts to a system that relies on "called upon" storage in Canada and a concurrent requirement that United States' reservoirs – principally Lake Roosevelt/Grand Coulee Dam – must be operated for their "effective use" in flood control. The impacts of this change to "called upon" storage has been, and continues to be, studied extensively by the agencies which implement the treaty for the United States – Bonneville Power Administration and the U.S. Army Corps of Engineers (U.S. Entity). It is abundantly clear from the work done to date, that shifting to called upon flood control will have major impacts on the American portion of the Columbia River system, and that Grand Coulee as the first dam on the U.S. side of the border, will be dramatically affected. The Supplemental Report (Sept. 2010) prepared by the U.S. Entity shows that average Grand Coulee elevations will drop more than 15 feet in the spring compared to current conditions (without Odessa alternatives) when the reservoirs are being drawn down for flood scenarios considered reasonable by the U.S. Entity. (See Figures 7 & 8 at pages 29-30). While the changes in August-September are less significant, the study clearly shows that Grand Coulee will have more difficulty returning to full pool, thus compounding the effects from year to year. In addition, this data relied on 70-year average flows, and therefore necessarily understated more significant impacts on lake elevations during the driest years. TRB1-5

The draft EIS does not consider any impacts from the certain change in treaty operations in 2024, the same time frame predicted for completion of the Odessa Subarea project. In fact, it does not even mention the Columbia River Treaty. Without considering a range of treaty-driven scenarios for reservoir (Lake Roosevelt) storage and release, which would at a minimum evaluate the 2024 change to called upon/effective use management, the Odessa Subarea EIS cannot demonstrate that it presents a realistic or accurate assessment of impacts, costs, and benefits of the project or the required analysis of reasonable and prudent alternatives. Similarly, because of this failing in the analysis, the Colville Tribes cannot ascertain impacts which will TRB1-6 TRB1-7



affect the Tribes' resources and interests with an acceptable degree of accuracy. Should any of the alternatives be constructed, the Odessa Subarea project will operate for virtually the entirety of its existence under an as yet unknown Columbia River Flow/Lake Roosevelt Storage regime.

We recommend that the EIS include an analysis of a reasonable range of possible treaty scenarios for post 2024 river operations, particularly the change to "called upon" flood storage and the related "effective use" requirement for Grand Coulee and other U.S. reservoirs.<sup>1</sup> This analysis is particularly critical for drought years, which could have a devastating impact on anadromous fish survival throughout the system and resident fish within Lake Roosevelt. The true range of impacts of the proposed alternatives cannot be even remotely analyzed when significant changes in the management of Columbia River reservoirs are not considered. The EIS must consider the Treaty and the many water supply issues embedded in its resolution.

TRB1-8

TRB1-9

#### Cultural Resources Impacts

The analysis of the project's impacts on cultural resources and sacred sites is insufficient because the draft EIS made no effort to conduct site-specific surveys in consultation with the Colville Tribes. Based solely on predictive modeling, the draft EIS concludes that "[a]ll action alternatives involve development and operation of facilities in areas with high potential to contain cultural or historic resources." (4-262) This is unsurprising, as both the project area and Banks Lake are within the traditional territory of the Colville Tribes and their twelve constituent tribes. In order for any of the project alternatives to go forward, the Bureau of Reclamation must commit to conducting – in conjunction with the Tribes' History/Archaeology Program – thorough on-the-ground surveys of Colville traditional areas. Because Banks Lake is scheduled for a significant maintenance drawdown in the second half of 2011 into 2012, this opportunity for further study pursuant to the requirements of the National Historic Preservation Act (NHPA) cannot be missed.

TRB1-10

To date, preliminary studies have identified Traditional Cultural Properties and archaeological sites in portions of the project area, so it is premature to conclude that "no sacred sites have been identified in the Study Area" and that "none of the alternatives would impact known sacred sites." (4-269) The Tribes are deeply concerned that cultural resources will again get short shrift despite the significant legal requirements in place to protect them from adverse impacts. The Odessa Subarea project is undoubtedly a federal undertaking, which triggers the

TRB1-11

<sup>1</sup> For example, under the A1F450 scenario (Treaty continues with flood control objective of 450,000 cfs) and 2008 BiOp conditions of the Supplemental Report's Figure 7, Lake Roosevelt elevations are 10 to 15 feet lower in the months of February through May with the Treaty scenario than the base hydrology used in the Odessa EIS. If the Odessa proposals were implemented, it is not likely that diversions for the completed project would reach proposed amounts prior to the certain changes in the Treaty in 2024. Therefore, the DEIS should be based more on Lake Roosevelt operations reflecting Treaty scenarios adjusted for the 2008 BiOp than average historic operations adjusted for the 2008 BiOp (as it currently does) because a 10- to 15-foot difference in water levels in the late winter and spring would impact resources differently than currently evaluated.

obligations of Section 106 of the NHPA and its implementing regulations, 36 C.F.R. § 800 *et seq.* This requires consultation and coordination with affected tribes as early as practicable in the planning of a project to evaluate whether cultural resources exist in the project area, whether the project will adversely affect them, and if so, appropriate mitigation for such impacts. Recent court decisions clearly show that the letter of the NHPA must be followed regarding consultation with Indian tribes with traditional cultural properties in the project area. *Quechan Tribe v. U.S. Dep't of the Interior*, No. 10cv2241-LAB (CAB), 2010 WL 5113197 (S.D. Cal. Dec. 15, 2010). Archaeological surveys would be necessary to identify sites in the project area that have not yet been recorded. Whether conducted in the drawdown zone of Banks Lake or areas to be irrigated, these surveys would be superior alternatives to predictive modeling and assist in actually identifying any previously unrecorded archaeological sites. This process would also enable the Bureau to identify with greater precision the potential impacts of the project. TRB1-12

A quick review of the State Historic Preservation Office's database of recorded archaeological sites shows that there are archaeological sites throughout the project area from previous limited and targeted surveys. These known archaeological sites increase the probability that additional sites exist and would be identified if a broader survey were to be undertaken for the project. Under the term "historic properties," places of cultural, religious or spiritual importance to a tribe (*i.e.* sacred sites) also need to be accounted for under the NHPA. In addition to an archaeological survey, the Colville Tribes' Traditional Cultural Property (TCP) staff would plan to take elders for tours of the project area to identify trails, gathering areas, storied landscapes and other TCPs for the entire project area. These traditional cultural properties are fully protected under the NHPA. Once identified, an inventory and assessment of potential adverse effects from the proposed undertaking would need to occur. The EIS' conclusion that sacred sites have yet to be recorded in the project area is incorrect. A 2007 study identified TCPs within areas currently irrigated within the proposed project area (Shannon 2007). In addition, it is clear that any such claim regarding sacred sites is largely attributable to the dearth of research and survey effort in the affected area (3-151; less than 1% of project area has been inventoried for cultural resources). TRB1-13

Looking specifically at alternatives 2A and 2B, the Tribes predict that CCT traditional cultural properties will be directly and indirectly affected by the project. Such impacts to historic properties would involve accelerated erosion from reservoir drawdown in the Banks Lake area. The accelerated erosion contributes to receding terrace margins and mass wasting (a direct effect). Archaeological sites along reservoir banks become deflated as a direct result of pool drawdown. The deflated artifacts affect scientific and cultural value by disrupting context. The exposure of artifacts from deflation on drawdown beaches is a contributing factor to illegal artifact collection or looting of CCT cultural resources (an indirect effect). Irrigation in the project area and associated run-off has the potential to adversely affect cultural resources in CCT traditional territories as well. Access to traditional territories by tribal elders is already limited as a result of existing irrigation. Restricted access to traditional places for gathering resources or TRB1-14 TRB1-15 TRB1-16

religious ceremonies constitutes important examples of adverse effects and must be fully considered in the review process.

Cultural resource surveys of the project's affected area in consultation with the Tribes are necessary to fulfill NHPA requirements and the federal government's trust responsibility to the Tribes. These surveys would be part of the broader process of defining the Area of Potential Effect APE, inventory, assessment and mitigation/avoidance of impacts. As a rough estimate, CCT projects that such surveys and related work would cost 0.01% of the total estimated project cost (\$841.6 million for alternatives 2A and 2B).

### Lake Roosevelt Impacts

The elevation of Lake Roosevelt varies widely throughout the year based on management for flood control, anadromous and resident fish, and power generation. These substantial fluctuations have numerous impacts on the Tribes. Therefore, it is of particular importance that evaluation of lake elevations and resulting downstream flows of the project alternatives be consistent from resource to resource. The Tribes are concerned that its analysis of lake elevation and flows, based on data provided by BPA, does not square with the analysis provided in the draft EIS. The Tribes also have significant concerns regarding the analysis of lake elevations on resident fish resources and recreation, which appears to be based on previous analysis (and smaller drawdowns) for the Columbia River Water Management Program (CRWMP).

As background, the State of Washington and the Colville Tribes signed a Memorandum of Understanding ("Lake Roosevelt MOU") on February 4, 2008 for Lake Roosevelt Incremental Storage Releases. The MOU provides for the improvement of municipal and industrial water supplies, improvement of or water management in the Odessa Subarea, enhancement of stream flows to benefit fish downstream of Grand Coulee Dam, water to the State of Washington to issue to holders of interruptible water rights during drought years, and an annual release of 82,500 acre-feet of water from Grand Coulee Dam in 80% of the years and an additional 50,000 acre-feet of water in the driest 20% of years. See Draft EIS at 2-12 (Table 2-2).

### ***Lake Elevation Levels and Flow Impacts***

The Tribes used data provided by Bonneville Power Administration to analyze lake elevations and flows under the following three scenarios: base conditions (2008 Biological Opinion operating criteria) without the Odessa Project, Odessa 2 alternatives with 57,000 acres of groundwater replacement, and Odessa 3 alternatives with 102,600 acres of groundwater replacement.<sup>2</sup> For Odessa alternatives 2 and 3 and sub-alternatives for monthly hydrology from 1929 through 1998, Table 1 summarizes:

<sup>2</sup> The BPA data was provide to Mike Watson in three emails dated November 29, 2010, from Kimberly A. Fodrea: *FR111-07final2008BiOp.xls*, GLC Tab; *FR111-07final2008BiOp-Od1.xls*, GLC Tab; and *FR111-07final2008BiOp-Od2.xls*, GLC Tab.

- (a) average and greatest impacts on Lake Roosevelt elevation levels;<sup>3</sup>
- (b) average and greatest reduction in downstream releases;
- (c) additional releases need to conform to the Lake Roosevelt MOU; and
- (d) net reduction on Columbia River flows with MOU conformance.

TABLE 1

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<sup>3</sup> "Greatest" impacts and reductions are taken from the 70 years of monthly hydrology data and represent the greatest monthly difference between current BiOp management *with* an Odessa alternative and the no action alternative (*i.e., without* an Odessa alternative).



SUMMARY OF WATER LEVEL DECLINES IN LAKE ROOSEVELT  
 AND RELEASE REDUCTIONS FROM GRAND COULEE DAM RESULTING FROM ODESSA  
 ALTERNATIVES RELATIVE TO 2008 BIOP CONDITIONS  
 1929-1998 HYDROLOGY

Month	Average Water Surface Elevation Base, ft, msl	Average Changes over 70 Years			
		Water Surface Change, feet		Downstream Release Reduction, cfs	
		Odessa 2	Odessa 3	Odessa 2	Odessa 3
October	1,287.9	0.0	0.0	-682	-2,218
November	1,284.5	0.0	-0.1	0	-88
December	1,284.9	0.0	-0.1	0	-283
January	1,270.8	0.0	-0.2	0	-175
February	1,265.8	0.0	-0.2	0	-96
March	1,255.1	0.0	-0.1	35	-252
April 1	1,247.2	0.0	-0.1	-56	-12
April 2	1,240.1	0.0	0.0	-72	-35
May	1,257.2	0.0	0.0	-234	-41
June	1,285.8	0.0	0.0	-365	-103
July	1,286.8	0.0	0.0	0	-494
August 1	1,279.7	0.0	0.0	0	-631
August 2	1,278.6	0.0	0.0	0	-747
September	1,285.0	0.0	0.0	-812	-863
Annual, af	-	-	-	134,204	295,505
MOU Streamflow Enhancement	-	Not Determined	Not Determined	-67,102	-147,753
MOU Net Reduction	-	Not Determined	Not Determined	67,102	147,753

Month	Average Water Surface Elevation Base, ft, msl	Greatest Changes over 70 Years			
		Water Surface Change, feet		Downstream Release Reduction, cfs	
		Odessa 2	Odessa 3	Odessa 2	Odessa 3
October	1,287.9	0.0	0.0	-1,589	-2,603
November	1,284.5	0.0	-0.2	0	-205
December	1,284.9	0.0	-0.5	-1	-530
January	1,270.8	0.0	-1.2	-1	-762
February	1,265.8	0.0	-1.8	-1	-1,740
March	1,255.1	0.0	-0.9	0	-2,255
April 1	1,247.2	-0.1	-1.0	-75	-245
April 2	1,240.1	-0.1	-1.0	-151	-923
May	1,257.2	-0.3	-0.8	-315	-978
June	1,285.8	0.0	0.0	-687	-1,100
July	1,286.8	0.0	0.0	0	-502
August 1	1,279.7	0.0	-0.3	0	-738
August 2	1,278.6	0.0	-0.2	0	-1,369
September	1,285.0	-0.8	-0.3	-954	-736
Annual, af	-	-	-	192,985	322,271
MOU Streamflow Enhancement	-	Not Determined	Not Determined	-96,492	-161,135
MOU Net Reduction	-	Not Determined	Not Determined	96,492	161,135

When compared to Tables 4-5, 4-10, 4-12, and 4-15 of the draft EIS there are discrepancies with respect to both lake elevations and downstream flows. Because BPA provided the analysis of power generation impacts for the draft EIS (4-234), it is critical that analysis based on BPA data of lake elevations and release flows match the same analysis prepared by Reclamation for the draft EIS. Based on CCT's analysis, it is clear that discrepancies exist. The agencies should account for these discrepancies between CCT and the draft EIS analysis. In addition, a formal procedure should be in place to separate releases made pursuant to the Lake Roosevelt MOU, which is discussed in detail below, from releases made for other purposes. Furthermore, this procedure should account for and separate drawdown in Lake Roosevelt caused by MOU releases from drawdown caused by releases for other purposes, including Odessa diversions. This process is necessary for both the EIS analysis and in actual practice.

The 2008 Lake Roosevelt MOU was premised on negotiations between CCT, the Bureau of Reclamation and the State of Washington that for every three buckets of water stored in one of the Columbia River Initiative-sponsored projects, one of those buckets would be reserved for in-stream/fishery needs. This principle is included in the MOU provision for release of up to 132,500 acre-feet, where one-third of the amount will be for in-stream and fishery purposes. In particular, the MOU provides, in practice, 15,000 acre feet of "streamflow enhancement" for the first 30,000 acre feet of "water to replace groundwater in the Odessa subarea" and would require 67,102 acre feet annually of streamflow enhancement for the Odessa 2 alternatives and 147,753 acre feet of streamflow enhancement for Odessa 3 alternatives.<sup>4</sup> This would mitigate the reduction in releases from Grand Coulee Dam by half, but also increase the drawdown in Lake Roosevelt by an undetermined amount.

For reasons that are not explained in the draft EIS, the Odessa Subarea proposal contains no provision to supplement streamflow, notwithstanding the fact that funds appropriated by the State Legislature as part of the Columbia River Water Management Program, WAC 173-565 WAC; RCW 90.90.020, were used in studying and developing this project. We recommend that the proponents include a provision to return one-third of the newly stored water in Banks Lake back to Lake Roosevelt, which will be utilized downstream to uphold this basic tenet of cooperative water management and improve the fishery resource as a whole. In addition, were such a provision included in the project, the increased effects on drawdown must be analyzed in the EIS.

Central to the MOU is the requirement that "[t]he State is not to seek or support further incremental storage releases from Lake Roosevelt." The draft EIS alternative 2B, 2D, 3B, and 3D all appear to contradict this agreement by providing an additional 176,343 acre-feet in the partial groundwater replacement alternatives and 347,137 acre-feet in the full groundwater replacement alternatives for Odessa Subarea irrigation. The EIS tends to treat Banks Lake as separate from Lake Roosevelt in many of its water supply analyses when in fact it is supplied by

<sup>4</sup> See Table 1, above.

the Columbia River by pumping water up from Lake Roosevelt. Thus, it would appear that all of the proposed alternatives seek water from Lake Roosevelt and are in conflict with the spirit, if not the terms, of the MOU. It would be helpful if the EIS clarified the connection between Lake Roosevelt and Banks Lake throughout the document, as labeling alternatives by the location of water storage can be misleading with respect to the cumulative impacts on Lake Roosevelt and the Columbia River system.

Although it was never stated in the Lake Roosevelt MOU or discussed in the EIS prepared for the CRWMP, in practice CCT has been told that the only way to document that water actually went downstream for the intended purposes is to not refill Lake Roosevelt. However, the 2010 refill efforts came up short of the target by more than two feet, indicating additional water was withdrawn. Refill was not achieved in the Spring and was delayed in the Fall. In short, CCT has already experienced a failure of actual drawdowns to equal predicted drawdowns. Given the wide-ranging impacts that water levels in Lake Roosevelt have on the Tribes, this is troubling and requires additional precision in the drawdown predictions under the proposed alternatives, which according to the draft EIS would result in somewhere between 0.5 and 3.3 additional feet of drawdown at the August peak. (Figure 3; Tables 4-5, 4-12) These additional drawdowns will make it more difficult to refill the reservoir to full pool in the Fall, which is critical to supplying necessary spring flows to out-migrating juvenile salmon and access to the Lake Roosevelt tributaries for kokanee spawning in the Fall. Late summer and early fall drawdowns of Lake Roosevelt (and the need to refill) may also restrict flow at that time of year and impact lower river water temperatures and returning fall Chinook.

### ***Fisheries and Recreation Impacts***

If Lake Roosevelt is not refilled to full pool, a likelihood which necessarily increases under all of the action alternatives, access to many of the 65 tributaries to Lake Roosevelt, including the San Poil River, will be blocked to spawning native wild trout in the Spring and kokanee in the Fall. Significant amounts of data were collected regarding lake elevations and fisheries impacts for the CRWMP. That data was not fully analyzed and would provide valuable information if used in conjunction with key additional data. This would include a GPS study to determine the exact location and Lake level where access to each tributary will be blocked by dropping Lake elevations. This study, which would enable the Tribes to assess the impacts to resident fish in Lake Roosevelt, should be done in conjunction with CCT Fish and Wildlife staff. It must be a priority in the additional studies that will follow the draft EIS. While the draft EIS has some analysis of kokanee spawning in the San Poil River in September, no other tributaries are addressed. (4-139 to 4-140 and 4-144) Moreover, much of the impacts analysis in the draft EIS merely repeats the analysis in the 2008 CRWMP EIS, which only looked at drawdown at one-third the level of combined drawdowns from certain Odessa alternatives (3.3 feet) and MOU scenarios (1.62)<sup>5</sup> feet. Finally, potentially significant delays to kokanee access to the San Poil

<sup>5</sup> This was later changed to 1.82 feet, but the additional drawdown was not included in the analysis.



River are improperly discounted, particularly considering the EIS fails to consider additional drawdowns (and related difficulty in returning to full pool) that may be necessary under the Columbia River Treaty's "called upon" provisions beginning in 2024.

The following is a list of recreational areas and infrastructure that will be impacted by the various proposed drawdowns of Lake Roosevelt. Approximately one-third of boat launches will not be usable (highlighted in yellow) for a majority of the year and four more will be threatened depending on the alternative selected. Mitigation will be needed to extend these ramps to allow for full access to Lake Roosevelt. Access to the ferry service at Gifford and State Route 21 also will require assessment and possible extension.

#### LAKE ROOSEVELT MINIMUM BOAT LAUNCH ELEVATIONS

Crescent Bay	1265'
Spring Canyon	1222'
Keller Ferry	1229'
Hansen Harbor	1253'
Jones Bay	1266'
Lincoln Mill	1245'
Hawk Creek	1281'
Seven Bays	1227'
Fort Spokane	1247'
Porcupine Bay	1243'
Hunters Camp	1230'
Gifford	1249'
Daisy	1265'
Bradbury Beach	1251'
Kettle Falls	1234'
Marcus Island	1281'
Evans	1280'
North Gorge	1280'
Snag Cove	1277'



French Rocks	1265'
Napoleon Bridge	1280'
China Bend	1277'

TRB1-33

For the Columbia River Water Management Program EIS, CCT analyzed some of the impacts resulting from the smaller drawdowns of Lake Roosevelt (1 to 1.8 feet) in conjunction with the Tribes' Lake Roosevelt MOU with the State of Washington. That analysis from around 2007 is included in Ecology's web site for the CRWMP and is located at:

[http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/lkroos\\_colvilleimpact.pdf](http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/lkroos_colvilleimpact.pdf). This analysis provides valuable information regarding the range of impacts to fisheries, recreation, cultural resources and the potential one-time and annual costs of mitigating the effects. Substantial amounts of data were collected in the impact review but funding did not support full analysis of the data. With much greater drawdown predicted for the Odessa project (up to 3.3 feet depending on the alternative), this analysis should be funded – along with the additional GPS surveys described above – to utilize the available data, particularly with respect to fishery impacts in Lake Roosevelt.

TRB1-34

Finally, EPA, State, and Tribal resource managers recognize that temperatures in the Columbia River are on the rise and that this poses a problem, particularly for fishery resources. To address such temperature impacts, EPA went so far as to begin drafting Total Maximum Daily Loads for temperature for the main stem Columbia River. Studies show that there is very little stratification of Lake Roosevelt and temperatures may vary by three to five degrees centigrade within the water column, with the coldest water at the lower levels. The tubes that transfer Lake Roosevelt water up to Banks Lake are located in the deepest part of the Lake Roosevelt pool. Thus, water pumped to Banks Lake for eventual use by the Odessa Subarea irrigators will necessarily be the coldest water in the Lake. Its withdrawal will elevate the temperature in Lake Roosevelt, impacting resident fish and other species as well as anadromous fish downstream when this waters passes through Grand Coulee Dam into Lake Rufus Woods and on down the Columbia River. Temperature arrays need to be set in Lake Roosevelt and downstream in the mainstem Columbia River and the temperature impacts throughout the system modeled to determine the extent of the impacts to both resident and anadromous fish.

TRB1-35

#### Power Generation Impacts

The draft EIS fails to account for the impact of the Odessa project on the settlement agreement between BPA and the Confederated Tribes regarding compensation for Colville Reservation lands taken for construction of Grand Coulee Dam and the filling of Lake

TRB1-36

Roosevelt.<sup>6</sup> Pursuant to that settlement agreement, BPA has calculated annual compensation based on a number of factors, including the amount of hydropower generation at Grand Coulee, pumping to the Columbia Basin Project (including the Odessa Subarea, if implemented) and complex pricing mechanisms that depend, in part, on the time of year that generation is occurring. While the Tribes do not believe the settlement agreement authorizes BPA to deduct energy used for pumping from the total amount of Grand Coulee generation that serves as a basis for the payment, BPA has made pumping loads deductions in the past and has expressed its intention to continue making such deductions. Because changes to the pumping loads, as well as other changes in river management resulting from the Odessa project, may reduce the Tribes' annual compensation under the agreement, the EIS must analyze these potential changes and address how any resulting reduction in payment to the Colville Tribes will be included as part of the project costs. TRB1-36

#### Diversion Requirements

The draft EIS uses 57,000 acres and 3.00 acre feet per acre water duty for Odessa 2 alternatives (171,000 acre feet annually) and 102,600 acres with a water duty of 3.00 acre feet annually for Odessa 3 alternatives (307,800 acre feet annually). The diversion requirements are greater than the reduction in releases predicted by CCT calculations from Grand Coulee by 36,796 and 12,295 acre feet annually for Odessa 2 and 3 alternatives, respectively.<sup>7</sup> The draft EIS should resolve these differences based on reservoir evaporation changes at Lake Roosevelt, Banks Lake and other reservoirs within the project or provide additional explanation for the differences. TRB1-37

#### General Comments

Climate change and water supply is obviously an issue of increasing concern. In recent years, the timing and type of precipitation and runoff patterns have both varied from historic patterns and impacted the hydrology of the Columbia River system. While CCT's comments do not address the issue of climate change in detail, the agencies must provide further analysis, particularly as it relates to surface water quantity and drawdown of Lake Roosevelt. TRB1-38

The Tribes have long been concerned about the lack of fish screens at the intake for pumping to Banks Lake. Water diversions typically require some form of fish screen and this major project should not be any different. To prevent impacts from entrainment due to increased pumping, the draft EIS should study the feasibility of fish screens at the Banks Lake intake, or at minimum provide funding to study the incidence of entrainment, such as by using underwater cameras. TRB1-39

<sup>6</sup> April 21, 1994, *Settlement Agreement between the Confederated Tribes of the Colville Reservation and the United States*, Docket 181-D of the Indian Claims Commission; Approved by Congress as the "Confederated Tribes of the Colville Reservation Grand Coulee Dam Settlement Act", PL 103-436, November 2, 1994, 108Stat. 4577.

<sup>7</sup> See Table 1, above.

*Charles Carnohan, Bureau of Reclamation*  
*Re: Colville Confederated Tribes' comments*  
*on Odessa Subarea draft EIS*  
*January 31, 2011*  
*Page 13 of 13*

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All maps in the DEIS should clearly define and identify the Colville Reservation when the extent of the map includes Grand Coulee Dam and Lake Roosevelt.

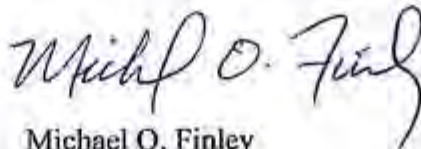
TRB1-40

Request for Government-to-Government Consultation

As this letter makes clear, the Colville Tribes' core interests would be significantly and adversely affected by any of the project's alternatives. These concerns must be addressed directly by the agencies, and we request government-to-government consultation to ensure the Tribes' concerns are fully considered and resolved. Please contact Gary Passmore at (509) 634-2426 to arrange a consultation meeting.

TRB1-41

Sincerely yours,



Michael O. Finley  
Chairman, Colville Business Council

Cc:

Ted Sturdevant  
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P.O. Box 47600  
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Derek I. Sandison  
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# Spokane Tribe of Indians

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January 31, 2011

Mr. Charles A. Carnohan  
Bureau of Reclamation Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

**RE: Spokane Tribe's Comments on the Draft Environmental Impact Statement for Odessa Subarea Special Study (Sent via email: [odessa@usbr.gov](mailto:odessa@usbr.gov) and fax: 509-454-5650)**

Dear Mr. Carnohan:

On the behalf of the Spokane Tribe of Indians ("Tribe"), please accept these comments on the Draft Environmental Impact Statement for the Odessa Subarea Special Study ("DEIS"). At this time, given the uncertainty surrounding future water supplies in the Columbia River; uncertainty about the cultural resource impacts of these proposed alternatives; and the Agencies complete lack of meaningful consultation with the Tribe, the Tribe can only support the No Action Alternative considered in the DEIS. For the Agencies to complete a meaningful and legal Record of Decision ("ROD") they must take a hard look at the cumulative actions that will affect Spokane and Columbia River water supplies and quality, they must conduct meaningful assessment of the cultural resource impacts of the proposals, and they must conduct meaningful government-to-government consultation with the Tribe.

These comments are organized in the following manner. First, there is a brief description of the Tribe's history in relation to the Grand Coulee Dam. Second, there is a discussion of the Tribe's interests that will be affected by the various Alternatives, if the No Action Alternative is not selected as the preferred choice. Third and finally, there is a discussion of how this DEIS and the preparation of the DEIS failed to account for the Tribe's interests outlined in section II.

## I. Background

The Tribe's Reservation was established in 1877, after the Tribe was removed by force from its domain. *Northern Pac. Ry. Co. v. Wismer*, 246 US 283, 288 (1918). The Reservation's southern



boundary is set to the south bank of the Spokane River and the western boundary is set to the western bank of the Columbia River. The boundaries were set in this fashion to protect the Tribe's subsistence and cultural uses of the Rivers. At that time, the Tribe's major food source was anadromous fish caught in the Spokane and Columbia Rivers. For many decades now, the Tribe's subsistence use of the Rivers have been thwarted by dams, upstream pollution, raised water temperatures, and during certain times of the year portions of the Rivers are uninhabitable for aquatic life due to depressed oxygen levels and high levels of total dissolved gas.

The first actions to harm irreparably the Tribe's fishery and water resources were the construction of Nine Mile Falls, Long Lake, and Little Falls Dams in the early 1900s. Little Falls Dam inundated portions of the Tribe's land and all the dams blocked fish migrating upstream. Unfortunately, these were just the first blows to the Tribe's anadromous fish based existence. The catastrophic blow came in 1933 when the construction of the Grand Coulee Dam began and no plans for fish passage were made. Thousands of acres of the Tribe's Reservation were flooded. The dam not only blocked completely the Tribe's major food source, it destroyed homes, land and inundated important burial and cultural sites.<sup>1</sup> To add to this destruction and harm, the Tribe has never been fairly or properly compensated for this taking, nor have the continued past and present negative effects of the Grand Coulee Dam been fully mitigated.<sup>2</sup>

Regardless of the above injustices, the Tribe strives and will continue to strive to develop a self-sustaining fishery that thrives in clean and abundant waters. Additionally, the Tribe will continue to develop and manage its terrestrial resources in a way to provide its Tribal members with land animal food sources to replace temporarily their fish based existence until that future time when anadromous fish return to the Tribe's rivers and lands. Finally, the Tribe will robustly defend and protect its cultural resources to keep its connection to the past.

## **II. Tribe's Affected Interests**

### **A. Water Quality**

The Tribe's Reservation includes portions of the Spokane River and the Columbia River. The Tribe is treated as a state for purposes of the Clean Water Act and administers its own EPA approved water quality standards ("WQS") that regulate portions of Lake Roosevelt, the Spokane River and the Columbia River.<sup>3</sup> The Tribe's waters during late summer including August fail to meet the Tribe's water quality standards for several parameters, including temperature and dissolved oxygen ("DO"). Upstream pollution and dam operations cause these water quality violations.<sup>4</sup> The Tribe's EPA approved WQS are 8mg/l for DO and 18.5 C for the

<sup>1</sup> See Generally McKay, Kathryn; Renk, Nancy, *Currents and Undercurrents: An Administrative History of Lake Roosevelt National Recreation Area*, 34-38 (2002). Available at <http://www.eric.ed.gov/PDFS/ED476001.pdf> (last visited January 11, 2011). TRB2-1

<sup>2</sup> *Id.* at 96.

<sup>3</sup> The DEIS fails to recognize or discuss the Tribe's standards.

<sup>4</sup> Spokane River Dissolved Oxygen TMDL, P. C 85-87 available at <http://www.ecy.wa.gov/pubs/0710073.pdf> (last visited January 11, 2011); See also EPA Approval Letter, P. 35, available at [http://www.ecy.wa.gov/programs/wq/tmdl/spokaneriver/dissolved\\_oxygen/SpokDOTmdl-EPAApproval052010.pdf](http://www.ecy.wa.gov/programs/wq/tmdl/spokaneriver/dissolved_oxygen/SpokDOTmdl-EPAApproval052010.pdf) (last visited January 11, 2011).



Class A Spokane Arm of Lake Roosevelt and 9 mg/l DO and 16.5 C for the Columbia River a Class AA.

As can be seen in the below graphs the Tribe's standards are not being met under current conditions, and if even "Minimal"<sup>5</sup> impairments are caused by this proposed project, the Tribe's waters will suffer and the Tribe's subsistence use of the River will be thwarted. These water quality violations make it very difficult to maintain a coldwater fishery within the lower Spokane Arm during the critical summer months and even minimal adverse impacts on temperature and DO may doom the fishery entirely during the late summer and early fall. Additionally, any further decreases in the Tribe's water quality make it that much more difficult for the Tribe to pursue its goal of the reintroduction of anadromous fish above Grand Coulee Dam.<sup>6</sup> Additionally, the current violations of the Tribe's WQS create anoxic conditions that lead to the reintroduction of metals into the water column. These metals contribute to the pollution uptake of the resident fish and further contaminate the fishery for food source uses.

The following charts show portions of the Spokane Arm and Figure 58 depicts Porcupine Bay.

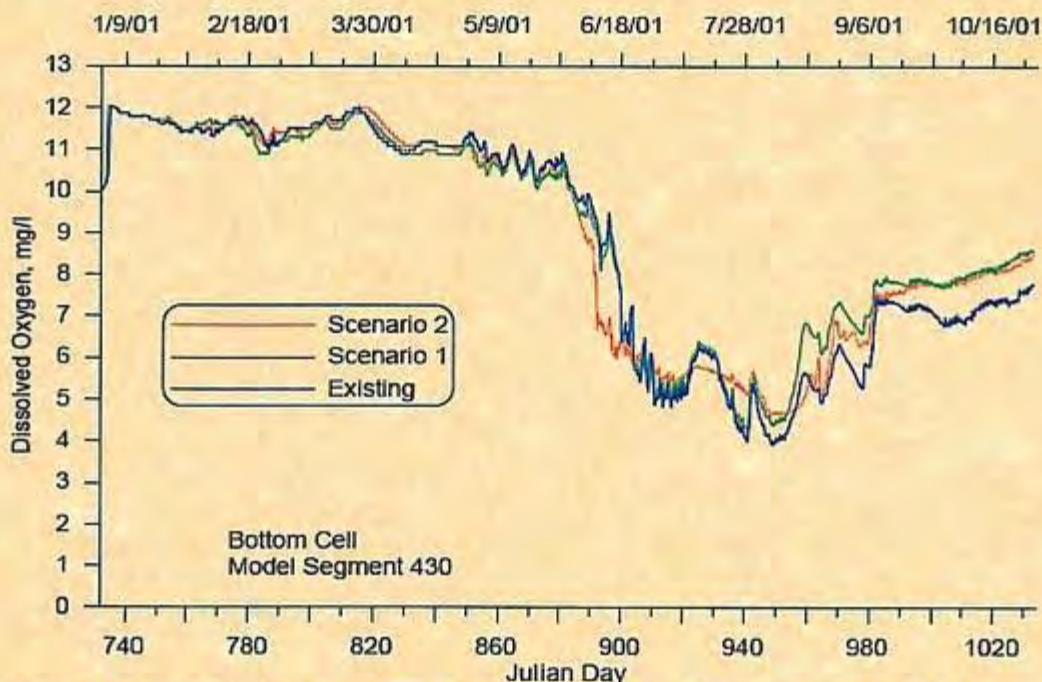


Figure 54. Scenario dissolved oxygen predictions for bottom layer of segment 430 (station SA2).

<sup>5</sup> As the Chart on page 2-77 of the DEIS indicates FDR water quality under the Alternatives taking FDR water in August will have as the Agencies have classified as "Minimal" impact. Unfortunately, any negative impact on conditions will cause significant problems for the Tribe's fisheries that are under significant stress due to poor water quality during that time of the year.

<sup>6</sup> See page 26-16 of the Intermountain Subbasin Plan available at <http://www.nwcouncil.org/fw/subbasinplanning/admin/level2/intermtn/plan/spokane.pdf> (last visited January 5, 2011)



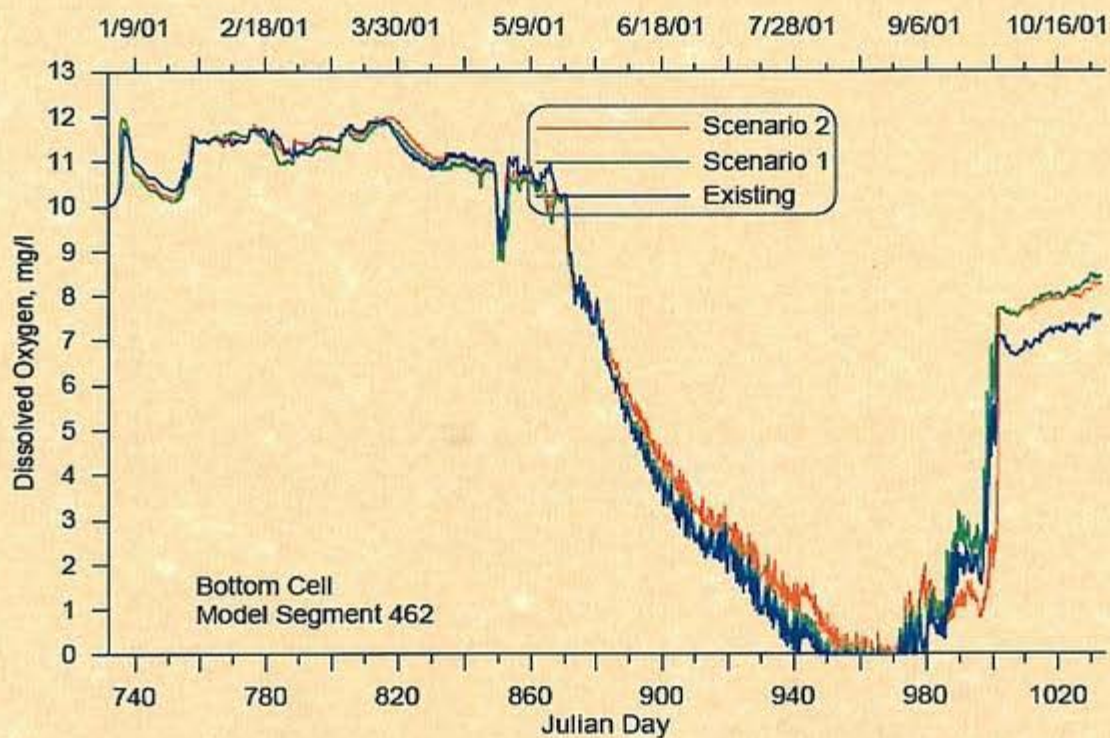


Figure 56. Scenario dissolved oxygen predictions for bottom layer of segment 462 (station SA3).

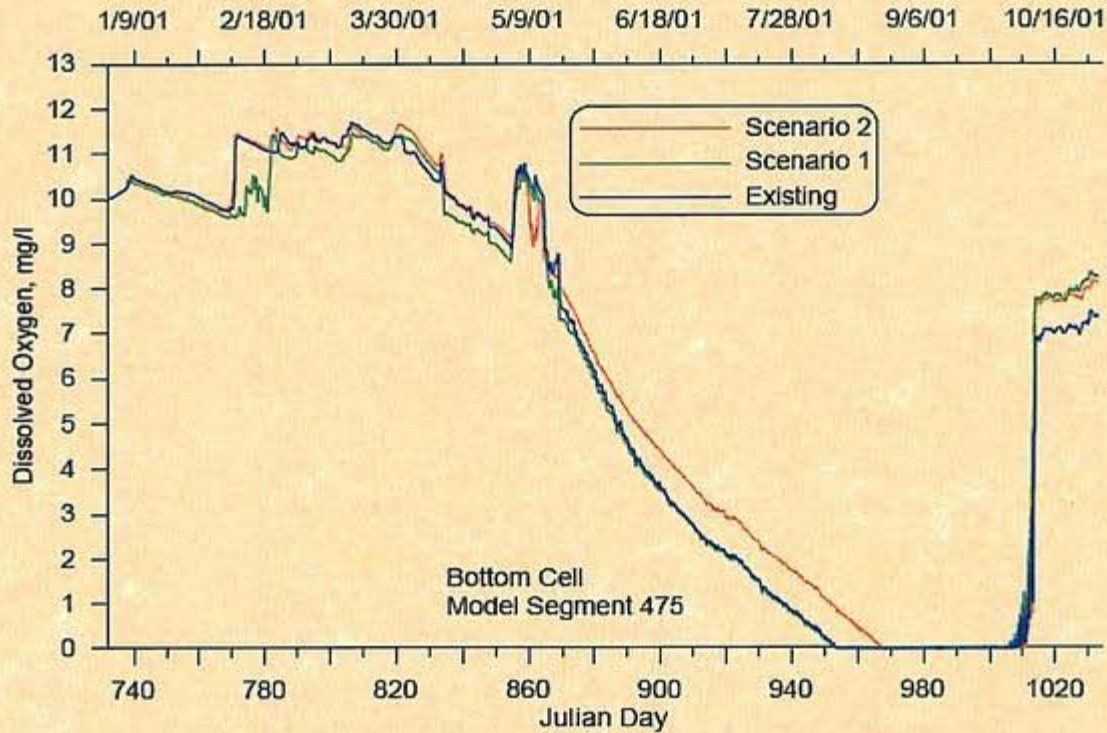


Figure 58. Scenario dissolved oxygen predictions for bottom layer of segment 475 (site 4).



## Two Rivers 09 Combined Temperature



## Spokane Arm Combined Temperature



\*Purple Depicts water entering the Reservation below Long Lake Dam.



## B. Mining Waste

The Tribe has a paramount interest in protecting its residents, members and visitors from exposure to hazardous uranium mining wastes located within the delta of Blue Creek as it empties into the Spokane River. Also, this area<sup>7</sup> and many more along the Spokane and Columbia Rivers contain mining waste from the mining areas in the Bunker Hill Superfund site in Idaho and from Teck Cominco's operations in Canada. This DEIS fails to consider or fails to take a hard look at the environmental impacts of increased bank exposure, if additional drawdowns occur due to this proposed project. Additional drawdowns will expose more bank in an area that is heavily used for recreation during the summer months, including August. Further bank exposure even if comparatively small to what already occurs will have negative lasting impacts that are not addressed within the DEIS. ] TRB2-4

## C. Economic Interests

The project alternatives proposed in the DEIS that utilize Lake Roosevelt water during the late summer will negatively affect the Spokane Tribe's extensive economic interests within Lake Roosevelt and the Spokane River. The Tribe operates the Two Rivers Resort, which includes a houseboat rental operation, a marina, a boat launch, RV Camping, an amphitheatre for music events and a small casino.

The Tribe's houseboat rental business operates throughout the summer months. Late summer drawdowns significantly impact the Tribe's ability to capture the late summer and early fall tourist market demand when air temperatures and water temperatures are at their highest within the Lake Roosevelt area. The alternatives within the DEIS that call for further drawdowns will further destroy the Tribe's ability to capture this market. ] TRB2-5

Additionally, further drawdowns during late August hinder the Marina operations and completely terminate the boat launch usability when the Lake elevation goes below 1280'. Furthermore, drawdowns in this portion of the Lake expose very steep dangerous banks making parts of the area hazardous for visitors. All of these negative impacts on the Resort's functionality reduce visitors and in turn reduce the visitor dollars spent at the Two Rivers Resort. The above economic and environmental effects are not adequately addressed within the DEIS. ]

## D. Affected Cultural Resources within the Spokane Indian Reservation

The effects of this project will have negative impacts on many of the Spokane Tribe's significant cultural sites along the banks of the Columbia and Spokane River. All of the projects will effect Lake Roosevelt elevations at some point during the year, but the alternatives that call for Lake Roosevelt water in August will have the most negative effects. The Tribe currently has documented 60 cultural sites along the Spokane Arm and 12 along the Columbia River. Additionally, there are numerous burial sites along both rivers. At a Lake Roosevelt elevation of ] TRB2-6

<sup>7</sup> See *Generally Determination of Premining Geochemical Background and Delineation of Extent of Sediment Contamination in Blue Creek Downstream from Midnight Mine, Stevens County, Washington*, USGS Scientific Investigations Report 2007-5262, available at <http://pubs.usgs.gov/sir/2007/5262/pdf/SIR07-5262.pdf> (last visited January 5, 2011). ] TRB2-7



1274.5, some 76 sites including known burial sites become fully exposed. Lower drawdowns in August have significant impacts on these sites. The drawdowns lead to increased wave action from boaters, more foot traffic along the shoreline, more looting when sites become exposed, and more wind and water erosion. Additionally, lower drawdowns require more foot patrols by the Tribe's cultural resources department, which stretches their budgets even further. The Tribe's cultural sites are very susceptible to damage caused by landslides that occur due to the operations at the Grand Coulee Dam, particularly when drawdowns occur.<sup>8</sup>

### E. Tribe's Interest and Traditional Use of Lands Outside the Boundaries of the Reservation

The traditional cultural setting for the Odessa area was an environment utilized by a number of Plateau Indian groups, centered on a subsistence pattern that was dependent upon the seasonal succession of resources that included identified game animals, fish, and a wide assortment of plant resources. The traditional annual economic cycle was composed primarily of two phases: winter life along the Columbia River, its major tributary streams and/or lower elevations adjacent, and summers spent on the plateaus and higher ground in search of productive (and family affiliated) resource areas for roots, medicines, and berries. Interspersed were visits to the river fisheries for the major anadromous fish runs.

Of interest to this discussion is the area around the town of Odessa, which was regularly visited for plant resource procurement, primarily root foodstuffs. In February, with the appearance of the buttercup, preparations were made to leave the winter village in pursuit of the earliest fresh roots and tubers. Extended family units would disperse from the winter village, procuring the successive, seasonally available roots from areas known to be productive, begin the initial processing of the foodstuffs for storage, and transport the goods back to the winter village. The prairies and meadows south and west of the Spokane River were traditionally used for gathering, within the territory of the Spokane; these were the largest and most productive root fields.

Oral history manuscripts on file with the Spokane Tribe of Indians indicate the importance of the area of Odessa specifically. In a "Description of a Spokane Root Festival, As told to Ella Evans by Ignace Pascal, Written April 24, 1964", discussions include how roots were sacred, were used during religious ceremonies and were a staple of the Spokane people. Furthermore, "the favorite roots for [these] Lower Spokanes was in the Davenport area" and that they would "go around Odessa and Davenport to get them (page 54 of aforementioned transcribed oral interview, on file, Spokane Tribe of Indians Preservation Office, Wellpinit, Washington). The area of Davenport and Odessa is still regularly visited by Spokane Tribal Members and is an annual destination for a formal root-digging excursion constructed by the Spokane Language Office (personal communication between Jason Jones, Spokane Tribe of Indians Archaeologist and Ann McCrea, Spokane Tribal Elder Consultant on December 13, 2010).

Following Parker and King's 1998 (revised) Bulletin, *Guidelines for Evaluating and Documenting Traditional Cultural Properties* ("TCP"), "a TCP should meet these practical considerations in order to be considered eligible for inclusion in the National Register of Historic Places (NRHP)" (Arneson 2004:2):

<sup>8</sup> See FN 1 at 152-56.



- TCPs must be important to the tribal community today and must have been important for at least two succeeding generations; places that the First Peoples have been barred from use due to land ownership issues may be included despite that lack of access in the last fifty years, especially if the property type and usage is documented in other locales.
- TCPs must maintain integrity of condition and be directly associated with a traditional practice for NRHP eligibility.
- A TCP must meet one or more of the National Register of Historic Places criteria:
  - A. be associated with historical events and broad historical patterns;
  - B. be associated with significant historic or legendary persons or entities;
  - C. have distinctive design or physical characteristics;
  - D. have yielded, or is likely to yield, important cultural information.
- A TCP must have tangible boundaries.

According to these criteria of Traditional Cultural Properties, as defined by the National Park Service, root-gathering areas within the projected Area of Potential Effect may be eligible for protection under the National Historic Preservation Act ("NHPA"). The Tribe wants to ensure that all sites that are eligible for protection are properly protected under the NHPA.

#### **F. Tribe's Rights**

The Tribe holds unquantified water rights for both in stream and out of stream purposes in both the Columbia River and the Spokane River. As stated in the introduction the Tribe's Reservation was legally established in 1877 and therefore its water rights have a priority date of 1877. Additionally, the Tribe has federally reserved fishing rights in the Columbia and Spokane River. Furthermore, the federal government has a fiduciary obligation to protect the Tribe's trust water and fishing rights within the Spokane and Columbia Rivers. *See Inter Tribal Council of Ariz., Inc. v. Babbitt*, 51 F.3d 199, 203 (9th Cir. 1995). The Tribe has a significant interest in protecting its rights and making certain the federal government is honoring its fiduciary duties in relation to those rights.

TRB2-10

#### **G. Tribe's Fishery**

Due to the construction and operation of Grand Coulee Dam, as well as ongoing federal and private hydropower dam operations throughout the Columbia River system, anadromous salmon have been blocked and indigenous resident fish populations have been severely altered in the upper Columbia River region. Artificial production has been determined appropriate for supporting harvestable fisheries for kokanee salmon (*Oncorhynchus nerka*) and rainbow trout (*Oncorhynchus mykiss*) in Lake Roosevelt. The Spokane Tribe, Washington Department of Fish and Wildlife, Colville Confederated Tribes and Lake Roosevelt Development Association (Lake Roosevelt Volunteer Net Pen Project) are receiving Bonneville Power Administration funding to support a cooperative comprehensive artificial production program to produce kokanee salmon and rainbow trout for annual releases into the project area. The program consists of the Spokane Tribal Hatchery, Sherman Creek Hatchery and Lake Roosevelt Rainbow Trout Net Pen Rearing Projects. The current release goal for Lake Roosevelt is 3 million kokanee fry, 250,000 kokanee yearlings and 750,000 rainbow trout yearlings. The intent of the Spokane Tribal Hatchery is to continue working with the associated artificial production projects to produce collectively



kokanee salmon and rainbow trout for supplementation of a viable sport and Tribal subsistence fisheries compatible and beneficial to the ecological conditions in Lake Roosevelt.

### **1. Rainbow Trout**

Approximately 750,000 rainbow trout are raised and released into Lake Roosevelt annually through the collective effort of the Spokane Tribal Hatchery, the Washington Department of Fish and Wildlife Sherman Creek Hatchery, and the Volunteer Net Pen Program. Sterile triploid trout are used to protect wild stocks of redband trout. This is a put-and-take fishery provided for angler and subsistence use and is not intended to produce a self-sustaining population of coastal rainbow trout in the reservoir.

### **2. Kokanee**

Kokanee are reared to support two purposes in Lake Roosevelt: (1) to provide sport and subsistence fisheries and (2) to support development of a kokanee egg source unique to Lake Roosevelt. Kokanee egg availability is extremely limited in the Pacific Northwest and the paucity of eggs available make it critical to develop a Lake Roosevelt kokanee egg source if the program is to continue into the future. Kokanee are currently the only salmon species in Lake Roosevelt, and as such are critically important to the Tribe.

Hawk Creek has been identified as having the greatest potential for development of a kokanee egg collection site due to its physical characteristics (cold water, adequate flow, waterfall blocking upstream migration, easy access, etc.). However, Hawk Creek is strongly influenced by Lake Roosevelt elevations. If lake elevations are below 1280, the fish cannot progress upstream to the trap location. Further, fluctuating water levels observed while fish are returning has caused additional difficulties in trap operations. Flow must pass through the trap correctly for it to fish properly and water levels must be high enough to hold the fish safely. Kokanee spawning occurs from August through mid November, which coincides with the period of greatest impact as identified in the DEIS. Specific impacts to the hatchery kokanee program were not examined under any of the alternatives provided under the DEIS.

TRB2-11

### **3. Anadromous**

As stated above, the Tribe's long-term goal is to reintroduce anadromous fish above Grand Coulee Dam. The steps that will be taken towards this goal are outlined in the Intermountain Subbasin Plan.<sup>9</sup> The Tribe has a significant interest in ensuring that all projects within the Spokane and Columbia River consider this goal when analyzing the effects of proposed projects under NEPA.

TRB2-12

## **H. Consultation**

Ensuring that the federal government honors the Tribe's consultation rights is a significant sovereign interest anytime federal action occurs. The Tribe must ensure that the consultation rights imbedded in federal Indian trust common law, specific federal statutes and regulations, and executive orders and presidential memorandum are followed. More specifically here, the Tribe must ensure that the regulations implementing section 106 of the National Historic Preservation Act are followed. See 36 C.F.R. §§ 800.2(c); 800.3(f)(2); 800.4(a)(4);

TRB2-13

<sup>9</sup> See FN 6.



800.5(c)(2)(iii); 800.6(a); 800.6(b)(2). Additionally, the following Executive Orders mandate ongoing and meaningful consultation with Indian Tribes that will be affected by federal actions. See Executive Order 12875 (Oct. 26, 1993); Executive Order 12898 (Feb. 11, 1994); Executive Order 13007 (May 24, 1996); Executive Order 13084 (May 14, 1998); Executive Order 13175 (Nov. 6, 2000). As President Obama stated in his November 5, 2009 White House Memorandum, “[c]onsultation is a critical ingredient of a sound and productive Federal-tribal relationship,” and the Tribe must make certain this “ingredient” is part of this decision.

TRB2-13

### III. DEIS Failures

#### A. Cumulative Actions and Impacts Not Addressed

The National Environmental Policy Act (“NEPA”) requires that BOR prepare a complete EIS to “provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” 40 C.F.R. § 1502.1; *see also* 42 U.S.C. § 4332(C) (enumerating EIS requirements). The EIS is the mechanism within NEPA to “ensure that policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.” *Id.* Most importantly while reviewing this DEIS and considering the scale of the proposed Odessa Project, BOR “must consider every significant aspect of the environmental impact of a proposed action in an EIS including the direct, indirect, and cumulative impacts of the action.” *See Oregon Natural Desert Ass’n v. Bureau of Land Management*, 625 F.3d 1092, 1100 (9th Cir. 2010); *see also Pit River Tribe v. U.S. Forest Serv.*, 469 F.3d 768, 781 (9th Cir. 2006). The EIS must examine the impacts in light of “past, present, and *reasonably foreseeable future* actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7 (emphasis added). “The EIS must analyze the combined effects of the actions in sufficient detail to be useful to the decisionmaker in deciding whether, or how, to alter the program to lessen cumulative impacts.” *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 810 (9th Cir. 1999). Moreover, “detail is therefore required in describing the cumulative effects of a proposed action with other proposed actions.” *Id.*

This DEIS fails to meet the above described statutory requirements. The Odessa Subarea Special Study Draft EIS lacks consideration of several actions that will negatively impact the environment and will exacerbate current environmental problems. Additionally, it fails to acknowledge planned future projects that will along with it cumulatively effect the environment.

TRB2-14

##### 1. Lincoln County Passive Rehydration

This DEIS fails to consider the Lincoln County Passive Rehydration project which is a reasonably foreseeable future action that will impact Lake Roosevelt, the Spokane River and the Columbia River. This project “will be primarily in Lincoln County, where water will be diverted from the Columbia River [Lake Roosevelt] and conveyed to Hurley Lake near the town of Telford, Washington for passive infiltration into the basalt aquifers.”<sup>10</sup> If this Ecology supported

<sup>10</sup> Available at [http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/grants/fundapps/00029\\_Lincoln%20Passive%20Rehy.pdf](http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/grants/fundapps/00029_Lincoln%20Passive%20Rehy.pdf) (last visited January 4, 2011); additional information available at <http://www.co.lincoln.wa.us/Planning/Passive.htm> (last visited January 18, 2011).



project<sup>11</sup> moves forward it could result in the withdrawal of 300,000-acre feet of water from Lake Roosevelt or roughly 200CFS of water.<sup>12</sup> This plan is not considered or evaluated in this DEIS. The Tribe is very concerned that the Agencies' failure to recognize this action could result in landslides, damage and exposure of cultural site within the Tribe's Reservation, exacerbation of water quality problems in Lake Roosevelt and the lower Spokane Arm, cause negative economic effects for the Tribe's Two Rivers Resort, and result in lake levels far lower than projected in this DEIS. This DEIS utterly fails to address the Lincoln County Passive Rehydration project and its effects combined with the effects of the Odessa project as required by NEPA. *See* 40 C.F.R. § 1508.7.

TRB2-15

## 2. Columbia River Treaty

The DEIS fails to address the potential changes that will occur due to the expiration of portions of the Columbia River Treaty and how those changes will affect the environment in conjunction with the Odessa Project as required by NEPA. *See id.* The following is the introduction from the website maintained by the U.S. Army Corps of Engineers and the Bonneville Power Administration discussing the importance of and changes to the Columbia River Treaty.

Since 1964, the Columbia River Treaty has provided significant benefits to the United States and Canada through coordinated river management by the two countries. It remains the standard against which other international water coordination agreements around the world are compared. When the Treaty was negotiated, its goals were to provide significant flood control and power generation benefits to both countries. The Treaty contains two provisions, however, each of which may significantly change these benefits as early as the year 2024.

First, in 2024 the 60 years of purchased flood control space in Canadian Treaty projects expires. Instead of a coordinated and managed plan to regulate both Canadian and U.S. projects for flood control, the Treaty calls for a shift to a Canadian operation under which the United States can call upon Canada for flood control assistance. The United States can request this "called upon" assistance as needed but only to the extent necessary to meet forecast flood control needs in the United States that cannot adequately be met by U.S. projects. When called upon is requested, the United States will then have to pay Canada for its operational costs and any economic losses resulting from the called upon flood control operation.

Second, while the Treaty has no specified end date, it does allow either Canada or the United States the option to terminate most of the provisions of the Treaty on or after September 16th, 2024, with a minimum of 10 years advance written notice. Thus, the year 2024 is the first year a notice of termination would take effect assuming written notice of termination is given by the Canadian or U.S. governments by 2014. Unless the Treaty is terminated or the federal governments elect to modify the Treaty, its provisions continue indefinitely, except for the changes in flood control discussed above.

<sup>11</sup> <http://www.ecy.wa.gov/news/2008news/2008-262.html> (last visited January 4, 2011)

<sup>12</sup> *See* FN 1.



Given the significance of both of these provisions, it is important that the parties to the Treaty understand the implications for post-2024 Treaty planning and Columbia River operations. The U.S. Army Corps of Engineers and the Bonneville Power Administration, the agencies that implement the Treaty in the United States on behalf of the U.S. Entity (see Treaty Governance sidebar), are conducting a multi-year effort to understand these implications. This effort is called the 2014/2024 Columbia River Treaty Review.<sup>13</sup>

Given the gravity and the importance of the Columbia River Treaty on how the River is operated it is shocking that in this DEIS there is absolutely no discussion of how the Odessa project would or will be affected by changes in the River's operations due to changes in the Treaty. Furthermore, there is no discussion of how the Treaty changes in conjunction with the Odessa Project will cumulatively affect the environment.

For example, below is a brief discussion contained in the recent Supplemental Report generated through the Colombia River Treaty review.

In the Treaty is Terminated scenarios (B2), the reduction of Arrow plus Duncan outflows *in August caused Grand Coulee to draft during the month and never recover toward full during the fall and early winter in most years.* In the Treaty Continues scenarios (A1 and C), draft of Canadian projects for power maintained flows from Arrow during this period and allowed Grand Coulee to remain fuller.<sup>14</sup>

Unfortunately, this DEIS completely fails to account for the changes that will occur due to the Treaty's pending expiration, cancellation or changes. Changes to the Columbia River Treaty are "reasonably foreseeable actions" and must be considered in this EIS. See 40 C.F.R. § 1508.7. TRB2-16

Throughout this DEIS, the agency dismiss any effects on Lake Roosevelt as minimal or non-existent. However, changes to the Treaty in conjunction with this project, and the Lincoln County Passive Rehydration project will affect all of the Tribe's interests in Lake Roosevelt, the Spokane River and its Reservation. Further decrease in late summer Lake levels expose additional cultural sites and lead to their inadvertent discovery. Decreases in lake levels in late summer will exacerbate low dissolved oxygen problems in the Lower Arm of the Spokane River (DEIS P. 2-77), low lake levels expose and cause the migration of mining pollution within the drainages from the Midnite Mine superfund site, and low lake levels in August may increase the further spread of the heavy metals from the Teck Cominco site. In addition, low end of summer Lake elevations effect the Tribe's operations at the Two Rivers Resort. Unfortunately, these cumulative actions are not considered and therefore, the cumulative effects are not addressed in this DEIS.

<sup>13</sup> <http://www.crt2014-2024review.gov/Future.aspx> (Last visited January 10, 2011).

<sup>14</sup> U.S. Entity Supplemental Report, P. 13, available at <http://www.crt2014-2024review.gov/Files/SupplementalReportAndExecutiveSummary.pdf> (Last visited December 28, 2010)(emphasis added)



### 3. Water Quality

The chart on page 2-77 of the DEIS indicates, Lake Roosevelt will have minimal impacts on water quality when the additional drawdown occurs. (See also DEIS P. 5-53). The Tribe will point out here that no water quality impacts during August are minimal for portions of Lake Roosevelt. Currently the Lower Arm of the Spokane River and portions of Lake Roosevelt fail to meet the Tribe's EPA approved water quality standards for temperature and dissolved oxygen.<sup>15</sup> During this critical time of the year oxygen is low and temperatures are high and if this project were to proceed under the alternatives using Lake Roosevelt as the water source the health and well being of the Rivers will be further diminished.

TRB2-17

Additionally, on page 4-54 the DEIS states that "[a] comprehensive water quality model has not been developed for Lake Roosevelt," however, the Lake Roosevelt ecology model, a CEQUAL-W2 model linked with hydrology and bioenergetics models, was developed by Portland State University in 2006 and is capable of determining water quality effects based on changes in hydro-operations in Lake Roosevelt, including the Spokane Arm. Further, it was recalibrated in 2009 to analyze water quality effects based on upstream pollution for the Lower Arm of the Spokane River. The Agencies should utilize these models to analyze the Alternatives effects on water quality. Additionally, the Agencies' should note that their knowledge of this model's availability would have come forth much earlier if they had properly consulted with the Tribe early in the development of this DEIS.

TRB2-18

### 4. FCRPS Biological Opinion 2010

This DEIS discusses the 2008 FCRPS Biological Opinion ("BIOP") Columbia River operations, but fails to address the 2010 changes and their effects, if any. The Agencies must address this cumulative action within the DEIS.

TRB2-19

### 5. Global Warming

Changes in climate patterns due to global warming will have a significant effect on Columbia River water supplies and this action is not adequately addressed within this DEIS. This DEIS relies on modeling from data based on the years 1929-1998 with no further explanation beyond, "because additional information is not yet available from HYDSIM modeling." (DEIS P. 4-5). For this DEIS to properly consider the effects of global warming it must perform modeling that does not ignore the past 12 years of data.

TRB2-20

### 6. Banks Lake PCBs

The DEIS fails to analyze the potential harm that may be caused by substantially increasing the acreage that is irrigated by Banks Lake. Banks Lake is a water body on Washington State's 303d list for PCBs and there is no evaluation of the environmental impacts of spreading PCB contaminated water throughout the Odessa Area. The Tribe urges the Agencies to evaluate the environmental impact of irrigating with PCB contaminated water in conjunction with the use of conventional farming techniques that utilize chemical pesticides and fertilizers.

TRB2-21

### 7. Water and Fishing Rights

The DEIS does not take the required "hard look" at how the Tribe's water and fishing rights maybe hindered or outright trampled in light of all the other demands put on the Tribe's

<sup>15</sup> *Supra* at 3-5.

TRB2-22



resources due to the proposed project and the other actions along the River. Additionally, by failing to acknowledge the cumulative demands on Columbia River water, this DEIS does not contain a fair assessment of whether water amounts of the magnitude contemplated are even available for use without impairing the Tribe's senior water rights.

TRB2-22

TRB2-24  
TRB2-23

Federal agencies owe a fiduciary duty to the Tribe, and that means agencies at a minimum are required to comply with general regulations and statutes when dealing with Indian Tribes in general. *See Pit River Tribe v. U.S. Forest Serv.*, 469 F.3d 768, 788 (9th Cir. 2006). This DEIS fails to analyze the cumulative actions that will increase the negative impacts on the Tribe's resources. With the complete failure to identify and analyze the Columbia River Treaty and Lincoln County Passive Rehydration Project as cumulative actions, BOR failed to honor its fiduciary duty to the Tribe by failing to comply with NEPA requirements within this DEIS. Violations of BOR's fiduciary duty can vitiate the validity of future approvals of this project. *See id.* The Agencies must analyze all the cumulative actions, which in this DEIS they have failed to do.

TRB2-25

### 8. Cultural Resources

The DEIS describes the methodology of assessing cultural resource impacts as follows: "Full field surveys to identify cultural and historic resources would be completed and all necessary consultation with the State Historic Preservation Officer and involved Tribes would be carried out if a **decision is made to proceed with one of the action alternatives**. Through this regulatory effort, appropriate impact avoidance and mitigation would be defined." (DEIS P. 4-262)(*emphasis added*). Instead of actually, identifying historic and cultural resources a predictive model approach was used to gauge the effects this project and its alternatives will have on cultural resources. The Tribe disagrees with this procedure as does the Ninth Circuit.

TRB2-26

We have held that Section 106 of NHPA is a "stop, look, and listen" provision that requires each federal agency to consider the effects of its programs. *See Apache Survival Coalition v. United States*, 21 F.3d 895, 906 (9th Cir.1994). Under NHPA, a federal agency must make a reasonable and good faith effort to identify historic properties, 36 C.F.R. § 800.4(b); determine whether identified properties are eligible for listing on the National Register based on criteria in 36 C.F.R. § 60.4; assess the effects of the undertaking on any eligible historic properties found, 36 C.F.R. §§ 800.4(c), 800.5, 800.9(a); determine whether the effect will be adverse, 36 C.F.R. §§ 800.5(c), 800.9(b); and avoid or mitigate any adverse effects, 36 C.F.R. §§ 800.8(e), 800.9(c).

*Muckleshoot Tribe*, 177 F.3d at 805. This DEIS indicates that the Agencies intend to do the opposite of what is intended by the NHPA and NEPA. It suggests that the Agencies will make a decision and then look to see what its cultural resource effects are. The Tribe cannot provide further comments on the sparse analysis of the various alternatives cultural resource effects within this DEIS because the Agencies have failed to follow the NHPA implementing regulations. This DEIS fails to analyze both off-Reservation and on-Reservation cultural sites discussed in II. D and E above.

TRB2-27



Additionally, the DEIS states that no Indian Sacred Sites have been identified in the area. (DEIS 4-269). Unfortunately, as discussed in more detail below and contrary to the statement made in the DEIS that "Reclamation is actively engaged in government-to-government consultation with the affected Tribes," (DEIS 4-269), the Agencies have completely failed to consult with the Spokane Tribe and have no way of knowing if there are any Indian Sacred Sites in the area of potential effect. The Tribe strongly urges the Agencies to follow the proper process in assessing the cultural resources within the area, which will allow the public and decision makers to grasp fully the effects of the proposed projects prior to its implementation.

TRB2-28

### 9. Fisheries

This DEIS fails to assess properly the Tribe's fishery concerns and fails to analyze how the cumulative actions along the Columbia and Spokane River will affect its fishery resources.

TRB2-29

a. This DEIS completely fails to address the Tribe's kokanee program within Hawk Creek and other tributaries along the Spokane and Columbia Rivers. The success of this programs may rise or fall on Lake elevations and the environmental impact is not discussed.

b. Water quality impacts caused by the alternatives considered within this DEIS fail to address those water quality impairments affect on the Tribe's fishery. There is a discussion of the temperature and dissolved oxygen problem, but not a discussion of how these conditions make it very difficult for a cold-water fishery to thrive.

TRB2-30

c. There is absolutely no discussion of how the alternatives within the DEIS will affect the Tribe's goal of the reintroduction of anadromous fish above Grand Coulee Dam. As stated above within the Intermountain Subbasin Plan, there is an overarching goal to begin studying reintroduction above Grand Coulee Dam and this goal will likely be effected by the water quality and quantity problems the alternatives within this DEIS present.

In conclusion, the DEIS must take a hard look at how the cumulative actions along the river will affect the environment, and the Tribe's fishery has been completely overlooked in this document.

TRB2-31

### B. Failure to Consult with the Tribe

The Agencies have completely failed to consult with the Spokane Tribe during the development of the Draft Environmental Impact Statement for Odessa Subarea Special Study. As the DEIS indicates, the Agencies did not hold a single consultation meeting with the Spokane Tribe during the entire DEIS development process. (DEIS P. 5-3 & 5-4). Unfortunately, the BOR attempts to misconstrue this fact in the same document by stating, "Reclamation is actively engaged in government-to-government consultation with the affected Tribes." (DEIS 4-269). The BOR only reached out to the Tribe after the Tribe became aware of the proposal and requested at a minimum a sixty-(60) day extension of the comment period on November 29, 2010. This request was denied and instead a thirty-(30) day extension was granted providing the Tribe with very little time to adequately assess the DEIS. In short, this complete failure of consultation with the Tribe specifically violates the NHPA and violates the United States fiduciary trust duties owed to the Tribe.

TRB2-32



### 1. NHPA Consultation

The NHPA's purpose is to preserve historic resources, and early consultation with tribes is encouraged "to ensure that all types of historic properties and all public interests in such properties are given due consideration." *Te-Moak Tribe v. U.S. Dept. of Interior*, 608 F.3d 592, 609 (9th Cir. 2010). Furthermore, as stated in a recent district court case, "[t]he Ninth Circuit has emphasized that consultation with tribes must begin early, and that if consultation begins after other parties may have invested a great deal of time and money, the other parties may become entrenched and inflexible, and the government agency may be inclined to tolerate degradation it would otherwise have insisted be avoided." *Quechan Tribe of the Fort Yuma Indian Reservation v. U.S. Dept. of Interior*, --- F.Supp.2d ---, 2010 WL 5113197 (S.D.Cal. Dec. 2010)(quoting *Te-Moak*, 608 F.3d at 609). As was indicated in the DEIS (P. 4-262), none of the NHPA's duties have been fulfilled. BOR failed to consult with the Tribe about the affects of the proposed DEIS alternatives on off-Reservation and on-Reservation cultural resources. Thereby, denying the Tribe, the public and the decision makers the information regarding these proposed projects impacts on cultural resources and violating the NHPA.

TRB2-33

### 2. Fiduciary Consultation

As stated above in section II. H, the common law Indian Trust Doctrine taken with statutes, regulations, Executive Orders and Memorandum, and BOR's own Indian consultation policy,<sup>16</sup> demand that anytime an Agency decision could affect a Tribe's resources the Agency must consult. In this situation, the proposed project alternatives all have the potential to affect negatively numerous resources of the Tribe: water, fish, land, cultural resources, and economic development activities. Accordingly, the BOR had the fiduciary duty to consult with the Tribe during the development of this DEIS and it failed to do so.

TRB2-34

### CONCLUSION

As described in detail above, the Tribe can only support the No Action Alternative proposed in this DEIS because of the DEIS's failure to evaluate cumulative impacts, and the BOR's complete failure to consult with the Tribe during the development of the document violating various regulations, statute, common law and United States government policy.

Sincerely,



Gregory Abrahamson, Chairman  
Spokane Tribal Business Council

Cc: Karl Wirkus, Regional Director, Bureau of Reclamation  
Ted Sturdevant, Director, Department of Ecology  
William Gray, Area Manager, Bureau of Reclamation  
Derek Sandison, Office of Columbia River, Department of Ecology

<sup>16</sup> <http://www.usbr.gov/native/naao/policies/policy.html> (Last visited January 14, 2011).





Confederated Tribes and Bands  
of the Yakama Nation

## Comment Letter TRB3

Established by the  
Treaty of June 9, 1855

January 31, 2011

Charles Carnohan, Study Manager  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Re: Odessa Subarea Special Study Draft Environmental Impact Statement

Dear Mr. Carnohan,

The Yakama Nation appreciates the opportunity to provide comments on the Odessa Subarea Special Study Draft Environmental Impact Statement (DEIS). We also appreciate the comment deadline extension that was granted by the Bureau of Reclamation (Reclamation). In addition to providing the following comments, the Yakama Nation Department of Natural Resources would like to request a staff-to-staff meeting with Reclamation and the Washington State Department of Ecology (Ecology) to discuss the Odessa Subarea Special Study DEIS.

### BACKGROUND

On June 9, 1855, the Confederated Tribes and Bands of the Yakama Nation signed a treaty with the United States of America (Treaty of 1855), through which the Yakama Nation ceded approximately 11.5 million acres of its sovereign territory to the United States. The treaty memorializing this cession of a mass of land nearly one-third the size of the state of Washington reserved certain rights for the Yakamas over those usual and customary areas (ceded territory). Namely, the Treaty of 1855 recognized rights, existing since time immemorial, for the Yakamas to take fish at all usual and accustomed places, and to hunt, gather roots and berries, and pasture horses and cattle upon open and unclaimed lands within the usual and customary areas.

### YAKAMA NATION'S COMMENTS REGARDING THE ODESSA SUBAREA SPECIAL STUDY DRAFT ENVIRONMENTAL IMPACT STATEMENT

The following initial comments are offered as an introduction to and outline of the Yakama Nation's concerns regarding the Odessa Subarea Special Study:

1. Yakama Nation's interest in the Odessa Sub-Area Study: Yakama Nation is recognized as a self-regulatory fishery co-manager by the U.S. District Court of Oregon in the U.S. v Oregon treaty fishing rights lawsuit. As such, the Yakama Nation has a direct and indivisible interest in the status of trust fishery resources that contribute to tribal fisheries "at all usual and accustomed

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places” as reserved in Article 3 of the Treaty of 1855 (12 Stat 951). As a tribal government, the Yakama Nation is obligated to preserve, protect, and enhance treaty trust resources for the benefit of future generations. The proposed action has the potential to negatively affect fish and aquatic resources produced within the tribe’s Ceded Lands that contribute to tribal fisheries supporting the culture, subsistence, and livelihood of tribal members.

2. Relationship of alternatives to the FCRPS BiOp: The tribe is deeply involved in the management of fisheries and fishery resources to ensure their persistence in perpetuity, and we have been particularly active in litigation to ensure that the Biological Opinion covering the operation of the Federal Columbia River Power System (FCRPS) contains adequate measures to assist in the recovery of salmonid populations listed under the Endangered Species Act. Accordingly, we are concerned that the proposal to divert water from the Columbia River system to benefit a relative few in the Odessa Sub-Area not undermine the extensive investments in ESA salmon recovery being made by a broad assortment of regional stakeholders. The FCRPS BiOp includes a broad assortment of mitigation and recovery actions that are intended to increase the survival of ESA-listed salmonids at all life stages. Actions to improve the survival of juveniles during seaward migration are given high priority in the BiOp, and the effectiveness of these actions is highly-correlated with flow volume during seaward migration. While the DEIS asserts that all of the alternatives would have “little or no effect” on salmon survival in the Columbia River below Lake Roosevelt, the level of detail given is insufficient for an independent assessment of the magnitude, timing, or severity of projected effects. Further, any new negative effects on survival, regardless of magnitude, are not anticipated in the lifecycle models supporting the conclusion that the FCRPS BiOp measures adequately address and compensate for mortality factors that presently impede the recovery of ESA-listed populations. Any incremental increase in impact should be quantified in terms of expected juvenile mortalities and accommodated in the comprehensive analysis supporting the FCRPS BiOp. TRB3-1
  
3. The proposal is inconsistent with Washington’s commitment to wild salmon recovery: While we understand the pressure to supply new water to affected farms in the Odessa Sub-Area, we also recognize that the State of Washington has made a commitment to restore wild salmon populations throughout the state and particularly in the Upper Columbia River (UCR). The Washington Fish and Wildlife Commission recently adopted its Harvest and Hatchery Reform policy as an affirmation of this commitment to wild salmon resources. Inherent in that policy is the commitment to preserve, protect, and enhance the water and natural habitats necessary to sustain healthy wild salmon populations. The proposal to redirect water from Lake Roosevelt and the Columbia River hydrograph to the Odessa Sub-Area is contrary to the habitat needs of wild salmon and flies in the face of the state’s announced policy. As the National Research Council (1996) pointed out in its assessment of the regional approach to salmon conservation entitled, *“Upstream: Salmon and Society in the Pacific Northwest”*, continued withdrawals of water from the Columbia River will continue to adversely affect upper Columbia salmon populations and impede their recovery. Despite assertions in the DEIS that the alternatives will have little or no effect on salmon populations, the proposal to divert additional water from the Columbia River hydrograph to irrigate the Odessa Sub-Area represents a further erosion of the political will required to preserve the habitat conditions that are absolutely necessary to support wild salmon populations. The state cannot have it both ways: It must commit to one resource goal or the other. TRB3-2
  
4. Lake Roosevelt storage is necessary for compliance with fish protection agreements: Water stored in Lake Roosevelt is critical to efforts to configure Columbia River flows in a manner that emulates the natural river hydrograph within which juvenile and adult salmon evolved specific migration and spawning behaviors. The natural hydrograph clearly has been disrupted by the construction of the hydroelectric power system, and the effects of this disruption induce TRB3-3

significant negative effects on the survival of juveniles migrating to the ocean and rearing in the Hanford Reach. The Hanford Reach Fish Protection Program and the Vernita Bar Agreement are plans agreed to by the fishery co-managers and parties to the HCP for operation of the Priest Rapids Project owned by Grant County PUD (GCPUD). The fish protection measures in these agreements are incorporated as binding conditions into GCPUD's FERC license to operate the Priest Rapids Project. Compliance by GCPUD with the terms of these agreements is dependent on a complex and delicate regulation of Columbia River flows to achieve specific flow conditions below Priest Rapids Dam. The DEIS provides little detail on how the diversion of storage from Lake Roosevelt under the set of alternatives affects GCPUD's ability to comply with these conditions of its FERC license.

TRB3-4

5. Inadequate treatment of potential for displacement of piscivores to the mainstem Columbia River: Banks Lake and several of the pothole lakes potentially affected by the extension of surface irrigation to the Odessa Sub-Area are stocked with exotic, warmwater piscivores for recreational fisheries. The DEIS contains no discussion of the potential for stocked piscivores to escape into sloughs, channels, or creeks that could become connected with the mainstem Columbia River. The likelihood of an inadvertent introduction of predatory warmwater fishes into the Columbia should be thoroughly investigated.

TRB3-5

6. Concerns over scope of project: The DEIS discusses several alternatives for "replacement" of groundwater. Viewed in full context, the proposal represents more than replacement. There is currently a bill pending before the Washington State Legislature that would allow diversions up to the limit of any Reclamation authorization, not merely replacing groundwater use, indicating a path toward expanded use and water spreading, not merely solving the purported crisis. If the intent of Washington State is to replace and expand on existing groundwater use, then the DEIS must be revised to disclose this.

TRB3-6

7. The proposal is inconsistent with Washington State's recent commitments with regard to the Columbia River: A few short years ago, Ecology commissioned the study by the National Research Council, which we incorporate by reference. The ensuing policy initiative by Washington State purportedly committed the state to respect the salmon crisis in the Columbia River and to ensure that any future out of stream uses were offset by benefits to instream flow and other works to restore salmon. The proposal in the DEIS can be most charitably described as maximizing benefits to out of stream users while attempting to minimize the harm to salmon who will be losing another large quantity of water. This appears to be an abandonment of the principle of "benefiting both instream and out-of-stream uses" laid out by the legislature and Governor a few years ago. This imbalance is made starkly clear in the document. The DEIS states (ES-7):

TRB3-7

The study would address environmental concerns and interests, including Endangered Species Act (ESA) matters. For example, important objectives of the Study include ensuring that alternatives do not adversely affect the National Marine Fisheries Service's (NMFS) Columbia River seasonal flow objectives for salmon and steelhead, and that potential impacts are avoided or minimized to habitats of importance for other sensitive species.

(emphasis added)

In contrast to the minimizing adverse impacts to fish, the proposed project "would address" concerns of irrigators by constructing a large public works project and subsidizing pumping to deliver them water.



8. Economic Analysis is Inadequate: Economic Analysis "Assuming that all potato production and processing is lost from the region" seems rather unrealistic in a region with more than a million acres of irrigated agriculture, much of which is in low value crops. The EIS should better characterize the likely market response to changing conditions.

TRB3-8

9. Potential Impairment of Treaty Instream Flow Water Rights: The DEIS states that "The surface water would come from existing water rights in the Columbia River system". But whose water rights? The Columbia River Treaty Tribes hold the senior water rights on the Columbia River, a fact not given due consideration in the DEIS.

TRB3-9

## CONCLUSION

The DEIS inadequately characterizes potential significant environmental impacts associated with the proposed actions in a number of important areas. As written, the document does not represent adequate environmental review. In addition, the report exaggerates both the purported benefits of the proposed actions and the purported impacts of the no action alternative in ways that are inappropriate for a valid environmental analysis. In submitting these comments, we hope the final EIS will correct the inadequacies in both the DEIS and in the underlying proposed actions.

TRB3-10

The comments and concerns described in detail above are not to be construed as an exhaustive list of the Yakama Nation's concerns. These comments and concerns represent the Yakama Nation's current understanding of the facts, based solely on the limited information thus far provided to the Yakama Nation and/or the limited information made public. Therefore, the Yakama Nation hereby reserves the unqualified right to amend these comments, supplement them, or address entirely new matters previously unidentified. Furthermore, these comments and any correspondence not sent by an elected official of the Yakama Nation's Tribal Council, or the Yakama Nation's Office of Legal Counsel, shall not be construed as the Yakama Nation's final legal position on this matter. Finally, this letter shall not be considered sufficient, in and of itself, to satisfy any consultation requirements you may have pursuant to any applicable federal, state, or local law or regulation, and the Yakama Nation's Treaty of 1855.

Thank you for your time and consideration. To arrange a staff-to-staff meeting, as requested, please contact me at (509) 865-5121 x. 4655 or Kristina Proszek, Environmental Review Coordinator at x. 6074.

Sincerely,



Philip Rigdon  
Acting Tribal Director



**United States Department of the Interior**

Control #:

10091228



FISH AND WILDLIFE SERVICE  
Mid-Columbia River National Wildlife Refuge Complex  
64 Maple Street  
Burbank, WA 99323  
Phone: (509) 546-8300 Fax: (509) 546-8303

**FWS-11-0011**

December 16, 2010

Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Rd  
Yakima, WA 98901-2058

Subject: Review of Draft Environmental Impact Statement Odessa Subarea Special Study  
(Project) in Relation to Columbia National Wildlife Refuge (CNWR)

1000	X
1001	X
1002	X
1003	X
1004	X
1005	X
1006	X
1007	X
1008	X
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1100	X

**PROJECT DESCRIPTION**

The Project proposes alternatives intended to replace well water use in the Odessa Subarea with surface water from the Columbia River by constructing a variety of conveyance and storage facilities to move the water southeast. The Project proposes various combinations of two water conveyance options and three water supply options. The full replacement options would provide surface water to 102,614 eligible acres in the Project Area. The partial replacement options would provide surface water to 45,545 acres north of I-90 and east of the East Low Canal. Water will be delivered through a system of pumping plants, pipe laterals, new and existing canals and reservoirs to irrigate land within the Odessa Groundwater Management Subarea in Adams, Franklin, Grant and Lincoln Counties. The Mid-Columbia River National Wildlife Refuge Complex staff have reviewed the document and offer the following comments:

**GENERAL COMMENTS**

*Project Impacts*

The negative impacts of the Project for Columbia NWR are expected to be indirect, but could be cumulatively significant. These effects come in two different forms; 1) changes in the movement of water in and around the Refuge and 2) destruction of shrub steppe habitat within the proposed area used by wildlife species which also use Refuge habitats.

FED1-1

*Hydrology*

On page 71 of the document, it is stated that the action alternatives will result in "potential changes to temperature, dissolved oxygen, total dissolved gas, pH, nutrients and heavy metals..."



Furthermore, the document states that Lake Roosevelt (FDR) is contaminated with heavy metals, mostly from mining in the upper basin of the Columbia River. Page 214 identifies those metals as “zinc, copper, lead, arsenic, cadmium, and mercury” and that “metals tend to bind to sediments rather than remain in solution.” These sediments could serve as “sources to potentially reintroduce metals back into the water column.” Apparently, Banks Lake, that receives its water from FDR, is not similarly contaminated. The alternatives that result in the greatest fluctuation in FDR water levels are most likely to disturb sediments and possibly release metals into the water, much of which ultimately flows to and through CNWR. At elevated levels heavy metals can bioaccumulate in higher trophic level organisms and cause a multitude of health issues and death. Because Banks Lake, Potholes Reservoir and the canal systems would likely recapture and immobilize some of these metals, and because of the low quantities of metals that might become active within FDR, the risk to the refuge is believed to be small. However, the alternatives that do not require additional withdrawals from FDR would minimize the risk to CNWR resources. Under all alternatives, careful monitoring and a plan for remediation should occur.

FED1-2

FED1-3

In regards to possible high flows through Lower Crab Creek as a result of this specific Project (not referencing interrelated projects within the Columbia Basin such as the Potholes Supplemental Feed Route), page 254 and 366 suggest that “water levels and operations of Moses Lake would not be expected to change” under most alternatives, but that “under the full replacement alternative” ... “the additional inflows into Potholes Reservoir would result in less drawdown during August of some years...” So the quantity of water seeping into and flowing through CNWR is not expected to change or perhaps slightly increase as a result of the project.

### *Shrub Steppe Habitat*

Page 460 of the document states that “Under both the partial and full replacement alternatives, long-term significant impacts to all wildlife would occur as a result of lost shrub steppe habitat. Additional long-term significant impacts would occur on special status species and migratory birds under all of the action alternatives as a result of drawdowns at Banks Lake and reduced nesting habitat.” Page 472 states “About 2,470 acres of shrub steppe and steppe grassland habitat would be permanently lost as a result of constructing facilities under Alternative 3A: Full—Banks (Table 4-27). This represents a significant impact. The affects of the short- and long-term loss of about 4,290 acres of shrub steppe and steppe grassland under this alternative would persist for many years and impact a wide range of species.” While these habitat losses (for which restoration or mitigation is planned) do not occur on CNWR, they do indirectly affect refuge wildlife. The loss of sage steppe is of particular concern. Restoration of this habitat is difficult at best and takes many years (if full ecological function is ever achieved) during which dependent species may either emigrate or perish. Table 4-32 on page 476 lists 18 “special status species” that were observed at “major facilities of the full replacement alternatives.” These species all occur on CNWR and, to varying degrees, are the focus of management and conservation efforts. Other important species such as the pygmy rabbit and sagebrush lizard were not seen, but their habitat will be affected by the project. Because of the proximity of the project to CNWR, and the ability of these species to move across the landscape, any affects to these species, particularly those designated as: species of concern, threatened, or endangered,

FED1-4

FED1-5

will ultimately affect our ability to manage or recover them on the refuge. A loss of sage-steppe habitat, in particular, could have regional effects on populations (or recovery) of pygmy rabbits, sagebrush lizard, sage grouse, black-tailed jackrabbits, loggerhead shrike, sage sparrow and sage thrasher. These regional losses of habitat and individuals would mean reduced production and ultimately immigration to CNWR and reduced intra-species genetic variability which could affect the survival of these species on the refuge and beyond. Alternatives that minimize loss of sage-steppe are preferred. FED1-5

Sincerely,



Gregory M. Hughes  
Project Leader  
Mid-Columbia River NWR

cc: Ecological Services, Central Washington Field Office, USFWS



## United States Department of the Interior

### NATIONAL PARK SERVICE

Lake Roosevelt National Recreation Area

1008 Crest Drive

Coulee Dam, Washington 99116-1250

IN REPLY REFER TO:  
L30

January 31, 2011

To: Chuck Carnohan, Study Manager  
1917 Marsh Road  
Yakima, WA 98901-2058  
509-575-5848 x.603  
odessa@usbr.gov

Re: Lake Roosevelt National Recreation Area comments on the Odessa Subarea Special Study Draft Environmental Impact Statement

To begin, we thank you for the extension of the review period which was a very big help on a review of this size. My staff and I have spent a considerable amount of time reviewing and trying to get a very good understanding of the considerable amount of data and information included in this Odessa Subarea Special Study Draft EIS. We have also referred back to the 2008 Final Supplemental Environmental Impact Statement for the Lake Roosevelt Incremental Storage Releases Program and the June 17, 2008 supplemental engineering document entitled "Lake Roosevelt Shoreline Management, Waterfront Facilities, Drawdown Impact Study" prepared by KPFF Consulting Engineers. That document includes specific impacts to Lake Roosevelt National Recreation Area's recreational facilities and the impacts to these facilities at the proposed drawdown levels for the Incremental Storage Releases Program as finalized in 2008. As part of that program, mitigative measures and funding were provided that addressed the NPS concerns down to a potential drought year drawdown of 1276.2.

Please consider these comments as reflecting the viewpoint of the National Park Service (NPS) on this proposal.

Once again the NPS was not consulted with respect to the potential effects of your alternatives on the numerous facilities located along the Lake Roosevelt reservoir. Not only does the Draft EIS fail to identify and correctly discuss the impacts to our built facilities, it consequently fails to identify the social and economic effects of the dewatering of marinas and the effects on the small business owners who operate the concession contracts with the NPS. Again, include us in future project planning efforts of this scope and scale! I have a number of well-qualified staff members who could be very helpful and better assess many of the impacts.

Second, I must make clear that any drawdowns which exceed 1276.2 would have significant effects on many of our recreational related facilities. In reviewing the effects of the Alternatives

outlined in the Odessa Subarea Special Study Draft EIS (as shown in the **Comparative Evaluation of Alternatives, pp. 2-75 to 2-83**), we note that the effects of the alternatives on recreational resources are all listed as "No Impact" to "Minimal Impact". Yet with the proposed Lake Roosevelt drawdowns, **Alternatives 2B and 2D** could have impacts on our facilities in drought years and **Alternatives 3B and 3D** could have significant impacts in all but the "wet & average years". Water levels below 1276.2 during the peak visitor use seasons result in the closing of the Kettle Falls concessionaire-run marina and the loss of numerous boat slips at our other two marinas at Keller Ferry and Seven Bays. These 3 marinas provide nearly all of the fueling and waste pump-out stations along the reservoir. These marinas will lose substantial business and revenue from their rental slips because few boaters are willing to rent slips that require periodic removal of their boats because the marina or large sections of the docks/slips are completely dewatered. You correctly note that the boat ramps are still useable at these marinas (Kettle Falls to 1234', Seven Bays to 1227', and Keller Ferry to 1229'), but we feel an additional engineering study would be needed to truly evaluate the impacts should **Alternatives 3B or 3D** be selected. These impacts could occur in up to 30% of the upcoming years (or more – see next paragraph). Also, at an elevation at or below 1277, two more (for a total of seven) of twenty-two NPS maintained boat launches are dewatered and unusable. Several swimming areas associated with the campgrounds would also be impacted at levels below 1276.2 in spite of the recent upgrades and improvements which try to keep them useable down to this lake level. We would consider all of these impacts during August and September to be well above "No to Minimal Impact" for the average 1.3 million visitors who come to Lake Roosevelt each year for recreation. We therefore do not agree with **Section 4.29.10 (pp.4-283)** that "no mitigation measures are necessary for Lake Roosevelt...").

FED2-4

Next, we feel that the discussion on potential climate change impacts is completely inadequate. The reference to "Climate Change Scenarios" (**Section 4.2, pp.4-4**) is vague and lacks any references or supporting documentation. The scenario planning, modeling or at a minimum a list of supporting scientific reports should be included in a document of this scope and for a project which allocates another significant portion of the total Columbia River system in perpetuity. Several climate change theory impacts are noted in **Section 3.2.5 (pg. 3-8)**. Substantial reductions in snowpack, earlier melting of much less snow, and less run-off would seem to be very detrimental, but receives no further discussion throughout the document. No climate change predictions or modeling are mentioned for the Canadian Rockies or west slopes of the U.S. Rockies which supply a bulk of the flows coming into the reservoir. These climatic changes were never considered in the 1940's to 1970's as the projected water allocations for the Columbia Basin Project were being developed. Modeling using today's climatic conditions and the expected changes during the 21<sup>st</sup> century may indicate that the "dry and droughty years" conditions may actually be the norm. Under **Alternatives 3B and 3D**, there could be significant impacts to both the fisheries and recreational management requirements of the Columbia River System in addition to an over-allocation of the river's waters in drought years. A number of Southwestern reservoirs have been greatly impacted over the last decade by major weather pattern changes which may be associated with ongoing climatic changes. We strongly encourage that additional effort be put into this Climate Change topic.

FED2-5

An additional discussion point regarding the future implications of changes in the Columbia River Treaty Review (CRT) in 2024 and a host of potential "cumulative impacts" should also be included in a study of this scope. I am a NPS representative on the CRT Federal Caucus and understand that little will be resolved until 2014 under the 10 year notification requirement. However, the very real scenario that the Canadian flood control obligations will change from the current coordinated plan to "called upon" flood management provisions represents substantial future impacts to lake levels including the potential for much more significant winter to early summer drawdowns. Grand Coulee Dam is clearly the key reservoir in the basin wide flood management efforts. A discussion of the potential CRT cumulative impacts as they are currently understood would seem to be critical before any decision making occurs.

FED2-6

I appreciate your review and consideration on these very important issues. If you have any questions or need of clarification then please either contact myself at 509-633-9441 or my Chief of Integrated Resources, Ken Hyde, at 509-633-9441 ext.128.

Sincerely,

*/s/ Debbie Bird*

Deborah Bird  
Superintendent



# Comment Letter FED3



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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OFFICE OF  
ECOSYSTEMS, TRIBAL AND  
PUBLIC AFFAIRS

January 31, 2011

William D. Gray  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

Re: EPA comments on Bureau of Reclamation's (BOR) Odessa Subarea Special Study  
EPA Project Number: 08-054-BOR

Dear Mr. Gray:

The U.S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (DEIS) regarding the Odessa Subarea Special Study, Columbia Basin Project in Washington. Our review of the DEIS was conducted in accordance with our responsibilities under National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The DEIS was prepared in cooperation between the Bureau of Reclamation (BOR) and the Washington Department of Ecology (DOE) to evaluate alternatives to deliver surface water from the Columbia Basin Project (CBP) to irrigated lands that currently rely on a declining groundwater supply from the Odessa Groundwater Management Subarea. Eight action alternatives were analyzed for withdrawal in various capacities from two existing reservoirs (Banks and FDR) and a proposed new reservoir (Rocky). All of them include expanding the East Low Canal and the full replacement includes construction of an East High Canal system. These alternatives are illustrated in the table below:

Alternatives- <u>Partial</u> Groundwater Irrigation Replacement (57,000 acres)	Alternatives- <u>Full</u> Groundwater Irrigation Replacement (102,600 acres)	Description
2A	3A	Would use existing storage in Banks Lake, exclusively.
2B	3B	Would result in drawdowns from both Banks Lake and Lake Roosevelt.
2C	3C	Would use existing storage in Banks Lake, plus a new Rocky Coulee Reservoir.
2D	3D	Would use a combination of all three facilities.

We commend BOR for the work completed in this study and the very well organized EIS. The document communicates complicated information clearly through the layout and description of alternatives, highlighted boxes with key information, and figures/tables (i.e., summary of benefits/impacts in Table 2-15). Also, we are very appreciative of the time that Charles Carnohan of your staff devoted to discussing the overall project and his enthusiasm to engage us in this work.

EPA is actively engaged in the Columbia Basin through many of our programs including CERCLA and our Office of Water and Watershed programs. EPA developed a Strategic Plan for FYI 2011-2015<sup>1</sup> and identified the Columbia River as one of our Nation's great water bodies, joining the Chesapeake Bay, Great Lakes, Gulf of Mexico, South Florida Ecosystem, Long Island Sound and Puget Sound. The strategic plan sets environmental targets which will help to move toward a healthier river:

FED3-1

- Protect, enhance, or restore 13,000 acres of wetland habitat and 3,000 acres of upland habitat in the Lower Columbia River watershed.
- Clean up 150 acres of known highly contaminated sediments.
- Demonstrate a 10% reduction in mean concentration of contaminants of concern found in water and fish tissue.

The Columbia River Basin is also part of EPA's Large Aquatic Ecosystems program that focuses on protecting and restoring the health of critical aquatic ecosystems. We believe it may be relevant to consider this information and how BOR and WA Dept of Ecology's efforts could support this critical work. For further information, the contact for the Columbia River is Marylou Soscia, Columbia River Coordinator, at [soscia.marylou@epa.gov](mailto:soscia.marylou@epa.gov).

FED3-2

We acknowledge that water delivery to the Odessa Subarea involves complex water availability/quality issues by striving to address declining groundwater from irrigation with the supplement of surface water (partial replacement) or full replacement of groundwater irrigation. However, as indicated in the DEIS, the resulting impacts to surface water quality and/or habitat are potentially adverse for all action alternatives. Therefore, the challenge is to find ways to promote groundwater recharge while still protecting surface water quality. Our main concerns relate to water quality and the uncertainty about need and success of this project in terms of level of construction, funding and timing. Since this is such a large scale issue, we suggest that you consider developing a collaborative workgroup with agencies, farmers, and other relevant stakeholders to explore mitigation and/or more aggressive means (including identifying funding) to further enhance water efficiency and water conservation. This may aid in addressing both problems. Because of our concerns related to water resources and limited mitigation, we have rated the DEIS EC-2 (Environmental Concerns – Insufficient Information). An explanation of this rating is enclosed. Our detailed comments further discuss these and our other general questions and recommendations.

FED3-3

<sup>1</sup> USEPA. 2010. *FY 2011-2015 EPA Strategic Plan*. [www.epa.gov/cfo/plan/plan.htm](http://www.epa.gov/cfo/plan/plan.htm)

Thank you for the opportunity to review this DEIS. Please feel free to contact Lynne McWhorter of my staff at, (206) 553- 0205 or at [mchorter.lynn@epa.gov](mailto:mchorter.lynn@epa.gov) with any questions or to further discuss these comments. EPA Region 10's Agriculture Specialist is Karma Anderson who is also engaged in this review and is available for questions at [anderson.karma@epa.gov](mailto:anderson.karma@epa.gov). We look forward to working with you in the future on this project.

Sincerely,



Christine B. Reichgott, Unit Manager  
Environmental Review and Sediment Management Unit

Enclosure

Cc: Marylou Soscia, EPA R10 Oregon Operations Office



## EPA Comments on the Odessa Subarea Special Study, Columbia Basin Project Draft EIS

### Alternatives

We understand the need to address the severely declining groundwater (100'-200' decline since the 1980's) in the Odessa Subarea; however, we have concerns with (a) the limited method(s) for addressing the problem and (b) the feasibility of implementing them. For example, the planned shift to surface water (included in all of the alternatives) is based on allocations and an agriculture forecast developed decades ago when conditions were quite different from those that exist currently or are expected in the near future (e.g., climate change). We recommend considering additional or modified alternatives and/or supplementing alternatives with more robust mitigation to reduce impacts (further discussed in the next section).

FED3-4

FED3-5

The feasibility of implementing an action is unclear since all alternatives except 2A and 2B have a benefit-cost ratio less than 1 (Table 3), which presumably would make them infeasible; this was confirmed with BOR staff. Furthermore, the only alternative without adverse effects to surface water is alternative 2C for which the benefit-cost ratio is below 1 (benefit-cost ratio 0.678), making its selection unlikely. It appears that cost is the key factor driving the alternative selection and therefore, it is unclear how environmental benefits are weighed. Of the needs listed, economic loss is the only need with a relatively thorough analysis. The DEIS provided an analysis of what will happen if 70% of the wells dry up, in that the cropland will be converted to dryland wheat. This would result in an economic loss of \$630 million. However, we are unclear what this means in the context of other interests in the basin. We recommend disclosing more information on how environmental impacts/benefits are weighed along with the cost benefit ratio analysis and how both of these factor into decision making.

FED3-6

### Agriculture Practices

The need statement includes, "Fulfill Obligations to Improve Water Management and Delivery;" however, the DEIS appears to miss potentially important components that one would expect in a thorough assessment of water management improvement, such as conservation. The document states that Section 15 of the MOU requires BOR to look at water delivery "to additional existing agricultural lands within the Odessa Subarea." We are unclear if this signifies the intent to primarily expand agriculture lands, or to shift to more water consumptive crops. There does not appear to be a significant analysis of options to reduce water consumption (i.e., converting to more efficient irrigation methods and more efficient crops). Although center pivot irrigation is considered the most efficient for crop production, it may not be the most environmentally efficient. For example, the analysis does not fully address potential groundwater recharge, or preservation of ditch-side riparian areas created as a result of flood irrigation. And though micro-irrigation is not widely used in potato crops, we believe it is valuable to explore this possibility. If it is not feasible, what is the benefit/cost of moving to more water-efficient crops? Dryland wheat is more water efficient, but does not provide the economic return of potatoes. In the larger picture of water shortage, how does the economic benefit of growing potatoes compare with environmental impacts? We recommend that the economic and environmental impacts or benefits be contrasted more clearly and that the decision process for selecting an alternative be more fully described.

FED3-7

FED3-8

We recommend that the EIS include an overall analysis of crop and water efficiency. Although dependent on the site, these practices could include: Advanced Irrigation Water Management, Conservation Crop Rotation, Conservation Tillage, and others. Although not every practice is applicable to every crop or every field, good planning and conservation could reduce overall water need. To accomplish this, we recommend that BOR and Washington Department of Ecology (WADOE) work with Conservation Districts and farmers to maximize water conservation.

FED3-9

We note that the EIS does not include a thorough energy analysis. If the conversion to using surface water for irrigation reduces surface water flows, there is the possibility that the energy production of the Columbia could be reduced. Given that potential, we believe it would be beneficial to consider on-farm hydro-energy projects to counter balance the loss. One suggestion is to include gravity fed pivots in the analysis, which would reduce pivot energy use. We recommend that the EIS more fully evaluate and discuss energy use and energy reduction methods.

FED3-10

### **Water Availability**

As previously stated, Alternative 2C appears to have the least adverse effect on water quality and water quantity (elevation) in Banks Lake, but the reasons are not clear. Since the Rocky Coulee Reservoir is downstream of Banks Lake, it is not clear why predicted water elevations in Banks Lake are significantly different from the other Alternative 2 options. A summary table in Section 4.2 showing source waters and associated flows and/or volumes for each alternative would be helpful in presenting this information, as predicted water elevations are directly related to water quality parameters such as temperature and dissolved oxygen. This could be expanded into a discussion of the water balance showing all sources and sinks (losses) for each alternative, and could also include a full evaluation of evaporative losses which would be very valuable additional information, meriting a more thorough discussion. Through this mass balance approach, the reader would gain a greater appreciation of which alternative is more sustainable and uses the least amount of water, and why predicted water levels in Banks Lake are different for each alternative.

FED3-11

### **Quality of Groundwater Recharge**

The DEIS discusses groundwater levels increasing for the Grande Ronde aquifer for all partial and full replacement alternatives. For the partial alternatives approximately 176,000 acre-feet of ground water would be conserved and for the full replacement alternative, 347,000 acre-feet of groundwater would be conserved allowing for a greater recharge rate. We support activities that promote groundwater recharge/conservation; however, we are concerned with the quality of groundwater recharge given the existence of contamination by nitrates, bacteria and other contaminants in known parts of the Columbia Basin. The DEIS does not appear to discuss this issue or analyze the quality of groundwater. EPA's Ground Water and Ecosystems Restoration of ORD's National Risk Management Laboratory, EPA Region 10, and other federal agencies are working together to link elevated nitrate concentrations to specific sources. This is an important research effort due to the human health concerns and the exceedance of Federal Safe Drinking Water Maximum Contaminant Level (MCL) for nitrate (10 mg/L). For more information please visit the following site:

FED3-12

FED3-13

[http://www.epa.gov/ada/gw/pdfs/char\\_gw\\_contam\\_nitrates.pdf](http://www.epa.gov/ada/gw/pdfs/char_gw_contam_nitrates.pdf).

EPA recognizes that providing high quality drinking water to protect human health is a high priority for land management agencies. Protective actions and land use decisions can be very effective in providing clean source water to aquifers that feed public intakes and wells. Such protective action can lessen the amount of public funds that would otherwise be spent to upgrade treatment facilities to remove contaminants. Therefore, we recommend that the EIS analyze the quality of groundwater and the anticipated recharge water, and also disclose any private wells that are located within the project area. Also the EIS should specifically:

- Identify all federally-regulated source water protection areas and state-regulated source water protection areas, if the state agency maintains that list, within or downstream of the project area;
- Identify all activities that could potentially affect source water areas;
- Identify all potential contaminants that may result from the proposed project;
- Identify all measures that would be taken to protect the source water protection areas in the draft EIS.

FED3-14

#### **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**

The EPA is currently overseeing a CERCLA investigation being carried out by Teck Cominco in the Upper Columbia River. The purpose of the investigation is to determine the nature and extent of contamination in the Upper Columbia River. The investigation will include sampling surface water, sediments, and beaches and will also include an analysis of risks to human health and environment resulting from contamination. It is too early in the investigation to determine whether potential risks resulting from contamination in Lake Roosevelt would be affected by an alteration in the drawdown pattern in Lake Roosevelt and we are unclear if drawdown from Lake Roosevelt could result in erosion and suspension of contaminated dust particles. The current conditions under Section 3.4.2 acknowledge that Lake Roosevelt has significant levels of zinc, lead, copper, arsenic, cadmium, and mercury from the lead-zinc smelter; however, the potential impacts from alternatives is unknown. We recommend that BOR and WADOE coordinate with EPA for activities that occur in Lake Roosevelt and analyze those actions based on available information from the CERCLA investigation.

FED3-15

#### **Mitigation**

The DEIS states that all action alternatives would significantly impact water quality in Banks Lake, particularly for temperature and dissolved oxygen (DO) except Alternative 2C. Lake Roosevelt would be minimally impacted for temperature, DO, total dissolved gas, and heavy metals. As stated previously it is unclear why Alternative 2C would be an exception. We question what mitigation would be appropriate for the other alternatives since the DEIS does not identify mitigation measures. Lake Roosevelt is on State's 303(d) list for temperature and DO and while Banks Lake is not currently on the list, data suggests that it exceeds water quality standards for both temperature and DO; therefore, we have concerns about the project's potential to further degrade water quality. The DEIS states for surface water quality (and similarly for impacts to groundwater) that,

FED3-16

"No water quality mitigation measures are recommended for Lake Roosevelt, the Columbia River downstream of Grand Coulee Dam, or the analysis area irrigation network for this or any of the alternatives because the long-term impacts were not considered significant. The long-term impacts to Banks Lake would be significant based

on current standards, but mitigation measures intended to decrease temperatures and increase dissolved oxygen have limited effectiveness on a broad scale and are not recommended.”

We recommend that the BOR and WADOE further explore alternatives to mitigate water quality and quantity impacts and discuss this or other options in the FEIS. Again, this may be best accomplished through large scale collaboration, education, identifying water efficiency practices, and working with farmers to identify funding opportunities to implement methods that promote a more robust water conservation program.

FED3-17



**U.S. Environmental Protection Agency Rating System for  
Draft Environmental Impact Statements  
Definitions and Follow-Up Action\***

**Environmental Impact of the Action**

**LO – Lack of Objections**

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

**EC – Environmental Concerns**

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

**EO – Environmental Objections**

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

**EU – Environmentally Unsatisfactory**

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

**Adequacy of the Impact Statement**

**Category 1 – Adequate**

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

**Category 2 – Insufficient Information**

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

**Category 3 – Inadequate**

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment, February, 1987.

## Comment Letter FED4



### Department of Energy

Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

Control #: 11068813

ENVIRONMENT, FISH AND WILDLIFE

January 31, 2011

In reply refer to: KEC-4

Mr. Chuck Carnohan  
Study Manager  
Bureau of Reclamation, Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

RE: Comments on the Odessa Subarea Special Study Draft EIS

Dear Mr. Carnohan:

Bonneville Power Administration (BPA) appreciates the opportunity to review the Odessa Subarea Special Study Draft Environmental Impact Statement (DEIS) that has been prepared by the Bureau of Reclamation (Reclamation) and the Washington State Department of Ecology's Office of Columbia River. As you know, BPA is a cooperating agency on the DEIS pursuant to the National Environmental Policy Act (42 U.S.C. § 4332(2)(c); 40 C.F.R. § 1501.6). In this role, BPA provided special expertise to Reclamation on energy-related issues for the DEIS. BPA conducted data acquisition and modeling of potential energy-related impacts for each alternative under consideration, which Reclamation used in their description and analysis of energy issues in the DEIS.

BPA appreciates the work that Reclamation has put into describing and analyzing energy issues in the Odessa Subarea Special Study DEIS. In general, Reclamation's energy analysis met the required needs of the DEIS yet BPA would reach a different conclusion in regards that no additional regional generating resources would be directly required for either the partial or full alternative. Also, additional regional load related to the DEIS proposed actions should be compared with total regional loads instead of comparing the proposed actions to the regional firm energy surplus. This comparison provides the reviewer a more holistic picture of the impacts that the proposed actions may have on the regional energy grid. At this time, BPA is submitting the following comments for consideration in the final environmental impact statement (FEIS) that Reclamation and Ecology will prepare for this proposal.

MAIL	DATE	TIME	STATUS
1000	X		
1002	X		
1100	X		
1000			
1900	X		
5000			
1120	X		
1123	X		
ACTION			

FED4-1

FED4-2

## Energy-Related DEIS Comments

### *Comment BPA-1*

ES-39 – Energy(a); 3.17– Energy; 4.17– Energy: As the power system is an interconnected regional power grid, no distinction should be made between regional and local energy balances. The term “regional and local energy balances” is not a term used within the power industry.

FED4-3

### *Comment BPA-2*

ES-39 – Energy(b): The interplay of the words capacity and energy does not address whether there is enough energy to serve the irrigators’ load by the energy providers. The power industry connotation of capacity is the physical ability to serve a given size of load, both generator and transmission capability. Energy is the ability to provide power through time. The statement “sufficient capacity to supply all customers” does not address whether there is enough energy to serve. (also, Reference comment 4.17 – Energy, second paragraph).

FED4-4

### *Comment BPA-3*

Table 2-13: The Lost Hydropower Benefits are consistent with the BPA analysis. However, the additional surface water pumping cost exceeds the savings from reduced groundwater pumping (Table 4-93). Where is this cost incorporated in Table 2-13? And if it is included, how was the additional cost of surface water pumping calculated for each alternative?

FED4-5

### *Comment BPA-4*

Table 3-46(a): The difference between a provider and a supplier is unclear. BPA recommends organizing the columns by County and Electric Utility.

FED4-6

### *Comment BPA-5*

Table 3-46(b): Under Franklin/Franklin County PUD, the reference to Columbia Storage Power Exchange as a Supplier, should be deleted as it expired in 2003.

FED4-7

### *Comment BPA-6*

Table 3-46(c): As the table is organized, BPA should be listed as a Supplier on Table 3-46 for Grant County PUD. A Subscription Block power agreement is currently in place between BPA and Grant County PUD to serve a portion of Grant County PUD's load through 2011. Post-2011, BPA will serve only the Grand Coulee area of Grant County PUD's load through a Regional Dialogue, Load Following contract.

FED4-8

### *Comment BPA-7*

Tables 4-42 and 4-44 with associated text: Being conservative, the DEIS assumes that a new gas-fired power source *would* be required to meet the net increase in power requirements thus the alternatives would result in the generation of indirect GHG emissions from this power source. The document states “CEQ guidance does not currently address methodologies and approaches for indirect GHG emissions” yet the Table 4-42 estimates in tons per year, the



indirect GHG emissions from electricity usage. Table 4-44 exhibits greenhouse gas emissions in metric tons of carbon dioxide from indirect power usage. The DEIS states "Indirect GHG emissions associated with a new natural gas-fired power source were calculated based on estimated increased annual electricity demand and emission factors relating GHGs to electricity requirements." To assist reviewers' analysis of new generation resource impacts in relationship to GHG emissions, additional information provided in the final EIS should include an outline of the methodology and calculations used to obtain the results presented in the two tables, and a discussion of the carbon dioxide per megawatt hour resulting from the indirect power source.

FED4-9

*Comment BPA-8*

Table 6 and Table 3-45: Additional regional load related to the DEIS proposed actions should be compared with total regional loads instead of comparing the proposed actions to the regional firm energy surplus. BPA believes that this comparison provides the reviewer a more holistic picture of the impacts that the proposed actions may have on the regional energy grid. To accomplish this, BPA suggests using the regional Firm Energy Load from White Book 2009 instead of the summary of Regional Firm Energy Surplus. Following this process, Table 6 edits would necessitate changing the DEIS existing language at the line titled "Energy: Change in regional availability" to "Energy: Change in Regional Energy Load." Also, in Table 3-45 (page 3-136) "Summary of Regional Firm Energy Surplus", should be changed to "Regional Energy Load." In addition, the conclusion that the load impact of either 31 or 71 aMW compared to the regional load (i.e. White Book 2009 Firm Regional Load for 2015 is 24,515 aMW) may be considered insignificant. In Table 6 under the new heading of "Energy: Change in Regional Energy Load," BPA suggests changing the partial alternative impact to neutral (diamonds), and changing the full replacement alternative to single down arrows. (also, Reference comment 4.12 – Air Quality, page 4-152 second paragraph(a)).

FED4-10

*Comment BPA-9*

3.17.2 – Energy Resources in the Pacific Northwest(a), first paragraph, last sentence: The definition of firm energy as stated in the last sentence should be rewritten to depict a more accurate definition. BPA offers the following underlined edits for clarity: "In hydroelectric generation, firm energy is the energy that can be reliably generated during one of the region's worst historical water years."

FED4-11

*Comment BPA-10*

3.17.2 – Energy Resources in the Pacific Northwest(b), second paragraph, last sentence: BPA suggests concluding that no additional regional generating resources would be directly required for either the partial or full alternative.

FED4-12

*Comment BPA-11*

3.17.2 – Energy Resources in the Pacific Northwest(c), second paragraph (ref: Table 3-45): To clarify entities performing studies, BPA suggests adding the underlined edits to this sentence: "Table 3-45 presents the projected total system surplus, determined by power

FED4-13



studies performed by BPA and other regional utilities, over the planning horizon under each flow scenario.”

*Comment BPA-12*

Chapter 4 – Electricity: Per discussions between BPA and Reclamation agreeing that this language reflects “regional surplus”, not “BPA surplus”, please delete several passages throughout the chapter which state “BPA has a system surplus that is capable of off setting the additional demand”.

FED4-14

*Comment BPA-13*

4.12 – Air Quality, second paragraph(a): The second paragraph states “The evaluation concluded that a minimal amount of additional electricity would be required...” and BPA agrees that this statement is correct. But, BPA finds the statement to be inconsistent with Table 6. (also, Reference comment “Table 6 and Table 3-45”).

*Comment BPA-14*

4.12 – Air Quality, second paragraph(b): As stated in this paragraph, BPA agrees that existing gas fired turbines within the region can adequately serve the modest incremental load. The DEIS continues, “Although it is anticipated that no new generation will be required, to be conservative this analysis assumed a new gas-fired power source *would* be required to meet the net increase in power requirements. The alternatives would thus result in the generation of indirect GHG emissions from this power source. Indirect emissions refer to those that are a consequence of ongoing project activities that take place within the boundaries of the project area, but emissions occur at sources owned or controlled by another entity. Indirect GHGs emissions from this gas-fired power source are also considered in the evaluation.” BPA interprets the requirement to meet the net increase in power requirements to be a direct effect of the DEIS actions. Thus, if the DEIS considers a new gas-fired power source in the evaluation, all environmental consequences associated with the new gas-fired power source and supporting facilities need to be analyzed in the Final EIS (FEIS) as connected actions.

FED4-15

*Comment BPA-15*

4.12 – Air Quality, second paragraph(c): The second paragraph states, “to be conservative this analysis assumed a new gas-fired power source *would* be required...The alternatives would thus result in the generation of indirect GHG emissions from this power source...Indirect GHGs emissions from this gas-fired power source are also considered in the evaluation.” Listed on Table 4-42 are Indirect GHG Pollutant numbers for carbon dioxide, methane, and nitrous oxide. Under the DEIS assumption that a new gas-fired power source *would* be required, please include analysis for sulfur oxides (SOX) which are potentially associated with a new generation facility, including sulfur hexafluoride (SF6) should substation facilities be needed.

FED4-16

*Comment BPA-16*

4.17 – Energy, second paragraph: Please clarify this statement in regards to the terms capacity and energy - “but local energy providers would experience minimal impacts because they would have sufficient capacity to supply all customers.” (also, Reference comment ES-39 – Energy(b)).

FED4-17

*Comment BPA-17*

4.17.1.2 – Energy, Impact Analysis Methods, energy balance equation: The impacts of groundwater and surface water pumping for irrigation happen during the spring through early fall months and this equation is the annualized value determined by extrapolating the total energy gained or lost by an activity over an entire year. BPA suggests it may not be appropriate to calculate an annual average but rather to reshape the impact around the spring through early fall months to coincide with irrigation pumping in order to provide the most accurate net energy change associated with the proposed action.

FED4-18

Other DEIS Comments

BPA acknowledges the analysis work Reclamation staff has performed in all sections of the DEIS. The following comments may afford beneficial refinement of concepts and is submitted for consideration of inclusion in the FEIS document.

*Comment BPA-18*

Acronyms and Abbreviations – xii, Management Program: The Columbia River Basin Water Management Program is abbreviated as “Management Program” throughout the document. This abbreviation is too vague. This program is more commonly referred to as the CRWMP and will have better recognition by a broad reviewing audience if the CRWMP acronym is used in the document when referring to the Columbia River Basin Water Management Program.

FED4-19

*Comment BPA-19*

Section 1.6.1.4 - Instream Water: What is Washington State’s intention for identifying the origin of water for one-third allocation to instream uses as provided for in the Columbia River Management Act?

FED4-20

*Comment BPA-20*

5.3 – Agency Coordination and Consultation: As BPA is not a coordinating or consulting agency, but rather a cooperating agency, the title for this section should read as “Agency Cooperation, Coordination, and Consultation”.

FED4-21

*Comment BPA-21*

5.3.1– Bonneville Power Administration, second sentence: Insert the underlined edit for clarity: “In assuming this responsibility, BPA agreed to participate in the NEPA/SEPA...”

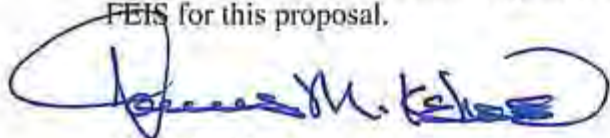
FED4-22

*Comment BPA-22*

A discussion concerning the Confederated Tribes of the Colville Reservation Grand Coulee Dam Settlement Act (Settlement Agreement) should be included in the DEIS. The Confederated Tribes of the Colville Reservation receive monetary compensation for the reservation lands used to build Grand Coulee Dam and reservoir. The Settlement Agreement stipulates that BPA pay the Confederated Tribes of the Colville Reservation an annual monetary compensation based partially upon the preceding fiscal year's generation in megawatt hours at the Grand Coulee Dam. Water withdrawal from Lake Roosevelt to supply activities covered in the DEIS may reduce water flow at Grand Coulee Dam. A reduction in water flow results in a reduction of generation. Thus, a reduction in generation has the potential to reduce the monetary compensation per calculation formulas outlined by the Settlement Agreement. Based on preliminary flow information data, it appears that the amount of generation at Grand Coulee Dam may be reduced as a result of activities covered in the DEIS. Using values from the Fiscal Year 2008 Colville payment, it is estimated that the payment would be reduced by approximately 0.2% to 0.4%. With additional refinement of water withdrawal flow data provided by Reclamation, BPA could offer its expertise to assist in calculating whether or not a reduced monetary compensation to the Confederated Tribes of the Colville Reservation would result, due to flow reductions at Grand Coulee Dam based on activities covered in the DEIS.

FED4-23

BPA again thanks Reclamation for the opportunity to comment on the Odessa Subarea Special Study DEIS. As a cooperating agency, we look forward to continuing to work with you on the FEIS for this proposal.



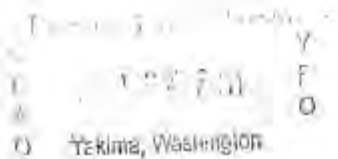
James M. Kehoe  
Manager, Policy & Strategic Planning

Cc:

L. Bodi – KE-4

G. Delwiche – P-6

## Comment Letter WAS1



Control #:

11008826

### State of Washington Department of Fish and Wildlife

Mailing Address: 600 Capitol Way N. • Olympia, WA 98501-1091 • (360) 902-2200, TDD (360) 902-2207  
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January 31, 2011

Mr. Charles A. Carnohan  
Columbia-Cascades Area Office  
U. S. Bureau of Reclamation  
1917 Marsh Road  
Yakima, WA 98901-2058

Mr. Derek I. Sandison  
Director, Office of Columbia River  
Washington State Department of Ecology  
15 West Yakima Avenue, Suite 200  
Yakima, WA 98902-3401

RE: WDFW Comments on the Odessa Subarea Special Study, Draft Environmental Impact Statement

Dear Mr. Carnohan and Mr. Sandison,

The Washington Department of Fish and Wildlife (WDFW) appreciates the opportunity to provide comments to the October 24th, 2010 Draft Environmental Impact Statement (DEIS) issued for the Odessa Subarea Special Study in accordance with the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA). The enclosed comments provided by WDFW have been formulated with the understanding that it is a priority for the State of Washington to replace groundwater currently used for irrigation in the Odessa Ground Water Management Subarea with surface water from the Columbia Basin Project. Cooperation among WDFW, the Washington Department of Ecology (Ecology), and the U. S. Bureau of Reclamation (Reclamation) has been steady throughout the development of this project, and WDFW looks forward to this continuing as Ecology and Reclamation move toward implementation of a preferred alternative.

WDFW is mandated to

*"... preserve, protect, perpetuate, and manage the wildlife and food fish, game fish, and shellfish in state waters and offshore waters ... in a manner that does not impair the resource. ... consistent with this goal, the department shall seek to maintain the economic well-being and stability of the fishing industry in the state. The department*

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*shall promote orderly fisheries and shall enhance and improve recreational and commercial fishing in this state.”<sup>1</sup>*

Consistent with this charge, WDFW has been working with Reclamation and Ecology throughout project development to address general and site-specific environmental concerns to reduce or avoid environmental impacts, identify potential resource enhancements, and recommend mitigation. To a certain extent this has been successful, and several project enhancements have been included within the project alternatives that benefit impacted species. However, many uncertainties remain regarding potential Odessa-project-related impacts to WDFW-managed resources.

WDFW and Ecology are committed to narrowing those uncertainties and ensuring that actions are taken throughout project implementation to avoid or mitigate significant project impacts on fish, wildlife, habitats, and the public benefits they provide. Further, WDFW and Ecology will develop a monitoring, evaluation, and adaptive management approach to project implementation that will allow us to collect data on key indicators and adapt the project – or design mitigation – to protect fish and wildlife values.

Setting aside project uncertainties, the EIS overall tends to minimize potential significant environmental impacts, and WDFW must respond to this. WDFW would specifically like to see additional assessment of the potential for significant impacts to northern leopard frogs due to altered Potholes Reservoir operations, impacts to Washington ground squirrels throughout the project area, lake-drawdown impacts to nesting grebes, and incremental losses to shrub steppe habitats, as follows:

- There is potential for impacts to Northern leopard frogs from reservoir operational changes in Potholes Reservoir. These impacts threaten the survival of the only known remaining northern leopard frog population in Washington. Although these frogs are not yet listed under the federal Endangered Species Act, WDFW’s management priority is to protect and improve their status in Washington. WDFW requests that potential impacts to northern leopard frogs be evaluated in the FEIS. WAS1-1
- Impacts on Washington ground squirrels living along the pathway of the proposed East High Canal (EHC) are not thoroughly evaluated. Washington ground squirrels are listed as candidate species under federal and state ESA statutes, and EHC development clearly represents a major impact to the Washington ground squirrel population. In addition, a densely populated ground squirrel colony is located within the Black Rock Coulee Flood Storage Area, which extends throughout the majority of the Black Rock Coulee reregulating reservoir and flood zone footprint; this colony is probably the largest contiguous Washington ground squirrel colony currently known. Measures need to be taken to avoid impacting large aggregations of these squirrels. WDFW will work with Reclamation and Ecology to identify for the FEIS additional avoidance, protection, and mitigation measures related to Washington ground squirrels and shrub steppe habitat along the EHC alignment and within Black Rock Coulee. An adaptive management program should identify long-term mitigation alternatives to be employed if short-term mitigation measures do not meet expectations. WAS1-2

<sup>1</sup> Title 77.04.12 Mandate of the department and commission.

- Altered Banks Lake operations under any of the Banks alternatives would impact nesting grebes by disturbing their nests during breeding season. The DEIS identifies this, but suggests no mitigation for this impact. Fortunately, the prospect for mitigation is good, since measures are well-established for this type of impact. WDFW looks forward to working with Reclamation and Ecology to identify specific mitigation measures to be included in the FEIS. WAS1-3
- Incremental losses of native shrub steppe habitat in areas within and adjacent to the Columbia Basin Project present challenges for survival for shrub-steppe-obligate species. To the extent that further development of the Columbia Basin Project causes additional shrub steppe conversion, those conversions must be mitigated. In 2010, WDFW and Ecology penned an agreement for mitigation of shrub steppe habitats lost due to Ecology OCR projects,<sup>2</sup> and this MOA should be incorporated into the FEIS. WAS1-4

WDFW also suggests the following improvements be incorporated into the FEIS:

- Many of the Chapter 4 significance criteria are subjective and/or vague. Please provide clear numeric criteria/thresholds that define significance for the purposes of impacts determinations in Chapter 4. Where significance criteria are difficult to quantify, please identify a program that includes monitoring for project effects, evaluation for significance, and mechanisms for project adaptation or mitigation. WAS1-5
- The DEIS concludes for several environmental topics that none of the action alternatives causes enough impact to require mitigation, even in circumstances where significant impacts have been identified for specific elements. Please ensure that determinations of significance that are identified throughout the FEIS are linked to mitigation for those impacts. WAS1-6
- Text presented on page 4-131 regarding the relationship between mainstem Columbia River stream flow and fish survival contains many inaccuracies and does not represent a shared perspective among project partners. Please replace or omit this text. A proposed replacement is provided in appendix B. WAS1-7
- DEIS assessments of ecological responses of terrestrial and aquatic wildlife and habitats to changes in water operations are incomplete. Changes in hydrological regimes within the project footprint, and altered reservoir operations, could result in major impacts to aquatic species and fisheries. The detailed analysis of reservoir elevations provided in the DEIS is very helpful for the assessment of changes to lake productivity, but other project conditions such as inflow/outflow are equally important, yet are not specifically addressed in the DEIS. Data on predicted changes to the existing water "flow" regime through the reservoir would be helpful in predicting impacts from entrainment of fishes and zooplankton. Please provide more information and evaluation for inflow/outflow in the FEIS. WAS1-8

<sup>2</sup> Memorandum of Agreement between Washington Department of Fish and Wildlife and Department of Ecology Office of Columbia River related to the Mitigation of Impacts of Office of Columbia River Projects to Shrub Steppe Habitats. July 9, 2010.

- The FEIS must identify funding mechanisms to support mitigation activities, along with a process through which the success of those measures can be assured. WAS1-9

### ***Fisheries Effects***

The Banks Lake fishery is a primary economic driver for central Washington, and this fishery must be supported if it is to continue to play an important role in local economic sustainability. Fisheries in Billy Clapp Lake, Moses Lake, and Potholes and Skooteney Reservoirs are also important economic contributors. WDFW believes that the Odessa project alternatives could alter lake conditions enough to significantly change fishing success, fishing effort, and therefore local economic contributions from these fisheries. WDFW asks that potential for fishery changes be considered in choosing a preferred alternative.

The current economic analysis (Appendix A to the DEIS) provides detail on the economic impacts of low lake levels on boat launches, yet does not link this analysis with the reason most people launch boats – which is primarily to fish. Please include in the FEIS an economic analysis that evaluates impacts to the fishery-based economic activity in the project area under foreseeable fishery impact scenarios. WAS1-10

WDFW acknowledges that it is difficult to predict the manner and severity of fishery impacts before Odessa Project operational changes have been implemented. WDFW and Ecology will work to develop an adaptive management program for project area fisheries for inclusion in the FEIS. The plan will identify activities for ongoing monitoring of Odessa project effects in area fisheries and provide mechanisms for development and implementation of response measures.

### ***Comments on the Alternatives***

#### ***Full-Replacement:***

WDFW notes that environmental impacts are very high for the Full Replacement alternatives - 3A, 3B, 3C, and 3D. Impacts to native shrub steppe communities and wildlife migration corridors due to the development of the East High Canal, pumping plants, substations, transmission lines and other supporting infrastructure are significant. In particular, Black Rock Coulee is a unique and sensitive area comprising perhaps the largest known contiguous aggregation of Washington Ground Squirrels, which are candidates for listing under both federal and state endangered species statutes. The area also includes near-perennial wetlands that are rare on the Columbia Plateau. Instead of being inundated from the Black Rock Coulee re-regulation reservoir, this area should be protected as a unique feature within the Columbia Basin. Please include a rigorous set of mitigation measures for all of the full-replacement alternatives.

#### ***Partial Replacement:***

Even under partial replacement alternatives, a lot of uncertainties remain regarding water management regimes and ecological responses. However, it is clear that impacts to wildlife and wildlife habitats are far less dramatic for the partial-replacement alternatives than for full-replacement alternatives. WDFW is looking forward to working with Ecology, Reclamation, other federal, tribal, and state resource agencies, and other partners to identify specific necessary mitigation elements and develop a fish and wildlife monitoring, evaluation, and adaptive management program for the partial-replacement alternatives. This collaborative approach facilitates implementation of the Odessa Project while assuring that the effects of project-related WAS1-11



WAS1-11

environmental changes on our managed resources are detected and mitigated. Once a preferred alternative is being implemented, existing Reclamation Resource Management Plans for Banks Lake and Potholes Reservoir, as well as WDFW Wildlife Area Management Plans and other resource management documents, should be cooperatively updated to reflect changing project conditions and incorporate this adaptive management approach.

### **Enhancement Opportunities**

As you know, the Columbia Basin Project presents unique opportunities to enhance habitats for waterfowl, migrating birds, shorebirds, and amphibians, in addition to the larger observed species (such as mule deer), thereby enhancing fish- and wildlife-related recreational activities. There are several opportunities for enhancement of conditions for fish and wildlife that would increase the overall value of the project. Those enhancements include:

- Provide and maintain artificial spawning facilities, and enhance natural spawning habitat, for kokanee or other fish species in Banks Lake. This type of enhancement could be built into the project, or implemented later should monitoring and adaptive management indicate such action is needed and would be successful. WAS1-12
- One important environmental opportunity is already incorporated into project design: wildlife crossings and other wildlife protections along the ELC alignment. Crossings help maintain habitat/species connectivity and movements within the project. Canal escape ramps reduce the number of deer and other wildlife that are caught and drowned in canals. WDFW thanks Reclamation for cooperating in the initial design and placement of these structures, and lauds the foresight that led to this outcome. WDFW encourages Reclamation to design the crossings using recommendations provided by WDFW to avoid potential retrofitting in the future. WAS1-13
- Under any implementation alternative, acquire properties within and adjacent to Black Rock Coulee in order to protect this unique habitat area in perpetuity.
- Project facilities should be designed to enhance wetland habitats in areas identified by WDFW as exhibiting potential. Minor hydrological alterations could be incorporated that improve wetland function. For example, input from East Low Canal would restore year-round wetland function at Artesian and Black Lakes, thus providing environmental benefits for waterfowl and other migratory birds as well as other wetland species. WAS1-14
- Use Rocky Coulee Reservoir to maximize to the extent practicable resting and staging habitat for migrating waterfowl, as well as offer public hunting and wildlife viewing opportunities.
- Continue dedication of fishing and hunting easements on lands deeded from Reclamation consistent with the original intent of the Columbia Basin Project for wildlife-related recreation.

### **Additional Comments**

The federal Fish and Wildlife Coordination Act states that "wildlife conservation must receive equal consideration and [be] coordinated with other features of water-resources development

programs.”<sup>3</sup> WDFW requests that the FEIS incorporate the mitigation measures and recommendations provided by the USFWS in their Coordination Act Report.

WAS1-15

WDFW appreciates the inclusion of a Native Plant Restoration and Conservation Management and Monitoring Plan in the Environmental Commitment section as an element of the project. This plan provides a mechanism to restore and protect upland habitat in the project area. WDFW looks forward to working with Reclamation and Ecology to develop and implement this long-term effort.

The current Odessa Project description provided by Ecology and Reclamation indicates that implementation is intended to serve only currently-irrigated lands, and states that new land conversion would not be eligible for this project water. Should land conversions impacting native shrub steppe occur as a result of this project, it is assumed that mitigation for those conversions will occur pursuant to WDFW’s agreement with Ecology concerning shrub steppe, and undergo environmental review to the extent NEPA and/or SEPA are applicable.

WAS1-16

WDFW Odessa Subarea DEIS action recommendations are enclosed as Appendix A. Proposed new language relating to fish survival/flow relationships appears in Appendix B. The WDFW/Ecology Shrub Steppe Memorandum appears in Appendix C. A letter from Ecology to WDFW regarding further collaboration on the Odessa Project is enclosed as Appendix D. WDFW comments on the DEIS detailed by paragraph are enclosed as Appendix E.

In the event that the FEIS is significantly different than the DEIS or an alternative is proposed that was not evaluated during the review period, WDFW may request an amendment to the FEIS with the appropriate 60 day comment period.

WDFW encourages Ecology and Reclamation to work diligently with resource agencies to assure that the FEIS embodies a balance of public interests between the needs of groundwater pumpers and the needs of fish and wildlife and the local economic activity they generate. WDFW looks forward to continued coordination and consultation as the project progresses forward through environmental review and into permitting and project implementation. Thank you for the opportunity to comment.

Sincerely,



Dennis Beich  
Region 2 Director

<sup>3</sup> Fish and Wildlife Coordination Act - 16 U.S.C. 661 et seq

# Appendix A

## Washington Department of Fish and Wildlife

### Odessa Subarea Draft EIS

### Action Recommendations

January 31, 2011

Recommendations provided have been developed by WDFW in coordination with the U.S. Fish and Wildlife Service (USFWS). Many are included in the USFWS Draft Coordination Act Report, an appendix to the Odessa Subarea Special Study Draft Environmental Impact Statement, October 26, 2010. USFWS and WDFW will continue to work together toward the finalization of the CAR prior to finalization of the EIS. Agency coordination will provide consistency with WDFW comments and recommendations provided here and the comments and recommendations WDFW will formally submit to the USFWS to serve as an appendix to the final CAR.

#### **Action Recommendations**

Specific concerns, needs, and mitigation components are presented below.

#### ***Northern Leopard Frogs (State Endangered Species)***

Altered reservoir elevations have potential to adversely affect remaining Northern leopard frog populations in the project area. Continued population declines and potential federal ESA listing will occur if no management actions are taken to protect and enhance this species.

#### **Recommendations:**

To reduce the potential for Northern leopard frogs to be federally listed, WDFW, with USFWS support, recommends the following actions be implemented within the Columbia Basin Project starting October 1<sup>st</sup>, 2011:

1. Develop and implement an artificial propagation program, and reintroduce frogs to suitable natural habitat. Such a program should be conducted by, or be in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the Washington State Department of Fish and Wildlife (WDFW).
2. Identify, enhance, maintain, and protect suitable Northern leopard frog habitat within the Columbia Basin Project; develop a monitoring and adaptive management plan, conduct monitoring, and report monitoring results.

WAS1-17

#### ***Washington Ground Squirrels (Federal and State Status Species)***

The Black Rock Coulee Flood Storage Area (DE220) has potential for significant wildlife impacts. The Washington ground squirrel colony located within this area extends throughout the majority of the footprint and is densely populated relative to other native habitats. In fact, this colony is probably the largest contiguous Washington ground squirrel colony currently known. Also, excavations along the EHC alignment will likely disturb Washington ground squirrels areas. Notwithstanding claims in the DEIS indicating that translocation can be successful at

WAS1-18



saving individual animals, translocation methods have not been fully developed and cannot currently be relied upon to “save” these animals and their colonies.

#### **Recommendations:**

WDFW recommends that research on translocation techniques be conducted prior to implementation of ELC/Black Rock Coulee Reservoir implementation, and that the following conservation actions be implemented in the event EHC and Black Rock Re-regulating reservoir are chosen as preferred alternatives.

3. Conduct research to test and perfect translocation methods; publish results.
4. Identify suitable Washington ground squirrels habitat within central Washington as target locations for Washington ground squirrels translocation.
5. Rehabilitation of the Seeps Lakes Unit of the Columbia Basin Wildlife Area Complex.
6. Translocate Washington ground squirrels that will be impacted by construction activities.

WAS1-19

#### ***Black Rock Coulee protection***

As noted above, the Washington ground squirrel colony in Black Rock Coulee is unique in its size and population. Black Rock Coulee is also unique in its blend of wetland, pond, and shrub steppe habitats.

7. WDFW recommends full protection in perpetuity for this area as a project enhancement.

#### ***Grebes on Banks Lake***

Operational changes in Banks Lake water levels will likely influence reproductive effort and success of breeding grebes, including leaving nests isolated and/or dry.

#### **Recommendations:**

Develop and implement enhancement measures to moderate unavoidable impacts to grebes nesting on Bank Lake. WDFW recommends the following actions occurs beginning in October 1<sup>st</sup>, 2011:

8. Collaborate with WDFW and USFWS to identify locations within the Columbia Basin Project to be designated as grebe management areas – potential sites for deployment of floating nesting structures within Banks Lake and other project waters.
9. Enhance grebe nesting success by providing and maintaining at least 40 floating nesting structures within the Banks Lake grebe management area, which should be a minimum of 48 acres in size.
10. Establish “no wake zones” to reduce nest disturbance. Provide for enforcement of this provision and the minimization of human disturbance to grebes.
11. Monitor and report on success of management measures (floating nest structures), adapt number and location as needed to achieve appropriate protections.

WAS1-20

### ***Project-wide Recreational Fisheries***

Banks Lake hosts a popular recreational fishery with an annual economic value of over \$2 million (Polacek and Shipley 2006). Kokanee, rainbow trout, and warmwater species are all popular fishing targets in these waters. While the fish species mix might require adaptation, the overall level and success of recreational fishing needs to be maintained. Any impacts to the recreational fishery in the Columbia Basin Project area represent hits to local economies, and should be considered significant.

Impacts occur when flow rates and water level fluctuations affect aquatic communities. Reservoir drawdowns reduce fish habitat availability, strand benthic organisms, and congregate predators with their prey (Ploskey 1986). Faster turnover of lake input/output (i.e. decreased water retention times) cause increased entrainment of both fish and their prey. However, fish lost in an upstream reservoir are not managed for available harvest in a downstream reservoir. Similarly, fishing opportunity lost in Banks Lake cannot be recovered in other waters because fishing opportunities on those waters are already maximized during the most popular fishing times. Therefore, it is critical to WDFW stakeholders that fisheries be maintained in Columbia Basin Project water, with Banks Lake being the most vulnerable location because Odessa project impacts there will be most severe.

#### **Recommendations:**

Several actions are needed to improve the ability of kokanee to be self-sustaining in Banks Lake, and to monitor and adaptively manage all project waters so that recreational fishing value can be maintained.

12. In Banks Lake, kokanee are not able to access spawning habitat in Northrup Creek during lower lake elevations. The project should provide spawning habitat access for kokanee at the mouth of Northrup Creek by dredging the creek and restoring the banks; this should occur during the 2011 Banks Lake maintenance drawdown.
13. Create artificial kokanee spawning beaches adjacent to the mouth of Northrup Creek, or in other designated areas, that will remain sufficiently wetted throughout the egg and early-rearing stages for kokanee.
14. During the 2011-2012 Banks Lake maintenance drawdown, fisheries monitoring effort should be directed at determining the best strategies for long-term adaptive management of Banks Lake fisheries as the Odessa project is implemented. These include:
  15. Pre-drawdown creel survey (summer 2011), creel at the time the drawdown reaches levels mimicking Odessa Project levels (approx. Sept-Oct 2011), and post-drawdown creel (spring 2012).
  16. Continue monthly sampling for zooplankton and water quality.
  17. Continue fish inventory work, with emphasis on predator/prey relationships during drawdown; and
  18. Shoreline observations as lake levels drop, to identify index sites for vegetation monitoring and potential fish spawning locations.
19. Continue hydroacoustic monitoring of fish entrainment through Dry Falls Dam during

WAS1-21

drawdown and refill.

20. Study and implement ways to reduce entrainment of fish and zooplankton from Banks Lake and other project waters. Continue annual hydroacoustic entrainment work for at least 5 years during Odessa Project implementation to determine whether/which actions will help reduce entrainment.
21. Implement a long-term monitoring plan in Banks, Billy Clapp, and Moses Lakes and Potholes and Skooteney Reservoirs. Both the fishery (creel) and fish populations must be monitored in order to detect changes and adapt fisheries management to those changes<sup>4</sup>. Monitoring should include:
  22. Comprehensive water quality / nutrient data collection and evaluation;
  23. Secondary production (zooplankton) data collection and evaluation;
  24. Fishery creel surveys;
  25. Fish stock assessment activities;
  26. Entrainment rates
27. Provide resources so that WDFW can adaptively manage these fisheries to maintain or enhance current fisheries value. For example, increased plants of artificially propagated fish, or enhanced public fishing access facilities might be necessary in order to maintain the type of fisheries WDFW and local business owners and residents desire for these waters. Adaptations can include:
  28. Changing fishing regulations;
  29. Altering fish stocking species mix, numbers, timing, or sizes;
  30. Providing facilities or resources that increase fish stocks' self-sustainability;
  31. Enhancing fishers access to the fishery;
  32. Reducing entrainment of fish and zooplankton.
33. Identify risk to mainstem Columbia River salmonid survival associated with warmwater fish leaving the system and entering the mid-Columbia River.

WAS1-21

### ***Shrub Steppe Habitat Protection, Restoration, and Mitigation***

All alternatives will impact shrub steppe habitat at some level. Disturbed shrub steppe must be restored to its natural state, or mitigated. Shrub steppe lost to the project footprint or agricultural spreading must be mitigated. Also, WDFW, with the support of USFWS, recommends the development and implementation of a Native Plant Restoration and Conservation Management and Monitoring Plan. WDFW appreciates the environmental commitment made in the DEIS to incorporate this plan as an element of the project.

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<sup>4</sup> Note that several years of fishery and fish stock monitoring information exist for Banks Lake through projects funded by BPA; the BPA project extends through February 2012 and then will be discontinued, at which point Odessa Project-related funding should be brought to bear.



## Recommendations:

Shrub steppe protection, restoration, and mitigation recommendations are:

- |   |         |
|---|---------|
| 34. Implement the WDFW/Ecology Shrub Steppe Mitigation Agreement relative to permanent losses of shrub steppe related to this project. Losses of other native grassland and riparian habitats should be mitigated per the WDFW Wind Power Guidelines, 2009.   | WAS1-22 |
| 35. Identify and evaluate quality of shrub steppe/grassland/ riparian areas within the project area. Identify other rare native plants within the project. Identify areas within and outside the Columbia Basin Project that could serve to mitigate shrub steppe loss if replacement cannot occur the impacted area.   | WAS1-23 |
| 36. Restore native vegetation to areas disturbed by project construction, including buried pipelines and other project facilities (road, transmission lines, substations, etc.), in coordination with government agencies and private landowners. If, after 7 years, restoration has not been adequately successful, mitigation lands should be acquired at established mitigation ratios and in consultation with WDFW and USFWS.  | WAS1-24 |
| 37. Develop and implement a Native Plant Restoration and Conservation Management and Monitoring Plan beginning in October 1 <sup>st</sup> , 2011, in cooperation with the U.S. Fish and Wildlife Service. The plan should identify clear goals and objectives, performance criteria, an implementation schedule, a specific plan for monitoring the status of identified sites, and provisions for annually reporting and evaluation of the success of native plant restoration and conservation. | WAS1-25 |

## Wetlands Enhancement ~ Artesian and Black Lakes

Feasibility to restore wetland function at Artesian and Black Lakes in order to enhance waterfowl, shorebird, and amphibian habitat should be investigated, and any feasible alternatives included in Odessa Project design. This would be accomplished by incorporating water delivery systems to manipulate wetland hydrology such that Artesian and Black Lakes function as alkali, vernal pools, is restored.

## Recommendations:

WDFW is proposing to enhance existing wetland habitat by the delivery of water from the East Low Canal (ELC) to Artesian and Black Lakes throughout the irrigation season. Artesian and Black Lakes were historically large vernal pools that now dry most of the year due to the declining Odessa Aquifer. Declining Limited groundwater supplies reduces wetland habitat availability, which threatens existing species diversity in these areas. Delivering water to these lakes will provide considerable open-water and riparian habitat for waterfowl, other migratory birds, and other wetland species.

Benefits include restoration of up to approximately 170 acres of wetlands that currently do not exist due to groundwater declines. In addition, enhancing waterfowl habitat will allow quality public hunting opportunities.

Specific Recommendations include:

38. With WDFW, identify suitable areas for artificial wetland enhancement. Artesian and Black Lakes have already been identified as suitable candidates.

39. Investigate wetland hydrology alternatives that help Artesian and Black Lakes function as alkali, vernal pools, as they did historically.
40. Re-vegetate and maintain new and enhanced wetlands lands to reduce invasive species establishment,
41. Develop and implement a monitoring and adaptive management plan to evaluate success of the project, including habitat health, species richness, and hunter utilization, with annual reporting.
42. Remove invasive weeds throughout the Columbia Basin Project area to provide enhanced or additional open-water habitat for waterfowl.
43. Provide adequate operation and maintenance funds annually for these enhancements.

# Appendix B

## Washington Department of Fish and Wildlife

### What is the Relationship Between Stream Flow and Fish Survival?

Recommended Replacement for Text on DEIS Page 4-131

January 31, 2011

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Flow targets and flow augmentation have been central components of the Columbia River salmon management program since the early 1980s. The assertion that more flow produced higher smolt survival and faster smolt migration rates is based on research that identified strong associations between flow rates and migration rates (Raymond, 1968; Raymond, 1969; Berggren and Filardo, 1993; Smith et al., 2002) and to survival rates (Burnham et al. 1987; Smith et al., 2002). Research and analysis has continued over the past decade, refining the relationship between flow and juvenile migration timing and juvenile survival. Recent analysis has indicated that flow or water travel time also impacts smolt-to-adult return.

Raymond (1979) found that the survival of Snake River smolts was much lower in years of low river flows and spills than in years of higher river flows and spills. Simms and Ossiander (1981) concluded that flow and spill were positively correlated with yearling Chinook and steelhead survival and that the relationship between survival and spill had a faster rate of change than the relationship between survival and flow. Using Snake River PIT tag data collected between 1995 and 1999, Smith et al. (2002) developed a model that applied flow, temperature, date, and year effects to characterize steelhead survival. Williams et al. (2005) developed models for yearling Chinook and steelhead showing increasing survival with increasing flow up to an estimated threshold flow level, and a constant survival for flows beyond that level.

The Independent Scientific Advisory Board conducted a review of flow augmentation (ISAB 2003-1) and noted that many questions remained in regard to the relationships between river flows and salmonid production. Some of these questions included “whether instantaneous mortality rates are increased in a given reach as a result of low flow (or other factors such as temperature, water particle travel time, turbidity, and calendar date)” and “whether decreased travel time through a reach results in decreased mortality rates measured downstream.” Studies and analysis have since been conducted based upon the questions raised the 2003 ISAB review. The *Comparative Survival Study of PIT tagged Spring /Summer Chinook and Steelhead In the Columbia Basin, Ten Year Retrospective Report* (Schaller et al. 2007) analyzed the relationship between environmental variables such as water travel time (i.e. flow) and spill, on travel time, instantaneous mortality, and survival rates of juvenile yearling Chinook and steelhead through the Lower Snake and Columbia Rivers. This analysis concluded that simple models incorporating water travel time (i.e. flow), average percent spill, and date (measured in Julian Day) explained 79-95% of the variation in median fish travel time. Variations in instantaneous mortality rates of juvenile Chinook in the Lower Granite-to-McNary reach were explained by date and water travel time (i.e. flow). For steelhead, variation in instantaneous mortality rate was explained by date, flow, and average percent spilled.



Although the relationship of flow level on migration timing is well established, the importance of juvenile passage conditions as measured by adult return is emerging from recent analysis. Additional analysis has indicated that migration timing affects smolt to adult return. Scheuerell et al. (2009) concluded that migration timing of juvenile Chinook and steelhead in the Columbia Basin affected survival to adult. Their conclusion supports a management objective of increasing the speed of migration and speeding arrival to the estuary by increasing springtime river flows.

The use of newer PIT tag technologies since this time has facilitated further studies on flow and survival of salmonids in upper Columbia River reaches. A recent analysis of ten years of PIT tag data for steelhead survival between Rock Island Dam and McNary Dam concluded that juvenile steelhead average survival for 2007-2008 was higher than previous years' averages and had the shortest combined average water travel time (i.e. higher average flow) than averages in the 1998-2006 period (FPC 2009). Recent analysis of subyearling fall Chinook survival and travel time has shown that increases in migration flow, increases in spill, and decreases in temperature result in higher juvenile survival and faster juvenile migration timing (FPC, 2005; Connor et al, 2003).

These results support the importance of establishment of migration flow targets throughout the Columbia Basin and the established flow target of 135 kcfs at Priest Rapids Dam in recent Biological Opinions. Emerging information indicates that spill for fish passage is also important for juvenile survival, travel time, and adult return. Analyses of the relationship of flow and spill to juvenile survival as well as survival to adult return are continuing to further refine our understanding of the flow and juvenile fish survival relationship. Recent data and analysis confirms the importance of migration flow to fish travel time and survival, and has illustrated that juvenile passage conditions specifically including flow, spill, and arrival timing to the estuary have long term implications throughout the life cycle and survival to adult.

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# Appendix C

## Washington Department of Fish and Wildlife WDFW/Ecology Shrub Steppe Agreement

January 31, 2011

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MEMORANDUM OF AGREEMENT  
BETWEEN  
STATE OF WASHINGTON  
DEPARTMENT OF FISH AND WILDLIFE  
AND  
DEPARTMENT OF ECOLOGY  
OFFICE OF COLUMBIA RIVER  
RELATED TO THE  
MITIGATION OF IMPACTS OF OFFICE OF COLUMBIA RIVER PROJECTS  
TO SHRUB STEPPE HABITATS

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THIS MEMORANDUM OF AGREEMENT (MOA) is made and entered into by and between the DEPARTMENT OF FISH AND WILDLIFE (WDFW) and the DEPARTMENT OF ECOLOGY (Ecology).

WHEREAS resolving longstanding conflicts over water supply in the Columbia River Basin is important to the State of Washington, and

WHEREAS public monies are being used by the Ecology Office of Columbia River (OCR) to implement projects to develop water supplies, and

WHEREAS the use of public monies should minimize environmental impacts of those projects, and

WHEREAS OCR-funded projects may disturb or eliminate shrub steppe habitats through conversion to other land uses, and

WHEREAS Habitat loss, fragmentation, and degradation are the major threats to the persistence of Washington's fish and wildlife<sup>1</sup>, and

WHEREAS Ecology provides funding through interagency agreement for WDFW technical fish and wildlife biological services related to the implementation of Chapter 90.90 RCW - Columbia Basin Water Supply, and

WHEREAS WDFW and Ecology OCR agree that protecting at-risk priority habitats such as shrub steppe habitat is important to the State of Washington;

### THEREFORE, IT IS MUTUALLY AGREED THAT:

Ecology and WDFW will cooperate to protect priority habitats such as shrub steppe that are put at risk through water supply projects funded by the OCR.

### PURPOSE AND SCOPE

The purpose of this MOA is to define roles and actions between WDFW and OCR for mitigating impacts to shrub steppe habitats resulting from OCR-funded projects.

### AUTHORITY AND AGENCY ROLES

With respect to this MOA:

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<sup>1</sup> Washington Comprehensive Wildlife Conservation Strategy (WDFW 2005)

WDFW responsibilities are to preserve, protect, perpetuate, and manage fish and wildlife resources under the authority of 77.04.012 RCW.

Ecology responsibilities are to manage water resources pursuant to 90.54 RCW, among others.

Further, OCR responsibilities are to aggressively pursue the development of water supplies to benefit both instream and out-of-stream uses under 90.90 RCW.

### **GENERAL PROVISIONS**

This MOA establishes standards and procedures through which impacts to shrub steppe habitat will be addressed. WDFW Wind Power Guidelines<sup>2</sup> will serve as a foundation for implementing components of this MOA. In general, WDFW and OCR will use tools such as impact avoidance and mitigation, along with case-specific project reviews, to implement this MOA.

### **PROCEDURES**

1. The first step toward protecting at-risk priority habitats is identifying potential impacts. WDFW and Ecology agree to work together to ensure that impacts are identified well in advance of project implementation.
2. WDFW and WDOE agree to use environmental review documents and/or employ rapid, course-scale assessment tools<sup>3</sup> to assess impacts unless the two agencies agree that a higher-level assessment is required;
3. Should it be agreed that a review of existing environmental review documents or a course scale assessment is insufficient to determine an appropriate avoidance or mitigation strategy, sufficient resources and time will be provided by Ecology to perform higher-level assessments and develop analyses to determine habitat value, and identify potential impacts;
4. Once impacts are assessed they will either be avoided or mitigated;
5. Site-specific mitigation agreements will be developed for each project that address mitigation requirements for each impacted site.

### **DETERMINING MITIGATION**

- 1) For impacts identified in the assessment phase, mitigation will be consistent with the WDFW 2009 Wind Power Guidelines. Customized mitigation options may be relevant in situations such as the following:
  - a) Depending on risk of development for the impacted habitat, a replacement factor may be appropriate to increase the mitigation required.
  - b) As part of a customized mitigation package for an OCR-funded project, the environmental benefits of the project may be considered when determining the mitigation required.

<sup>2</sup> April 2009, available at <http://wdfw.wa.gov/hab/engineer/windpower/index.htm>

<sup>3</sup> See WDFW 2009 Wind Power Guidelines section 8.3, *Coarse Scale Assessment*.

- 2) For shrub steppe mitigation, concentration of mitigation investments in the highest priority areas will be encouraged.
- 3) If shrub steppe was converted within five years prior to the OCR water supply development, those lands will be treated as though they were shrub steppe at the time of conversion, and assessed and mitigated accordingly.

***AGENCY RESPONSIBILITIES RELATED TO THIS MOA, PURSUANT TO ECOLOGY/WDFW INTERAGENCY AGREEMENT***

Ecology will (to the extent resources allow):

1. Designate an interagency coordination liaison. The liaison will coordinate on any emerging OCR issues affecting shrub steppe habitat and facilitate discussion, resolution, and documentation of a mutually-agreeable mitigation scenario. This includes providing cross-program and cross-region/headquarters coordination within Ecology. The liaison will also coordinate joint procedures and outreach.
2. Notify the WDFW liaison if a project being proposed through the OCR has potential to impact shrub steppe habitat.
3. Provide adequate and timely information for WDFW biologists to determine the impact of a project, including funding higher-level assessments as agreed by the parties.
4. Work with WDFW to identify alternatives for mitigation of project impacts.
5. Coordinate funding to implement the agreed mitigation package.

WDFW will (to the extent resources allow):

1. Designate an interagency coordination liaison. The liaison will coordinate on any emerging OCR issues affecting shrub steppe habitat and facilitate discussion, resolution, and documentation of a mutually-agreeable mitigation scenario. This includes providing cross-program and cross-region / headquarters coordination within WDFW. The liaison will coordinate joint procedures and outreach.
2. Provide coarse-level assessments unless the two agencies agree that a higher-level assessment is required.
3. Identify the impacts of a proposed project on shrub steppe.
4. Identify and prioritize mitigation sites in areas where OCR investments are planned.
5. Convene a work group, comprising individuals with expertise on shrub steppe habitat issues and representing a broad cross-section of shrub steppe interests within Washington State, to ensure that project assessments and mitigation proposals have been adequately vetted.
6. Work with Ecology OCR to identify alternatives for mitigation of those impacts.
7. Assist documentation and implementation of the agreed mitigation package.



#### **GENERAL COORDINATION AND APPLICABILITY**

Ecology and WDFW will develop or modify agency guidance documents in order to facilitate implementation of this MOA. Agency staff will treat this MOA, along with applicable policies and guidance documents, as operating procedures.

#### **LIAISONS:**

Department of Fish and Wildlife  
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#### **MOA MANAGEMENT**

This MOA shall take effect and be fully implemented by both agencies when signed by both parties. OCR-funded projects with environmental review completed before implementation of this contract are not affected by this MOA. This MOA may be amended or terminated at any time by written approval by Ecology's OCR Director and WDFW's Director. Termination is assumed if Ecology's OCR is eliminated.

The interagency coordination liaisons for Ecology and WDFW will be responsible for, and will be the contact persons for, all communications regarding the performance of this MOA. Either Ecology or WDFW may change its liaison by giving written notice to the other party.

#### **ALL WRITINGS CONTAINED HEREIN**

This MOA contains all the terms and conditions agreed upon by WDFW and Ecology. No other understandings, oral or otherwise, regarding the subject matter of this MOA shall be deemed to exist or to bind any of the parties hereto.

**IN WITNESS WHEREOF, THE PARTIES HAVE EXECUTED THIS MOA:**

Department of Fish and Wildlife



Phil Anderson,  
Director

Date: 7/6/10

Department of Ecology



Ted Sturdevant,  
Director

Date: 7/9/10

# Appendix D

## Ecology Letter to WDFW

January 28, 2011



### STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

1015 Mission St, Ste 200 • Wenatchee, WA 98801-6142 • (509) 662-0500

January 28, 2011

Mr Dennis Beich  
Region 2 Director  
Washington State Department of Fish and Wildlife  
11550 Alder Street  
Ephrata WA 98823

Dear Mr. Beich:

The Washington State Department of Ecology's Office of Columbia River (OCR) looks forward to continued collaboration with Washington State Department of Fish and Wildlife (WDFW) as we identify alternative sources of water supply for groundwater irrigators in the Odessa Special Study Area. As we pursue that objective, we are cognizant of the importance of protecting and maintaining fish and wildlife and associated habitats as well as the public benefits they provide.

Ecology recognizes there are some areas of uncertainty regarding potential impacts to WDFW-managed resources as a result of the project alternatives proposed in the Odessa Subarea Special Study Draft Environmental Impact Statement (DEIS). I want to assure you that Ecology will continue to work with WDFW through the EIS and subsequent state permitting process to narrow those uncertainties and ensure that actions are taken to enhance the project, or avoid or mitigate probable significant adverse project impacts.

WDFW fish management staff has expressed concerns that that each water supply option within the DEIS has the potential to affect lake/reservoir productivity and would have the potential to impact recreational fisheries to varying degrees. However, the specific nature of those effects are not likely to be fully understood until after operational changes to the Columbia Basin Project have been implemented. Ecology agrees that it is appropriate for WDFW and Ecology to engage in an adaptive management program for the recreational fisheries to allow monitoring of the effects of those operational changes and to identify and employ response measures as appropriate. Ecology will work with WDFW to help ensure that adequate staff and funding resources are made available to support an ongoing adaptive management program.

Dennis Beich  
January 28, 2011  
Page 2 of 2

Ecology intent to engage in an adaptive management program for lake/reservoir recreational fisheries will be captured in a Memorandum of Understanding (MOU) with WDFW. The MOU will also serve as a vehicle to address other issues related to the project including actions to:

- Protect and enhance habitat for Northern Leopard frogs,
- Protect Washington ground squirrels,
- Ensure wildlife viewing impacts are minimized,
- Create a mechanism to make some of the conserved water funded by OCR available to WDFW for "environmental uses," and
- Identify potential project enhancements that could provide wildlife and wildlife-based recreational benefits within the Columbia Basin Project.

The MOU will be included as a component of the Final EIS for the Odessa Special Study.

I look forward to meeting in the near future to discuss development of the MOU. If you have any questions or need any additional information, please do not hesitate to call me at 509-457-7120.

Sincerely,



Derek Sandison, Director  
Office of Columbia River

DS:HCC (110139)



# Appendix E

## Washington Department of Fish and Wildlife

### Detailed Comments – Odessa DEIS

January 31, 2011

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WDFW offers the following detailed comments, organized by section and page number for easy cross-reference.

By its very nature, the DEIS is repetitive. If WDFW addressed an issue and provided a comment in one section that was repeated in another section, WDFW may have only provided a comment once.

Please note that mitigation proposed for each alternative refers back to the same mitigation proposed under 2A; however, in most circumstances there is no mitigation proposed under 2A. The same misleading information is provided under the full replacement alternatives. This format leads readers to the conclusion that mitigation has been proposed in situations where it has not. Please ensure that the statement “no mitigation is required” appears within every section for which that conclusion is drawn so as to avoid confusion.

SECTION	Page #s	COMMENT
<b>CHAPTER 1</b>		
<b>Section 1.6 Relationship of the Proposed Action to Other Projects or Activities, 1.6.1.2 Conservation</b>	1-12 WAS1-26	"Ecology would manage the conserved water." Please provide more details regarding management, including the allocation and use of reclaimed water.
<b>1.6.2 Prior Investigation and Related Activities in the Columbia Basin Project, Table 1-2;</b>	1-14 WAS1-27	Please include WDFW's Odessa Subarea Special Study, Wildlife Survey Final Survey Report, October 2010; Odessa Subarea Special Study, Hydroacoustic Estimation of Fish Entrained at Dry Falls Dam in 2009 and 2010, January 14, 2001; Habitat Evaluation Procedures Project, December 2009; and the Banks Lake Primary Productivity, Fish Bioenergetics, and Fish Entrainment Evaluations, March 2011.
<b>CHAPTER 2</b>		
<b>Section 2.2 Alternatives</b>	2-13	Please provide the total volume of water delivered via the CBP under current contracts and the relative locations of those deliveries (north or south of I90). Please provide a table showing the total number of acres served under current contracts, the relative locations of those acres (north or south of I90). Please include in the table a breakdown of acres currently irrigated using groundwater (north or south of I90) that could be served by the CBP.
<b>2.2.3.3 Columbia River Basin Water Management Program</b>	WAS1-28	
	2-14	
	WAS1-29	"The purpose of the MOU (2004) is to establish collaboration to secure economic and environmental benefits from improved water management within the CBP and the mainstem Columbia River." Please describe and/or list the environmental benefits from improved water management within CBP as a result of the 2004 MOU between the State, Reclamation, ECBID, SCBID, and the QCBID.  As it applies to Coordinated Conservation Water, the text indicates that the conserved water is not currently included as a water supply for Odessa groundwater irrigators in spite of the intent implied using conservation water via OCR funding to alleviate the aquifer. The question remains, "How much of the Odessa demand could be filled through conservation alone?" Please provide data on the amount of water conserved to date, and estimated to be conserved in the future, in this program, identifying the amounts transferred to Odessa groundwater irrigators, or available to potentially be transferred, from irrigation district conservation savings.

Section 2.3 Alternative 1: No Action 2.3.1 Conditions Under the No Action Alternative, 2.3.1.1 Status of Groundwater Wells in the Odessa Subarea	2-15 WAS1-30	Please provide a table showing the number of wells, total certificated permit amount, and current pumped amounts for Odessa groundwater pumpers separated by location north and south of I90.
Section 2.4 Partial Groundwater Irrigation Replacement Alternatives	2-21 WAS1-31	WDFW recommends that all wells in "standby status" be monitored by Ecology to prevent use while receiving surface water. WDFW supports the States exploration of creating a rule that would require decommissioning groundwater wells that receive surface, replacement water.
	WAS1-32	How many acres north of I90 will be served under the partial replacement alternative, and what is the estimated volume of water to be delivered north versus south?
2.4.1. Alternative 2A; Partial Banks, 2.4.1.1 Water Supply	2-22;2-25  WAS1-33	These comments apply for sections 2.4.1.1 -2.4.4.1. Reservoir elevation is the only measure of potential impact; the DEIS does not show any detail of the volumes of water delivered from each source under each water supply alternative. Please provide a table that shows the estimated (modeled) total volume of water per month moving out of FDR, Banks Lake, and Rocky Coulee Reservoir under current conditions and the new volume under each of the partial alternatives. Please show how volumes would change under varying year types. Please provide a table showing water inputs to FDR, Banks Lake, and Rocky Coulee by month under current conditions (FDR, Banks) and under each alternative. Please define "practicable" as it applies to the refilling of Banks Lake and the impacts associated with worst case scenario of "practicable."
2.4.1.2 Alternative 2A, Additional Easement Width – Weber Wasteway	WAS1-34	It is unclear if the additional easement will be used to reconstruct the channel and make it larger or if a new channel will be constructed to replace the current Weber Wasteway. Please clarify.
Section 2.5 Full Groundwater Irrigation Replacement Alternatives 2.5.1 Alternative 3A: Full – Banks, 2.5.1.2 Delivery System Facility Descriptions, Wildlife Crossings and Escape Ramps	2-55  WAS1-35	The wildlife crossing designs do not incorporate the recommendations provided by WDFW, which include a 36 inch minimum soil depth. The crossings are intended to mitigate the extent the canal would create a barrier to the movement of wildlife; therefore the crossings must be designed for wildlife use with vehicular traffic/maintenance vehicles being a secondary use if compatible. WDFW does not recommend using the



	WAS1-35	current design to avoid retrofitting or constructing new crossings in the future to fulfill the intent of crossings. In addition, escape ramps are critical to ensuring that those that enter canals despite the presence of crossings are able to escape the canals. Escape ramps are adequately described in the DEIS but there is no mention to the frequency of escape ramps in concrete lined sections of the canal. Please insert "There will be one ramp every 2 km (+/- 1 mile) on alternate sides of hard lined sections to adequately address this impacts to mule deer".
2.5.1 Alternative 3A: Full – Banks, 2.5.1.2 Delivery System Facility Descriptions, Construction, Duration and Phasing	2-59	"Access for facility construction within Reclamation easements and acquisition areas would be primarily from existing roads." This statement does not adequately address the impacts associated with exiting the existing road to get to the desired location (5 feet versus 5 miles and through what type of landscape). Reliance on "existing" roads across landscapes that do not currently have any roads misleads the reader; short-term and long-term access roads are often a significant impact.
	WAS1-36	
Section 2.6 Alternatives Considered but Eliminated from Further 2.6.1 Alternative Formulation and Evaluation, Blue Box	2-64 WAS1-37	The blue box states that the PASS should identify a potentially viable alternative that accomplishes objectives to "Provide environmental and recreational mitigation and enhancements." This DEIS does not fulfill that objective because there is inadequate environmental and recreation enhancements proposed and mitigation has been omitted in most instances. WDFW recommends that Reclamation and Ecology work with resource agencies and tribes to reconcile these issues prior to the submittal of the FEIS.
Section 2.7 Estimated Cost of Alternatives, Footnote 3	2-64 WAS1-38	"No new land would be irrigated, and field application would not exceed historical water use." If there is any compromise to this statement, WDFW encourages both Reclamation and Ecology to submit supplementary NEPA and SEPA documents to address immediate and accumulative impacts prior to any CBP expansion activities.
Section 2.8 Benefit-Cost Analysis	2-70 WAS1-39	The BCA inadequately accounts for losses to recreation within the project area from impacts to fish populations in Banks Lake, and loss of hunting opportunity due to wildlife displacement. The DEIS indicates no impacts will occur to fish populations in Banks Lake (pg. 2-79) immediately after detailing the impacts to water quality and zooplankton in Banks Lake (pg 2-79). Water quality conditions and zooplankton biomass are inextricably linked to fish population productivity. This mistake potentially leads to an underestimation of economic losses to State and local communities. In addition, analysis to evaluate the

	WAS1-39	potential impacts of revenue generated from wildlife viewing and/or hunting is missing, as well the amount of money that fish and wildlife-related recreation bring to central Washington communities. Analysis within the DEIS suggests that implementation of any alternative will not impact recreational angling and thus will not result in lost economic impact (e.g. substitution). Reclamation and Ecology should not assume that current fish populations will not be impacted or will immediately recover to current status without an active and long-term monitoring and adaptive management plan. Please work with WDFW in drafting and implementing a Plan to address fishery uncertainties prior to the submittal of the FEIS.
	Table 2-12: WAS1-40	Alternative 2C and Alternative 3C do not account for the potential wildlife revenues that could be generated with the construction of the Rocky Coulee Reservoir, including extensive public recreation activities associated with public wildlife viewing and hunting.
Section 2.10 Comparative Evaluation of Alternatives	2-74 WAS1-41	"...after all regulatory requirements and best management practices are met" is misleading since Reclamation and Ecology omit how compliance with regulatory requirements will be achieved; please provide details.
	Tables 2-15 and 2-36 WAS1-42	Tables do not reflect application of mitigation measures. Available mitigation and the extent to which mitigation measures would reduce impacts are assessed in under each resource topic in Chapter 4 and summarized in Chapter 4, Section 4.29, and Environmental Commitments. This is misleading since a majority of actions are identified as "Insignificant" and no mitigation is proposed.
	2-75, Table 2-15	The Fisheries and Aquatic Resources topic area identified that Partial Replacement Alternatives do not have impacts on the Banks Lake fishery, please note that WDFW does not support this conclusion. This topic area correctly addresses impacts to invertebrate production; significant impacts are expected for all action alternatives including Rocky Coulee. There is potential that impact to invertebrate productivity may adversely impact fish, therefore to state that adverse impacts associated with decreased productivity won't impact fish is presumptuous and not supported by WDFW.
	WAS1-43	Water quality at Banks Lake will be significantly impacted by all action alternatives, particularly temperature and dissolved oxygen. Water quality is vital to protect fish life. Both Ecology and WDFW are mandated to require mitigation if water quality parameters have the potential to impact fish life at all stages.

2-77-2-79 Table 2-16		<p>Under Fisheries and Aquatic Resources for Banks Lake the statement is made that "Significant impact on invertebrate production from greater drawdown but no long-term impacts on fish populations." This statement is not supported by WDFW and again, is presumptuous. In addition, "long-term" impacts infers that short-term impacts exist but the DEIS does not take note of this nor does it mitigate impacts associated with short-term impacts.</p> <p>Despite WDFW's expert recommendations to Reclamation and Ecology to include a monitoring and evaluation plan to identify short-term and long-term impacts to fish to address uncertainties, recommendations were omitted from the DEIS. However, Ecology has committed to including a monitoring and evaluation plan in the FEIS.</p> <p>In reference to Banks Lake, loss of fishing opportunities, Reclamation and Ecology conclude a "Minimal Impact" for all partial action alternatives. However, no mitigation is proposed to reconcile the loss of the fishery. Significant impacts to zooplankton, water quality, and invertebrate production are expected for all action alternatives; however no mitigation was proposed to address the impacts this may have on the recreational fishery. WDFW does not support any federal or state action that impacts a resource of that state without compensation. WDFW will work with Ecology to develop a monitoring and evaluation plan to identify impacts to the fishery to adapt management.</p> <p>Impacts associated with the infrastructure identified under the Cultural Resource Indicator should also be applied to vegetation, wetlands, recreation, and wildlife.</p>
<b>CHAPTER 3</b>		
<b>Section 3.3 Groundwater Resources</b> <b>3.3.1 Analysis Area and Methods, Aquifers and Hydraulic Properties</b>	3-11  WAS1-45	<p>WDFW is of the understanding that recharge of the aquifer or water table from natural precipitation would require additional permitting for allocation. This DEIS does not address impacts associated with allocating water stored within the CBP derived from precipitation. Please describe how this does or does not apply in the CBP.</p>
<b>3.3.5 Geologic and Hydrogeologic Setting of Specific Features within the Affected Environment</b>	3-13  WAS1-46	<p>It is unclear how only "specific features" were chosen to describe the geologic and hydrogeologic setting. As articulated on pg. 3-8, "Numerous springs and seep are found in the analysis area..." Please describe how</p>
Appendix E – WDFW Comments Odessa DEIS 20110131		



	WAS1-46		features were chosen or omitted. Please describe the regulatory mechanism that will be used to protect the springs and seeps from being claimed under the CBP.
Section 3.4 Surface Water Quality 3.4.3 Bank Lake	3-16 WAS1-47		"Water quality data for Banks Lake is sparse, although WDFW has collected data since 2002 and the QCIB has two temperature probes in the reservoir." If data has been collected since 2002 until now then how is it sparse? Please clarify.
Section 3.5 Water Rights 3.5.2.2 Federal Withdrawn Water	3-24 WAS1-48		The DEIS is ambiguous about state water rights held by Reclamation, trust water allocation and timing, and the issuance of water permits/perfection of water rights under Ecology. Please provide a table listing Reclamation water right certificates and permits and their associated volumes, as well as the regulatory framework that will be utilized to deliver surface water and issued new permits/rights. Please include the permits from the FDR Incremental Storage Release project in Table 3-8 to provide further context.
3.5.3 Odessa Subarea Water Rights, 3.5.3.1 Groundwater Water Rights	3-25 WAS1-49		Please include a breakdown of the acres north and south of I-90 in Table 3-8. At the time of this DEIS publication, 13% of the total irrigated acreage in the Odessa Subarea are unaccounted with respect to association with a water right or contract. Table 3-8 reads indicates that 18,574 acres are being served with water but do not have documentation authorizing this use. In the FEIS, please document how this discrepancy was solved.
	3-26 WAS1-50		This sections states that "The Odessa subarea management policy also established an acreage expansion program in which water right certificate holders may apply to expand their authorized irrigated acreage, generally for the purposes of crop rotation, without increasing their historic withdrawal rate." This policy appears to conflict with statements made throughout the DEIS that "no new irrigated lands" will occur as a result of implementation of this project. Please provide a detailed explanation and under what circumstances new lands could be irrigated.
3.8 Vegetation and Wetlands, 3.8.3 Uplands	3-33 WAS1-51 3-35		Please site the original data source for Table 3-10. Please clarify when the WNHP data was last updated; saying "current" is misleading.

<b>3.8.4 Wetland and Riparian Communities</b>	3-36 WAS1-52	Inconsistent characterization of Rocky Coulee habitat. Please stay consistent.
<b>3.8.4.3 Palustrine Forested Wetlands</b>	3-38  WAS1-53	Vernal pools were identified within the Black Rock Coulee Reregulating Reservoir. Ecology has determined that vernal pools are Category II wetlands that are important for migratory waterfowl. There is no mitigation proposed to address impacts to vernal pools. WDFW recommends working with Ecology and WDFW to identify adequate mitigation measures to reduce impacts to vernal pool habitat and waterfowl. WDFW recommends protection of this area for all alternatives as it would serve as a wildlife refuge. Full protection of Black Rock Coulee should be included as a project enhancement and could assist to off-set project impacts.
<b>3.9. Wildlife and Wildlife Habitat, 3.9.2. Wildlife and Habitats in the Analysis Area, 3.9.2.3 Shrub Steppe Habitats</b>	3-58 WAS1-54	This section states that the shrub steppe habitat located in the Rocky Coulee is primarily intact; WDFW disagrees. Though shrub steppe habitat exists in Rocky Coulee, it is degraded.
	3-69 WAS1-55	WDFW is not studying patterns of mule deer use in the project area, WDFW was tasked with identify locations for wildlife crossings across the EHC and ELC. WDFW did not recommend the construction of a wildlife crossing on the ELC. The reported findings within the DEIS are not directly related to the wildlife crossings, please clarify with WDFW.
<b>3.9.3 Special Status Wildlife Species</b>	3-71 WAS1-56	Table 3-21: Crab Creek is an ephemeral creek, but elsewhere Crab Creek is described as perennial. The DEIS should also be noting that the feed water from the Supplemental Feed Route project will convert Crab Creek to perennial, independent from the outcome of the Odessa Subarea Special Study.
<b>Section 3.10 Fisheries and Aquatic Resources</b>	3-72 WAS1-57	Potholes Reservoir was not considered as an analysis area; please explain why this reservoir was excluded. This section states that "The existing condition of fisheries and aquatic resources in the analysis area was evaluated based on existing studies and reports, topographic maps, aerial photos, available aquatic resource data, and field data" yielded in the conclusion that no mitigation was required for all alternatives.
	3-73 WAS1-58	Please describe how the conserved water program may or may not impact current flows in the Columbia River.
<b>3.10.2.1 Background</b>	3-73	Table 3-22 is missing other flow objectives that are very relevant to the discussion of impacts to mainstem flows from this project. The entire table can be found on the 177 <sup>th</sup> page of the 2008 BIOp Appendix
WAS1-59		
Appendix E - WDFW Comments Odessa DEIS 2011		10131

		WAS1-59	
			(Appendix B Section 2.1 Page 11). Specifically, chum flow needs at Bonneville are missing; these objectives would be the most impacted by project alternatives.
3.10.4. Banks Lake, 3.10.4.2 Fish Habitat	3-81		Please provide a citation for the statement that the net-pen project has "greatly improved the angling success" on Banks Lake.
		WAS1-60	This section cites a Reclamation 2004 document must does not cite the Central Washington University Report submitted in 2009.  In addition, there is more recent and relevant research on the topic of fish habitat in Banks Lake. Please clarify why Reclamation and Ecology is not using more recent research.
3.10.4. Banks Lake, 3.10.4.4 Fish Entrainment	3-83		WDFW agrees that benthic invertebrates provide a primary food source for fish; however no mitigation is proposed to address impacts to fish as a result of significant impacts to invertebrates. In addition, benthic invertebrates rely on aquatic vegetation, impacts associated with the time it takes for aquatic vegetation to reestablish in response to changing reservoir levels was not considered in the impacts analysis. WDFW recommends that timing of vegetation reestablishment serve as a component to a long-term monitoring and evaluation plan to further protect the valuable recreational fishery.
		WAS1-61	Please clarify why Reclamation and Ecology is using old data (1974-1976).
3.10.5 Overall Study Area and Broader Central Washington/CBP Area	3-84		This section states that the Potholes Reservoir may experience a "slightly decreased drawdown" but it was not addressed in the impacts analysis. This section goes further to state that Moses Lake, Potholes Reservoir, lower Crab Creek, upper Crab Creek, and Billy Clapp lake will not be discussed in the DEIS. Please explain how Reclamation and Ecology have predetermined that aquatic resources (fish, frogs) will not respond to changes in operations once Odessa is implemented.
		WAS1-62	
Section 3.11 Threatened and Endangered Species, 3.11.2 Wildlife	3-85	WAS1-63	Please correct "addendums" to "addenda".
Section 3.13 Landuse and Shoreline Resources, 3.13.1 Analysis Area and Methods	3-96		This section states that "Beyond recreational effects, no significant shoreline resource effect on the two reservoirs." There is not enough information provided to determine if the impacts are "significant" or how the impacts were even evaluated for significance. Banks Lake is designated by Ecology as a shoreline of
		WAS1-64	



	WAS1-64	statewide significance, however there is no information describing how Ecology will address potential impacts. Omission of the relevance of the SMP, as well as state water quality standards is unconventional for a water project.
<b>3.13.2 Land Ownership and Land Status</b>	WAS1-65	Please provide a map that delineates property ownership, particularly state and federal lands throughout the Odessa Subarea.
<b>Section 3.14 Recreation Resources, 3.14.1 Analysis Area and Methods</b>	3-101 WAS1-66	This section states that "Because there is limited publicly owned land in this area, much of the recreation that occurs here (FDR and Banks Lake); particularly hunting takes place on private land." The RMP for Banks Lake was developed to provide recreation on the reservoir which is federally managed, this is not private land. Please provide a map that spatially analyzes recreational use type on lands around FDR and Banks Lake. WDFW does not necessarily agree that most of the recreation occurring is on private land. Please provide the data that suggests this.
<b>3.14.2.3 Banks Lake Management and Facilities, Background and Management of Recreation Resources</b>	3-108 WAS1-67	This section states that "Many recreationists are drawn to Banks Lake because of the unique and scenic natural features of the area. In addition, the reservoir supports one of the finest fisheries in the state...". WDFW agrees with this statement and reiterates that any impacts to the revenue collected from recreationists visiting FDR or Banks Lake is a significant impact and will require mitigation.
	3-108 WAS1-68	WDFW maintains six water access areas, two of which are primitive in nature. However, because they are primitive does preclude Reclamation and Ecology acknowledging potential impacts to these locations. Impacts to public access to water needs to be evaluated at all public access sites, not just "facilities."
<b>Visitation</b>	3-109 WAS1-69	WDFW does not agree that visitation to WDFW lands and access facilities, Sunbanks Resort, and Coulee City Community Park should be omitted from evaluation because Steamboat Rock State Park receives over 400,000 visitors annually – please clarify the rationale and explain why these lands were excluded from the visitation numbers used to evaluate impacts.
<b>3.21 Visual Resources, 3.21.3.3 Management Directives, Banks Lake Resource Management Plan (RMP)</b>	3-147	The Banks Lake RMP calls for preservation of the natural landscape throughout the management area, how "preservation" will occur as a result of this project is not clear. Please provide clarification.

#### CHAPTER 4: Environmental Consequences

Section 4.2 Surface Water Quantity, 4.2.1.2 Impact Analysis Methods	4-5 WAS1-70	WDFW has stated previously our lack of support for this method of identifying "wet," "average," and "dry" conditions (that being the selection of specific years within the period of record). As shown in 2010, the progression of conditions from one month to the next is more variable than will be depicted by using one specific year's data; this should be captured in the analyses by using monthly averages rather than representative years.
Other Surface Water Features	WAS1-71	Please explain changes in elevation and the timing of elevation at the Potholes Reservoir as a result of the Fall 2012 implementation of the Potholes Reservoir Supplemental Feed Route Project and this project.
4.2.3.2 Long-Term Impacts	4-12 WAS1-72	Please explain how this project, coupled with conservation water savings will impact flows in the Columbia River. In other words, after meeting in-stream flow and 2008 BiOp conditions, what quantity of water is expected not to make it back the Columbia River as a result of coordinated conservation and this project?
Other Surface Water Features	4-14 WAS1-73	"Flows would increase in the Main Canal, East Low Canal, Rocky Coulee Wasteway, Potholes Canal, Lind Coulee Wasteway, Crab Creek and Billy Clapp Lake. In each case, the increased flow rate would be within the channel capacity and the impacts associated with the increase would be minimal." Please include the following, "Riparian vegetation will be planted to stabilize banks in all natural water conveyance systems to reduce erosion and sedimentation from increased cfs."
4.2.3.3 Mitigation	4-14 WAS1-74	WDFW does not support the statement that "Mitigation is not required because no impacts are expected." Potential short-term, long-term, and accumulative impacts, as well as significance of those impacts are uncertain. WDFW is concerned that Ecology has not proposed to monitor water quantity use and monitor hydrological changes within the CBP; once a preferred alternative is chosen WDFW recommends Ecology implement a monitoring program to assist with future water resource decision-making.
4.2.3.3 Mitigation, 4.2.3.4 Cumulative Impacts	4-15; Table 4-4 WAS1-75	Please provide the correct data, this data illustrates that there are no changes in elevation for Banks Lake under 2B among all water year types. Tables 4-2, 4-6, and 4-7 show different results for different water type years.
4.2.5 Alternative 2c: Partial – Banks + Rocky Coulee, Other Surface Water Features	4-22 WAS1-77	"An increase in shallow groundwater recharge in the area associated with the footprint of the new reservoir" may convert native shrub steppe habitat to riparian. Any ground water surcharge areas within the CBP will
	WAS1-76	

WAS1-76		
		need to be assessed to identify risk of shrub steppe conversion and mitigated appropriately.
4.2.7 Alternative 3A: Full-Banks, 4.2.7.2 Long-Term Impacts Columbia River	4-29 WAS1-78	"Following withdrawal of this water, flow rates would comply with instream flow objectives specified for the Columbia River." Is Reclamation and Ecology implying that before reservoirs are refilled, instream flow objectives will not be complied with? Please clarify.
Section 4.3 Groundwater Resources	4-44 WAS1-79	Will the "beneficial effects on local shallow groundwater by providing a local recharge area, which would lead to recharging groundwater to the Wanapum Basalt unit" be CBP water or Ecology water? Please explain how this water will or will not be used in the future (e.g. domestic wells).
4.3.1 Methods and Assumptions, 4.3.1.1 Impact Indicators and Significance Criteria	4-44, Table 4-6 WAS1-80	WDFW is unclear how pumping costs are being used as significance criteria within this section. Please explain the framework used to determine "would be considered significant" and the criteria used to define "significance."
4.3.2 Alternative 1: No Action Alternative	4-47 WAS1-81	WDFW supports the following statement made by Ecology for all alternatives, "...the State is not issuing new water rights that would be required for new wells."
Section 4.4 Surface Water Quality, 4.4.3 Alternative 2A: Partial - Banks, 4.4.3.3 Mitigation	4-59 WAS1-82	WDFW agrees that "the long-term impacts to Banks Lake would be significant based on current (water quality) standards, but mitigation measures intended to decrease temperatures and increase dissolved oxygen have limited effectiveness on a broad scale and are not recommended." Impact to recreational fisheries as a result of significant impacts to water quality was not adequately evaluated; WDFW will work with Ecology to evaluate.
Section 4.5 Water Rights, 4.5.3.2 Long-term Impacts, Odessa Subarea	WAS1-83-86	WDFW supports Ecology's decision to not allow use of groundwater if surface water is delivered.
4.6 Geology, 4.6.1 Methods and Assumptions, 4.6.1.2 Impact Analysis Methods	4-69 WAS1-84	WDFW agrees that new dams that will be constructed as a result of this project will require adherence to Ecology dam safety guidelines. Please identify what local, state, and federal permits will be applicable to the construction of dams/reservoirs within the CBP.
Section 4.8 Vegetation and Wetlands 4.8 Vegetation and Wetlands	4-80	"Impacts to wetlands surrounding Banks Lake under the partial replacement alternatives would primarily result in a shift in community composition and not be significant." The following sentence should be added "If the shift in composition increases invasive species populations, then Reclamation will deploy an aggressive
WAS1-85		



	WAS1-85	<p>invasive weed control program in compliance with Noxious Weed laws and policies."</p> <p>"Adverse to significant impacts to wetlands around Banks Lake would range from shifts in composition to reduced wetland size." WDFW recommends that all wetlands be mitigated under the direction of Ecology Technical staff to assure appropriate mitigation ratios.</p>
4.8.1.3. Impact Analysis Assumptions,	4-82 WAS1-86	<p>"Observations conducted during the 2009 drawdown of Banks Lake confirmed that aquatic weeds are not present in the drawdown area. Based on these observations, aquatic weeds are not expected to spread or become established under any of the alternatives." Irrigation districts annually control aquatic weeds in the canal systems to increase delivery efficiency. Aquatic weeds exist within the water conveyance systems and increased cfs has the potential to transfer additional aquatic weeds throughout the CBP.</p>
4.8.3.2. Long-Term Impact, Uplands	4-83 WAS1-87	<p>Blue box "The State requires adherence to the State and Federal statutes intended to avoid or reduce weed expansion during and after construction, as well as to protect wetlands. These statutes and their general requirements are listed in Chapter 5, Consultation and Coordination." However, there is no long-term plan within the DEIS that identifies how Reclamation and Ecology will adhere to these statutes. In other words, how will Reclamation and Ecology determine and/or report compliance with the identified statutes?</p>
4.8.3.2. Long-Term Impact, Uplands	4-84 WAS1-88	<p>"Long-term significant impacts to upland plant communities south of I-90 would include 112 acres of shrub steppe and 18 acres of steppe grassland required for expansion and extension of the East Low Canal."</p> <p>"Some short-term impacts to shrub steppe communities that are restored after construction would persist of 15 years or more because of the difficulty of restoring these vegetation types to pre-construction conditions as previously described." WDFW recommends adopting the WDFW Wind Power Guidelines, April 2009.</p>
4.8.3.3. Mitigation, Uplands	4-87 WAS1-89	<p>"Restoration goals, success criteria, and monitoring protocols would be developed in cooperation with WDFW" however this section does not describe how this will be accomplished and/or implemented. Please provide more detail.</p>
4.8.3.3. Mitigation, Uplands	4-87	<p>Bullet #3 should include the following sentence "Reclamation and Ecology will provide support for the identification of the amount and types of mitigation measures required to compensate for the permanent loss of about 130 acres of shrub steppe and steppe. This includes studies to identify potential locations within</p>
	WAS1-90	

	WAS1-90	<p>and outside the study area."</p> <p>Please insert the following "WDFW and Ecology will coordinate to identify targets to indicate success to assure restoration goals and objectives are met". Please insert "Mitigation would include protection, restoration, and reestablishment of degraded shrub-steppe....."</p> <p>Please identify which streams, wetlands, and riparian communities will benefit from the Walla Walla Storage and Pump Exchange Studies.</p>
4.8.7.3. Mitigation, Wetlands	4-96	<p>The statement is made that "the specific mitigation approach would change based on the final determination of impacts and Section 404 permit terms and conditions". However, on page 4-97 the statement is made that "Wetland mitigation associated with canal leaks would not be subject to Section 404 regulations." The State Water Pollution Control Act and the Shoreline Management Act give Ecology the authority to regulate wetlands. The Shoreline Act directs Ecology to determine which wetlands are regulated under the SMA. The regulations governing which wetlands are in SMA jurisdiction are found in WAC 173-22<sup>3</sup>. WDFW recommends that Ecology identify and evaluate all state jurisdictional wetlands that will be impacted for submittal into the FEIS with a mitigation package that adequately address impacts. "No mitigation required" is not an acceptable solution.</p> <p>Creating additional wetland acreage along ELC by grading margins of seeps is desirable; however the creation of creating similar habitats within the ELC should also be investigated. The canal itself is a major travel corridor for brood rearing hens and shallow, slack-water habitats provided within the canal are highly valuable for cover, food, and loafing.</p>
4.8.7.3. Mitigation, Wetlands	WAS1-91	
4.8.7.3. Mitigation, Wetlands	WAS1-92-97	<p>Please insert "Vegetation monitoring for all alternatives will include a component for noxious weed control".</p>

<sup>3</sup> WAC 173-22 (19) "Wetlands" or "wetland areas" means areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands; definition adopted in RCW 90.58.30

<b>Section 4.9 Wildlife and Wildlife Habitat</b> <b>4.9.3.3. Mitigation Measures</b>	4-107	<p>Please insert "Some portions of rocky spoil piles would be configured to provide predator-proof artificial nesting structures for burrowing owls". WDFW recommends clusters of three burrows per mile of canal within suitable (not too rocky) spoil materials.</p> <p>Please insert "Proposed mitigation measures for Grebes will be developed from recommendations provided in the WDFW 2010 Final Wildlife Report, as well as the conservation strategies outlined in the Intermountain West Waterbird Conservation Plan for Aechmophorus grebes in Washington State. Mitigation measures will include, (1) maintain suitable emergent nesting habitat at major breeding sites in the region, (2) minimize human disturbance and boat wakes near nesting colonies, and, (3) maintain stable water levels through the nesting period (Ivey and Herzinger, 2006). Potential off-site locations include, but are not limited to, Potholes Reservoir (Grant Co) and Sprague Lake (Adams/Lincoln Co)".</p> <p>WDFW recommends utilizing techniques developed by Robison et al. (2008), which describe several methods for enhancing nest success such as installing and maintaining nesting platforms and protecting nesting areas from disturbance using log booms or other barriers to watercraft traffic. These techniques are reasonably well developed and could be employed at off-site locations to mitigate for potential impacts at Banks Lake.</p> <p>The use of bridges as both day and night roosts by bats is well documented. WDFW recommends referring to Keeley and Tuttle (1999) for specific bat-friendly designs that can be easily incorporated during initial construction to provide wildlife enhancement opportunities for bats throughout the CBP. Please also refer to the American Association of State Highway and Transportation Officials (<a href="http://environment.transportation.org/">http://environment.transportation.org/</a>) for additional information.</p>
<b>4.9.5.1. Long Term Impacts, Special Status Species</b>	4-110	<p>"Assistance with translocation from nuisance areas to suitable habitats (on site or off site)" appears to be misinterpreted. Please insert, "In some instances it may be appropriate to relocate squirrels. In general, however, it would be simpler and more efficient to trap and translocate squirrels and give the squirrels in the inundation footprint a chance to disperse by filling the reservoir during the active season. All translocation should be done using soft-release methods and using WDFW recommended methodologies".</p> <p>The DEIS inadequately addresses impacts to Northern Leopard Frogs residing in the Potholes Reservoir.</p>



<p>WAS1-94</p>	<p>Please include the following "All alternatives have the potential to alter seasonal water levels of Potholes Reservoir, which supports the last known population of state endangered Northern leopard frogs. The Northern leopard frog population at Potholes Reservoir is threatened by a number of factors including, but not necessarily limited to; spread of bullfrogs, Chytrid fungus, habitat degradation due to non-native fish (primarily carp), unstable water levels during the breeding season (mid-March through mid-May), and depredation from a multitude of potential predators. Altered water levels are likely to influence the success of Northern leopard frogs including potential to reduce reproductive success rates and survival. A long-term recovery plan will be developed and implemented in coordination with WDFW and USFWS to compensate for impacts. The plan will include identifying potential habitats for the reintroduction of northern leopard frogs within the CBP, funding, and construction of a local captive rearing facility to provide broodstock".</p> <p>Sage sparrow, sage thrasher, and loggerhead shrike are state candidates for listing. WDFW provided location data for these shrub steppe obligate breeding birds, much of which occurs between Billy Clapp Lake and the Black Rock Coulee Reregulation Reservoir. Please insert "Though nesting can occur between March and August, activities within this area be minimized during the peak nesting season April through June (when the bulk of impacts would occur) to the greatest extent possible".</p>
<p>4.9.7.2. Long Term Impacts, Banks Lake</p> <p>4-111</p> <p>WAS1-95</p>	<p>WDFW observed grebes nesting in July but when they hatched in unknown. There is potential that nests may be hatching during August, therefore WDFW cannot agree that a drawdown during August would have minimal impacts. Though it may be true the later the drawdown the reduction of risk to grebes, WDFW does not support the conclusion that impacts will be minimal until September.</p>
<p>4.9.7.2. Long Term Impacts, Wildlife Movement Barriers and Habitat Fragmentation</p> <p>4-117-119</p> <p>WAS1-96</p>	<p>The DEIS captures WDFW concerns with regards to appropriate width of wildlife crossings. However, the most obvious impact resulting from construction of the EHC is to migratory mule deer and the fragmentation of habitat. WDFW agree that over time, mule deer will develop movement patterns and should begin to use crossings. Escape ramps are critical to ensuring that those that enter canals despite the presence of crossings are able to escape the canals. Escape ramps are adequately described in the DEIS but there is no mention to the frequency of escape ramps in concrete lined sections of the canal. Please insert "There will be</p>

	WAS1-96	one ramp every 2 km ( $\pm$ 1 mile) on alternate sides of hard lined sections to adequately address this impacts to mule deer <sup>2</sup> .
4.9.7.2. Long Term Impacts, Wildlife Movement Barriers and Habitat Fragmentation	4-118  WAS1-97	<p>This section describes, in detail, the consequences of habitat fragmentation with regards to minimum viable population size but there is no description of mitigation for these impacts. Wildlife crossings are expected to address genetic issues associated with fragmentation and they will likely function to adequately address deer entrapment, but crossings will not adequately mitigate for loss of habitat function due to reduced patch size. Reduction in patch size, as a result of all full replacement alternatives, will increase vulnerability of small populations within these habitats, particularly ground squirrels. Considering the CH2's analysis did not consider annual grassland as appropriate habitat for wildlife, habitat rehabilitation through chestgrass removal and planting of native grasses, forbs, and shrubs could be used to increase suitable habitat patch sizes. Further, this action could be used to link patches together. Restoring connectivity between habitat patches by enhancing habitat between patches would effectively increase patch sizes, thereby mitigating for this impact. Based on the DEIS analysis, a habitat patch size of 1,500 acres is adequate to sustain most small mammal populations for &gt;100 years. If a full replacement alternative is selected, 107 additional habitat patches will fall below the 1,500 acre figure. These patches should be identified and habitats be restored strategically to link patches less than 1,500 acres in size. Wildlife crossings should be considered when determining appropriate areas for habitat restoration; this should be done in coordination with WDFW.</p>
4.9.7.3. Mitigation	4-123  WAS1-98	<p>Mitigation for Full Replacement Alternatives should include (1) artificial structures for burrowing owls in EHC alignment, (2) enhancement of grebe nesting conditions off-site, (3) development of a plan to reduce potential impacts to shrub steppe dependent species in the DE220 emergency evacuation route. This could involve construction of a channel to facilitate drainage and reduce flooding and the construction of water control structures to regularly flood alkali flats and limit establishment of shrub steppe species into habitats (alkali flats and adjacent uplands) that may be flooded in future.</p>

4.11 Threatened and Endangered Species, 4.11.1 Methods and Assumptions	4-146		The criteria for "significant impact" need to be clearly defined. Any facility construction within a patch of contiguous suitable habitat (regardless of size), that has been identified as pygmy rabbit habitat is a "significant impact". Though pygmy rabbit were not detected during the wildlife surveys, WDFW suggest at least one season of additional surveys within the upper reaches of the EHC (Billy Clapp Lake to Black Rock Reregulation Reservoir) if a full replacement alternative is selected. In addition, the Greater Sage Grouse and Sharp-tailed grouse should be included in table 4-40, despite the fact that these species were not detected during WDFW terrestrial wildlife surveys.
	WAS1-99		
	WAS1-100		The DEIS does not adequately address impacts to sage-grouse resulting from loss of habitat connectivity due to direct habitat loss, habitat degradation, and placement of transmission lines. The greater sage-grouse is a candidate for listing under the federal ESA. The long-term viability of the sage-grouse population in Lincoln County (currently being re-introduced, see Schroeder et al. 2010) depends on connectivity with the Douglas County population. The full replacement alternatives (3A-D) would destroy and reduce habitat value in the Dry Falls and Crab Creek Sage-grouse Management Units, affecting the potential for connectivity and recovery of sage-grouse (Stinson et al. 2004), particularly between Wilson Creek and Billy Clapp Lake. We recommend that habitat loss be mitigated using wind power guidelines and that habitat "replacement" occur through conservation easements and/or acquisitions in collaboration with WDFW so that habitat connectivity through this habitat bottleneck can be maintained at or above present levels. This location is also identified as an important potential corridor for sage-grouse and other species by the statewide connectivity analysis (Washington Connected Landscapes Project: Statewide Analysis 2010).
4.29.6.2 Mitigation, Full Replacement Alternatives	4-281	WAS1-101	WDFW does not support exclusionary fencing around any reservoirs because it would create a barrier to wildlife movements.
4.8 Vegetation and Wetlands, 4.8.1 Methods and Assumptions, 4.8.3.3 Mitigation	4-87		The mitigation proposed to compensate for impacts to uplands are inadequate and though have merit, are feeble. WDFW recommends adopting the Wind Power Guidelines, April, 2009; also recommended by USFWS in the Draft 2010 CAR Report to mitigate impacts to shrub steppe habitat. In addition, WDFW

WAS1-102



		<p>recommends protection of shrub steppe habitat currently in the project area (Black Rock Coulee) to assist with meeting mitigation ratios. Once a preferred alternative is chosen, WDFW encourages Reclamation and Ecology to coordinate with WDFW to identify a pathway to implement a successful mitigation plan for shrub steppe habitat, including short-term and long-term monitoring and adaptive management.</p> <p>Proposed mitigation does not address habitat fragmentation impacts. Shrub steppe protection and mitigation should be focused on areas that provide the most wildlife habitat opportunities, with a focus on connectivity. Infrastructure for all alternatives will be substantial and include substations, pumping plants, water distribution lines, transmission lines, roads, etc. Once a preferred alternative is chosen, all areas will need to be surveyed and impacts will need to be evaluated to determine level of significance and to identify adequate mitigation. Please include in the final EIS how Ecology and Reclamation will accomplish this work.</p> <p>The establishment of weeds from disturbed lands and seeds that get carried from wind and surface water create a financial sink to WDFW maintenance funds, as well as private landowners attempting to avoid fines from the weed control board. WDFW recognizes that weed infestations are likely to occur as a result of this project and requests clarification on what actions Ecology and Reclamation will take to comply with state and federal weed laws, as well as avoid/mitigate additional weed infestations within the CBP.</p>
4.8.7.3 Mitigation, Wetlands, East Low Canal	4-96	<p>Enhancing areas along the ELC would provide additional habitat for wildlife, particularly migratory birds. Creating additional wetland acreage along ELC by grading margins of seeps is desirable but we should also consider creating similar habitats within the ELC. The canal itself is a major travel corridor for brood rearing hens and shallow, slack-water habitats provided within the canal are highly valuable for cover, food, and loafing.</p> <p>Please provide the regulatory nexus that would allow wetland enhancements used for mitigation to preclude protection under the state wetland regulations.</p>
	WAS1-103	
	4-97	<p>Vegetation monitoring should include a component for noxious weed control. This should apply to all alternatives.</p>
	WAS1-104	
4.9 Wildlife and Wildlife Habitat	4-101	<p>The HEP analysis conducted by WDFW likely "under estimates" the affected acres of shrub steppe because</p>
	WAS1-105	

	WAS1-105	staging areas and infrastructure locations were not known. As mentioned previously, areas not evaluated but will be impacted once a preferred alternative is chosen will need to be reassessed to evaluate impacts and identify mitigation.
4.9.7 Alternative 3A: Full-Banks	4-117-4-119	
	WAS1-106	The DEIS captures WDFW concerns with regards to appropriate width of wildlife crossings, however the most obvious impact resulting from construction of the EHC is to migratory mule deer and the fragmentation of habitat. WDFW agrees that over time, mule deer will develop movement patterns and should begin to use crossings. Escape ramps are critical to ensuring that those that enter canals despite the presence of crossings are able to escape the canals. Escape ramps are adequately described in the DEIS but there is no mention to the frequency of escape ramps in concrete lined sections of the canal. WDFW recommends one ramp every 2 km (+/- 1 mile) on alternate sides of hard lined sections to adequately address impacts. In addition, all wildlife crossings should include shrubs.
4.9.7.2 Long-Term Impacts, Minimum Viable Population Analysis	4-121	
	WAS1-107	Describes in detail the consequences of habitat fragmentation with regards to minimum viable population size but there is no description of mitigation for those impacts. Wildlife crossings are expected to address genetic issues associated with fragmentation and they will likely function to adequately address deer entrapment, but crossings will not adequately mitigate for loss of habitat function due to reduced patch size. Reduction in patch size, as a result of all full replacement alternatives, will increase vulnerability of small populations within those habitats, particularly ground squirrels. Considering the CH2's analysis did not consider annual grassland as appropriate habitat for wildlife, habitat rehabilitation through cheatgrass removal and planting of native grasses, forbs, and shrubs could be used to increase suitable habitat patch sizes. Further, this action could be used to link patches together. Restoring connectivity between habitat patches by enhancing habitat between patches would effectively increase patch sizes, thereby mitigating for this impact. Based on the DEIS analysis, a habitat patch size of 1,500 acres is adequate to sustain most small mammal populations for >100 years. If a full replacement alternative is selected, 107 additional habitat patches will fall below the 1,500 acre figure. I recommend that these patches be identified and habitats be restored strategically to link patches less than 1,500 acres in size. Wildlife crossings should be considered when determining appropriate areas

	WAS1-107		
			for habitat restoration. This should be done in coordination with WDFW.
4.9.7.3 Mitigation	4-123		Mitigation for Full Replacement Alternatives should include (1) artificial structures for burrowing owls in EHC alignment, (2) enhancement of grebe nesting conditions off-site, (3) develop a plan to reduce potential impacts to shrub steppe dependent species in the DE220 emergency evacuation route. This could involve construction of a channel to facilitate drainage and reduce flooding and the construction of water control structures to regularly flood alkali flats and limit establishment of shrub steppe species into habitats (alkali flats and adjacent uplands) that may be flooded in future.
	WAS1-108		
<b>Section 4.10 Fisheries and Aquatic Resources</b>			
<b>Section 4.11 Threatened and Endangered Species, 4.11.1 Methods and Assumptions</b>	4-146, Table 4-40		Any facility construction within a patch of contiguous suitable habitat (regardless of size), that is occupied by pygmy rabbit, would be considered a "significant impact". Though pygmy rabbit were not detected during the wildlife surveys, we suggest at least one season of additional surveys within the upper reaches of the EHC (Billy Clapp Lake to Black Rock Reregulation Reservoir) if a full replacement alternative is selected. Further, in the interest of being thorough, Greater Sage Grouse and Sharp-tailed grouse should be included in table 4-40 and impact analysis, despite the fact that these species were not detected during our terrestrial wildlife surveys.
	WAS1-109		
<b>Section 4.13 Landuse and Shoreline Resources, 4.13.3.1 Short-Term Impacts, Existing Land Use and Shoreline Resources</b>	4-170		Facilities should not be placed in habitat identified of decent quality if it can be avoided (e.g. moving the maintenance facility location).
	WAS1-110		
<b>Relevant Plans, Programs, or Policies</b>	4-169		Please provide the regulatory mechanism Reclamation and Ecology will utilize to identify how and when the following will apply: County Critical Areas Ordinance, State Shoreline Management Act, and the County Shoreline Master Program.
	WAS1-111		
<b>4.13.7.1 Short-Term Impacts, Existing Land Use and Shoreline Resources</b>	4-176		Use of "89 acres of land in the Billy Clapp Lake Unit of the CBWA" is required for the routing of the East High
	WAS1-112		
Appendix E – WDFW Comments Odessa DEIS 20110131			
Page E- 21			



WAS1-112		Canal. Please work directly with WDFW to update the CBWA plan to incorporate mitigation measures.
Section 4.14 Recreation Resources, 4.14.1.2 Impact Analysis Methods, Reservoir-Based Recreation (Banks Lake and Lake Roosevelt), Fishing	4-182	WDFW agrees with the statement that "Because a large majority of fishing activity at both reservoirs is conducted by boat, loss of boat launch capacity translates direct into loss of fishing opportunity." A significant adverse impact to the fishery is unknown because how the fish will respond to operational changes, additional significant impact to water quality, and significant impacts to zooplankton, macroinvertebrates, and benthoinvertebrates production because the project has not occurred yet.
	WAS1-113	As mentioned on several occasions, any impact to WDFW's recreational revenue is very significant given the current state budget deficit. This includes loss of fishing opportunities associated with a decline in fish populations, limited access, and reductions in license sells. WDFW will continue to recommend that Reclamation and Ecology will work with WDFW to address uncertainties with an extensive M & E plan; the M & E plan should serve as a project element of the FEIS.
Section 4.26 Unavoidable Impacts	Entire Section WAS1-114	Please note for this section – Being unable to avoid impacts does not necessarily render the decision "no mitigation measures are feasible." Because mitigation measures may not be feasible at an exact location does not pardon Reclamation and Ecology for mitigating impacts. Please provide the line of reasoning used to conclude "no mitigation" when there is a resource impact.
Section 4.27 Relationship between Short-Term and Long-Term Productivity	4-275  WAS1-115	This section identifies that impacts to the "Banks Lake fishery, land use, recreation, transportation, and visual resources" are expected for all action alternatives. That statement is followed by "However, the action alternatives would also provide the long-term benefit of reducing or eliminating use of groundwater pumping for irrigation." Though WDFW cannot speak for what the residents of Washington State are willing to "pay" to deliver surface water, WDFW does not agree that the long-term benefits of "reducing or eliminating use of groundwater pumping for irrigation" precludes the protection of the State's natural resources. WDFW recommends that this section be rewritten.
Section 4.28 Irreversible and Irretrievable Commitments of Resources	4-275 WAS1-116	Relying on "at some point in time" to mitigate for irreversible and irretrievable commitments of resources is unacceptable. The addition of mitigation and enhancements could assist with addressing this problem.
Section 4.29 Environmental Commitments, 4.29.3 Surface Water	4-277	WDFW agrees with implementing BMP's as part of the Storm Water Pollution Prevention Plan, however
WAS1-117		

	WAS1-117	
<b>Quality</b>		WDFW does not agree that a QAPP should only pertain to "live streams" but that it should apply to any waters designated by Ecology as "waters of the state."
<b>4.29.6 Vegetation and Wetlands, 4.29.6.1 BMPs</b>	WAS1-118 4-279	Please define the level of "effort" that will be given for "ongoing weed control" on disturbed lands.
<b>4.29.6.2 Mitigation</b>	WAS1-119 4-280	Please provide the regulatory mechanism that will provide wetlands to be used as mitigation for project impacts but prevent them from being under the jurisdiction of federal and state regulatory agencies.
<b>4.29 Environmental Commitments</b>	Entire Section WAS1-120	This section should include the long-term Fisheries M & E Plan, the Upland-Native Habitat Management Plan, NLF Habitat Enhancement and Recovery Plan, as well as provisions for Washington ground squirrels.
<b>4.29.7 Wildlife and Wildlife Habitat, 4.29.7.2 Mitigation</b>	WAS1-121 4-281	WDFW appreciates the inclusion of a Native Habitat and Conservation Management Plan* to restore and protect habitat within the project area.

# NCIC / STATE RECORDS SEARCH-RESPONSE REPORT

<u>REQUEST #</u>	<u>REQUEST / SESSION ID</u>	<u>DATE/TIME REQUESTED</u>	<u>LAST RESPONSE</u>
57018	Vehicle Registration (744DUL, PC, 2010, OR) andecma:DFW2HQLT092214:57018	02/01/2011 8:16:20 AM	02/01/2011 8:16:23 AM

(NOTE: -> Indicates that the request was made on behalf of another person and that person's agency identifier)

## RESPONSES:

Response #	CONTAINS HITS	Response Rec'd	Response Source	Response Record #
1	<input type="checkbox"/>	2/1/11 8:16:21 AM	WA_WACIC - NCIC No Record	306697
Reply NCIC CTOHFWLK2.WA03499K2  NO RECORD LIC/744DUL LIS/OR				
Response Record # 306697 PARSED TAGS IntInterfaceName=WA_WACIC IntSystemName=NCIC_NO_RECORD MessageType=NCIC No Record QueryState= ResponseType=NCIC No Record				
2	<input type="checkbox"/>	2/1/11 8:16:21 AM	WA_WACIC - No WACIC Records Found	306698
Reply WWWICCTOHWLK2.QV.WA03499K2.LIC/744DUL LIS/OR NO WACIC WANTED, MISSING, PROTECTION ORDER, DOC CUSTODY STATUS, SOR, OR VEHICLE/VEHICLE PART OR WATCH YOUR CAR RECORDS FOUND				
Response Record # 306698 PARSED TAGS IntInterfaceName=WA_WACIC IntSystemName=NO_WACIC_FOUND MessageType=No WACIC Records Found QueryState= ResponseType=No WACIC Records Found				
3	<input type="checkbox"/>	2/1/11 8:16:23 AM	WA_WACIC - NLETS Unknown	306699
Reply NLETS FWLK2. RR.OR0DMVR00 09:16 02/01/2011 21890 09:16 02/01/2011 96129 WA03499K2 *CTOJ TXT L,744DUL MA:GMC /SRA S:PU Y:2002 L: SP:0 02-01-2011 ID:1GTHK23132F124325 TI:0812703720 CD:L EXP:02-16-2010 P/DT:08-28-2009 FL:11 OS:ST CLAIR, JENNY ANNE 04-03-1957 X 6967851 OS:ST CLAIR, BRETT CARY 01-15-1987 7300821 R:134 PORTLAND AVE MEDFORD OR 97504 15 JACKSON COUNTY 13:WACHOVIA DEALER SERVICES INC L:23 PASTEUR CA L:PO BOX 997517 SACRAMENTO CA 95899  INSURANCE INFORMATION  COMPANY: ALLSTATE FIRE AND CASUALTY INSURANCE COMPANY POLICY NO: 920791825 (POLICY) TYPE: VEHICLE EFFECTIVE: 03-03-2008 TERMINATION: 09-03-2008  DISPLAY COMPLETE R=Y C=N S=N				

Response Record # <b>306699</b>	PARSED TAGS IntInterfaceName=WA_WACIC IntSystemName=NLETS_UNKNOWN MessageType=NLETS Unknown QueryState= ResponseType=NLETS Unknown
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## Comment Letter WAS2

From: [GAMON, JOHN / DNR](#)  
To: [BOE, LISA / Odessa Study](#)  
Subject: Odessa Subarea Special Study DEIS  
Date: Monday, January 31, 2011 2:47:53 PM

---

Mr. Chuck Carnohan  
Bureau of Reclamation  
Odessa Subarea Study Manager

Dear Mr. Carnohan:

The Washington Natural Heritage Program, housed within the Washington State Department of Natural Resources, manages information on the species and ecosystems of conservation concern in the State of Washington. In that capacity, I would like to take this opportunity to comment on the Odessa Subarea Special Study Draft Environmental Impact Statement. I have two areas of particular interest. First, the discussion of vegetation types in the DEIS is a little confusing. It also appears that there is some misinterpretation of how priorities in the *State of Washington Natural Heritage Plan* are assigned to the state's ecosystems, what those priorities mean, and how to appropriately use them. Second, the DEIS identifies that some of the alternatives would have significant impact on rare plant species, yet there appears to be no mitigation offered for those impacts. I will elaborate on each of these basic comments below.

WAS2-1

WAS2-2

The DEIS provides information on vegetation (both uplands and wetlands) from the perspective of both the Washington Department of Fish and Wildlife's (WDFW) Priority Habitats and the Natural Heritage Program's priorities for ecosystems that are established in the *State of Washington Natural Heritage Plan*. Because the two systems for classifying habitats and ecosystems are not the same, the discussion presented in the DEIS is somewhat confusing and misleading. Specifically, the DEIS uses priorities for ecosystem types listed in the *State of Washington Natural Heritage Plan* to evaluate both the conservation impact, and need for mitigation of those impacts, of the various alternatives (see 3.8.2 in the DEIS). However, *Natural Heritage Plan* priorities are primarily a measure of how well each individual ecosystem type is represented in the statewide network of designated natural areas (the statewide network includes state managed Natural Area Preserves and Natural Resources Conservation Areas, federal Research Natural Areas and Areas of Critical Environmental Concern, and private natural areas e.g., preserves owned by The Nature Conservancy and other land trusts). They do not directly equate to being overall conservation priorities. *Natural Heritage Plan* priorities for ecosystems do consider rarity and degree of threat to the individual ecosystem type, but only secondarily.

WAS2-3

Perhaps a better tool to assess the conservation impact of the alternatives on ecosystems would be to use the global and state conservation status ranks assigned by NatureServe and the Natural Heritage Program. These ranks are meant to provide an estimate of the risk of elimination of that ecosystem type from the landscape. An ecosystem assigned a global rank of G1 is critically imperiled globally; G5 indicates that the ecosystem is demonstrably widespread and secure. I would be more than happy to discuss with you how these ranks could be used to better assess conservation impact and appropriate mitigation.

WAS2-4

With regard to rare plant species, the DEIS identifies that there will be negative impacts of various alternatives on at least three plant species considered to be of conservation concern: Hoover's umbrellawort, sticky phacelia, and Snake River cryptantha (see 4.8 in the DEIS). We concur based on the information presented in the DEIS. However, there appears to be no mitigation measures identified for these impacts. For those alternatives where impacts are identified, there is generally a statement that the mitigation measures identified for Alternative 2A: Partial Banks will be implemented. However, alternative 2A: Partial Banks is identified as having no impacts, so therefore there is no mitigation measure specified. I would encourage the development of specific mitigation measures for those alternatives where impacts are identified.

WAS2-5

I would also like to comment on the significance of the occurrences for two of the rare plant species: Hoover's umbrellawort and sticky phacelia. The DEIS reports that these species were found during the course of surveys being conducted for the project. The Odessa project area is well outside of the previously known range of each of these species, and the DEIS makes no mention of this. In order to fully assess this new information, the Natural Heritage Program would like to receive more detailed information so that we can review the conservation status of both of these species, and revise as appropriate. This is in keeping with the role of the Natural Heritage Program of managing a statewide database on rare species and ecosystems. If specimens were collected, we suggest that they should be deposited with a major herbarium, so that they're available for verification and for future study.

WAS2-6

I hope that you find these comments useful. I'd be more than happy to discuss my comments and answer any questions that you may have.

Sincerely,

**John Gamon**

Natural Heritage Program Manager  
Forest Resources and Conservation Division  
Washington State Department of Natural Resources (DNR)  
(360) 902-1661  
john.gamon@dnr.wa.gov  
www.dnr.wa.gov

Don Hoch  
Director



## Comment Letter WAS3

STATE OF WASHINGTON

### WASHINGTON STATE PARKS AND RECREATION COMMISSION

270 9<sup>th</sup> Street N. E., Suite 200, East Wenatchee, Washington 98802 • (509) 665-4319 • Fax (509) 886-6232  
[www.parks.wa.gov](http://www.parks.wa.gov)

January 31, 2011

Stephanie Utter  
Field Office Manager  
U.S. Bureau of Reclamation  
Post Office Box 815  
Ephrata, Washington 98823

Derek I. Sandison  
Director, Office of Columbia River  
Washington State Department of Ecology  
303 S. Mission Street  
Wenatchee, Washington 98801

**RE: Washington State Parks and Recreation Commission Comments,  
Odessa Subarea Special Study, Draft Environmental Impact Statement**

Dear Ms. Utter and Mr. Sandison:

The Washington State Parks and Recreation Commission (State Parks) appreciates this opportunity to provide comments to the October 24<sup>th</sup>, 2010 Draft Environmental Impact Statement (DEIS) issued for the Odessa Subarea Special Study. State Parks recognizes the need to explore methods for providing irrigation water resources to the Odessa agricultural community and to come up with an economically and environmentally sound approach for accomplishing this. In determining a preferred alternative, it will be important for the Bureau of Reclamation (BOR) and Washington Department of Ecology (WDOE) to evaluate all of the anticipated impacts to the built and natural environment associated with existing uses, and identify reasonable mitigation to offset impacts to public recreational facilities impacted. Unfortunately, none of the proposed alternatives, except for the No Action Alternative, adequately address the impacts to water dependent recreational uses at Banks Lake. Once a preferred alternative is chosen it will be important to provide project level information including the identification of appropriate mitigation actions necessary to compensate or mitigate the loss of recreation opportunities (e.g. boating, fishing, and swimming and associated camping) at Banks Lake during the period of low water levels at the lake.

WAS3-1



State Parks' developed facilities are clustered into four major use areas at the north end of Banks Lake and include Steamboat Rock proper, Northrup Point, Jones Bay and Osborn Bay. Any of the draw down scenarios presented may adversely impact attendance at the park due to a receding waterline, loss of navigable water for watercraft activities, loss of usage of the swim beaches and create the potential for increased mosquito and deer fly activity.

WAS3-2

State Parks has provided an initial analysis report of the physical impacts to our recreational facilities (boat ramps, swim beaches, water access for dispersed camping) located at Banks Lake in December 2009<sup>1</sup>. Our analyses included the assessment of our agency as-built plans for its day use areas, boat launches, swim beaches, campground areas and associated boating facilities. In addition, the reservoir bathymetry was studied in order to determine the rough limits of work needed to maintain operation of the marine facilities. The additional bathymetric data was collected in September 2009 using a depth finder and GPS to supplement data of the lake bottom in and around the boating facilities. The following is a summary of the recreation facilities in each use area:

1. Steamboat Rock State Park
  - a. Campground with 100 full recreation vehicle hookup sties and 26 standard sites (Also 31 new campground sites are being developed in 2011.)
  - b. Boat-in campsites, 12 total
  - c. Day use area and swim beach and Concessionaire lease
  - d. Boat launch, 2 lanes and handling docks
2. Northrup Point
  - a. Day use area
  - b. Boat launch, 2 lanes and handling docks
3. Jones Bay
  - a. Campground with 42 primitive sites
  - b. Primitive boat launch
4. Osborn Bay
  - a. Campground with 36 primitive sites
  - b. Boat launch, 2 lanes and handling docks

Current surface water level operating range of Banks Lake is 1,565 feet to 1,570 feet (five feet). The reservoir surface water level typically fluctuates between 1,568 feet to 1,570 feet except for August when the reservoir is drafted to 1,565 feet. Once the water level falls below 1,562 feet, no launching facilities will be operational.

After reviewing proposed Option A- Option D, we conclude that impacts to State park's water access facilities that the No Action Alternative and Alternative 2C, Banks Lake and Rocky Coulee scenarios more closely represents the current operating regime and would not require any substantial mitigation work to maintain existing boat facilities. The remaining scenarios will require the construction and operation of additional mitigation

<sup>1</sup> Banks Lake Drawdown, Physical Impacts to Washington State Park Facilities, December 16, 2009

WAS3-3



work to provide operational boat launch facilities at Steamboat Rock campground, Northrup Point, Jones Bay and Osborn Bay.

Our estimates for addressing extending boat launch ramps, handling docks and navigational channel excavation work depends ultimately on the level of surface water during July- September peak recreational use periods. Work at the boat launch and channel at the Steamboat Rock State Park boat launch with reservoir levels down to 1,552 feet could cost as much as \$550,000. For the Northrup Point boat launch, extending the launch ramps, modifying handling docks and performing some moderate navigational channel excavation work could cost as much as \$443,000 (both projects are estimated in 2009 dollars).

In addition to the impacts to boating facilities there will be impacts to the public's access and use to safe swimming areas. No cost estimates have been determined to address replacement of swimming areas or safe access to swimming. There is also a potential for increased mosquito and deer fly activity caused by stagnant water left behind after the drawdown. State Parks recommend that any scenario that may result in this situation address increased pest control methods to ensure recreationalist comfort.

State Parks operates several recreational camping and boating facilities located at Banks Lake that would be negatively impacted by the change in water level operations at Banks Lake. State Parks is a major provider of recreational opportunities in the Banks Lake area where over 440,000<sup>2</sup> visitors a year currently visit the Park's campgrounds, hiking trails and lake access facilities. We have operated Steamboat Rock State Park under a long-term lease with the BOR since 1953. The park produces an annual revenue of \$510,000. A loss in revenue from this popular park will threaten continued operations at other BOR parks we operate as revenues from Steamboat Rock State Park are shared among Potholes and Conconully State Parks. The current value of Steamboat Rock State Park facilities and other recreation areas located at Banks Lake is estimated to be \$15,500,000.

Revenue generated from Steamboat Rock State Park is derived from significant camper populations, as well as boat launch users. The vacancy rate at this campground is one of the lowest in our State park system. Our park user information indicates the nature of the visitors to this location is those seeking water based recreation, and any erosion to the quality and/or access to water recreation will equate to lower revenues. Expectations are that State Parks would suffer reduced revenues from 10 to 40% over an annual period, depending on the alternative selected, and could lead to reductions of up to 220,000 dollars. At the present time, legislation is being discussed that would increase the State Parks dependence upon user fees, and lessen or eliminate our dependence of general state supported dollars. If this comes to being in our 2011/13 biennium, any reduction to our revenue stream will need to lead to matched reductions to our operational dollars. If Banks Lake levels are reduced and expected use drops, the impact at this location will need to be compensated to ensure this park remains viable.

<sup>2</sup> 2010 attendance data for Steamboat Rock State Park indicated 440,000 recreationalists.

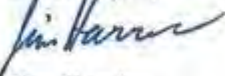
Ms. Stephanie Utter, Field Office Manager  
Mr. Derek Sandison, Director  
pg. 4  
January 31, 2011

Alternatives #1, No Action, or #2C, Partial-Banks + Rocky would be most beneficial to Banks Lake recreation. Alternative #2B, Partial-Banks + FDR could be accommodated with mitigation. All other alternatives would have economic impacts on State Parks operations, not only on Banks Lake, but other BOR owned recreation sites, of such significance as to cause the closure of these sites.

WAS3-7

Once a preferred action is identified, Washington State Parks request that the BOR and Ecology enter into an agreement about mitigation for continued operation of boating facilities and loss of revenue that is expected to occur. Please notify Washington State Parks of any future pending action.

Sincerely, .



Jim Harris  
Eastern Region Director



## Washington State Legislature

November 8, 2010

Mr. Derek Sandison, Director  
Columbia River Office  
Washington State Department of Ecology  
Wenatchee, Washington

Dear Mr. Sandison:

With the release of the Odessa Subarea Special Study (Draft EIS), we are greatly concerned that the state's fundamental interest in protecting the irrigated agriculture industry is not being aggressively met. We are also very concerned that this Study is not pragmatically dealing with the imminent needs of the Odessa Subarea, nor illuminating a least-cost path toward protection of the overall Subarea, even in terms of phased actions.

As a result, we are writing this letter to bring to your attention several critical observations and to request immediate agency action to preclude further jeopardy to the state's valuable irrigated agriculture industry.

One of our major concerns is that the alternatives provided in the Study do not follow a least-cost path or available near-term relief measures, and they could very likely lead to no action within the foreseeable future to provide surface water to any portion of the Odessa Subarea.

LEG1-1

First and foremost, the Study has not adequately depicted the near-term alternative available to the state, and private parties, to apply surface water to the "above I-90" portion of the Subarea (about 46,000 acres). "Skipping over" this portion of the Subarea, while waiting for funds (one-billion plus dollars) and development below I-90 to occur (57,000), is not effective water resources management. Further, depicting that the above I-90 acres would then be served by multi-billion-dollar development of the East-High canal ensures (de facto) that action will never be taken.

LEG1-2

We fear that within the next few years it will be difficult enough to secure state-federal funding for the below I-90 portion of the Subarea (about \$1-1.5 billion), much less find additional dollars for the above I-90 area. Thus, we are skeptical of this approach and are disappointed with the direction taken.

Consequently, we request that the Department of Ecology (i.e., the Columbia River Office) provide us with a Draft Technical Memorandum by March 1, 2011, that separates the above I-90 Subarea development costs, provided with water delivery from the East-Low Canal; and provided with water

LEG1-3

supply from either Banks Lake operations, or from seasonal water right transfers acquired through CBP conservation O&M measures.

LEG1-3

Given the review already undertaken by multiple parties affecting the Subarea, we request that the Department of Ecology's Columbia River Office prepare a Technical Memorandum, for submittal to us by March 1, 2011, outlining water service to the above I-90 Subarea from the East-Low Canal. This Technical Memorandum is to be *expedited summary information* per our request, and may or may not provide supplemental materials to be presented/used in the Special Study Final EIS (use of this information in the Final EIS is discretionary by the Ecology Columbia River Office/USBR).

The Technical Memorandum should focus on all available information and expert knowledge to review:

- Surface water service to the above I-90 subarea from the East-Low Canal, with distribution facilities (turn-outs, pumps, and pipes) including partnerships with private and public entities.
- Water supply for the above configuration to come from a mix of near-term options from Banks Lake operations and seasonal water right transfers conveying Conservation O&M water savings from within the CBP lands (such as the program being managed by the Conservation Districts).
- Estimated costs of the above, with review by public and private sector experts; estimated schedule for operations of the above, with review by public and private sector experts.
- Any tangible reasons or hard constraints that would suggest immediate surface water service to the above I-90 Subarea would preclude continued phased development of the below I-90 Subarea per the schedule indicated in the Draft Study EIS.

LEG1-4

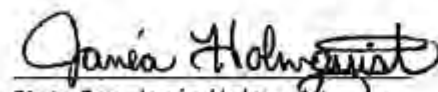
LEG1-5

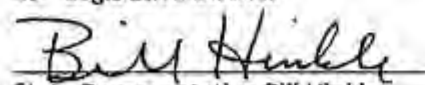
LEG1-6

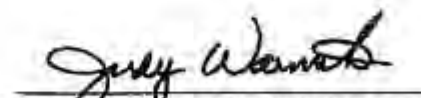
LEG1-7

In conclusion, while we respect all of work that has been completed, we are very concerned that any near-term actions are being steered off-course. Consequently, given what is at stake to our regional and state economy, we urge expedited action regarding our above request so that much more emphasis is given to appropriate corrective measures (such as the above I-90 option) that can be implemented in the near term to help the Odessa Subarea.

Sincerely,

  
State Sen. Janéa Holmquist  
13<sup>th</sup> Legislative District

  
State Representative Bill Hinkle  
13<sup>th</sup> Legislative District

  
State Representative Judy Warnick  
13<sup>th</sup> Legislative District



## Comment Letter LOC1

From: [Rudy Plager](#)  
To: [BOB NICA OdessaStudy](#)  
Subject: Draft BS  
Date: Thursday, December 09, 2010 9:06:24 AM

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Section 3 page 138 under public services in the analysis by county

Under law enforcement the community of Lind does not have a police department and  
Royal City police department is not in Adams County.

Under fire protection Royal City fire department is not in Adams County but Othello fire  
department is.

LOC1-1

Rudy Plager

Adams County Commissioner

## Comment Letter LOC2

From: [Rudy Plager](#)  
To: [BOB UICA OdessaStudy](#)  
Subject: Odessa EIS  
Date: Thursday, December 09, 2010 9:52:35 AM

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Within the engineering report to support the EIS on page 2-67 under 2.2.16 Operation and Maintenance Facilities.

It states that operation and maintenance facilities were evaluated in the Odessa DEIS to account for environmental impacts but were not proposed to be built. Why would you evaluate an impact that is not proposed to happen? ]-LOC2-1

Rudy Plager

Adams County Commissioner

## Comment Letter LOC3

From: [Rudy Plager](#)  
To: [BOR LICA Odessa Study](#)  
Subject: Odessa EIS  
Date: Thursday, December 09, 2010 3:26:09 PM

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### 3.25 Environmental Justice

I would agree that if the no action alternative is selected there would be a disproportionate impact to low income and minorities in our region.

} LOC3-1

Rudy Plager

Adams County Commissioner



6594 Patton Blvd. N.E., Moses Lake, Washington 98837 Phone 509-764-6579 Fax 509-762-5161

Page	1
Date	10/26/2011
By	
Q	Volume 100, Number 1

YEAR	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080	2085	2090	2095	2100	
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# **Grant County Economic Development Council**

## **Resolution 2011-02**

### **A RESOLUTION SUPPORTING THE REPLACEMENT OF DEEP WELLS IN THE ODESSA GROUNDWATER MANAGEMENT SUBAREA WITH SURFACE WATER FROM THE COLUMBIA BASIN PROJECT**

**WHEREAS**, It is mission of the Grant County Economic Development Council to work for the continued orderly growth of the Grant County economy; and

**WHEREAS**, Agriculture is the primary industry in Grant County; and

**WHEREAS**, The Draft Environmental Impact Statement Odessa Subarea Special Study indicates a loss of 658 jobs if the Odessa Ground Water Management Subarea is not complete; and

**WHEREAS**, The Draft Environmental Impact Odessa Subarea Special Study also indicates that in the next ten years many of the wells currently servicing row crops in the Odessa Ground Water Management Subarea will be unusable due to high concentration of sodium in the water; and

**WHEREAS**, The loss of the irrigated acres would have a significant impact on the Grant County economy and local agriculture;


**NOW THEREFORE BE IT RESOLVED THAT:** The Grant County Economic Development Council supports replacing deep wells in the area known as the Odessa Groundwater Management Subarea with surface water from the Columbia Basin Project; and

**LET IT BE FURTHER RESOLVED**, That the Grant County Economic Development Council supports the common plan developed by the Odessa Aquifer Coordination Team to use a series of smaller projects to accomplish the same goal of preserving the aquifer while maintaining the acreage irrigated from deep wells.

LOC4-2

**PASSED AND APPROVED** by voice vote of the Board of Directors on January 19, 2011.

**ATTEST:**

  
Juliann Dodds, President  
Sheldon Townsend, Secretary



Comments of Adams County Commissioners  
Adams County, Washington  
Regarding  
Draft Environmental Impact Statement, Odessa Subarea Special Study

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Comments of Adams County Commissioners  
Adams County, Washington  
Regarding  
Draft Environmental Impact Statement, Odessa Subarea Special Study

I. Introduction and General Principles

These Comments are submitted by the elected Commissions of Adams County, Washington, in response to the U.S. Bureau of Reclamation's and Washington State Department of Ecology's publication of the Draft Environmental Impact Statement, Odessa Subarea Special Study.<sup>1</sup> We appreciate the consistent and proactive attention of the Bureau of Reclamation, Washington State Legislature and the Washington State Department of Ecology addressing a surface water solution to the Odessa area's groundwater consumption problem. These comments are intended to be constructive in assistance of that effort.

II. Purpose and Need

We concur with the statements of purpose of the special study and the need for a Columbia River surface water supply to replace deteriorating groundwater supplies in the Odessa Subarea, some of which lies beneath Adams County. Adams County is located in Eastern Washington bordered by Lincoln (North), Whitman (East), Franklin (South) and Grant (West). The Adams County seat is located at Ritzville, Washington, 60 miles south of Spokane. Irrigated agriculture represents a major portion of the economy of Adams County and irrigated acreage represents a significant portion of Adams County's tax base.

Deep well irrigation was established in Adams County in the 1960s in order to maximize the agricultural potential of prime agricultural soils while the Columbia Basin Project was under development as contemplated by the Columbia Basin Project Act. Groundwater withdrawals from these deep wells in the Odessa subarea of the Columbia Plateau regional aquifer have significantly reduced of water levels in that aquifer system since the 1960s. We are concerned with the information that only 20-25 percent of the groundwater supply in that portion of the regional aquifer system may be remaining. We note, and are concerned by, the conclusions reached by Reclamation and the U.S. Fish and Wildlife Service about the extent and severity of the problem:

"Since the early 1980s, groundwater levels have progressively dropped by 100 to 200 feet in nearly half of the production wells, at an average decline of 6 to 8 feet per year. . . . As a result of the current conditions of groundwater decline in the Odessa Subarea, the ability of farmers to irrigate their crops is at risk. Domestic, commercial, municipal, and industrial uses, and water quality are also affected."<sup>2</sup>

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<sup>1</sup> United States Bureau of Reclamation, Washington State Department of Ecology, "Draft Environmental Impact Statement, Odessa Subarea Special Study, Columbia Basin Project, Washington," September 26, 2010. (hereafter "DEIS"). Prepared pursuant to its Federal Notice of Intent to Prepare an EIS, Federal Register, August 21, 2008.

<sup>2</sup> DEIS, p. 1-2.



“Groundwater levels in wells of the Odessa Subarea have steadily declined since substantive pumping began in the 1960s. Since the early 1980s, groundwater levels have dropped by 100-200 feet. In nearly half the production wells, at an average decline of 6 to 8 feet per year. In many cases, wells have been drilled deeper to access water, or use of wells has been discontinued. Most of the groundwater wells currently are 800 to 1,000 feet deep, but some are as deep as 2,100 feet.”<sup>3</sup>

“Based on current trends, it is estimated that groundwater supply for most groundwater-irrigated lands in the Project Area will fail within 10 years.”<sup>4</sup>

“The purpose of the Project is to avoid potential economic loss, in the near term, to the region’s agricultural sector as a result of continued declines in the quantity and quality in Odessa Subarea aquifers. Groundwater in the Odessa Subarea is currently being depleted to such an extent that water must be pumped from depths as great as 750 feet. Domestic, commercial, municipal, and industrial uses are also affected by decreasing water supplies.”<sup>5</sup>

This rate in deterioration of water supply and well competence presents an immediate and serious prospect of economic deterioration in Adams County, a need that mandates adoption of the project under consideration: delivery of Columbia River surface water, already stored in Roosevelt Lake behind Grand Coulee Dam pursuant to existing storage and delivery rights, to replace the failing groundwater supply. Adams County’s population is growing. We will all be affected. It is incumbent upon the County Commission to advocate the most robust potential action that will beneficially address Adams County’s needs.

The risk of climate change exacerbates the purpose and need for delivery of Columbia River surface water. The groundwater beneath the surface in the Columbia Plateau regional aquifer is ancient, placed there under geoclimatic conditions outside of our general knowledge. The surface water available in the Columbia River is very much the consequence of our current climate, the propitious latitudinal geography of the Pacific Northwest, and the more northern headwaters of the Columbia River. We must be conscious also of the varying climate conditions under which the agricultural practices currently utilized on the Columbia Plateau, and specifically within Adams County, are responsive if climates change.<sup>6</sup> We agree with the U.S. Fish and Wildlife Service’s and Washington State Department of Ecology’s observations:

LOC5-1

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<sup>3</sup> DEIS, p. 2-15.

<sup>4</sup> U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office, “Draft Fish and Wildlife Coordination Act Report for the Odessa Subarea Special Study,” September 16, 2010, hereafter “DFWCAR”, p. 31.

<sup>5</sup> DFWCAR, p. 5.

<sup>6</sup> [http://www.ecv.wa.gov/programs/wr/cwp/er\\_climate.html](http://www.ecv.wa.gov/programs/wr/cwp/er_climate.html)

"The climate in eastern Washington is arid, with an average of 7.4 inches of precipitation and 17.4 inches of annual snowfall at Ephrata, and 10.9 inches of precipitation and 16.3 inches of snowfall at Odessa (Washington State Climatologist, 2009). . . . Since economic and political impacts and responses are linked to climate change, become harder to predict, and confidence in the prediction decreases the further into the future they are made, the more divergent the scenarios become into the future."<sup>7</sup>

"For the Pacific Northwest, increases are projected in precipitation, temperature, and the length of droughts. However, increased precipitation is projected to come more in the form of rain rather than snow which will result in decreased groundwater recharge and less spring moisture, due to more run off (CIGG 2009, p. 198). Projects for Lind show that, although annual rainfall will increase by 10-14 per cent by 2080, seasonal rainfall (spring and summer) will only increase by 10-12 percent while non-seasonal (fall and winter) rainfall will increase by 21 to 16 per cent (CIGG 2009, p. 198). Increased drought will harden surface soil and prevent absorption of rainwater. These factors are projected to equate to less *effective* precipitation. Forest and grass land cover is predicted to likely increase (Wooten 2003, p. 9). A net decrease of shrub steppe habitat in the Project Area will likely result, as the boundaries of shrub steppe habitat shift northward (Shafer *et al* 2001, p. 18; Chambers and Pellant 2008, p. 30)."<sup>8</sup>

"In addition to changing supply, climate change has the potential to change existing crop demands. For example, in Eastern Washington (within the greater Columbia River Basin), US Geological Survey reports approximately 1.7 million acres of irrigated crops in the greater Columbia Basin. If 20 years from now climate change has resulted in a need for an added inch of water per acre, due to hotter weather and decreasing summer rain, then 140,000 acre-feet more water will be needed to maintain current crop production. There is also 5.3 million acres of non-irrigated agriculture in the basin (e.g. dry-land wheat). Increasing temperatures and shifting of water availability due to climate change may result in some of these lands moving to irrigation to maintain yield and profitability, or a decrease in yield for those that cannot obtain irrigation water."<sup>9</sup>

We recognize that the economic effects of the loss of groundwater supplies as a resource to agricultural production in Adams County could be made worse by a changing climate. We also recognize, and hope, however, that changes in precipitation patterns might actually be positive:

"USDA (2008) reports that Adams County had a 9 per cent increase in the number of farms, Grant County had an increase of 7 percent in the number of

<sup>7</sup> DFWCAR, p. 30.

<sup>8</sup> DFWCAR, pp. 30, 31.

<sup>9</sup> Washington State Department of Ecology, [http://www.ecy.wa.gov/programs/wr/cwp/cr\\_climate.html](http://www.ecy.wa.gov/programs/wr/cwp/cr_climate.html)

farms, and Lincoln County had an increase of 7 percent in the number of farms. Only Franklin County had a decrease (-6 percent) and the amount of land under agriculture increased in all of the above listed counties except Franklin. With limited water resources available in the Project Area, farming has largely been dryland farming of wheat. However, with the availability of Columbia River water in the area, shifts in the nature, composition, and timing of crops are expected. For instance, yield of dryland wheat will likely increase by 35 percent in Lind and 36 percent in Odessa by the year 2080, without any changes in land use, merely due to increased rainfall and increased carbon dioxide in the atmosphere (CIGG 2009, p. 203-204). Rainfall is expected to increase by 25 millimeters (~ 1 inch) for the same period (CIGG 2009, p. 198)."<sup>10</sup>

LOC5-2

### III. Preferred Alternative

We oppose the No Action Alternative, primarily because of its significant negative economic consequences to Adams County's economy. The No Action Alternative will also cause significant reductions to the underlying value of real property in Adams County. The Adams County tax base is premised on these real property values. The revenues derived from that tax base provide governmental services to all the citizens of Adams County. These services include public works, law enforcement, criminal justice, other judicial services, planning, etc.

LOC5-3

Among the action alternatives, we most prefer Alternatives 3A, 3B, 3C, and 3D because they do the most to address the conspicuous and aggravated problem of deteriorating groundwater supplies in Adams County. As we are, ourselves, government officers with fiscal responsibilities, we recognize that other alternatives, including 2A, 2B, 2C and 2D, may be more cost effective. But only full development will maximize the benefits of replacing unreliable water supplies with reliable ones, benefits which are essential to the lives of agricultural communities within Adams County, particularly those protected by the factor of environmental justice.

LOC5-4

### IV. Environmental Justice

Selection of the No Action Alternative would be unjust to ethnic minorities and low income people in Adams County.

Section 1-101 of Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," dated February 11, 1994, requires agencies to identify and address disproportionately high and adverse human health or environmental effects of their actions on minorities and low income populations and communities as well as the equity of the distribution of the benefits and risks.

To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by

LOC5-5

<sup>10</sup> DFWCAR, p. 34.

identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.

LOC5-5

The DEIS should balance the detrimental effects of the No Action Alternative against the positive effects of the action alternatives upon traditionally disenfranchised populations. The benefits of the action alternatives inure more significantly to minority or traditionally disenfranchised populations, because these populations constitute a larger than average component of Adams County's general population. And the benefits of the action alternatives which improve the economic stability and lifestyle of these minority or traditionally disenfranchised populations also improve the general economic stability and lifestyle of the entire Adams County population because they are so large a component of the broader population.

The DEIS discussion of Environmental Justice and the impact of the project alternatives on traditionally disenfranchised populations should be redrafted. 2010 Census demographic data, which is scheduled to become available in March 2011, should be reviewed to determine current demographics within Adams County. The DEIS' determination of the effect of the No Action Alternative and the action alternatives on these populations should be made again in the light of that information.

LOC5-6

DEIS Table 3-51 Race and Ethnicity in 2000<sup>11</sup> shows that racial minorities constitute 35% of Adams County's population, compared to the Washington State average of 18.2 %. The same Table shows that the Hispanic or Latino population constitutes 47.1 % of Adams County's population, compared to the Washington State average of 7.5 %. DEIS Table 3.52, Income, Poverty, Unemployment and Housing in 2000<sup>12</sup> shows that 18.2 % of individuals and 13.6 % of families in Adams County's population were below the poverty level in 1999, compared to the Washington State averages of 10.6 % and 7.3%, respectively. The same table shows that 8.7 % of Adams County's workforce was unemployed in 2000. By comparison, 12.8% of Adams County's workforce was unemployed in 2010. These statistics should be re-established based on the 2010 Census.

LOC5-7

The DEIS' population growth projections for 2010-2030 are presented in DETR Table NED\_MUNI4.—Population projection growth rate by county. These projections do not accurately reflect the disproportionate growth of ethnic populations which typically suffer low income, poverty and housing problems in Adams County. DEIS Tables 3-51 and 3-52<sup>13</sup> illustrate that Adams County suffers these problems at a disproportionately high rate in the State of Washington. Deteriorating groundwater supply, which would be perpetuated by the No

LOC5-8

<sup>11</sup> DEIS, p. 3-158.

<sup>12</sup> DEIS, p. 3-159.

<sup>13</sup> DEIS, pp. 3-158, 3-159.



Action Alternative, affects the people who suffer these problems. None of the action alternatives would adversely affect these populations.<sup>14</sup> However, the DEIS analysis of affect is limited only to direct physical impacts. If disproportionate socioeconomic impact were also considered as a determinant of significance of effect,<sup>15</sup> the degree of affect from the No Action alternative would be greater.

LOC5-8

DEIS Table 3-52 states that the median family income in 1999 was \$37,075. Recent Adams County statistics suggest that the current median household income for Adams County is \$33,888, and that the median home value is \$84,300. The median rent is \$430. These statistics should be presented based on the 2010 Census.

LOC5-9

The DEIS' public health impacts analysis considers the proximity of ethnic minorities and low income peoples to project actions,<sup>16</sup> but does not consider the public health effects of failing domestic wells on farms or homes near towns. Low income persons are less capable of responding to failing domestic wells by paying to deepen them. Broad public health problems will ultimately increase the costs of public health institutions and the governments that provide them.

LOC5-10

Adoption of pro-active enrichment strategies in areas with low percentages of ethnic minorities, while pursuing no action in areas with high percentages necessarily affects them disproportionately in a manner that is unjust. The DEIS findings that the No Action Alternative has "no significant impacts or effects with environmental justice,"<sup>17</sup> and that "no environmental justice impact is anticipated"<sup>18</sup> should be re-examined. The DEIS recognizes the reality that "reduction in irrigated agriculture . . . could impact businesses and people linked to the agricultural industry (including, but not limited to, farm workers, food processing facilities, seed and pesticide companies, and trucking companies). Minority or low-income populations associated with these impacted land uses could also then be adversely impacted."<sup>19</sup> The DEIS should reconcile these conclusions.

LOC5-11

## V. Land Value Analysis

We are concerned that the average market values of land presented in Table 3-36 of the DEIS<sup>20</sup> appear unreasonably low. This appears to be due to their being skewed by inclusion of large amounts of dry farmland and unfarmed land in Adams County. The average acreage market

<sup>14</sup> DEIS, section 4.25, pp. 4-269 – 4-272.

<sup>15</sup> See DEIS, section 4.25.1.2.

<sup>16</sup> DEIS, p. 4-250.

<sup>17</sup> DF-LSSR, p. 4-74.

<sup>18</sup> DEIS, p. 4-271.

<sup>19</sup> DEIS, p. 4-271.

<sup>20</sup> Also AgBen2.—Average Market value of land for the four-county analysis area, DETR, p. 9.

LOC5-12

value apparently takes into account all land, notwithstanding whether it is irrigated or unirrigated, farmed or unfarmed. No data is presented regarding the market value of irrigated acres versus unirrigated acres. No data is presented regarding the market value of acres irrigated by groundwater versus acres irrigated by surface water (see properties identified in DEIS Maps 1, 3, 4, 5). DETR Table AgBen1.—Census of agriculture number of farms data shows the amount of acreage farmed in the analysis area and the amount of acreage being irrigated in each county within the analysis area. Calculating from the data presented, only 11%, 36%, 43% and 3% of farm acres in those portions of Adams, Franklin, Grant and Lincoln Counties which are within the analysis area are irrigated. Only 3% of the farmed acreage in the four county analysis area will be within the project. (102,618 acres/3,885,663 acres). The average market values of land in these counties, as presented by DEIS Table 3-36, is obviously weighted substantially by the values of unfarmed, unirrigated lands.

LOC5-12

Maintenance of real property values in Adams County is an essential function of Adams County government. Real property valuation is the basis of the County's tax base. Maintained real property valuation is also important for enhancing entrepreneurial activity within the County. Enhanced property values increase enhanced creditworthiness, better lending opportunities, and therefore better entrepreneurial activities.

LOC5-13

The DETR and DEIS perform no basic or comparative land value analysis. A land valuation analysis should be conducted in accordance with Sections 2.3.5 (9) and 2.3.4 (f), (g) of the Principles and Guidelines. Evaluations should be conducted of properties within the Columbia Basin Project with comparable soils, including both "lands on which the cropping pattern is the same with and without the plan" and "lands on which there would be a change in cropping pattern with the plan."<sup>21</sup> Values should be established for properties relying on groundwater for irrigation and those that use surface water for irrigation. Land values should be established assuming post-Energy Policy Act market influences and could be corroborated by data from leasehold transactions reflecting return on investment in irrigated and unirrigated farmland.

LOC5-14

The highest and best use of the subject properties should also be considered, taking into account the 100 year time horizon otherwise used in the benefits analysis and that properties in the subject area could transition to higher uses, including horticultural and viticultural agriculture, given soil quality comparability with other areas with similar uses and transitional aspects of infrastructure support for those higher and better uses.

LOC5-15

We are confident that a land valuation approach will better demonstrate the significant benefits which any of the action alternatives will provide, when weighed against the project costs. We expect to retain appraisal expertise to prepare a report addressing the issue of appropriate land valuation and will submit that to Reclamation and Ecology when it is complete.

LOC5-16

When the effect of No Action Alternative on land value has been established, and compared to the effect on land value of the action alternatives, it will become possible to determine the effect of these alternatives on Adams County's tax base, its consequent property tax revenues, and the effect of these on the public services Adams County will be able to provide.

LOC5-17

<sup>21</sup> See Principles and Guidelines, Section 2.3.5 (a).

## VI. Economic Justification

The DEIS states that “Acting for the Secretary, Reclamation is authorized to implement additional development phases of the CBP as long as the Secretary finds it to be economically justified and financially feasible.”<sup>22</sup> But the Columbia Basin Project Act does not establish economic justification as a statutory prerequisite for completion of the Columbia Basin Project. Rather, the Columbia Basin Project Act presumes that the project is economically justified and establishes a financing paradigm which provides for reimbursement of costs. Congress determined the economic justification for the Columbia Basin Project when the authorizing legislation was originally passed in 1937. Unless Congress acts again to the contrary, the economic justification of the Project’s completion should be assumed.<sup>23</sup> Moreover, a proper comparison of those portions of the Project already completed with those that are not, as contemplated by section 2.3.5 of the Principles and Guidelines, will confirm the economic justification of moving further toward completion of the Columbia Basin Project.

The Columbia Basin Project was begun with the allocation of funds for Grand Coulee Dam pursuant to the National Industrial Recovery Act of June 16, 1933.<sup>24</sup> In 1935, Grand Coulee Dam Project was specifically authorized for construction by the Rivers and Harbors Act of 1935.<sup>25</sup> Two years later, in 1937, Congress passed the Columbia Basin Project Act of May 27, 1937.<sup>26</sup> In 1939, Congress passed two additional Acts authorizing the Secretary of the Interior to investigate and construct water projects. These included the Reclamation Projects Act of 1939<sup>27</sup> and the Water Conservation and Utilization Act of 1939.<sup>28</sup> In 1943, Congress passed the Columbia Basin Project Act of 1943,<sup>29</sup> reauthorizing the Columbia Basin Project “subject to the Reclamation Project Act of 1939.” That reauthorization, now codified at 16 U.S.C. 835,<sup>30</sup> provides:

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<sup>22</sup> DEIS, p. 1.9.

<sup>23</sup> Any determination to the contrary would have the effect of removing the economic benefits of land acquisition by property owners within the Project who had relied upon Congress’ and the U.S. Bureau of Reclamation’s prior actions.

<sup>24</sup> Act of June 16, 1933, Ch. 90, 48 Stat. 195, previously codified at 15 U.S.C. Sec. 703 (now omitted).

<sup>25</sup> Act of August 30, 1935, 49 Stat. 1028, 1039-1040, Pub. L. 74-409.

<sup>26</sup> Act of May 27, 1937, Ch. 269, Sec. 1, 50 Stat. 208.

<sup>27</sup> Act of August 4, 1939, Ch. 418, 53 Stat. 1187.

<sup>28</sup> Act of August 11, 1939, Ch. 717, 53 Stat. 1418, 16 U.S.C. 590y et seq.

<sup>29</sup> Act of March 10, 1943, 57 Stat. 14, Public Law 78-8.

<sup>30</sup> 16 U.S.C. 835. The Act was later amended by the Act of Mar. 10, 1943, Ch. 14, 57 Stat. 14.

In addition to the primary purposes for which the Grand Coulee Dam project (hereafter to be known as the Columbia Basin project and herein called the "project") was authorized under the provisions of the Act of August 30, 1935 (49 Stat. 1028), the project is authorized and reauthorized as a project subject to the Reclamation Project Act of 1939; and the provisions of each of those two Acts together with the provisions of this Act shall govern the repayment of expenditures and the construction, operation, and maintenance of the works constructed as a part of the project.

LOCS-18

The Reclamation Projects Act of 1939 set forth the requirements the Secretary must follow when investigating construction "of any new project, new division of a project, or new supplemental works on a project." Those requirements are now codified at 16 U.S.C. 485h.<sup>31</sup>

No expenditures for the construction of any new project, new division of a project, or new supplemental works on a project shall be made, nor shall estimates be submitted therefor, by the Secretary until after he has made an investigation thereof and has submitted to the President and to the Congress his report and findings on--

- (1) the engineering feasibility of the proposed construction;
- (2) the estimated cost of the proposed construction;
- (3) the part of the estimated cost which can properly be allocated to irrigation and probably be repaid by the water users;
- (4) the part of the estimated cost which can properly be allocated to power and probably be returned to the United States in net power revenues;
- (5) the part of the estimated cost which can properly be allocated to municipal water supply or other miscellaneous purposes and probably be returned to the United States.

If the proposed construction is found by the Secretary to have engineering feasibility and if the repayable and returnable allocations to irrigation, power, and municipal water supply or other miscellaneous purposes found by the Secretary to be proper, together with any allocation to flood control or navigation made under subsection (b) of this section, equal the total estimated cost of construction as determined by the Secretary, then the new project, new division of a project, or supplemental works on a project, covered by his findings, shall be deemed authorized and may be undertaken by the Secretary. If all such allocations do not equal said total estimated cost, then said new project, new division, or new supplemental works may be undertaken by the Secretary only after provision therefor has been made by Act of Congress enacted after the Secretary has submitted to the President and the Congress the report and findings involved. (Emphasis supplied.)

LOCS-19

The 1939 Reclamation Act thus establishes a statutory standard authorizing construction of a new division of the Columbia Basin Project. It is a two part standard. First, the new division's construction must "have engineering feasibility." Second the "repayable and returnable

<sup>31</sup> Act of August 4, 1939, Ch. 418, Sec. 9, 53 Stat. 1187.



allocations to irrigation, power and municipal water supply” must “equal the total estimated cost of construction.” The statute contemplates no benefit-cost analysis. Rather, it contemplates a repayment-cost analysis. Only if costs exceed repayments, as allocated to the several water user categories, must the project proposal be newly authorized by Congress.

Likewise, Congress established its policy that a repayment-cost equation, and not a benefit-cost equation, was essential to continued authorization or development of water projects under the Water Conservation and Utilization Act of 1939.<sup>32</sup>

The Project’s authorizing legislation makes clear that economic justification is not required. Rather, what is required is that the costs for the Project must be estimated and partitioned into that which “can be repaid by the water users” and other project beneficiaries. We support Reclamation’s seeking alternatives that emphasize lower costs, so that the repayment costs are affordable and “can be repaid by the water users.” We recommend that Reclamation consider a water delivery contract subscription process and method, based on cost estimates, to ascertain the extent of demand for surface water delivery as a better measure of economic justification.

LOCS-19

We acknowledge that the Principles and Guidelines help to analyze and compare the various alternatives under consideration, and may guide the Secretary and President with respect to their actions anticipated by 16 U.S.C. 835 and 485h. But the benefit-cost factor, and the “economic justification” for which it serves as a proxy, is not a statutory determinant for Columbia Basin Project construction. The authorizing statute contains no provision mandating that project “feasibility” determinations be made on any basis other than engineering feasibility and sufficient repayment. Nor does it contain any provision mandating that the economic benefits of a project exceed the costs of the project, however measured.

## VII. Benefit-Cost Analysis, DEIS Section 2.8

Reclamation should be cautious regarding the degree of its reliance on the outcome of benefit-cost analysis. Benefit-cost analysis should be an information-providing tool which is available to improve decision making. Its product, a numeric factor, should be understood as advisory information, not qualification/disqualification information. Alternatives under consideration may be comparatively viewed through benefit-cost analysis to have performed better or worse but none can be said to have succeeded or failed because the benefit-cost ratio does not attain a precise standard (e.g. 1.0).<sup>33</sup> Chapter II of the Principles and Guidelines, National Economic Development (NED) Procedures, recognizes this:

<sup>32</sup> The Water Conservation and Utilization Act of August 11, 1939, 53 Stat. 1418; 16 U.S.C. 590y *et seq.*

<sup>33</sup> Reclamation should also consider that revision of the Principles and Guidelines, which set forth the procedures by which benefit-cost analysis is performed, is currently under consideration by the Council on Environmental Quality. The U.S. Council on Environmental Quality proposed “National Objectives, Principles and Standards for Water and Related Resources Implementation Studies” on December 3, 2009. The National Objectives and the supporting Planning Principles and Standards are proposed to be established pursuant to the Water Resources Planning Act of 1965 (Public Law 89-8), as amended (42 U.S.C. 1962a-2) and to be consistent with Section 2031 of the Water Resources Development Act of 2007 (Public Law 110-114). They would supersede the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies dated March 10, 1983.

LOCS-20

2.1.1. Purpose:

(b) This chapter provides procedures for evaluating NED effects of alternative plans.

(1) When an alternative procedure provides a more accurate estimate of a benefit, the alternative estimate may also be shown if the procedure is documented.

(2) Steps in a procedure may be abbreviated by reducing the extent of the analysis and amount of data collected where greater accuracy or detail is clearly not justified by the cost of the plan components being analyzed. The steps abbreviated and the reason for abbreviation should be documented.

— LOCS-20

NED effects evaluation, utilizing benefit-cost analysis, is clearly a comparative approach. Failure to proceed with the action alternatives based on the pretext of failure of the alternative to meet an arbitrary benefit-cost standard should be considered as administrative action inconsistent with Congress' prior statutory authorization.

— LOCS-21

Reclamation should reperform the benefit-cost analysis performed in the DETR and DEIS. Assumptions about the underlying values of the land and commodity assets involved in the Odessa area agricultural economy should be modified. The analysis should be repopulated with more current information reflecting changes in the agricultural commodity market since enactment of the Energy Policy Act of 2005. The Columbia Basin Project discount rate should be adopted for present and future value determinations. The same rate should be used to determine the costs of interest. The timing horizons of various decisional factors should be made uniform. The analysis' assumptions regarding consequential economic effects should be made more internally consistent. Computational accuracy should be improved.

— LOCS-22

A. Planning Rate

DEIS Table 2-13<sup>34</sup> summarizes the benefit-cost analysis of the proposed action alternatives. The benefit and cost totals included in the text are derived from DETR<sup>35</sup> Table NED\_BCA1.— Results of NED BCA (based on current planning rate: 4.375%). A second table, DEIS Table 2-14,<sup>36</sup> derived from DETR Table NED\_BCA2.—Results of NED BCA (based on current planning rate: 3.0%),<sup>37</sup> is also set forth. The DETR explains that “the results in table NED\_BCA2 were generated using the planning rate in place when the Columbia Basin Project was first authorized (3.0 percent) and are presented for informational purposes only.” The DEIS explains: “The results in Table 2-14 were generated using the 3.0 percent planning rate originally authorized under the Columbia Basin Project Act of 1943. The use of the lower planning rate

<sup>34</sup> DEIS, p. 2-72.

<sup>35</sup> “Draft Economics Technical Report, Odessa Subarea Special Study, Columbia Basin Project, Washington,” U.S. Bureau of Reclamation, Technical Services Center, Denver, undated, (hereafter “DETR”), p. 4.

<sup>36</sup> DEIS, p. 2-73.

<sup>37</sup> DETR, p. 4.

— LOCS-23

results in somewhat higher costs, but considerably higher benefits, thereby resulting in higher net benefits and BCRs for all partial and full replacement alternatives.”

Section 2.1.3 of the Principles and Guidelines require that compounding and discounting be performed at the “applicable project discount rate.”

#### 2.1.3 Calculating net NED benefits in average annual equivalent terms.

Net NED benefits of the plan are calculated in average annual equivalent terms. To perform this calculation, discount the benefit stream, deferred installation costs, and OM&R costs to the beginning of the period of analysis using the applicable project discount rate. Installation expenditures are brought forward to the end of the period of installation by charging compound interest at the project discount rate from the date the costs are incurred. Use the project discount rate to convert the present worth values to average annual equivalent terms. (Emphasis supplied.)<sup>38</sup>

Section 6 of the Columbia Basin Project Act, as amended in 1943,<sup>39</sup> establishes the Project’s discount rate:

#### Sec. 835c-2. Authorization of appropriations; establishment of Columbia Basin Land Development Account

There are authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, such moneys as may be necessary to carry out the provisions of this Act, to be reimbursable to the extent required by this Act. All revenues received in carrying out the provisions of section 4 hereof [16 U.S.C. 835c] shall be covered into the General Treasury as miscellaneous receipts. Amounts equal to appropriated funds requisitioned by the Secretary and made available for disbursement on the books of the Treasurer of the United States shall be debited in a special account in the Treasury, to be known as the Columbia Basin Land Development Account. Amounts equal to revenues covered into the General Treasury as miscellaneous receipts shall be credited in said special account. After such credits equal the amount of the debits with interest thereon at the rate of 3 per centum per annum from the respective dates of the debits, additional credits in said special account shall be made by the Secretary, in the manner determined by him, the basis of corresponding credits to the construction cost obligations of the district or districts entering into contracts for the repayment thereof. (Emphasis supplied.)

<sup>38</sup> See also, P&G Secs. 1.7.1(b), 2.12.4(b).

<sup>39</sup> May 27, 1937, ch. 269, Sec. 6, as added Mar. 10, 1943, ch. 14, 57 Stat. 19; amended Pub. L. 87-728, Sec. 6(b), Oct. 1, 1962, 76 Stat. 679.

The DEIS refers to “the Federal 2009-2010 water project planning rate of 4.375%” but makes no reference to the authority under which that rate is promulgated. The “applicable project discount rate” in the case of the Columbia Basin Project is 3.0 %. Neither the authorizing statutes nor the 1983 Principles and Guidelines use the term “planning rate.”

The Principles and Guidelines use the terms “project discount rate” and “applicable discount rate,” suggesting that the rate will vary depending on the project under analysis, rather than any general commercial or governmental rate. The “applicable discount rate” in this case is 3 %. That rate is derived from the interest rate declared applicable by the Columbia Basin Project Act which would be incorporated within the amounts Columbia Basin Project Act irrigation districts would be required to pay the United States pursuant to their repayment contracts. The irrigation districts had secured statutory 3% project financing. As the 16 U.S.C. Sec. 485h reminds, Congress required that projects be evaluated on the repayment-cost approach. A “planning rate” approach which utilizes a different planning rate than the project financing rate disregards the repayment-cost requirement and frustrates implementation of Congress’ prior enactment.

LOC5-23

The statute is still current. It has not been changed. Repayment of project works would still be financed at 3%. The financing paradigm of the project is one of reimbursement of project costs with a statutorily established rate of interest. Use of any other rate is inconsistent with the statute. There is no basis for any other “planning rate.”

Reclamation’s 1989 Draft Environmental Impact Statement, Continued Development of the Columbia Basin Project, Washington, recognized this distinction between the “Authorized Criteria” and the “Principles and Guidelines Procedures.”<sup>40</sup> The document explains that the higher discount rate used in that case was the “federal discount rate for FY 1989” and that this higher discount rate was used as “a sensitivity analysis” used “to determine how changes in the discount rate . . . would affect the results.” This approach recognized that the outcome of analysis might differ when different discount rates were used, but appropriately recognized that the “applicable project discount rate” is the “authorized criteria.” Any other interpretation causes the Principles and Guidelines Procedures to amend the statute without Congressional action.

#### B. Deterioration Rate of Groundwater Wells

The DEIS clearly states that groundwater wells will continue to deteriorate under the No Action Alternative,

“Under the No-Action Alternative, irrigated agriculture in the Study Area that currently relies on groundwater would continue using that source of water. With continued dependence on groundwater, aquifers would further decline in quantity and quality. As groundwater declines, well yield and irrigation capability will progressively diminish in the Study Area.”<sup>41</sup>

<sup>40</sup> Draft Environmental Impact Statement, Continued Development of the Columbia Basin Project, Washington, U.S. Bureau of Reclamation, September 1989, Tables 1, 2, 3, pp. VIII-4-2, VIII-4-3, VIII-4-4.

<sup>41</sup> DEIS, p. 2-15.



But the rate of deterioration is not quite so clear. The conflict between the Columbia Basin Groundwater Management Association (GWMA) conclusions and the DEIS methodology needs to be reconciled. GWMA concludes that any well may deteriorate from any stage to level 5 in any one season. The DEIS states that “If no action is taken, it is estimated that, at the current rates of decline, about 70 percent of the production wells in the Odessa Subarea would cease production within 10 years.”<sup>42</sup> The DEIS also acknowledges the validity of GWMA’s deterioration rate predictions. “GWMA’s assessment of well decline is generally supported by observations of groundwater decline based on measured data obtained from known, reliable well records.”<sup>43</sup> And the DEIS apparently adopts the assumption, presented in DEIS Table 3-42<sup>44</sup> that 10% of the acreage in each well level are lost from each well level annually.

LOC5-24

But the DETR’s analysis of the acreage irrigated in future years under the No Action Alternative indicates that only about 38% of the study area’s irrigated acreage will be served by wells that have fallen to Level 5 (62 % will have remained above level 5) by 2020.<sup>45</sup> The DETR further indicates that five years later, in 2025, about 50% of irrigated acres will be served by wells that have fallen to Level 5. 25 years after that, in 2050, the DETR estimates that about 85% of irrigated acreage will be served by wells that have fallen below Level 5.

LOC5-25

Interpolating from DETR Table AgBen14, and assuming that irrigated acres is a sufficient proxy for production well productivity, the DETR indicates that 70 percent of the production wells in the Odessa Subarea would cease production in 2040 (30 years), rather than in 2020 (10 years). The “spreadsheet model” used to determine irrigated acreage deterioration is not presented. The rate of deterioration actually used in the DETR analysis is not shown. The rate of 10% presented in DEIS Table 2-3, Table 3-42 and DETR Table Agben8 is not large enough to accomplish a 70 % reduction in 10 years.

LOC5-26

The DETR and DEIS underestimation of the effect of the No-Action Alternative apparently relies on a “second analysis method” utilized by “Reclamation’s Economic and Resource Planning Team”<sup>46</sup> and a “spreadsheet model” for translating well deterioration rates into acreage farmed at various levels of pumping capacity.<sup>47</sup>

<sup>42</sup> DEIS, p. 1-8.

<sup>43</sup> DEIS, p. 2-19.

<sup>44</sup> And DETR Table AgBen8—Well levels, acres served by each well level, and rate of decline by well level.

<sup>45</sup> DETR, Table AgBen14.—No Action Alternative groundwater irrigated acres under the without project condition. It is unclear what effect occurs because the of DETR’s combination of pump levels 3 and 4, precluding application of variable standard declination rates measured against fixed dates of full aquifer supply failure. Levels 3 and 4 do have different characteristics. See DEIS, p. 2-16 “GWMA Status Levels: Describing Well Performance in the Odessa Subarea.”

LOC5-27

<sup>46</sup> See DEIS, p. 4-48, Table 4-17, Estimated Percentage Wells Going Out of Commission under the No-Action Alternative, Based on Groundwater Decline Rates, Pumping, and Stated Assumptions. The “Assumptions” are not provided in the accompanying text.

<sup>47</sup> DETR, p. 23, Section 1. 2.1.1.3.7 Finding the Change in Irrigated Acres.

"Then the spreadsheet model, based on assumptions about decreasing well dependability, estimated the reduced number of groundwater irrigated acres annually for the without project conditions. As acres transitioned from one well level to another, a change in the crop mix occurred along with a resultant change in residual net farm income. As wells became completely unusable, acres were placed into the well level 5 category and grew only dryland wheat in a wheat/fallow rotation."

LOC5-27

The assumptions relied upon in the "spreadsheet model" should be presented and discussed with GWMA. The spreadsheet model should be published and reviewed prior to its use in the final EIS. DETR Table AgBen8 should be redrafted following reconciliation of the GWMA and DETR/DEIS conclusions.

The consequence of no action to Adams County is loss of agricultural production business opportunity and significant negative economic impact. Presuming that impact occurs sooner than anticipated by the DETR and DEIS, the economic value of the impact, as reflected in Section 4.15 of the DEIS, will be greater.

### C. Total NED Benefits of the Action Alternatives

The DEIS' report of the benefit costs analysis sorts the benefits into three categories: a) agricultural benefits, b) other direct benefits—municipal, and c) other direct benefits—industrial. Another benefit category, "economic losses avoided" should be added.

LOC5-28

#### 1. Agricultural Benefits

Section 2.3.5, of the 1983 Principles and Guidelines, "Evaluation Procedure: Crops" describes the process by which agricultural benefits should be valued:

The Principles and Guidelines suggest utilizing either the "farm budget analysis" or "land value analysis" "to estimate crop production benefits on lands where there would be a change in cropping pattern."<sup>48</sup> The DEIS chooses "farm budget analysis."

*(c) Step 3. Select evaluation method for estimating intensification benefits. For land on which the cropping pattern would change, select either farm budget analysis or land value analysis as the method for measuring intensification benefits. If land value analysis is selected, go to Step 9. If farm budget analysis is selected, proceed with Step 4. (Emphasis supplied.)*

LOC5-29

The "farm budget analysis" chosen by the DETR and DEIS has a number of problems, particularly with the data upon which it relies. Agricultural benefits are calculated utilizing data from the Census of Agriculture and the National Agricultural Statistic Service (NASS) for the

<sup>48</sup> Section 2.3.5 (c).

State of Washington. Section 1.2.1.1.2.1 of the DETR finds that the NASS estimated yield for wheat (101.5 bushels per acre) was too low and that the GWMA's and WSU Farm Business Management Report EB2029E estimated yield for wheat (125 bushels per acre) was more correct. The DETR nevertheless later uses the NASS estimate in the "without project" farm summary analysis (Table AgBen10, DETR p. 17) and the GWMA/WSUFBM estimate in the "with project" farm summary analysis (Table AgBen 12, DETR p. 19 ). The same yield data should be used in both the "without project" and "with project" analyses.<sup>49</sup> GWMA recommends that the yield of 125 bushels is the most accurate reflection of current agricultural production on irrigated acreage. No analysis is performed of the effect of groundwater well deterioration on crop yield.<sup>50</sup>

LOC5-29

The DETR estimates total harvested areas of three crop categories (wheat, potatoes, and mixed crops) in proportions determined by extrapolation from GWMA data for the years 2001-2005, dismissing the NASS primary irrigated crop acreages data for 2004-2008<sup>51</sup> on the basis that it was less "appropriate." The category "mixed crops" includes "corn, alfalfa, conservation reserve program acres, peas, onions, dry beans, and numerous other crops grown in the study area."<sup>52</sup>

LOC5-30

Current crop acreage distributions should be used in this analysis of farm budgets. Data derived from years prior to Congress' enactment of the Energy Policy Act of 2005<sup>53</sup> should not be relied upon, as they do not take into account the effect of that Act's incentivizing the creation of energy from agricultural products (including crops within the definition of "mixed crops"), thereby establishing a significant new demand for those products. Higher prices consequent of additional demand cause crop mix to change so as to seek greater placement in higher priced markets. Any acreage distribution prior to the development of cellulosic ethanol (or similar products) as an energy source should be set aside, particularly for the purpose of analyzing economic effects occurring 10 or more years into the future.

LOC5-31

The DETR uses "normalized" prices<sup>54</sup> for crops utilizing data from the USDA Economic Research Service (ERS) and NASS. As the Water Resources Planning Act of 1965<sup>55</sup> does not use the word "normalize," and as the 1983 Principles and Guidelines do not define the word

<sup>49</sup> Compare DEIS Table 3.38, DETR Table AgBen 4 (irrigated wheat yield = 101.5 bushels ), DETR Table AgBen 10 (irrigated wheat yield = 101 bushels if farming in well levels 1 and 2 ), and DETR Table AgBen12 (irrigated wheat yield = 125 bushels if farming in pumping level 1, = 101 bushels if farming in pumping level 2, and = 125 bushels if farming in pumping levels 3-4.

<sup>50</sup> DETR Table AgBen 11.—Well level 5 representative farm summary uses "irrigated acres" as a divider to determine net farm incomes per acre. DETR Tables AgBen10 and AgBen12 use "farm size" as a divider.

<sup>51</sup> Table AgBen3, DETR p. 10.

<sup>52</sup> DETR, p. 13.

<sup>53</sup> Pub. L. 109-58, August 8, 2005.

<sup>54</sup> Apparently relying on section 2.3.3 (b) of the 1983 Principles and Guidelines.

<sup>55</sup> 42 U.S.C. §§ 1962a-1962a-4

LOC5-32

“normalize,” the conventional definition must pertain. Normalization involves the isolation of statistical error in repeated measured data. No information is provided about how wheat prices were “normalized.” Congress’ adoption of the Energy Policy Act of 2005 had the effect of making data from years before 2005 anomalous and not statistically useful for prediction of future markets. That data should be not be utilized to determine normalized prices.

The DETR uses three-year average prices in the case of potatoes<sup>56</sup> on the basis that potatoes are not “basic crops.”<sup>57</sup> DEIS Table 3-39 and DETR Table AgBen5.—Normalized prices received by crop reflect the crop price multiplier which is used in the farm summary analysis: wheat \$4.98/bushel; potatoes \$6.23/Cwt, and mixed crops \$0.2812/lb.

A normalized wheat price of \$4.98/bushel is too low. It does not take into account more recent year prices, nor the effect of the Energy Policy Act of 2005. The ERS’ Wheat Yearbook Table O1<sup>58</sup> shows the “weighted average farm price” for wheat at \$6.48 for growing year 2007/2008, \$6.78 for growing year 2008/2009, and \$4.87 for growing year 2009/2010. The three year average of these years’ prices is \$6.04. \$5.50 to \$6.00/bushel would be a very reasonable average wheat price for the last five years.

The three-year average potato price of 6.23/Cwt is also too low. The ERS’ Potato Tables,<sup>59</sup> Table P-4—Potatoes: Grower prices in major producing states, monthly 2008/09-2010/11, shows the growers’ price for potatoes at \$7.45 for the 2008/2009 growing year, and \$7.60 for the 2009-2010 growing year. The two year average of these years’ prices is \$7.53. \$7.00/Cwt would be a very reasonable average potato price for the last five years. Consideration should be given to the fact that potatoes grown in the Odessa region of the Columbia Basin Project can withstand significant storage times without spoilage, giving them a pricing premium in sale to producers who desire to deliver potato products (frozen French fries) to food retailers throughout the year notwithstanding harvest dates.

The DETR provides no information describing the product mix, or the percentage of each product group mixed in the “mixed crop” group. Nor does it provide information describing whether the price determined is a “normalized” price or a three year average price. DEIS Table 3-39 and DETR Table AgBen5 suggest that the “mixed crops” price was “normalized” at \$.2812/lb. (DETR Tables AgBen10, and AgBen 12, use a 1/100x multiplier for yield units and a 100 x multiplier for price received for mixed crops). The method for determination of the price of “mixed crops” should be identified and care given to evaluating the components of those

<sup>56</sup> DETR, p. 11.

<sup>57</sup> Apparently deferring to the list of crops contained in section 2.3.2 (b) of the 1983 Principles and Guidelines, notwithstanding the reference at p. 11 of the DETR to the Water Resources Planning Act of 1965 (42 U.S.C. §§ 1962a-1962a-4). Other crops may be treated as “basic crops”, sections 2.3.2 (b) and 2.3.5 (d). The DETR does not evidence whether the analysis presented in section 2.3.5 (d) was used.

<sup>58</sup> <http://www.ers.usda.gov/Data/Wheat/YBtable18.asp>

<sup>59</sup> <http://www.ers.usda.gov/Briefing/Potatoes/data.htm>



mixed crops which are sensitive to the demand for cellulosic fiber (particularly if corn is any significant component of mixed crops) as well as food product.

The DETR's crop allocation per farm in DETR Table AgBen10 and Table AgBen12 is fixed notwithstanding the variability of price/cost efficiency between crops in different production years.<sup>60</sup> The pumping level 1 scenario in DETR Table AgBen10 reflects a reasonable potato/wheat rotation (350/1400, 1/4). The pumping level 2 scenario, however, does not reflect a reasonable potato/wheat rotation (646/1400, 1/2). The pumping level 2 scenario thus assumes a larger potato income and a larger total income than might be realized under an actual rotational farming scenario. It is unclear why a more aggressive rotation is possible in the pumping level 2 scenario when the well reliability is less. A standard appraisal assumption used by land appraisers for Columbia Basin Project properties is a potato/nonpotato rotation of 1/5.

DETR Table AgBen10 does not reflect reality. The Table produces negative residual farm income results for some well level cases. Agricultural acreage will not be farmed if negative residual farm income is the consequence. The model used to formulate Table AgBen10, and the assumptions upon which the model is based, should be calibrated to actual farming operation on properties served by groundwater and surface water. The DETR reports that the "return to management in a benefit budget is calculated as 6 percent of variable cost on a benefit study."<sup>61</sup> Yet none of the entries for "returns to farmer"<sup>62</sup> in Tables AgBen10, AgBen11 and AgBen12 are 6 % of "variable costs," nor are they the same percentage of "variable costs."<sup>63</sup> Also, the farm budgets presume that a fixed "return to management" would be taken by farm owners notwithstanding whether a negative net farm income would be incurred by doing so. While this may be necessary in the hypothetical modeling of farm budgets, a more realistic approach would be to limit losses at zero and commensurately reduce "return to management." Negative net farm income" cannot be sustained unless through multiple year net income averaging, or through farm credit financing. If financing is presumed, the cost of financing should be introduced into variable costs.

The consequence of this model fallacy is illustrated in DETR Table AgBen15.—No Action Alternative residual net farm incomes by well level under a without project condition. All total residual net farm income levels in this table are negative. No farming would be conducted if this would be the outcome. A correct model should be developed that projects the current condition

<sup>60</sup> This preclusion from market adaptation is exacerbated by the 104 year application of the consequent Residual Net Farm Income analysis presented in DETR Tables AgBen18 and AgBen21, pp. 33, 38.

<sup>61</sup> DETR, pp. 15, 23.

<sup>62</sup> Assuming that "return to management" and "return to farmer" mean the same thing. "Return to owner" would be the appropriate factor if the farming unit were leased. This would be represented in the capitalization rate determined by the relationship of lease income to the owner's investment value of the farmed land.

<sup>63</sup> 1983 Principles and Guidelines, Section 2.3.3 (ii) Value purchased inputs at current market prices. Compute interest at the project discount rate. Value all labor, whether operator, family, or hired, at prevailing farm labor rates. Estimate management cost on the basis of the type of farming operation. The estimate normally is expected to be at least six percent of the variable production cost (the cost of equipment ownership and operation, production materials and labor, but excluding the cost of land and added capital improvements).

of farming operations on the properties under consideration and taking into account deterioration of groundwater well capabilities.

LOC5-35

The sensitivity of pricing and farm cost data is particularly significant in this model because of the uncertainty of well-deterioration assumptions, the multiplier effect of the long scale of the analysis<sup>64</sup> and the effects of compounding/discounting over such a long period. A shorter period would be less subject to distortion by compounding and discounting, and less vulnerable to inaccuracy due to changing conditions, e.g., variability of world agricultural markets, variability of demand for food based on population growth or climate change, variability of U.S. policy regarding domestic energy independence, enhancements in botanical engineering.

## 2. Other Direct Benefits—Municipal

We agree with Reclamation that the problem of groundwater supply sufficiency is equally a problem for municipal communities:

"Data available for municipal and industrial wells shows that most of these wells exhibit general trends of groundwater level declines. However, most municipal and industrial users are outside of areas experiencing the greatest groundwater level declines. Even so, groundwater levels in municipal and industrial wells would continue to decline under the No Action Alternative, which would result in increased pumping costs and the eventual need to replace pumps and deepen wells."<sup>65</sup>

"Although domestic wells are typically completed in the upper aquifer, these wells can be impacted by water level declines in the deeper aquifer. This is because the shallow aquifer and deeper aquifer are hydraulically connected by open boreholes and vertical fracturing, which allows shallow water to drain into the deeper aquifer. Therefore, domestic wells are likely to continue to be impacted under the No Action Alternative, as the deeper groundwater declines."<sup>66</sup>

"The ultimate long-term significant impact of the No Action Alternative would be groundwater declining to levels too deep to pump economically, groundwater with poor quality that cannot be used or requires quality management, and the eventual depletion of the aquifers."<sup>67</sup>

LOC5-36

<sup>64</sup> Residual net farm income calculations range over 104 years (2019-2125). See: DETR Table AgBen 15.—No Action Alternative residual net farm incomes by well level under a without project condition; DETR Table AGBen 18.—Partial replacement alternative: Residual net farm incomes by well level under a with project condition; DETR Table AGBen20.—Full replacement alternative: Groundwater irrigated acres under a with project condition; DETR Table AgBen21.—Full replacement alternative: Residual net farm incomes by well level under a with project condition.

<sup>65</sup> DEIS, p. 4-49.

<sup>66</sup> DEIS, p. 4-49.

<sup>67</sup> DEIS, p. 4-49.

These conclusions dictate significant concerns for municipal and county public service providers. The DEIS section 4.18<sup>68</sup> acknowledges the potential long term impacts of the No Action Alternative to municipal and domestic populations served by providers of public services and utilities:

Implementation of the No Action Alternative would result in the continuation of current ongoing activities and programs, so groundwater availability would continue to decline for commercial, municipal, and industrial water users. This decline could result in the need to drill deeper wells, thus increasing drilling and pumping costs to supply water. Larger pumps for deeper wells require more energy, although some wells would no longer be used.

Drilling and pumping costs could, however, increase to the point where farmers, landowners, residents, or business owners cannot afford the water. This could result in changes in land use and impacts on existing businesses. In addition, if the quality of the water declines over time (as is expected with this alternative), this could also result in changes in land use, impacts on existing businesses, and health risks to human populations relying on the water.

The loss of irrigated agriculture associated with the No Action Alternative could impact businesses and people that are linked to the agricultural industry, such as farm workers, food processing facilities, seed pesticide companies, and trucking companies. This could result in a decreased population base to support law enforcement, fire protection, and medical services, resulting in layoffs of police, fire and police stations, or closure of some medical facilities in or near the Study Area. Closure of local facilities would increase response times during emergencies.<sup>69</sup>

LOC5-36

But the DEIS declines to determine the “significance” of these impacts:

It is difficult to predict exactly when or how these changes might occur, so the significance of this potential impact cannot be determined at this time.<sup>70</sup>

The DEIS should fully evaluate the social impact of inadequate water supply to existing communities. We recommend a much more robust consideration of the consequences of groundwater decline upon populations served by municipal and domestic groundwater supplies. DEIS Table 4-94<sup>71</sup> defines the criteria for “significance” of disruption of services or utilities for

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<sup>68</sup> DEIS, p. 4-240.

<sup>69</sup> DEIS, p. 4-242.

<sup>70</sup> DEIS, p. 4-242.

<sup>71</sup> DEIS, p. 2-241.

existing residents and landowners only in terms of short term construction impacts.<sup>72</sup> Criteria for determination of significance should be established for long term impacts like those presented above as well. Impacts on the users of public services should be considered along with the impacts on the suppliers of public services. The costs of avoidance of those impacts should be analyzed so as to more completely describe the municipal benefits of the action alternatives.

LOC5-36

The DETR only discusses municipal benefits related to the action alternatives from limited the perspective of potential municipal pumping cost savings based on the amount of agricultural acreage estimated to terminate groundwater withdrawals.<sup>73</sup> A more comprehensive analysis should be undertaken. The DETR should also evaluate the economic and public health impacts on municipalities and proximate private dwellings relying on domestic groundwater wells from the possible failure of those wells.

LOC5-37

The mitigation of municipal cost through decrease in agricultural consumption approach used is too limited. "The level of benefit to municipal water users depends on what is expected to happen under the No Action Alternative." DETR, p. 41. The study presumes that "... under the No Action Alternative, irrigators will move to less water intensive crops and ultimately convert to dryland agriculture." While this statement is theoretically correct, it fails to acknowledge that those economic choices will only be made when the underground water supply becomes exhausted. The DEIS acknowledges that the groundwater supply is already approximately 75 % consumed, and that it is a finite supply. If agriculture exhausts the supply, then it will not be available for municipal or domestic use. The farm budget analysis used to evaluate agricultural benefits anticipates over 100 years of economic activity. The supply has become 75% exhausted within 50 years. The study should predict whether the groundwater supply will be adequate to sustain municipalities and domestic wells for the same 100 years. And the study should predict the additional pumping costs which municipalities and domestic well owners will have to pay if they must follow groundwater down with new wells.

LOC5-38

The DETR determines that the municipal benefits for the action alternatives, when compared to the No Action Alternative, were relatively significant, premised on assumptions about the speed that agricultural reliance on groundwater would diminish at about the same rate regardless whether action was or was not taken. But the DETR does not determine whether the municipal and domestic groundwater supply will remain adequate.

Changes in municipal population, economic viability and growth should be anticipated as well when anticipating municipal and domestic water demand. The DETR projects population growth in the affected municipalities based on growth in the county in which each is situated. DETR Table NED\_MUNI4, relying on Washington Office of Financial Management projections

LOC5-39

<sup>72</sup> DEIS, p. 4-277, DEIS Sections 4.29.1 Surface Water Quantity, 4.29.2 Groundwater, and 4.29.3 Surface Water Quantity also address only construction period impacts.

<sup>73</sup> DETR, pp. 40-52.



twenty years ahead (2000-2030).<sup>74</sup> Annual water use is estimated from population. The economic analysis of the agricultural benefits is projected through 100 years. The DETR estimates the pumping costs for 105 years (2019-2125) of the No Action Alternative and discounts those costs back to 2025. It does the same with the Partial Replacement and Full Replacement alternatives. The difference, a purported “benefit” of \$5.1 million and \$8.1 million, seem like a marginal conclusion, given the large number of assumptions taken in the calculus of the results and the total gross cost of pumping water from significant depth.

LOC5-39

The DETR should also address the uncertainty costs and investment costs for municipalities. Municipal public works planning is uncertain because of uncertain predictions of well failure. Public works investment in well deepening will be required in advance of failure in order to avoid water supply and health risks. Waiting to see how fast agricultural water users terminate their groundwater use will not protect public health if municipal or domestic groundwater wells go dry.

LOC5-40

The Bureau of Reclamation has authority under the Columbia Basin Project Act and Reclamation Project Act of 1939 to construct projects for municipal water supply.<sup>75</sup> The DETR and DEIS should consider both the costs and benefits of the extension of surface water supplies to the affected towns. Direct service could be provided to Warden from East Low Canal. Service could be extended to Connell from Turnout ELG89G past irrigation service (approx 2 miles). Service could be extended to Odessa, from Black Rock Coulee Pumping Plant 7R past irrigation on to Hiway 21 (approx. 7 miles). A new service line could be extended due west from the East Low Canal to Othello (approx. 7 miles). A new service line could be extended due west to Moses Lake from the East Low Canal to Moses Lake (approx. 5 miles each). Partial year water availability, water quality and treatment costs would be important considerations.

LOC5-41

The DETR and DEIS should also consider both the costs and benefits of reverse use of existing production wells so as to inject water into the ground at depth in order to maintain groundwater levels for municipal wells.

LOC5-42

### 3. Other Direct Benefits—Industrial

We agree with Reclamation that the problem of groundwater supply sufficiency is equally a problem for industrial water users:

“Aquifers in the Odessa Subarea also supply commercial, domestic, municipal and industrial users in and nearby the Study Area. For example, the cities of Moses Lake and Ritzville, the towns of Hatton and Wilson Creek, and numerous food processing and other agriculture-related businesses in Connell, Moses Lake, Othello, and Warden rely on this groundwater.”

LOC5-43

<sup>74</sup> Short population growth analysis fails to consider the influence of changing demographics or Western Washington state urban (or other urban area) outmigration. Both central California and eastern Oregon are experiencing growth of towns and suburbs due to outmigration from coastal plain cities.

<sup>75</sup> 16 U.S.C. Sec. 485h (a)(5)

"Under the No Action Alternative, irrigation groundwater would not be replaced with surface water, aquifers would continue to decline and all current commercial, domestic, municipal and industrial users would be affected in and near the Study Area." DEIS, p. 2-20. (Emphasis supplied.)

The DEIS addresses only the direct effect of reduced groundwater availability on industrial water users. The DEIS should also address the effect of reduced irrigated land agricultural production and more dryland agricultural production on the agricultural processing industry in near the analysis area. Data should be collected from major industrial concerns, including McCains (potato products), Simplot (potato products), Harvest Fresh (fresh potatoes), Columbia Cold Storage (storage of frozen food products), SVZ-U.S.A. (juice), Cenex Feed-Land of Lakes (feed), Taggares Alfalfa (dried alfalfa and allied products), Simplot (fertilizer and chemicals), Ritzville Warehouse (grain), Union Elevator (grain), Consolidated Grange Supply (fertilizer, fuel and farm supplies), National Foods (eggs), regarding changes they would anticipate if the No Action or Partial Replacement alternatives were selected. LOCS-43

#### 4. Other Direct Benefits—Economic Losses Avoided

Economic losses avoided by implementation of a project should be considered as "other direct benefits,"<sup>76</sup> just as costs caused by implementation of a project can be considered as "other direct costs."<sup>77</sup> DEIS section 4.5 addresses Irrigated Agriculture and Socioeconomics.<sup>78</sup> The DEIS identifies, without source, that a \$1.6 billion total gross farm economy exists in the four-county analysis area. The DEIS concludes that the partial replacement alternatives add \$36,509,910 in economic value over and above the \$42,738,724 economic value provided by continued reliance on groundwater wells (the No Action Alternative), and that the full replacement alternatives add \$65,728,653 in economic value over and above the \$42,738,724 economic value provided by continued reliance on groundwater wells.<sup>79</sup> Viewed conversely, the two sums, whose numeric values are arguably incorrect in any case,<sup>80</sup> are economic losses avoided by the action alternatives. These should be included as a portion of the Total NED Benefits. The alternative is that they should be costs attributable to the No Action Alternative. But inasmuch as the benefit-cost analysis begins with the proposition that the No Action Alternative has zero benefits or costs, these benefits should be included in the benefits calculation. LOCS-44

<sup>76</sup> Principles and Guidelines, section 2.10.4.

<sup>77</sup> Principles and Guidelines, section 2.12.17.

<sup>78</sup> DEIS, pp. 4-199-4-225.

<sup>79</sup> DEIS Table 4-62, p. 4-200.

<sup>80</sup> These totals are stated in terms of gross farm income (which is computationally dependent on values for crop yield, crop price and residual NFI per acre, as well as well deterioration ratios, all of which need to be restudied) which does not take into account the multiplier effect of gross farm income on other industrial and service economies.

Although it may be argued that these economic losses are only regional in nature, and therefore should not be included in the national analysis, these economic losses avoided are just as “national” as are the hydropower costs discussed in section D 4 below.

#### D. Total NED Costs of the Action Alternatives

The DEIS’ benefit cost analysis sorts costs into five categories: a) canal and reservoir construction costs and IDC (“interest during construction”) costs; b) canal and reservoir OMR&P costs; c) drainage system construction and IDC costs; d) drainage system OMR&P costs; and e) lost hydropower benefits.

##### 1. Canal and Reservoir Construction and IDC Costs

The canal and reservoir system proposed to be constructed and described in the DEIS is apparently sized to deliver 3 acre feet of surface water per year for each acre of farmland currently irrigated by groundwater. The DEIS does not report any study of the exact amount of groundwater currently being applied on acres that would be served with surface water. The water use efficiency currently accomplished by groundwater irrigation systems more than likely results in better efficiency than 3 acre feet per acre. Reclamation should determine that the facilities proposed for either the partial or full replacement alternatives are not oversized beyond the needs of current groundwater irrigators. Design choices should integrate both the need to provide replacement surface water to existing groundwater users and the need to avoid interference with potential completion of the Columbia Basin Project as originally authorized. It is not necessary to construct capacity to deliver surface water to all of the uncompleted Project lands at this time.

LOC5-45

The DEIS accepts GWMA’s estimate that some acreage in the groundwater irrigated acreage will remain in Level 1 status after the project is completed, probably because those wells are served through leakage or lateral underflow of water from proximate existing canals or reservoirs. The DEIS also identifies that 16,864 acres are already served with surface water by direct pumping from the East Low Canal.<sup>81</sup> Delivery of surface water to those acres would duplicate existing water supply. The project should be sized so as to not deliver water to these properties, thereby reducing cost.

LOC5-46

Both partial and full replacement alternatives include construction of two components: a water supply system and a water delivery system. The delivery system for the partial replacement

<sup>81</sup> “For existing water service contracts in the Odessa Subarea, contract holders pump directly out of the East Low Canal at 34 locations. This condition, characterized by individual, unscheduled starts and stops of pumps, decreases system efficiency and can adversely affect ECBID’s ability to meet delivery commitments downstream. The No Action Alternative would not address this condition.” DEIS, p. 2-20.

“As part of these [partial groundwater irrigation replacement alternatives] the 16,864 acres of existing water service contracts that pump out of the East Low Canal at 34 locations would be incorporated into the delivery system.” DEIS, p. 2-21

alternative is further segmented into an existing East Low Canal enlargement project,<sup>82</sup> an East Low Canal extension project,<sup>83</sup> and a pressurized pipeline distribution project.<sup>84</sup> The delivery system for the full replacement alternative (the components of which would be in addition to the partial replacement alternative) is further segmented into a new East High Canal construction project, a new Black Rock Branch Canal construction project, a Black Rock Coulee Reregulating Reservoir construction project, and a pressurized pipeline distribution project.<sup>85</sup>

The benefit-cost analysis does not evaluate each of these segments independently. The costs of each should be independently determined so as to permit evaluation of those portions of the project that may be better constructed through non-federal (private or other governmental) projects. This would allow establishment of the benefit-cost ratio with or without a particular segment.

LOC5-47

The pressurized pipeline distribution component of both the partial and full replacement alternatives is, for example, now integrally contained but could be developed as an independent non-federal projects. It does not appear from the DEIS that Reclamation has conducted any study of non-federal interest in construction of any component of the project. Construction of a pressurized pipeline distribution system is well within the capacity of non-federal parties, who would likely utilize the same or similar engineering and construction contractors as would federal construction. Integration of federal and non-federal systems is more possible today than when prior construction of Columbia Basin Project elements occurred because of more modern supervisory control and data acquisition (SCADA) systems. Removal of the pressurized pipeline distribution component from the project would reduce project costs without reducing project benefits, thereby improving the benefit-cost equation.

LOC5-48

The DEIS describes easement requirements for the several components of the project. Easement widths range from 600 ft. to 1200 ft, while canal cross sections indicate widened canal width at approximately 100 ft. DEIS, p. 2-27. A 600 foot easement for the East Low Canal extension is not necessary as the land involved has less relief than most of the existing East Low Canal. The 161.3 miles of pressurized distribution pipeline, DEIS, Page 2-28, does not require a 200 foot wide easement. Pressurized pipeline can be installed within a 60 foot easement/right of way without problems. Pressure pipelines can follow existing ground contours. The DEIS should reduce the size of proposed easements and explore the availability of existing public rights of way.

LOC5-49

<sup>82</sup> Enlarge capacity of 43.3 miles of East Low Canal south of I-90 including adding a second barrel to all five existing siphons.

<sup>83</sup> Extend East Low Canal about 2.1 miles at southern end.

<sup>84</sup> 161 miles of buried pipeline, 200 foot wide easement, 6 canal-side pumping plants, 5 relift pumping plants, one gravity feed turnout.

<sup>85</sup> 187.3 miles of buried pipeline, 200 foot easement, 3 canal-side pumping plants on East High Canal north of Black Rock Coulee Reregulating Reservoir, 5 canal-side pumping plants on East High Canal south of BRCR Reservoir, 7 canal-side pumping plants canal-side pumping plants along Black Rock Branch Canal, 3 relift pumping plants, 2 gravity feed turnouts.



The DEIS states that a portion of these wider easements are necessary for “fish and wildlife purposes.” No explanation is provided for these “purposes.” Reclamation should evaluate whether such broad easement acquisition is required, as fish and wildlife do not know the legal status of the land over which they migrate. Wildlife migration in agricultural areas is not impeded to the same extent as wildlife migration in urban or more developed areas.

LOC5-50

Canal-side pumping plants and re-lift pumping plants are described in the DEIS, p. 2-28, as requiring 7 acres each. No more than 3.5 acres should be required. Seven acres is more than 500 feet on each side of a square. This is more land than is required for pumping plants.

LOC5-51

The DEIS states that there is an O&M facility.<sup>86</sup> But, DEIS section 2.2.16 Operation and Maintenance Facilities states that O&M facilities have been eliminated. If they have been eliminated, the costs related to an O&M facility should be eliminated from the cost analysis. If they have not eliminated, an O&M facility should be eliminated, as existing maintenance facilities can be used or expanded at their present locations.

LOC5-52

DEIS Section 2.7 presents information contained in the “Draft Engineering Technical Odessa Subarea Special Study.”<sup>87</sup> The contingencies used in Chapter 6 of the Draft Engineering Technical Report are artificially high. It does not appear that the Draft Report conducted any project-specific appraisal of the risk assumptions upon which non-field cost contingencies should be based. Reclamation should re-evaluate the risk assumptions that are the basis for the non-field cost contingencies used. Reclamation should take into account that the projects under consideration are normal Reclamation construction projects and that they involve merely an extension of an existing operating portion of the Columbia Basin Project.

LOC5-53

Design Contingencies:<sup>88</sup> The contingency rate recommended by the “Reclamation Cost Estimating Handbook guidelines” is 2% to 15%. The DETOSSS uses the rate of about 11% which is toward the high end. In the opinion of the Adams County Engineer, a 5% contingency should cover the variables. This project, and particularly alternatives 2A and 2B, are straightforward projects including only items that are standard Reclamation type projects, i.e., pumping plants, canal widening, a short canal extension, pressure pipelines and siphons. The complexity of these items does not require a large contingency.

LOC5-54

Construction Contingencies:<sup>89</sup> The contingency rate suggested by the “Reclamation Cost Estimating Handbook guidelines” is 20%. The amount used is about 24%. In the opinion of the Adams County Engineer, a 15% construction contingency is more than enough to cover even extremely complex projects. This project, and particularly alternatives 2A and 2B, are straightforward projects including only items that are standard Reclamation type projects, i.e.,

<sup>86</sup> DEIS, p. 2-31.

<sup>87</sup> Hereafter, “DETOSSS.”

<sup>88</sup> DETOSSS, Section 6.1 Field Cost Estimates.

<sup>89</sup> DETOSSS, Section 6.1 Field Cost Estimates.

LOC5-55

pumping plants, canal widening, a short canal extension, pressure pipelines and siphons. This project area includes soils and subsurface conditions that are well known, as they are adjacent and partially included in the existing completed Columbia Basin Project. There is little uncertainty. The lack of complexity of the project under consideration does not require a large contingency, nor a contingency larger than the one suggested by the Cost Estimating Handbook guidelines.

LOC5-55

Studies, Investigations, and Design Data Collection and Engineering Design:<sup>90</sup> Noncontract costs for this project, particularly alternatives 2A and 2B, which have many elements that are already known from the previous construction of the Columbia Basin Project and are repetitive in nature should be in the range of 10% of the Total Field Cost.

LOC5-56

Other Cost:<sup>91</sup> Other costs for a project like this should not exceed 5% of Total Field Cost.

LOC5-57

The totals for construction costs and interest during construction set forth in DEIS Table 2-12, appear to have been derived from Table ES-2 in the DF-LSSR.<sup>92</sup> The totals are different than those totals listed in DETR Table NED\_BCA1, DF-LSSR Table 5-11, p. 29, and DF-LSSR Table 5-12, p. 5.31. No explanation is given. Both tables show IDC costs.

LOC5-58

"Interest during construction" is compounded, using the "planning rate of 4.375 percent."<sup>93</sup> DETR, p. 53. The statutorily defined interest rate for the Columbia Basin Project is 3.0 percent. DF-LSSR Table 5-13, DETR Table NED\_BCA2, and DEIS Table 2-14 should be the basis for decision making regarding the action alternatives. Tables based on the rate of 4.375 percent may be presented as informative, but should not be used as a basis upon which to analyze or compare alternatives.

LOC5-59

## 2. Canal and Reservoir OMR&P

## 3. Drainage Costs

The benefit-cost analysis considers the costs of construction of drainage, including IDC, and the cost of drainage system OMR&P.<sup>94</sup> However, no drainage system for the acreage newly watered by the Columbia River surface water supply may need to be constructed. In the alternative, a more limited or smaller scale drainage system may be sufficient. Under the action alternatives, the same acreage now watered by groundwater through efficient pivot irrigation systems will be watered by surface water through efficient pivot irrigation systems. No

<sup>90</sup> DETOSSS, Section 6.2 Noncontract Costs.

<sup>91</sup> DETOSSS, Section 6.2 Noncontract Costs.

<sup>92</sup> Draft Feasibility-Level Special Study Report, Odessa Subarea Special Study, U.S. Bureau of Reclamation, October 2010, p. ix, hereafter "DF-LSSR".

<sup>93</sup> See discussion above at VI, A.

<sup>94</sup> DETR, Tables NED\_BCA1, NED\_BCA2, pp. 4, 5.

LOC5-60

additional amount of water will be applied to the acreage. There is no rill irrigation as commonly used when the Columbia Basin Project was first designed and used. There is no current wastewater. There is no current wastewater drainage system for the groundwater-irrigated properties. The DEIS acknowledges this:

“[The] estimated costs [for irrigation water drainage facilities] are based on 20- to 30-year old CBP design assumptions, which included new irrigation development, and were based on platted, concentrated farms using gravity flow and rill irrigation. These assumptions are no longer valid, because the current farms in the Study area are spaced widely and use pressurized delivery systems. Although project design has not progressed to the point of addressing irrigation water drainage in detail, estimates of drainage system costs using the original CBP assumptions are included to ensure complete and conservative cost estimates.”  
DEIS, p. 2-67, note 3.

LOC5-60

It would be fiscally wasteful to construct a wastewater drainage system if it is not needed. If any waste water is created after surface water has been delivered to the currently irrigated acreage, it should be impounded and permitted to percolate down within the soils as groundwater aquifer recharge.

The Draft Feasibility-Level Engineering Report on page 2-65 assigns a value of 33% costs taken from previous 1966-1972 costs and then are used for alternative #2 drainage costs. This number should be zero. The Adams County engineer for over 10 years has seen no surface or subsurface drainage issues on or near the relevant properties that would require remediation.

LOC5-61

The fatal flaw with “Monte Carlo” system of cost analysis is that the most probable low is zero. Since zero is the lowest you can go, the most probable has to be above that even if logically it should be zero. Zero is a troubling number. Care should be exercised in any sort of analysis since it always produces zero in math products that may be in your equation.

#### 4. Lost Hydroelectric Generation Benefits

DETR Section 1.2.2.2.1 and DEIS Section 4.17 presume that the diversion of Columbia River surface water under the action alternatives causes reduction in hydroelectric generation in the lower Columbia River. The effect is based upon the BPA’s calculations. “BPA multiplied the changes in average monthly hydropower generation by Aurora model based on average monthly power values to estimate losses in average annual hydropower benefits.” DETR, p. 71.

##### a. Inconsistency with the Authorizing Statute

The DEIS’ inclusion of lost hydropower benefits as a cost, when determining whether to pursue the action alternatives, is inconsistent with the authorizing statute. Reclamation apparently recognized this in 1989, when it excluded “downstream generation losses” from the “authorized criteria,” and used them only as “sensitivity analysis.”<sup>95</sup> Congress’ 1943 reauthorization of the

LOC5-62

<sup>95</sup> Reclamation’s 1989 Draft Environmental Impact Statement, Continued Development of the Columbia Basin Project, Washington, recognized that “downstream generation losses” were not part of the “Authorized Criteria. The

Columbia Basin Project made the Project subject to the Reclamation Act of 1939.<sup>96</sup> Section 9 of that Act authorized the Secretary of Interior to investigate and construct projects within allocated cost groups: irrigation water users, power users, and municipal water users. 16 U.S.C. 485h<sup>97</sup> provides:

No expenditures for the construction of any new project, new division of a project, or new supplemental works on a project shall be made, nor shall estimates be submitted therefor, by the Secretary until after he has made an investigation thereof and has submitted to the President and to the Congress his report and findings on--

- (1) the engineering feasibility of the proposed construction;
- (2) the estimated cost of the proposed construction;
- (3) the part of the estimated cost which can properly be allocated to irrigation and probably be repaid by the water users;
- (4) the part of the estimated cost which can properly be allocated to power and probably be returned to the United States in net power revenues;
- (5) the part of the estimated cost which can properly be allocated to municipal water supply or other miscellaneous purposes and probably be returned to the United States.

If the proposed construction is found by the Secretary to have engineering feasibility and if the repayable and returnable allocations to irrigation, power, and municipal water supply or other miscellaneous purposes found by the Secretary to be proper, together with any allocation to flood control or navigation made under subsection (b) of this section, equal the total estimated cost of construction as determined by the Secretary, then the new project, new division of a project, or supplemental works on a project, covered by his findings, shall be deemed authorized and may be undertaken by the Secretary. If all such allocations do not equal said total estimated cost, then said new project, new division, or new supplemental works may be undertaken by the Secretary only after provision therefor has been made by Act of Congress enacted after the Secretary has submitted to the President and the Congress the report and findings involved.

Congress' authorization for Project construction is thus stated in terms of cost-repayment sufficiency of each of the water use categories independently. Each water use must bear its own burden with respect to repayment. Congress authorized independent evaluation of water users'

document explains that the inclusion of "downstream energy losses" was used only as "a sensitivity analysis. This approach recognized that the outcome of analysis might differ when non-statutory assumptions were incorporated. Any other interpretation would cause the Principles and Guidelines Procedures to amend the statute without Congressional action. Draft Environmental Impact Statement, Continued Development of the Columbia Basin Project, Washington, U.S. Bureau of Reclamation, September 1989, Tables 1, 2, 3, pp. VIII-4-2, VIII-4-3, VIII-4-4.

<sup>96</sup> "This Study is being conducted under the authority of the Reclamation Act of 1939 and the Columbia Basin Project Act of 1943." DEIS, p. 1-9.

<sup>97</sup> Act of August 4, 1939, Ch. 418, Sec. 9, 53 Stat. 1187.



and power users' ability to repay costs. The DEIS' analysis merges that evaluation in a manner contrary to the authorizing statute. If maximization of hydropower cost recovery is weighed as a "cost" of the use of water for irrigation, and the cost is calculated in benefit-cost analysis so as to make irrigation projects unviable, then Congress authorization to the Secretary will have been frustrated. Congress took no action, in this provision of the Reclamation Act or any other statute, prioritizing the use of Columbia River water for hydropower production over the use of Columbia River water for agricultural irrigation.

LOCS-63

b. Inconsistency with the 1983 Principles and Guidelines

The DEIS' inclusion of lost hydropower benefits as a cost, when determining whether to pursue the action alternatives, is inconsistent with the 1983 Principles and Guidelines. The Principles and Guidelines characterize this category of consequential effects, which are "caused by" the project, as "other direct costs."

LOCS-64

2.12.7 Evaluation procedure: Other direct costs.

(a) These are the costs of resources directly required for a project or plan, but for which no implementation outlays are made. Consequently, they are included in the economic costs of a plan but not in the financial costs. These costs may be important for both structural and nonstructural plans. For example, a zoning plan to preserve floodplain values by restricting development would have as a cost the value of with-project development opportunities foregone. A plan that responds to demand growth by reallocating existing outputs from low value uses to high value uses through pricing mechanisms (i.e., raising the price of existing outputs) would have as its main cost the value of the outputs to the users who forego its use as a result of its higher price. On the other hand, a structural project may displace recreation use at the project site. Whenever possible, compute these costs using the procedure set forth in this manual for computing benefits. If these costs are not quantified, they should be otherwise identified.

(b) Other direct costs also include uncompensated NED losses caused by the installation, operation, maintenance, or replacement of project or plan measures. All uncompensated net losses in economic outputs (not transfers) that can be quantified shall be considered project NED costs. The evaluation of such costs requires an analysis of project effects both within and outside the project area.

(c) Examples of other direct costs include increased downstream flood damages caused by channel modifications, dikes, or the drainage of wetlands; increased water supply treatment costs caused by irrigation return flows; erosion of land along stream banks caused by dams that prevent the replenishment of bed load material; loss of land and water recreation values through channel modifications, reduced instream flow due to consumptive use of water by irrigated agriculture, or inundation by reservoirs; increased transportation costs caused by rerouting traffic around a reservoir; new or increased vector control costs caused by the creation of wetlands; and decreased output or increased cost payoff unit of output of private

firms caused by project-induced decreases in raw materials. When applicable, compute such costs using the procedures for computing benefits contained in this chapter. Some costs such as increased water supply treatment costs, may be computed on the basis of increased costs to resource users." (Emphasis supplied.)

The causal relationship between use of water which had been dedicated for agricultural use by both state and federal law processes in 1938-1943 and the use of water for hydropower production based on subsequent rights, privilege and sufferance is tenuous. Reclamation should address two questions:

- Which elements of "lost hydroelectric generation" have senior enough rights to entitle them to continue without interference from further development of Columbia Basin Project agriculture, i.e., are hydroelectric generation reductions "caused by" project development or otherwise "caused by" the fact that they are more junior status water uses within the Columbia River flow system? LOC5-65
- Does BPA's method of calculation of "lost hydroelectric generation" use "the procedures for computing benefits contained in this chapter" including computation "on the basis of increased costs to resource users?" LOC5-66

i. Hydropower's More Junior Status

The rights (entitlements) to use water from the Columbia River, for irrigation, power generation or other purposes, are created by Washington State law, except to the extent premised on the implication of Congressional enactments. The DEIS does not find that the amount of water that would flow through any of the hydroelectric facilities after development of any of the action alternatives would be less than the amount of flow stated in the various water rights certificates, or reasonably inferred from Congressional enactments in the case of hydropower facilities operated by the U.S. Army Corps of Engineers. In fact, the DEIS states that "no impacts to water rights are anticipated for any of the alternatives."<sup>98</sup> Generators of hydroelectricity may be free to use water flowing in the Columbia River above their entitlements to generate power when the water is available, but they do not enjoy the right to prevent the use of water by more senior rights holders. The use of water subject to the rights of more senior rights holders when that water is not otherwise in use, and the use of water not subject to any current state-recognized right, is by virtue of privilege and sufferance, but not by matter of right.

In 2006, the Washington State legislature mandated that the Washington State Department of Ecology aggressively develop Columbia River flows. Development of Columbia River flows pursuant to any future (junior) Columbia River water rights would need to be resolved against existing water rights to use water for hydropower.<sup>99</sup> But development of more senior rights held by the U.S. Bureau of Reclamation for the Columbia Basin Project does not. Recognition of junior hydropower water rights above pre-existing and superior agricultural water rights so as to

<sup>98</sup> DF-LSSR, p. 4-64.

<sup>99</sup> RCW 90.03.290 (3).

preclude the development of Columbia River flows would be a clear violation of the Washington legislature's 2006 mandate. The Washington legislature created no exception to its mandate where "surplus" energy as calculated by the BPA's process is involved. Ecology's reliance on that factor in the DEIS so as to preclude further development of Columbia River flows after enactment of the 2006 statute (Ch. 90.90.RCW) would violate the statute, just as "... the No Action Alternative would fail to meet the specific provision of Chapter 90.90.RCW."<sup>100</sup>

According to the Washington State Department of Ecology, Columbia River hydropower dams operated by the U.S. Army Corps of Engineers (Bonneville, McNary, Chief Joseph, John Day, and The Dalles) do not have state-issued water rights. Apparently, they rely upon federal reserved water rights. While the Corps holds state-certificated water rights for other purposes and in other locations, Washington state rights for their hydro facilities do not exist (and cannot be found in the Department of Ecology's water rights database.) Without adjudication of Columbia River water rights, quantification of those allegedly federal rights cannot be quantified. However, their priority dates cannot predate Congressional authorization of the action alternatives considered in the DEIS as a federal "reserved" right arises from the implication of Congress' enactment. U.S. Bureau of Reclamation's state-based water right for the Columbia Basin Project predates all Congressional authorizations for Columbia River Corps of Engineer projects.<sup>101</sup> And the "reservations" of water, created only by implication, cannot be presumed to impliedly repeal the express Congressional authorization of water development for agricultural purposes in the 1939 Columbia Basin Project Act.<sup>102</sup>

In light of the relative priorities problem, it is difficult to conclude that the use of Columbia River water for agricultural purposes "causes" reduction of hydropower generation. Rather, it is hydropower's more junior rights which "cause" reduction of hydropower generation under all the various alternatives with the exception of No Action. If causation is nevertheless presumed, measurement of the causal effect is also affected by the priorities of water rights. Only those other direct costs which result from water rights which are equivalent or senior to existing

<sup>100</sup> DEIS, pp. 2-20, 21.

<sup>101</sup> The Bonneville Power Administration neither owns nor operates any hydropower production facilities. It thus has no standing to assert any existing water right for hydropower production or protect any water use against water rights holders with existing senior rights. Any operating agreement between producers of hydropower on the Columbia River, made pursuant to the BPA's authority under the Bonneville Project Act, 16 U.S.C. § 832 et seq. the Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C. § 839 et seq. (sometimes called simply "Northwest Power Act"), or the Pacific Northwest Coordination Agreement, is made subject to the incumbent superior right created by the Columbia Basin Project Act and Washington state water rights.

<sup>102</sup> BPA's approach assumes that Reclamation's power generation water right provides an assurance to continued generation at the current level. The "benefit" of continued hydropower production using water subject to the prior water right is artificial. Hydropower producers have thus enjoyed a windfall of accessible water during the interim that construction of water delivery facilities has been delayed to serve the eastern portions of the Columbia River Project. The future delivery of water from Grand Coulee Dam for purposes of hydropower production therefore has no economic value, as it may be discontinued, to the extent necessary to meet irrigation needs, which hold a superior right.

Columbia Basin Project water rights<sup>103</sup> should be counted as other direct costs.<sup>104</sup> Only the Rock Island hydropower generation should be included in this approach if it is used.

Chelan County PUD's Rock Island Dam is the only hydroelectric generating facility on the mainstem Columbia River that predates Congress' authorization of the Grand Coulee Dam and the Columbia Basin Project. Its first Columbia River water rights were established in 1928 and its construction occurred in 1929-1933. All five of the congressional authorizations for the construction of Columbia River mainstem federal hydroelectric generating facilities post-date authorization of Grand Coulee Dam and the Columbia Basin Project. The Bonneville Dam was authorized in 1937 two months after the Columbia Basin Project.<sup>105</sup> McNary Dam was authorized in 1945,<sup>106</sup> Chief Joseph Dam in 1946,<sup>107</sup> and John Day Dam and the Dalles Dam in 1950.<sup>108</sup> Water rights for Grand Coulee Dam's third power plant and pump-generating plant were created on October 16, 1969. The nonfederal hydroelectric generating facilities on the mainstem Columbia, all of whose licenses to operate are issued by the Federal Energy Regulatory Commission, include: Grant County PUD's Priest Rapids and Wanapum Dams, whose water rights have the priority date of November 28, 1955, and which were constructed in 1959 and 1964, respectively; Chelan County PUD's Rocky Reach Dam, whose water rights have the priority date of January 9, 1956 and July 8, 1968, and which was constructed in 1956 and 1969, and Rock Island Dam; and Douglas County PUD's Wells Dam, whose water rights have the priority date of September 2, 1963 and December 1, 1978, and which was constructed in 1962. Development of hydropower on the Columbia River (other than Grand Coulee Dam and Rock Island Dam) was clearly subject to the prior claim of the Columbia Basin Project's use of Columbia River water for irrigation purposes.

<sup>103</sup> "The proposed action is to replace groundwater with CBP surface water as a solution to declining groundwater levels within the Odessa Subarea. This surface water would be provided as part of the continued phased development of the CBP. The surface water would come from existing water rights in the Columbia River system." DEIS, p. ES-2. (Emphasis supplied.)

<sup>104</sup> In its energy effects analysis, DEIS section 4.17, pp. 4-233-240, combines "direct costs" with "other direct costs." These include reduced groundwater pumping, and additional surface water pumping (direct costs), and lost hydroelectric generation (other direct cost). The DEIS determines a net consequence to these direct and other direct costs. A "Net Change" factor is calculated, by subtracting the lost hydroelectric generation and additional surface water pumping volumes from the reduced groundwater pumping volumes for each of the respective alternatives. The analysis fails to distinguish between direct project costs and "other direct costs."

<sup>105</sup> 16 U.S.C. § 832, Act of Aug. 20, 1937, ch. 720, Sec. 1, 50 Stat. 731; July 26, 1947, ch. 343, title II, Sec. 205(a), 61 Stat. 501.

<sup>106</sup> Pub. L. 79-14, 59 Stat. 10, 21 (1945).

<sup>107</sup> Pub. L. 79-525, 60 Stat. 634, 637 (1946).

<sup>108</sup> Pub. L. 81-516, 64 Stat. 163, 179 (1950).



- ii. "Other direct costs" should be "computed on the basis of increased costs to resource users."

The DEIS concludes that the reduction of surplus energy production due to reduction of available water supply attributable to the action alternatives

"is anticipated to have a minimal impact in the short term (1 percent under the critical water conditions in 2010) but over time would result in an adverse impact (the available energy reduction relative to surplus increases to 11 percent by 2017). It is assumed that a small amount of the regional surplus could be acquired as an offset for the additional energy consumed by this alternative and that no additional generating facilities would be needed." "Cumulative impacts to energy resources would include lost downstream hydroelectric generation resulting from this alternative compounded by the additional small loss of downstream generation from the lake Roosevelt Incremental Storage Releases Project. The extent of those compounding impacts would be minimal."<sup>109</sup>

Apparently disregarding this more sanguine view of the effects of the action alternatives on energy production, and the "offset" of available regional surplus energy, the DETR/DEIS adopts BPA's analysis and contends that the 100 year cumulative discounted cost of the "lost benefit," using the BPA "surplus" approach, is \$156.4-\$557.3 million, depending on the alternative and the discount rate applied.<sup>110</sup>

LOC5-68

But that "lost benefit" estimate was not established pursuant to Section 2.12.7 (c) of the Principles and Guidelines. Section 2.12.7 (c) requires that other direct costs should be computed on the basis of increased costs to resource users.

BPA's analysis is not a computation of increased costs to resource users. It neither computes increased costs of water to hydropower producers or the cost of hydropower to hydropower consumers. It is important to distinguish between the costs of users of water and the costs of consumers of hydropower. At present, there is no cost to use water for hydropower production. Likewise, there will be no cost to use water for hydropower production under all of the action and No Action alternatives. There would thus be no increased water costs to hydropower. The hydropower consumer's cost of hydropower includes the value added to the water's use by the manufacture of hydropower (dams, turbines, generators, etc), and is affected by the overall supply of hydropower in a complex, mixed multi-generation power market. These manufacturing cost and market factors are taken into account in BPA's ratemaking process where cost recovery is an essential component.<sup>111</sup> But none of these manufacturing components

LOC5-69

<sup>109</sup> DEIS, p. 4-238.

<sup>110</sup> "The average annual loss in hydropower benefits was estimated by BPA at \$6.939 million for all four partial alternatives." "The same average annual loss in hydropower benefits, \$17.638 million, was estimated by BPA for all four full replacement alternatives." DETR, p. 71. DEIS Table 2-13, p. 2-72, Table 2-14, p. 2-73, DETR Table NED\_BCA1, p. 4, Table NED\_BCA2, p. 5.

<sup>111</sup> See, section 7(j) of the Northwest Power Act, 16 U.S.C. 839e(i), Procedures Governing Bonneville Power Administration Rate Hearings, 51 FR 7611 (1986). Once rates have been decided, BPA submits them to the Federal

is “caused by” the use of the underlying resource (water) for agriculture instead of for hydropower.

BPA’s analysis computes loss of “surplus energy.” Under BPA’s approach, energy in any year is “surplus” if it is greater than “firm energy” in a base case year. DEIS section 3.17.2 describes “firm energy” as “energy produced on a guaranteed basis.” “In hydroelectric generation, firm energy is the energy that can be reliably generated during the region’s worst historical water conditions.” “A historic low water year (1937) is the base case used. . . .” “This approach is consistent in all planning years and is accepted by all participants in the Pacific Northwest energy planning process.” “These regional total surpluses [over the base case] are used to evaluate the impact of each of the alternatives.” BPA’s method is incorrect to the extent that it presumes that any supply of water to hydropower is “guaranteed” other than through the water rights of each hydropower facility, as established under Washington State’s water law.

The BPA’s method also does not consider the effects of energy conservation or the availability of alternative sources of energy, including wind-generated energy. Nonfirm energy (energy other than that produced on a guaranteed basis) also has value, because water pumping can be timed to coordinate with nonfirm power generation facilities. Because of the size of water storage facilities, including Lake Roosevelt and Banks Lake, available to the Columbia Basin Project, pumping water for delivery into the Columbia Basin Project irrigation delivery system can be accomplished during periods when wind energy is available, thereby “integrating” the resource into the regional energy production system.

## 5. Environmental Compliance and Mitigation Costs

A basic purpose of the study is to address environmental concerns and interests including Endangered Species Act matters.<sup>112</sup> The DEIS identifies the environmental assets that may be affected<sup>113</sup> and discusses the environmental consequences of the actions under consideration.<sup>114</sup> However, because a preferred alternative has not yet been selected, it is uncertain whether the evaluations contained in Sections 4.8 through 4.11 of the DEIS are sufficient. This is addressed by comments submitted by the U.S Fish and Wildlife Service.

“[C]onsultation under section 7 of the Endangered Species Act of 1973, as amended, will be conducted at a later date.”<sup>115</sup>

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Energy Regulatory Commission for confirmation and approval. FERC’s approval is based on whether the proposed rates are sufficient to recover BPA’s total costs.

<sup>112</sup> DEIS, p. 1-9. See also, p. 4-100.

<sup>113</sup> DEIS, Ch. 3.

<sup>114</sup> DEIS, Ch. 4.

<sup>115</sup> DFWCAR, p. 23.

"This report does not complete consultation under section 7 of the ESA; therefore the Service recommends that Reclamation complete consultation with the Service on this project, if Reclamation moves forward to implement a preferred alternative."<sup>116</sup>

"Our evaluation and analyses indicate that none of the action alternatives will benefit fish, wildlife, or their habitats, to the degree that negative effects will be outweighed by positive effects, without the added benefits of mitigation and wildlife habitat improvements. Mitigation and wildlife habitat improvements could and may be done, but are not currently proposed as part of the Project."<sup>117</sup>  
"Although irrigation and agricultural conversion may adversely impact riparian habitats, it is also true that seepage and leaks from irrigation systems may create riparian and wetland areas."<sup>118</sup>

Sections 2.12.4 and 2.12.5 identify that environmental mitigation costs are NED costs. The U.S. F.W.S. proposes 31 environmental mitigation strategies<sup>119</sup> and the Washington State Department of Fish and Wildlife proposes additional "mitigation measures and enhancements."<sup>120</sup> We are concerned that delaying initiation of consultation under the ESA will cause significant project delays once Reclamation adopts a preferred alternative. Reclamation, U.S. F.W.S. and W.D.F.W. should begin work now to explore the interaction between the proposed action and the Endangered Species Act. All of the action alternatives are sufficiently similar to permit initiation of that process now. Identification of the extent of ESA compliance and fish and wildlife impact mitigation scenarios should be accomplished earlier, rather than later, so that the costs of necessary mitigation will become early-known and anticipated in project funding.

LOC5-72

#### VIII. Conclusion

We encourage the Bureau of Reclamation and the Washington State Department of Ecology to proceed diligently and quickly to publication of a final environmental impact statement. Reclamation and Ecology should design the project conservatively so as to meet the clear current need without interference with or construction of the complete Columbia Basin Project at this time. Reclamation and Ecology should project benefits realistically and avoid cost projections which are unrealistic or overly conservative. The projects under consideration are essential to the well-being of Adams County's citizens. We support them.

LOC5-73

<sup>116</sup> DFWCAR, p. 61.

<sup>117</sup> DFWCAR, p.56.

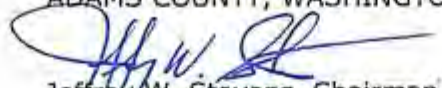
<sup>118</sup> DFWCAR, p. 15.

<sup>119</sup> DFWCAR, pp. 61-65.

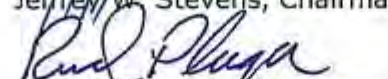
<sup>120</sup> Washington Department of Fish and Wildlife, "Odessa Subarea Special Study, Wildlife Survey Final Report," October 2010, pp 22-25.

Respectfully submitted,

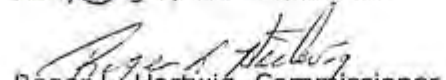
BOARD OF COUNTY COMMISSIONERS  
ADAMS COUNTY, WASHINGTON



Jeffrey W. Stevens, Chairman



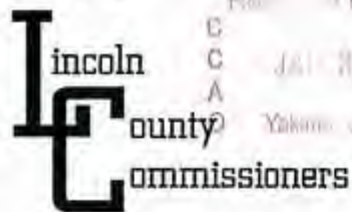
Rudy Plager, Vice-Chairman



Roger L. Hartwig, Commissioner

Dated this 24<sup>th</sup> day of January 2011.





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Yakima County

## Comment Letter LOC6

LINCOLN COUNTY, WASHINGTON

P.O. Box 28 • DAVENPORT, WASHINGTON 99122

OFFICE PHONE: (509) 725-3031 • FAX: (509) 725-2034

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January 25, 2011

Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

RE: Comments on the Odessa Subarea Special Study Columbia Basin Project,  
Washington

Dear Mr. Carnohan:

BUREAU OF RECLAMATION			
DATE	INITIALS	NOTE	COPY
1000	X		
1002	X		
1100	X		
1120	X		
1123	X		
1124	X		
1125	X		
1126	X		
1127	X		
1128	X		
1129	X		
1130	X		
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The Lincoln County Board of Commissioners has reviewed the Odessa Subarea Special Study, and wishes to submit comments and policies regarding the economic impact document.

We have also reviewed the draft comments of the Adams County Board of Commissioners as well as the draft comments of the Columbia Basin Ground Water Management Area relating to the study. The Lincoln County Board of Commissioners endorses the comments of both of the entities.

The Lincoln County Board of Commissioners wants to express support for the "full replacement" option within the Odessa Subarea. A "no action" or "partial replacement" alternative would create significant economic impact and hardships within our region. ] LOC6-1

Lincoln County Board of Commissioners wishes to comment on the proposed boundaries of groundwater replacement in southeast Lincoln County. We expect the goal of the Odessa Special Study is groundwater replacement. The current proposal for southeast Lincoln County does not adequately provide a groundwater replacement plan for available irrigated parcels. We suggest, for economic efficiencies and groundwater replacement needs that surface water replacement should be offered to all irrigated parcels south of Crab Creek and west of Highway 21 in southeast Lincoln County. This nearly contiguous irrigated area provides an economically efficient delivery group providing significant groundwater replacement in an extremely groundwater stressed area. ] LOC6-2

The Lincoln County Board of Commissioners and the Lincoln County Conservation District are partnering with the Office of Columbia River to complete a feasibility study on hydration and groundwater recharge possibilities in central Lincoln County. This ] LOC6-3

DENNIS D. BLY  
Commissioner District No. 1  
Harrington, Washington 99134

SCOTT M. HUTSELL  
Commissioner District No. 2  
Davenport, Washington 99122

ROB COFFMAN  
Commissioner District No. 3  
Wilbur, Washington 99185

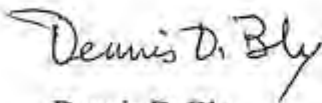
SHELLY JOHNSTON  
Clerk of the Board  
Davenport, Washington 99122

study is referred to the Passive Rehydration Feasibility Study. We suspect there are significant potential possibilities for Crab Creek and subsequently O'Sullivan Reservoir recharge resulting from actions described in this study. We suggest the Odessa Special Study should consider the potential recharge effects of a future Lincoln County rehydration proposal.

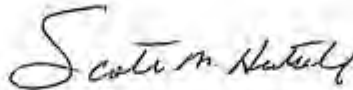
LOC6-3

We would appreciate your consideration toward incorporating these matters into the final version of the study. If you wish to discuss this further, please feel free to contact us.

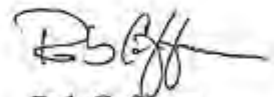
Respectfully,



Dennis D. Bly  
Chairman



Scott M. Hutsell  
District 2



Rob Coffman  
District 3

Attachments:

Adams County Draft Comments

Columbia Basin Groundwater Management Area Comments

**U.S. Department of the Interior - Bureau of Reclamation**

## **Draft Economics Technical Report**

**Odessa Subarea Special Study Columbia Basin Project, Washington**

# **SUMMARY**

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1. The proposed economic report only allows projects with a benefit/cost relationship that exceeds 1.0 to be acceptable as a funded project. This inflexible policy requires rigorous examination of all economic factors as there is no room for flexibility.
2. The initial NED evaluation is restricted to farm gate value only. The farm gate value is substantially undervalued initially and is significantly more undervalued after full service water has been provided.
3. Future agricultural evaluation does not include full service water rotational implications of higher value crops.
4. The average wheat yield and price value is not adequately displayed.
5. All financial tables within the report on ag value that use the January 2010 GWMA well depletion report are incorrectly stated. The extension of viable water sources well into the future is not supported by the January report. The report suggests only 10-years of realistic irrigation water remaining, not a gradual decline as projected in the report. These amendments to the tables will significantly increase the potential loss of the "no action" or "partial completion" alternatives.
6. The RED analysis should include a significant multiplier effect for the impact to local county regional and state economies. Failure to include these huge economic impacts, significantly undervalues the potential economic loss of the "no action" or "partial completion" alternatives.

7. The RED analysis does not evaluate the potential loss of municipal groundwater supplies within the affected areas. The loss of municipal water supplies will significantly increase the potential losses under the "no action" or "partial completion" alternatives.
8. Inclusion of drainage costs are inappropriate.
9. Inclusion of lost hydro-power production benefits are inappropriate.
10. Assessment of recreational activities impacts are not the only economic impacts that should be included in the RED analysis.



**U.S. Department of the Interior - Bureau of Reclamation**

## **Draft Economics Technical Report**

**Odessa Subarea Special Study Columbia Basin Project, Washington**

# **COMMENTS**

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The following comments are submitted on the Draft Economics Technical Report of the Odessa Subarea Special Study. Comments refer to the page in the report where comments are directed:

Page 1: The NED report involves only direct evaluation of the agricultural impacts of each alternative. This approach gives relative value to each alternative but gives little reality in regards to the choice to pursue the project. The NED relationships give little explanation to the difficult task of deciding capital investment for the future.

Page 1: The RED analysis is purported to give explanation to the importance of this project to our regional economic future with introduction of the impact to other portions of our economic system. The multiplier effect is mentioned as an important aspect of evaluation.

Page 1: "However, economic justification is determined for each alternative solely by the benefit-cost analysis and must be demonstrated on the basis of NED benefits exceeding NED costs." If these criteria are the main and sole factor in decision making for future capital funding, then close analysis of the costs resulting in what is referred to as the benefit-cost ratio (BCR).

Page 3: "A BCR greater than one is analogous to a positive net benefit and a BCR less than one is analogous to a negative net benefit." A very critical decision level with very little flexibility.

Page 4...5: These benefit and cost comparisons are very limited in their scope of a complex agricultural industry pricing and cost relationship. Due to the cursory evaluation using much averaged and rounded statistics from very general sources the results should be susceptible to adjustment.

Page 6: The importance of other benefits and impacts are vastly undervalued especially the possible impact to municipalities and industry.

Page 6...7: The analysis of farm size and real estate valuation is very complicated. The definition of farm size depends on what entity should require a farm operation definition. There are many different combinations of farm entities involved in a farm production unit. USDA, Irrigation District, Land ownership, U. S. taxation code, are among the many entities that define a farm unit. The use of a farm unit for this study is required to establish some model uniformity for economic forecasting. The actual size of the farms would probably not be equal to the proposed size for production purposes. The actual production size would likely be somewhat larger for both irrigated and dryland units. Irrigated farm value is many times that of dryland real estate values. It would require these two types of real estate be valued separately.

Page 10: If the average yield value of wheat is believed to be 125 bushels per acre, then that number should be used in the subsequent tables for economic evaluation.

Page 11: Given that the average price of Spring DNS wheat is usually at least a dollar higher than Soft white wheat, it is usually likely that a large portion of the irrigated wheat crop will be either the higher value DNS or hard red winter. The price used for wheat of \$4.98/bushel should be at least \$.50 to \$1.00 higher. Current price for DNS is \$8.00/bushel.

Page 12...13: The statistical numbers used for rotation are necessary to do a study comparison. However, the likely rotations will vary in the future depending on the economic opportunities available. Rotations will most likely change in the future if full service water becomes available. More valuable and economical rotational crops will be used. These opportunities are not reflected in the analysis.

Page 14: A basic difficulty arises out of the interpretation of the statistics regarding the conditions of the five levels of wells currently existing in the area and represented in the GWMA Odessa Sub-Area Well Survey Report of January 2010. The assumption that wells must migrate through the stages to become the level 5, or no longer productive, is incorrect. Any well may transition from any stage to a level 5 in any one season. For instance, a level 2 well

may become a level 5 well in one season. The last question on the questionnaire received from the operators asked "what the last year of water use do they predict available water to exist". Virtually all operators chose the year of 2020 as the last year of useable water. The 10% statistic is not to be used as a gradual transitional rate from level to level but a prediction of how many wells would reach level 5, each year, during the next 10 years. Suggestions that would place the use of irrigation wells past that time would be very limited. Many of the projections of economic tables following this are based on as much as 25 years of available irrigation availability. This is not likely. Further, the impact on municipality, industrial and domestic wells should mirror this timetable.

Page 16...19: Please use the wheat average of 125 in all the places it should be used. We would suggest also that a higher irrigated wheat value be used such as \$5.50/bushel.

Page 23: Irrigated values should separate the current limited water value of farming from an enhanced value perceived as when a farm has a viable supply of full service water. This would give the farm a similar opportunity as the current farm acreages in the senior water right portion of the project. The full service water economic value should be much more than the current limited water units. I would suggest the economic outlook would be nearly doubled with opportunity and value.

Page 23: Determining the lost irrigated acreage calculation is dependent on the discussion given on page 16 regarding the use of the GWMA irrigated loss report. The loss to level 5 should be a total of 10% of the total acreage per year.

Page 24...29: As discussed in page 16 regarding the loss of wells. The entire acreage of 95% of the total acreage will reach level 5 by 2020 or thereabouts. The extension of the loss of wells is not reasonable. It is expected the entire irrigated acreage loss should occur rather rapidly. The GWMA has currently projected the entire water storage volume existing prior to the 1960's as being 60 million acre feet of water stored in the reachable interflow zones, or aquifers, of the area. The community and irrigators have used approximately 40 million acre feet in the past 50 years. This situation leaves approximately, 20 million acre feet available. Since we cannot access all of the water we expect 10 million acre feet to be unusable or inaccessible. This leaves only 10 million acre feet accessible or not much over 10 years of use. These observations should significantly modify the tables presented. The rate of loss of irrigated water would suggest that maybe a significant look at a previously discounted option C may become very significant in the scope of the issues being considered. Further discussion of the immediate consequences to the municipalities may also impact the options to be considered due to the time of loss as predicted.

Page 33: We suggest this table should be significantly altered based on the previous suggestions of time and value.

Page 34: This discussion should consider the enhanced rotational values of full service water that farms may utilize. It is suggested that the economic value of a full service acre should be nearly twice that of current value. Other suggested changes would also have a significant impact on this discussion.

Page 38...40: These table and discussion should be reviewed regarding the issues previously presented. Time, value and relationships would change significantly.

Page 40...44: This discussion is regarding the impact to municipalities. First, the condition of the closely affected cities reveals that their basalt wells are mirroring the implications of the irrigators. City wells have dropped as much as 300 feet and continue to drop as much as 10 feet per year. It is likely they are on a timetable similar to the irrigators previously mentioned. They appear to likely have significant problems within the next 10 to 20 years. Failure to relieve the groundwater pressure of the irrigation community will continue deteriorate the groundwater conditions within the area. The "no action" and the "partial replacement" alternatives would provide no relief for the municipalities in those sub-basins. These two options leave Moses Lake and other municipalities in significant water issue timetables. Not only will they lose their agriculture processing and agriculture business impacts but, they risk loss of the groundwater source water they currently use. The potential impact to these municipalities is not empirically assessed or discussed. These losses or costs could accumulate into the billions of dollars.

Page 44...53: These pages assume the only potential risk and additional costs to municipalities is an increase in electrical cost due to higher pumping costs due to lower static water tables. However, no mention is given to finding alternative water supplies or the potential loss of industry if no alternate supply of water can be found. The incorrect assumption on the timetable of the loss of the aquifer has a significant impact on the speed at which the cities will likely lose their water static and potentially their water supply. Seeking water at a deeper depth is unlikely for these cities because of water quality issues at deeper levels and also higher unusable water temperatures. With no opportunity to dig deeper wells for supply sources, the cities will be very vulnerable when the groundwater supplies deteriorate. Since there is no sustainable source of water in the area that does not originate from the supplied Columbia River water brought through the irrigation delivery system it is likely the cities will be forced to seek water supplies from the irrigation delivery system in the future. This would predicate a significant cost to incorporate.

Page 55...69: First, the entire discussion of costs regarding drainage appears to be an unlikely expense. Previous construction proposals outlined drainage costs. However, because this is a



groundwater replacement project of irrigation units that have been in production for more than 20 years, it is unlikely there will be any drainage obligations. The current area appears to have no significant drainage issues; therefore there should be no additional drainage costs. This cost should be eliminated from the table.

Page 71: It is likely the lost hydropower production benefits are in excess.

- a. Several years of negotiating in the Washington legislature has documented that the additional use of water must come from the water available above the hydrograph of useable water in the Columbia River. If the interest of the hydropower industry is represented in the hydrograph it would assume that the water used is currently not used for other uses in the river.
- b. The hydropower industry has utilized Columbia River water for power production including the water rights associated with the remainder of the Columbia Basin project. Hydropower production has not paid the irrigation interests water rights holders for the use of their allotment during the last 70 years. Therefore, charges to the BCA economic summary for the loss of hydropower production are inappropriate. It is of note that there are no charges levied for any water use on the Columbia River for hydropower production. A footnote of a possible impact is likely but it should be amended to represent a true impact of water currently not in demand, above the demand curve. Hydropower loss costs should be removed from the calculation or at least adjusted to reflect a true value.

Page 71...90: The assessment of the potential impact to recreational activities is very thorough. However, it is unfortunate that the study allocates 18 pages to recreational impacts and does not evaluate the economic impacts to the imminent loss of municipal water supply in the affected area.

Page 90...99: The RED analysis is significantly inadequate. The multiplier effect for the affected area includes much more than a simple analysis of just the potato processing industry. The multiplication effect of the potential damage of the "no action" and the "partial replacement" options should include the impact of significant loss of industry and expense of potential municipal water loss. Additionally, the many other significant agribusiness, transportation, government, service and utility losses are not accounted due to the potential of not significantly addressing the potential of losing groundwater sources in this area.

The State of Washington has a responsibility to engage these groundwater loss issues in regards to their original issuance of these now failing water rights. A significant part of our states'

Synopsis of Adams County Comments Regarding Draft Environmental Impact Statement,  
Odessa Subarea Special Study

General comments:

Our comments are intended to be constructive, in assistance of US BOR's development of the action alternatives.

Replacement of groundwater withdrawals from deep wells for agricultural irrigation with delivery of surface water from the Columbia River is essential to maintain the agricultural economy in Adams County.

We do not support the No Action Alternative.

Congress established the economic justification for the action alternatives by adoption of the Columbia Basin Project Act in 1937 and 1946. That Act does not require Reclamation to re-establish economic justification for completion of the project now.

Specific comments:

The DEIS has not effectively addressed the disproportionately high and adverse human health or environmental effects on minorities and low income populations and communities as required by Executive Order 12898.

The DEIS has not quantified or determined the "significance" of the effect of the loss of irrigated agriculture on businesses and people dependent upon the agricultural economy.

The DEIS has not evaluated the effect of the any of the alternatives on land values or tax base.

The DEIS' benefit-cost analysis is helpful to compare the alternatives, but should not be used as a basis to determine that the No Action Alternative is preferred.

The DEIS' benefit-cost analysis should be redone.

- The analysis should use the discount rate of 3%.
- The rate of deterioration of groundwater wells should be better established.
- The "farm budget analysis" should be reconstructed incorporating current farm costs and income data, and should presume a positive net farm income.
- Costs to municipalities and industry which will be avoided because of the action alternatives should be added as benefits.
- Construction costs should be based on appropriately sized projects, taking into account the need for water based on current water use practices rather than practices use in earlier decades.
- Construction cost design and construction contingencies should be smaller because these are normal Reclamation construction projects that involve mere extension of existing operating portions of the Columbia Basin Project.

- Interest during construction should be based on the interest rate of 3%.
- Drainage costs should be excluded, as no drainage is required.
- BPA's estimate of "lost hydro-electric generation benefits," and BOR's identification of them as project "costs" should not be used. The benefit-cost analysis should use the "other direct costs" evaluation procedure, which requires measurement of the "increased costs to resource users" for the "costs of resources directly required for a project or plan, but for which no implementation outlays are made." The manufacturing costs of hydropower are not costs of the resource, i.e., water. If the lost benefits approach is used, only the lost benefits derived from the use of water pursuant to rights established prior to 1938, when the Columbia Basin Project's water right was established, should be counted.



From: [Mayor Doug Plinski](#)  
To: [BOR UCA OdessaStudy](#)  
Cc: [Odessa Record](#)  
Subject: Rehydration Comment  
Date: Tuesday, January 25, 2011 9:46:39 PM

---

Mr. Chuck Carnoham,

Thank you for giving the public this opportunity to comment on the Draft EIS for the Odessa Subarea Special Study. When I ask the citizens of the Odessa area if they have submitted their input, their response by and large is, "what's the use, they have been talking about the surface water supply for 50 years, they aren't going to do anything anyway". Apparently, they have given up after so many years of broken government promises. Please take this into account when you tally the responses.

The Town of Odessa has had four wells throughout the Town's history. The first well was shallow and abandoned in the 1960's due to lack of sufficient water. The second well began sucking air in the 1980's and was decommissioned due to lack of water. Well #3 was drilled in 1966 and Well #4 was drilled in 1977. Both wells have declining static water levels. Preliminary geochemistry and relative radiocarbon dating for Wells #3 and #4 indicate that Well # 3 contains a mixture of old (10,000 + years old) and young water. Conversely, Well #4 is indicated to be of 26,000 + years old water with little to no modern recharge source. The lack of recharge combined with the steady decline of static water levels reveal that the water source in Well # 4 is of limited supply. Frankly, the Town of Odessa has a legitimate concern about the declining Odessa Subarea Aquifer.

With all due respect, I take exception to the EIS analysis about minimal adverse impacts that would occur under the No Action Alternative. The 967 citizens of the Town of Odessa believe it to be of utmost importance for full ground water replacement. We have homes, small businesses, a school, a hospital, warehouses, machinery dealers with an entire economy based on agriculture. We have families with lives.

Mayor Doug Plinski  
P.O.Box 218  
Odessa WA 99159  
509-982-2401 / [mavor@odessaoffice.com](mailto:mavor@odessaoffice.com)







# Odessa Chamber of Commerce

P.O. Box 355  
Odessa, Washington 99159

Comment Letter LOC9

Control #: 11007856

DATE	TIME	FILE	DATE
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1103	X		
1104	X		
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January 26, 2011

Bureau of Reclamation  
Attn: Mr. Chuck Carnohan  
1917 Marsh Road  
Yakima WA 98901

Dear Mr. Carnohan,

The Odessa Chamber of Commerce, on behalf of its members, would like to express its support for efforts to bring surface water to the area of the Odessa subaquifer. We feel strongly that promises made back when the Grand Coulee Dam was built should finally be kept. Irrigation water was promised to our region back then but never delivered. We feel that steps should be taken to complete the Columbia Basin Project, providing water for irrigation and helping to rehydrate the Odessa subaquifer. Without additional water, our region will cease to be viable. That would be an economic blow to the entire state of Washington.

We support efforts to achieve rehydration of the Odessa subaquifer through the full replacement option.

Sincerely,

Marlon K. Schafer  
President, Odessa Chamber of Commerce

## Comment Letter LOC10

Received in 1/27/2011  
C  
C JAN 27 2011  
A  
D Yakima, WA

### TOWN OF LIND

P. O. Box F  
Lind, WA 99341  
Phone 509-677-3241 Fax 509-677-3207

Control #: 11006637

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1100	X		
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January 26, 2011

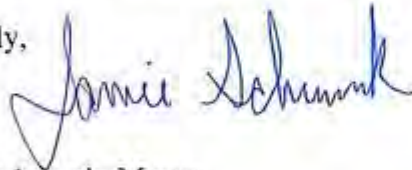
Mr. Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Re: Draft Environmental Impact Statement, Odessa Subarea Special Study

Dear Mr. Carnohan:

Enclosed please find a copy of Resolution 11-01, whereby the Town Council for the Town of Lind, Washington supports the comments of the Adams County Commissioners, Adams County, Washington regarding the above-referenced document. ]-LOC10-1

Sincerely,



Jamie Schmunk, Mayor

Enclosure – As indicated

RESOLUTION 11-01

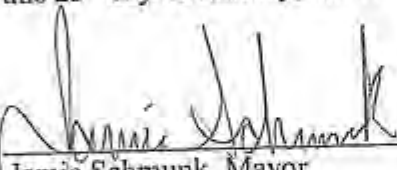
WHEREAS the Town Council for the Town of Lind, Washington has reviewed the comments of the Adams County Commissioners in response to the U.S. Bureau of Reclamation's and Washington State Department of Ecology's publication of the Draft Environmental Impact Statement, Odessa Subarea Special Study.

WHEREAS, the Town of Lind, at its January 25, 2011 public meeting, declared to support the comments in a document prepared by the Adams County Commissioners relating to the Draft Environmental Impact Statement.

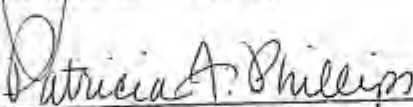
NOW, THEREFORE, BE IT RESOLVED, that the Town Council for the Town of Lind declares support for Adams County in their response to the U.S. Bureau of Reclamation's and Washington State Department of Ecology's publication of the Draft Environmental Impact Statement, Odessa Subarea Special Study.

DATED this 25<sup>th</sup> day of January, 2011.

APPROVED:

  
Jamie Schmunk, Mayor

ATTESTED:

  
Patricia J. Phillips, Clerk/Treasurer



Mr. Karl Wirkus, Regional Director  
U. S. Department of the Interior  
Bureau of Reclamation, Pacific Northwest Regional Office  
1150 North Curtis Road, Suite 100  
Boise, ID 83706-1234

Dear Mr. Wirkus,

As you may know, fresh irrigation water from irrigated farming is diluting the lake. This problem has been ongoing particularly since the Columbia Basin Irrigation Project became operational in 1951. Most recently from November 1998 through July 1999, roughly 20,976 acre feet or 7 billion gallons of mineral water were pumped from the surface of the lake by direct pumping (figures verified by engineers employed by Reclamation at the time.) This action jointly authorized by the Bureau of Reclamation and the Washington State Department of Ecology was done to protect two lakeside buildings from rising lake levels. This action forever diluted the lake of roughly 21,000 tons of minerals. These minerals were mixed into the irrigation water of the West Canal and used to irrigate the farmland of the Quincy Basin.

-ORG1-1

At least two studies back then by the Department of the Interior *INVESTIGATION OF THE RISE IN LEVEL OF SOAP LAKE 1954* and *THE SOAP LAKE PROBLEM 1956* spoke to the pending disaster awaiting the lake. These studies assured the public that protecting the ecosystem of Soap Lake was far too expensive to include in their activities. Further, the Department explained that the eventual freshening of the lake and loss of potential tourist revenue based on the mineral water would be offset by new "farm service related" businesses within the town site.

-ORG1-2

ORG1-3

The original studies tended to dismiss the value of Soap Lake and the Department and Ecology may well determine that nothing has changed, and that Soap Lake is indeed expendable in the face of the vast economic value of the irrigation to the region. I would remind the Department and Ecology that the original studies for the dams on the Columbia anticipated the extinction of several fish species. Lately it is impossible to find a spokesperson from the Bureau or the Department who will dismiss the value of these now important fish species. When the value of fish in the Columbia has come full circle in a single person's lifetime, will anyone associated with the important work of providing irrigation water to our area stand behind the eternal destruction of the ecosystem of Soap Lake without at least a second look?

-ORG1-4

John Gable

John Glassco • Chairman of the Board of Trustees • Soap Lake Conservancy  
postal address: P. O. Box 65, Soap Lake, WA 98851 • phone: (509) 246-0566 • website: thelake.org  
corporate office: 420 Basin St SW, Ephrata, WA 98823 • e-mail: john5@eco-nomic.com

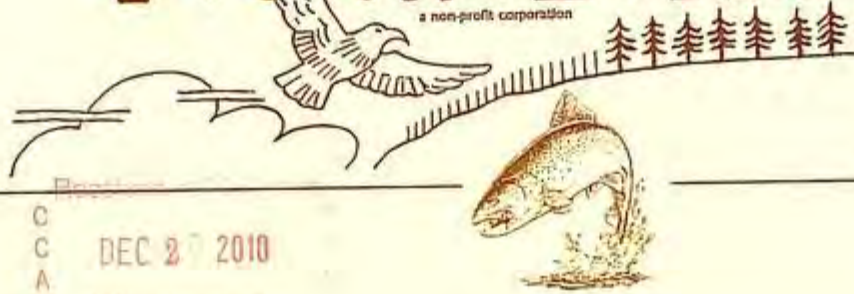


## Comment Letter ORG2

Promoters of Wildlife & Environmental Resources

**P.O.W.E.R.**  
a non-profit corporation

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Post Office Box 101

Grand Coulee, WA 99133

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O

DEC 27 2010

Yakima, Washington

USBR

John O'Callaghan

PO Box 815

Ephrata, WA. 98823-0815

12/20/2010

Odessa Subarea Special Steady

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In regards to the Fish Pen operation at the north end of Banks Lake.

At present we only have 15 to 24 feet of water under our fish pens with Banks Lake water level at 1,567.5. Our pens extend 200 feet out in to the lake with a log boom another 80 feet past the pens. Our pens are 30 feet square and 15 feet deep without figuring the sag in the middle of the nets. With water level below the 1,567.5 at any time from middle of October thru late June our nets are dragging on the bottom of the lake, this stirs up mud and if any objects on the bottom that snags the net and damages them. The stirring of the mud endangers the health of the Kokanee. Please see Figure #2 for present location and proposed location.

We along with Coulee Play land propose a Jetty placed from Sky Deck Motel outward toward the inlet canal to 200 feet with a floating seawall of 200 feet. (Please see Figure #7)

If placed in the correct place that would give 30 feet of water where we propose to place the fish pens. This would give us enough buffer to allow the water of Banks Lake to be drawn down 10 feet without jeopardizing the Net Pen operation.

ORG2-1

Carl Russell POWER Pres.  
cc Stephanie Utter



Promoters of Wildlife & Environmental Resources



Post Office Box 101

Grand Coulee, WA 99133

Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Mr. Carnohan Re: Odessa Subarea special study.

We run a fish pen operation on Banks Lake to enhance the fishing in Banks Lake. This fall 2010 is our 23rd year of operation.

We along with Coulee Playland have submitted a proposal to BOR about a jetty in Banks Lake to help reduce lake shore erosion along Coulee Playland and Electric City shoreline. In this proposal we submitted that our fish pens be placed on the north side of the jetty where we would have 30 feet of water below our net pens. There for the drawdown would not adversely effect the fish pen operation. At this time our pens are only in about 15 to 20 feet of water and jet out 180 feet into Bank Lake, also the current from the inlet is strong enough we have to put 80# weights on each corner of the nets to hold them down. Also with the present 5 foot drawdown each August and not refilling until late November causes a large mortality rate in the Kokanee fish. With the shallow water level we must keep our nets up about 5 feet therefore leaving less cubic feet of water for the fish in each pen. It also keeps the water temperature warmer. We had a mortality of 7,000 kokanee do to warm water and low levels of water since October 6th 2010.

ORG2-2

ORG2-3

We along with the Banks Lake Alliance were told in 2009 we would be meeting with BOR officials to discuss the proposal of the jetty but were never contacted after the public meeting. We see nothing in the Draft ESA about the jetty or our fish pens.

ORG2-4

We along with the Banks Lake Alliance & Coulee Playland submit to you that if the jetty were installed not only would that help with erosion but if the BOR would leave the lake down 5 feet from early August thru March that the health of the lake would be enhanced by growth of willows along the shoreline to help reduce erosion and give extra habitat for game and fish. This would give the lake more of a natural lake echo system.

ORG2-5

Carl Russell Pres. 509-633-0648 Cell 509-631-4322

Google maps Address Electric City, WA

Get Google Maps on your phone  
Text the word "GMAPS" to 466453


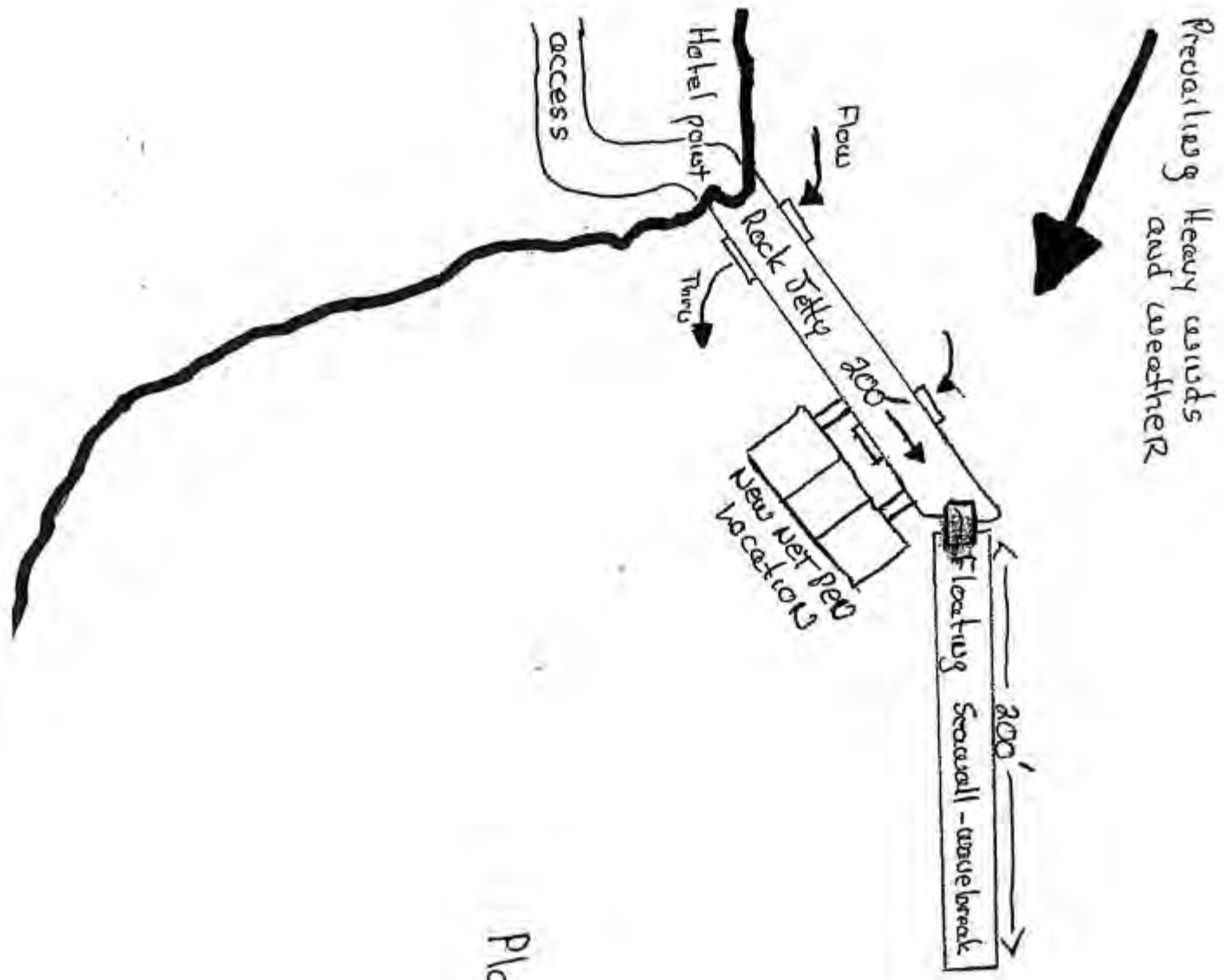


Fig #2





Fig # 7



Playland Moorage Area



U. S. Bureau of Reclamation  
Dec. 26, 2012

Re: Columbia Gorge Audubon Society public comment on the proposal to divert more water from the Columbia River for agricultural purposes and/or to supply wind power reservoirs.

Kind folks,

The Columbia River Audubon Society opposes this proposed increase of water diversion from the Columbia River for the following reasons:

This proposed increase in water diversion would result in further degradation and conversion of shrub-steppe habitat for birds and other animals. Habitat loss has been identified as the greatest threat to the shrub-steppe environment. This important habitat is already greatly reduced and fragmented due to agricultural and wind power development. ORG3-1

When wind power proponents first arrived in the Northwest, we were assured that projects would cease being promoted if bird kills even approached what we now know them to be. However, wind power is only about one third developed out, and it has become apparent that developers have no intention of ceasing until full build-out is achieved, regardless of the terrific toll on birds. It has also become apparent that the solution to the huge wind power bird kill issue will mostly involve politics and public relations and will restrict development only in marginal and insignificant ways. We do not make these charges lightly; we have almost twenty years of trying to prevent this unfolding disaster.

Does this proposed water diversion include the water that would be taken from the Columbia River to be used to fill the huge earthen-dam water reservoirs being proposed to provide wind power a method of storing energy, or does that come later in yet another diversion? We know of one super-huge earthen dam proposal up by Wenatchee and of three others proposed for the Columbia Hills overlooking the Columbia River Gorge. If this proposed water diversion includes the filling of these huge proposed reservoirs, we object for the following reasons: (1) The National Audubon Society designated Columbia Hills Important Bird Area is now undergoing border to border wind power development. This IBA is becoming a bird slaughter area. It would be reprehensible to ORG3-2

add another bird attractant to the Columbia Hills IBA like huge reservoirs to be filled from the Columbia River. (2) Since wind power and earthen dam reservoirs seem to go together, along with birds, the same objection holds for the dam proposed up by Wenatchee and any other similar proposal.

At this point, we believe that it would be irresponsible to further convert shrub-steppe habitat for agricultural use or to continue wind power development. We strongly believe that this proposed diversion of water from the Columbia River to supply these ill-conceived proposals would be a colossal mistake. Wind power already is four times more expensive than hydropower. How much more expensive will it be for rate payers when the cost of building, maintaining and operating huge earthen dam-reservoir complexes are factored in? Will the expense be eight times the cost of hydropower, or will it be even more? History tells us that the U.S. Bureau of Reclamation does not care, but we are telling you that you should care.

When the National Academies of Science makes recommendations counter to your water diversion proposal, we believe that this is a very good indication that enough is enough. You can only squeeze a river so far; if you go beyond that, serious diminishing economic returns set in, and major damage is done to the river and the fish and wildlife that depend on it.

Sincerely,



Dave Thies, President  
Columbia Gorge Audubon Society  
P. O. Box 64  
White Salmon, WA 98672  
(509-364-3578)



BIG BEND RESOURCE  
CONSERVATION &  
DEVELOPMENT COUNCIL

January 7, 2011

Chuck Carnohan, Technical Projects Study Manager  
Bureau of Reclamation  
1917 Marsh Road  
Yakima, Washington 98901-2058

**RE: Odessa Subarea Draft Environmental Impact Study**

To whom it may concern:

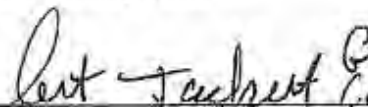
Big Bend Resource Conservation and Development Council (BBRCD) serve the people of Adams, Grant, Franklin and Lincoln counties to sustain the economic viability in rural Washington.


This letter is drafted to represent our full support for the comments provided by the Adams County Commissioners - Draft Environmental Impact Statement, Odessa Subarea Special Study.

ORGA-1

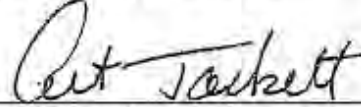
Thank you for your consideration.

  
John Preston, Chair

  
Carolann Swartz, 2<sup>nd</sup> Vice Chair

  
Rudy Plager, Treasurer

  
Robert Koch, 1<sup>st</sup> Vice Chair

  
Art Tackett, Secretary

## Comment Letter ORG4

2145 BASIN STREET SW SUITE E  
EPHRATA, WA 98823  
509-754-2463 X1117  
[www.BBRCDL.com](http://www.BBRCDL.com)

Room Y  
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Control #: 110072

Received in Mail

JAN 27 2011

Yakima, Washington

THE COLUMBIA BASIN GROUND WATER MANAGEMENT AREA  
1707 BROADWAY, ODESSA, WASHINGTON 99034  
PHONE: 509-188-3409 FAX: 509-188-3409

BUREAU OF RECLAMATION  
OFFICIAL FILE COPY

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1120	X		
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ACTION			

January 27, 2011

Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

RE: Comments on the Odessa Subarea Special Study Draft EIS - Construction Study

Dear Mr. Carnohan:

The board of the Columbia Basin Ground Water Management Area (GWMA) reviewed the Draft Environmental Impact Statement of the Odessa Subarea Special Study during the regular monthly meeting of January 25, 2011. We respectfully submit the attached as our comments relating to the construction portion of the document.

In summary, the GWMA Board wishes to express support for the following:

- All current proposals for full replacement appear to be cost prohibitive. Current construction proposal, designs and techniques appear not to be the most effective solution for delivering irrigation water. The GWMA board supports considering a more appropriate hybrid construction solution. } ORG6-1
- Additionally, the proposed full replacement alternative construction techniques are not explained satisfactorily and do not coincide with local technological expectations. } ORG6-2
- GWMA supports reexamining the restriction placed upon the study requiring no construction decisions impacting future development of non-irrigated acres. } ORG6-3
- GWMA supports the inclusion of alternate water supply sources of proposed groundwater replacement acreage. } ORG6-4

In addition to the above comments, the GWMA would like to support the comments from the Board of County Commissioners of Adams County.

Please feel free to contact us regarding any questions you may have regarding these comments.

Respectfully,

William A. Wagoner  
Chair of the Administrative Board

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**U.S. Department of the Interior - Bureau of Reclamation**  
**Draft Environmental Impact Statement**  
**Construction Study**  
**Odessa Subarea Special Study, Columbia Basin Project, Washington**

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**COMMENTS**

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The following comments are submitted on the construction details of the Draft Environmental Impact Statement of the Odessa Subarea Special Study:

1. If the full replacement alternative concept is the only acceptable conclusion, and if the current full replacement alternative proposed cost is prohibitive, then it is likely that a lower cost full replacement alternative should be considered. } ORG6-5
2. Initial study decisions disregard all options, such as the original Option "C", which supply water for the full replacement alternative from the existing East Low Canal. This preliminary decision is not adequately supported. If, concerns regarding the full completion impacts are removed from the decision to eliminate Option C, could the East Low Canal fulfill the delivery requirements for the full replacement alternative? } ORG6-6
3. Current Washington State legislative intent suggests groundwater replacement water supply options as the only acceptable delivery expectation. Further development of currently non-irrigated acreages is not currently an acceptable concept. Providing the irrigation water to current non-irrigated acreages may not be acceptable for quite some time. } ORG6-7
4. Construction techniques such as open canals instead of enclosed pipes and large 250' tall regulating towers are unfamiliar construction pipeline concepts that are not fully supported in the documentation. } ORG6-8
5. Honoring the arbitrary eastern edge of the study area in the southern Lincoln County area provides an artificial boundary for groundwater replacement in an area where significant improvement could be easily attained. } ORG6-9

6. A significant number of irrigation fields/circles included in the delivery proposal are currently receiving sustainable groundwater and could easily be removed as delivery potential acreage. The removal of these acres would reduce the demand on the East Low Canal. } ORG6-10
7. Current study proposals suggest the removal of existing delivery pipelines and pump stations. These pipelines and pump stations represent a significant capital investment and significantly increase replacement costs. } ORG6-11
8. Several privately funded distribution system plans have been created and proposed. These LID type proposals appear to be significantly less expensive alternatives to the current proposed construction costs. Construction of LID type delivery systems could be funded by low interest State Revolving Funds. } ORG6-12
9. Some existing acreages may be supplied water from alternate sources such as Esquatzel coulee drain water and would reduce the cost and the demand on the East Low Canal. } ORG6-13
10. Given the proposed 10-year water depletion time frame, protracted construction time tables suggested would provide replacement water long after the agricultural acreage had failed. } ORG6-14
11. The addition of proposed regulating reservoirs at Black Rock, Webber Coulee and other would likely provide significant aquifer recharge. Consideration should be given to further utilization of this recharge. Some of the existing acreage may likely be supplied by this recharge source, reducing the surface water demand on the East Low Canal. } ORG6-15
12. There is no indication the study allows for alternate supply projects from groundwater or surface water to any of the affected acres within the study. These alternate supply sources would reduce the demand on the surface delivery system. } ORG6-16
13. Using pipeline technology, burying the delivery pipes, would eliminate the construction need for the suggested wildlife impact habitat crossings. } ORG6-17
14. Additional surface storage reservoir sites such as Lind Coulee, etc., should reduce temporary capacity limitations of the East Low Canal. } ORG6-18



## ADAMS COUNTY - COMMENTS

### Synopsis of Adams County Comments Regarding Draft Environmental Impact Statement, Odessa Subarea Special Study

#### General comments:

Our comments are intended to be constructive, in assistance of US BOR's development of the action alternatives.

Replacement of groundwater withdrawals from deep wells for agricultural irrigation with delivery of surface water from the Columbia River is essential to maintain the agricultural economy in Adams County.

ORG6-19

We do not support the No Action Alternative.

ORG6-20

Congress established the economic justification for the action alternatives by adoption of the Columbia Basin Project Act in 1937 and 1946. That Act does not require Reclamation to re-establish economic justification for completion of the project now.

ORG6-21

#### Specific comments:

The DEIS has not effectively addressed the disproportionately high and adverse human health or environmental effects on minorities and low income populations and communities as required by Executive Order 12898.

ORG6-22

The DEIS has not quantified or determined the "significance" of the effect of the loss of irrigated agriculture on businesses and people dependent upon the agricultural economy.

ORG6-23

The DEIS has not evaluated the effect of the any of the alternatives on land values or tax base.

ORG6-24

The DEIS' benefit-cost analysis is helpful to compare the alternatives, but should not be used as a basis to determine that the No Action Alternative is preferred.

ORG6-25

The DEIS' benefit-cost analysis should be redone.

- The analysis should use the discount rate of 3%.
- The rate of deterioration of groundwater wells should be better established.
- The "farm budget analysis" should be reconstructed incorporating current farm costs and income data, and should presume a positive net farm income.
- Costs to municipalities and industry which will be avoided because of the action alternatives should be added as benefits.
- Construction costs should be based on appropriately sized projects, taking into account the need for water based on current water use practices rather than practices use in earlier decades.
- Construction cost design and construction contingencies should be smaller because these are normal Reclamation construction projects that involve mere extension of existing operating portions of the Columbia Basin Project.

ORG6-26

## ADAMS COUNTY - COMMENTS

- Interest during construction should be based on the interest rate of 3%. } ORG6-27
- Drainage costs should be excluded, as no drainage is required. } ORG6-28
- BPA's estimate of "lost hydro-electric generation benefits," and BOR's identification of them as project "costs" should not be used. The benefit-cost analysis should use the "other direct costs" evaluation procedure, which requires measurement of the "increased costs to resource users" for the "costs of resources directly required for a project or plan, but for which no implementation outlays are made." The manufacturing costs of hydropower are not costs of the resource, i.e., water. If the lost benefits approach is used, only the lost benefits derived from the use of water pursuant to rights established prior to 1938, when the Columbia Basin Project's water right was established, should be counted. } ORG6-29

Table NED\_BCA1--Results of NED BCA (based on current planning rate: 4,375 (\$ millions)

Alternatives	Partial replacement alternatives					Full Replacement Alternatives				
	2A	2B	2C	2D	3A	3B	3C	3D		
1) Total NED benefits										
a) Agricultural Benefits	1,170.2	1,170.2	1,170.2	1,817.6	1,820.6	1,820.6	1,820.6	1,820.6		
b) Other direct benefits--municipal	1,153.3	1,153.3	1,153.3	1,800.7	1,800.7	1,800.7	1,800.7	1,800.7		
c) Other direct benefits--Industrial	5.1	5.1	5.1	5.1	8.1	8.1	8.1	8.1		
	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8		
2) Total NED costs (including lost benefits)	1,088.7	1,088.7	1,538.1	1,538.1	3,657.2	3,657.2	4,106.5	4,106.5		
a) Canal and reservoir construction and IDC costs	908.0	908.0	1,326.0	1,326.0	3,255.7	3,255.7	3,673.7	3,673.7		
b) Canal and reservoir OMR&P costs	180.7	180.7	212.1	212.1	401.5	401.5	432.8	432.8		
c) Drainage system construction and IDC costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
d) Drainage system OMR&P costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
e) Lost hydropower benefits	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
3) Net benefits (row 1 minus row 2)	81.5	81.5	-367.9	279.5	-1,836.6	-1,836.6	-2,285.9	-2,285.9		
4) Benefit-cost ratio (row 1 divided by row 2)	1.075	1.075	0.761	1.182	0.498	0.498	0.443	0.443		

Table NED\_BCA1--Results of NED BCA (based on current planning rate: 3.0 % (\$ millions)

Alternatives	Partial replacement alternatives				Full Replacement Alternatives			
	2A	2B	2C	2D	3A	3B	3C	3D
1) Total NED benefits	1,504.5	1,504.5	1,504.5	1,504.5	2,401.9	2,401.9	2,401.9	2,401.9
a) Agricultural Benefits	1,478.7	1,478.7	1,478.7	1,478.7	2,371.1	2,371.1	2,371.1	2,371.1
b) Other direct benefits--municipal	9.3	9.3	9.3	9.3	14.3	14.3	14.3	14.3
c) Other direct benefits--Industrial	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
2) Total NED costs (including lost benefits)	832.5	832.5	1,200.0	1,200.0	2,981.5	2,981.5	3,348.9	3,348.9
a) Canal and reservoir construction and IDC costs	832.5	832.5	1,200.0	1,200.0	2,981.5	2,981.5	3,348.9	3,348.9
b) Canal and reservoir OMR&P costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2c) Drainage system construction and IDC costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
d) Drainage system OMR&P costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
e) Lost hydropower benefits	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3) Net benefits (row 1 minus row 2)	672.0	672.0	304.5	304.5	-579.6	-579.6	-947.0	-947.0
4) Benefit-cost ration (row 1 divided by row 2)	1.807	1.807	1.254	1.254	0.806	0.806	0.717	0.717



Comments of Adams County Commissioners  
Adams County, Washington  
Regarding  
Draft Environmental Impact Statement, Odessa Subarea Special Study

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Comments of Adams County Commissioners  
Adams County, Washington  
Regarding  
Draft Environmental Impact Statement, Odessa Subarea Special Study

I. Introduction and General Principles

These Comments are submitted by the elected Commissions of Adams County, Washington, in response to the U.S. Bureau of Reclamation's and Washington State Department of Ecology's publication of the Draft Environmental Impact Statement, Odessa Subarea Special Study.<sup>1</sup> We appreciate the consistent and proactive attention of the Bureau of Reclamation, Washington State Legislature and the Washington State Department of Ecology addressing a surface water solution to the Odessa area's groundwater consumption problem. These comments are intended to be constructive in assistance of that effort.

II. Purpose and Need

We concur with the statements of purpose of the special study and the need for a Columbia River surface water supply to replace deteriorating groundwater supplies in the Odessa Subarea, some of which lies beneath Adams County. Adams County is located in Eastern Washington bordered by Lincoln (North), Whitman (East), Franklin (South) and Grant (West). The Adams County seat is located at Ritzville, Washington, 60 miles south of Spokane. Irrigated agriculture represents a major portion of the economy of Adams County and irrigated acreage represents a significant portion of Adams County's tax base.

Deep well irrigation was established in Adams County in the 1960s in order to maximize the agricultural potential of prime agricultural soils while the Columbia Basin Project was under development as contemplated by the Columbia Basin Project Act. Groundwater withdrawals from these deep wells in the Odessa subarea of the Columbia Plateau regional aquifer have significantly reduced of water levels in that aquifer system since the 1960s. We are concerned with the information that only 20-25 percent of the groundwater supply in that portion of the regional aquifer system may be remaining. We note, and are concerned by, the conclusions reached by Reclamation and the U.S. Fish and Wildlife Service about the extent and severity of the problem:

"Since the early 1980s, groundwater levels have progressively dropped by 100 to 200 feet in nearly half of the production wells, at an average decline of 6 to 8 feet per year. . . . As a result of the current conditions of groundwater decline in the Odessa Subarea, the ability of farmers to irrigate their crops is at risk. Domestic, commercial, municipal, and industrial uses, and water quality are also affected."<sup>2</sup>

<sup>1</sup> United States Bureau of Reclamation, Washington State Department of Ecology, "Draft Environmental Impact Statement, Odessa Subarea Special Study, Columbia Basin Project, Washington," September 26, 2010. (hereafter "DEIS"). Prepared pursuant to its Federal Notice of Intent to Prepare an EIS, Federal Register, August 21, 2008.

<sup>2</sup> DEIS, p. 1-2.

“Groundwater levels in wells of the Odessa Subarea have steadily declined since substantive pumping began in the 1960s. Since the early 1980s, groundwater levels have dropped by 100-200 feet. In nearly half the production wells, at an average decline of 6 to 8 feet per year. In many cases, wells have been drilled deeper to access water, or use of wells has been discontinued. Most of the groundwater wells currently are 800 to 1,000 feet deep, but some are as deep as 2,100 feet.”<sup>3</sup>

“Based on current trends, it is estimated that groundwater supply for most groundwater-irrigated lands in the Project Area will fail within 10 years.”<sup>4</sup>

“The purpose of the Project is to avoid potential economic loss, in the near term, to the region’s agricultural sector as a result of continued declines in the quantity and quality in Odessa Subarea aquifers. Groundwater in the Odessa Subarea is currently being depleted to such an extent that water must be pumped from depths as great as 750 feet. Domestic, commercial, municipal, and industrial uses are also affected by decreasing water supplies.”<sup>5</sup>

This rate in deterioration of water supply and well competence presents an immediate and serious prospect of economic deterioration in Adams County, a need that mandates adoption of the project under consideration: delivery of Columbia River surface water, already stored in Roosevelt Lake behind Grand Coulee Dam pursuant to existing storage and delivery rights, to replace the failing groundwater supply. Adams County’s population is growing. We will all be affected. It is incumbent upon the County Commission to advocate the most robust potential action that will beneficially address Adams County’s needs.

The risk of climate change exacerbates the purpose and need for delivery of Columbia River surface water. The groundwater beneath the surface in the Columbia Plateau regional aquifer is ancient, placed there under geoclimatic conditions outside of our general knowledge. The surface water available in the Columbia River is very much the consequence of our current climate, the propitious latitudinal geography of the Pacific Northwest, and the more northern headwaters of the Columbia River. We must be conscious also of the varying climate conditions under which the agricultural practices currently utilized on the Columbia Plateau, and specifically within Adams County, are responsive if climates change.<sup>6</sup> We agree with the U.S. Fish and Wildlife Service’s and Washington State Department of Ecology’s observations:

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<sup>3</sup> DEIS, p. 2-15.

<sup>4</sup> U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office, “Draft Fish and Wildlife Coordination Act Report for the Odessa Subarea Special Study,” September 16, 2010, hereafter “DFWCAR”, p. 31.

<sup>5</sup> DFWCAR, p. 5.

<sup>6</sup> [http://www.ecv.wa.gov/programs/wr/cwp/cr\\_climate.html](http://www.ecv.wa.gov/programs/wr/cwp/cr_climate.html)

“The climate in eastern Washington is arid, with an average of 7.4 inches of precipitation and 17.4 inches of annual snowfall at Ephrata, and 10.9 inches of precipitation and 16.3 inches of snowfall at Odessa (Washington State Climatologist, 2009). . . . Since economic and political impacts and responses are linked to climate change, become harder to predict, and confidence in the prediction decreases the further into the future they are made, the more divergent the scenarios become into the future.”<sup>7</sup>

“For the Pacific Northwest, increases are projected in precipitation, temperature, and the length of droughts. However, increased precipitation is projected to come more in the form of rain rather than snow which will result in decreased groundwater recharge and less spring moisture, due to more run off (CIGG 2009, p. 198). Projects for Lind show that, although annual rainfall will increase by 10-14 per cent by 2080, seasonal rainfall (spring and summer) will only increase by 10-12 percent while non-seasonal (fall and winter) rainfall will increase by 21 to 16 per cent (CIGG 2009, p. 198). Increased drought will harden surface soil and prevent absorption of rainwater. These factors are projected to equate to less effective precipitation. Forest and grass land cover is predicted to likely increase (Wooten 2003, p. 9). A net decrease of shrub steppe habitat in the Project Area will likely result, as the boundaries of shrub steppe habitat shift northward (Shafer *et al* 2001, p. 18; Chambers and Pellant 2008, p. 30).”<sup>8</sup>

“In addition to changing supply, climate change has the potential to change existing crop demands. For example, in Eastern Washington (within the greater Columbia River Basin), US Geological Survey reports approximately 1.7 million acres of irrigated crops in the greater Columbia Basin. If 20 years from now climate change has resulted in a need for an added inch of water per acre, due to hotter weather and decreasing summer rain, then 140,000 acre-feet more water will be needed to maintain current crop production. There is also 5.3 million acres of non-irrigated agriculture in the basin (e.g. dry-land wheat). Increasing temperatures and shifting of water availability due to climate change may result in some of these lands moving to irrigation to maintain yield and profitability, or a decrease in yield for those that cannot obtain irrigation water.”<sup>9</sup>

We recognize that the economic effects of the loss of groundwater supplies as a resource to agricultural production in Adams County could be made worse by a changing climate. We also recognize, and hope, however, that changes in precipitation patterns might actually be positive:

“USDA (2008) reports that Adams County had a 9 per cent increase in the number of farms, Grant County had an increase of 7 percent in the number of

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<sup>7</sup> DFWCAR, p. 30.

<sup>8</sup> DFWCAR, pp. 30, 31.

<sup>9</sup> Washington State Department of Ecology, [http://www.ecy.wa.gov/programs/wr/cwp/cr\\_climate.html](http://www.ecy.wa.gov/programs/wr/cwp/cr_climate.html)



farms, and Lincoln County had an increase of 7 percent in the number of farms. Only Franklin County had a decrease (-6 percent) and the amount of land under agriculture increased in all of the above listed counties except Franklin. With limited water resources available in the Project Area, farming has largely been dryland farming of wheat. However, with the availability of Columbia River water in the area, shifts in the nature, composition, and timing of crops are expected. For instance, yield of dryland wheat will likely increase by 35 percent in Lind and 36 percent in Odessa by the year 2080, without any changes in land use, merely due to increased rainfall and increased carbon dioxide in the atmosphere (CIGG 2009, p. 203-204). Rainfall is expected to increase by 25 millimeters (~ 1 inch) for the same period (CIGG 2009, p. 198).<sup>10</sup>

### III. Preferred Alternative

We oppose the No Action Alternative, primarily because of its significant negative economic consequences to Adams County's economy. The No Action Alternative will also cause significant reductions to the underlying value of real property in Adams County. The Adams County tax base is premised on these real property values. The revenues derived from that tax base provide governmental services to all the citizens of Adams County. These services include public works, law enforcement, criminal justice, other judicial services, planning, etc.

Among the action alternatives, we most prefer Alternatives 3A, 3B, 3C, and 3D because they do the most to address the conspicuous and aggravated problem of deteriorating groundwater supplies in Adams County. As we are, ourselves, government officers with fiscal responsibilities, we recognize that other alternatives, including 2A, 2B, 2C and 2D, may be more cost effective. But only full development will maximize the benefits of replacing unreliable water supplies with reliable ones, benefits which are essential to the lives of agricultural communities within Adams County, particularly those protected by the factor of environmental justice.

### IV. Environmental Justice

Selection of the No Action Alternative would be unjust to ethnic minorities and low income people in Adams County.

Section 1-101 of Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," dated February 11, 1994, requires agencies to identify and address disproportionately high and adverse human health or environmental effects of their actions on minorities and low income populations and communities as well as the equity of the distribution of the benefits and risks.

To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by

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<sup>10</sup> DFWCAR, p. 34.

identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.

The DEIS should balance the detrimental effects of the No Action Alternative against the positive effects of the action alternatives upon traditionally disenfranchised populations. The benefits of the action alternatives inure more significantly to minority or traditionally disenfranchised populations, because these populations constitute a larger than average component of Adams County's general population. And the benefits of the action alternatives which improve the economic stability and lifestyle of these minority or traditionally disenfranchised populations also improve the general economic stability and lifestyle of the entire Adams County population because they are so large a component of the broader population.

The DEIS discussion of Environmental Justice and the impact of the project alternatives on traditionally disenfranchised populations should be redrafted. 2010 Census demographic data, which is scheduled to become available in March 2011, should be reviewed to determine current demographics within Adams County. The DEIS' determination of the effect of the No Action Alternative and the action alternatives on these populations should be made again in the light of that information.

DEIS Table 3-51 Race and Ethnicity in 2000<sup>11</sup> shows that racial minorities constitute 35% of Adams County's population, compared to the Washington State average of 18.2 %. The same Table shows that the Hispanic or Latino population constitutes 47.1 % of Adams County's population, compared to the Washington State average of 7.5 %. DEIS Table 3.52, Income, Poverty, Unemployment and Housing in 2000<sup>12</sup> shows that 18.2 % of individuals and 13.6 % of families in Adams County's population were below the poverty level in 1999, compared to the Washington State averages of 10.6 % and 7.3%, respectively. The same table shows that 8.7 % of Adams County's workforce was unemployed in 2000. By comparison, 12.8% of Adams County's workforce was unemployed in 2010. These statistics should be re-established based on the 2010 Census.

The DEIS' population growth projections for 2010-2030 are presented in DETR Table NED\_MUNI4.—Population projection growth rate by county. These projections do not accurately reflect the disproportionate growth of ethnic populations which typically suffer low income, poverty and housing problems in Adams County. DEIS Tables 3-51 and 3-52<sup>13</sup> illustrate that Adams County suffers these problems at a disproportionately high rate in the State of Washington. Deteriorating groundwater supply, which would be perpetuated by the No

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<sup>11</sup> DEIS, p. 3-158.

<sup>12</sup> DEIS, p. 3-159.

<sup>13</sup> DEIS, pp. 3-158, 3-159.

Action Alternative, affects the people who suffer these problems. None of the action alternatives would adversely affect these populations.<sup>14</sup> However, the DEIS analysis of affect is limited only to direct physical impacts. If disproportionate socioeconomic impact were also considered as a determinant of significance of effect,<sup>15</sup> the degree of affect from the No Action alternative would be greater.

DEIS Table 3-52 states that the median family income in 1999 was \$37,075. Recent Adams County statistics suggest that the current median household income for Adams County is \$33,888, and that the median home value is \$84,300. The median rent is \$430. These statistics should be presented based on the 2010 Census.

The DEIS' public health impacts analysis considers the proximity of ethnic minorities and low income peoples to project actions,<sup>16</sup> but does not consider the public health effects of failing domestic wells on farms or homes near towns. Low income persons are less capable of responding to failing domestic wells by paying to deepen them. Broad public health problems will ultimately increase the costs of public health institutions and the governments that provide them.

Adoption of pro-active enrichment strategies in areas with low percentages of ethnic minorities, while pursuing no action in areas with high percentages necessarily affects them disproportionately in a manner that is unjust. The DEIS findings that the No Action Alternative has "no significant impacts or effects with environmental justice,"<sup>17</sup> and that "no environmental justice impact is anticipated"<sup>18</sup> should be re-examined. The DEIS recognizes the reality that "reduction in irrigated agriculture . . . could impact businesses and people linked to the agricultural industry (including, but not limited to, farm workers, food processing facilities, seed and pesticide companies, and trucking companies). Minority or low-income populations associated with these impacted land uses could also then be adversely impacted."<sup>19</sup> The DEIS should reconcile these conclusions.

## V. Land Value Analysis

We are concerned that the average market values of land presented in Table 3-36 of the DEIS<sup>20</sup> appear unreasonably low. This appears to be due to their being skewed by inclusion of large amounts of dry farmland and unfarmed land in Adams County. The average acreage market

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<sup>14</sup> DEIS, section 4.25, pp. 4-269 – 4-272.

<sup>15</sup> See DEIS, section 4.25.1.2.

<sup>16</sup> DEIS, p. 4-250.

<sup>17</sup> DF-LSSR, p. 4-74.

<sup>18</sup> DEIS, p. 4-271.

<sup>19</sup> DEIS, p. 4-271.

<sup>20</sup> Also AgBen2.—Average Market value of land for the four-county analysis area, DETR, p. 9.

value apparently takes into account all land, notwithstanding whether it is irrigated or unirrigated, farmed or unfarmed. No data is presented regarding the market value of irrigated acres versus unirrigated acres. No data is presented regarding the market value of acres irrigated by groundwater versus acres irrigated by surface water (see properties identified in DEIS Maps 1, 3, 4, 5). DETR Table AgBen1.—Census of agriculture number of farms data shows the amount of acreage farmed in the analysis area and the amount of acreage being irrigated in each county within the analysis area. Calculating from the data presented, only 11%, 36%, 43% and 3% of farm acres in those portions of Adams, Franklin, Grant and Lincoln Counties which are within the analysis area are irrigated. Only 3% of the farmed acreage in the four county analysis area will be within the project. (102,618 acres/3,885,663 acres). The average market values of land in these counties, as presented by DEIS Table 3-36, is obviously weighted substantially by the values of unfarmed, unirrigated lands.

Maintenance of real property values in Adams County is an essential function of Adams County government. Real property valuation is the basis of the County's tax base. Maintained real property valuation is also important for enhancing entrepreneurial activity within the County. Enhanced property values increase enhanced creditworthiness, better lending opportunities, and therefore better entrepreneurial activities.

The DETR and DEIS perform no basic or comparative land value analysis. A land valuation analysis should be conducted in accordance with Sections 2.3.5 (9) and 2.3.4 (f), (g) of the Principles and Guidelines. Evaluations should be conducted of properties within the Columbia Basin Project with comparable soils, including both "lands on which the cropping pattern is the same with and without the plan" and "lands on which there would be a change in cropping pattern with the plan."<sup>21</sup> Values should be established for properties relying on groundwater for irrigation and those that use surface water for irrigation. Land values should be established assuming post-Energy Policy Act market influences and could be corroborated by data from leasehold transactions reflecting return on investment in irrigated and unirrigated farmland.

The highest and best use of the subject properties should also be considered, taking into account the 100 year time horizon otherwise used in the benefits analysis and that properties in the subject area could transition to higher uses, including horticultural and viticultural agriculture, given soil quality comparability with other areas with similar uses and transitional aspects of infrastructure support for those higher and better uses.

We are confident that a land valuation approach will better demonstrate the significant benefits which any of the action alternatives will provide, when weighed against the project costs. We expect to retain appraisal expertise to prepare a report addressing the issue of appropriate land valuation and will submit that to Reclamation and Ecology when it is complete.

When the effect of No Action Alternative on land value has been established, and compared to the effect on land value of the action alternatives, it will become possible to determine the effect of these alternatives on Adams County's tax base, its consequent property tax revenues, and the effect of these on the public services Adams County will be able to provide.

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<sup>21</sup> See Principles and Guidelines, Section 2.3.5 (a).



## VI. Economic Justification

The DEIS states that “Acting for the Secretary, Reclamation is authorized to implement additional development phases of the CBP as long as the Secretary finds it to be economically justified and financially feasible.”<sup>22</sup> But the Columbia Basin Project Act does not establish economic justification as a statutory prerequisite for completion of the Columbia Basin Project. Rather, the Columbia Basin Project Act presumes that the project is economically justified and establishes a financing paradigm which provides for reimbursement of costs. Congress determined the economic justification for the Columbia Basin Project when the authorizing legislation was originally passed in 1937. Unless Congress acts again to the contrary, the economic justification of the Project’s completion should be assumed.<sup>23</sup> Moreover, a proper comparison of those portions of the Project already completed with those that are not, as contemplated by section 2.3.5 of the Principles and Guidelines, will confirm the economic justification of moving further toward completion of the Columbia Basin Project.

The Columbia Basin Project was begun with the allocation of funds for Grand Coulee Dam pursuant to the National Industrial Recovery Act of June 16, 1933.<sup>24</sup> In 1935, Grand Coulee Dam Project was specifically authorized for construction by the Rivers and Harbors Act of 1935.<sup>25</sup> Two years later, in 1937, Congress passed the Columbia Basin Project Act of May 27, 1937.<sup>26</sup> In 1939, Congress passed two additional Acts authorizing the Secretary of the Interior to investigate and construct water projects. These included the Reclamation Projects Act of 1939<sup>27</sup> and the Water Conservation and Utilization Act of 1939.<sup>28</sup> In 1943, Congress passed the Columbia Basin Project Act of 1943,<sup>29</sup> reauthorizing the Columbia Basin Project “subject to the Reclamation Project Act of 1939.” That reauthorization, now codified at 16 U.S.C. 835,<sup>30</sup> provides:

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<sup>22</sup> DEIS, p. 1.9.

<sup>23</sup> Any determination to the contrary would have the effect of removing the economic benefits of land acquisition by property owners within the Project who had relied upon Congress’ and the U.S. Bureau of Reclamation’s prior actions.

<sup>24</sup> Act of June 16, 1933, Ch. 90, 48 Stat. 195, previously codified at 15 U.S.C. Sec. 703 (now omitted).

<sup>25</sup> Act of August 30, 1935, 49 Stat. 1028, 1039-1040, Pub. L. 74-409.

<sup>26</sup> Act of May 27, 1937, Ch. 269, Sec. 1, 50 Stat. 208.

<sup>27</sup> Act of August 4, 1939, Ch. 418, 53 Stat. 1187.

<sup>28</sup> Act of August 11, 1939, Ch. 717, 53 Stat. 1418, 16 U.S.C. 590y et seq.

<sup>29</sup> Act of March 10, 1943, 57 Stat. 14, Public Law 78-8.

<sup>30</sup> 16 U.S.C. 835, The Act was later amended by the Act of Mar. 10, 1943, Ch. 14, 57 Stat. 14.

In addition to the primary purposes for which the Grand Coulee Dam project (hereafter to be known as the Columbia Basin project and herein called the "project") was authorized under the provisions of the Act of August 30, 1935 (49 Stat. 1028), the project is authorized and reauthorized as a project subject to the Reclamation Project Act of 1939; and the provisions of each of those two Acts together with the provisions of this Act shall govern the repayment of expenditures and the construction, operation, and maintenance of the works constructed as a part of the project.

The Reclamation Projects Act of 1939 set forth the requirements the Secretary must follow when investigating construction "of any new project, new division of a project, or new supplemental works on a project." Those requirements are now codified at 16 U.S.C. 485h.<sup>31</sup>

No expenditures for the construction of any new project, new division of a project, or new supplemental works on a project shall be made, nor shall estimates be submitted therefor, by the Secretary until after he has made an investigation thereof and has submitted to the President and to the Congress his report and findings on—

- (1) the engineering feasibility of the proposed construction;
- (2) the estimated cost of the proposed construction;
- (3) the part of the estimated cost which can properly be allocated to irrigation and probably be repaid by the water users;
- (4) the part of the estimated cost which can properly be allocated to power and probably be returned to the United States in net power revenues;
- (5) the part of the estimated cost which can properly be allocated to municipal water supply or other miscellaneous purposes and probably be returned to the United States.

If the proposed construction is found by the Secretary to have engineering feasibility and if the repayable and returnable allocations to irrigation, power, and municipal water supply or other miscellaneous purposes found by the Secretary to be proper, together with any allocation to flood control or navigation made under subsection (b) of this section, equal the total estimated cost of construction as determined by the Secretary, then the new project, new division of a project, or supplemental works on a project, covered by his findings, shall be deemed authorized and may be undertaken by the Secretary. If all such allocations do not equal said total estimated cost, then said new project, new division, or new supplemental works may be undertaken by the Secretary only after provision therefor has been made by Act of Congress enacted after the Secretary has submitted to the President and the Congress the report and findings involved. (Emphasis supplied.)

The 1939 Reclamation Act thus establishes a statutory standard authorizing construction of a new division of the Columbia Basin Project. It is a two part standard. First, the new division's construction must "have engineering feasibility." Second the "repayable and returnable

<sup>31</sup> Act of August 4, 1939, Ch. 418, Sec. 9, 53 Stat. 1187.

allocations to irrigation, power and municipal water supply” must “equal the total estimated cost of construction.” The statute contemplates no benefit-cost analysis. Rather, it contemplates a repayment-cost analysis. Only if costs exceed repayments, as allocated to the several water user categories, must the project proposal be newly authorized by Congress.

Likewise, Congress established its policy that a repayment-cost equation, and not a benefit-cost equation, was essential to continued authorization or development of water projects under the Water Conservation and Utilization Act of 1939.<sup>32</sup>

The Project’s authorizing legislation makes clear that economic justification is not required. Rather, what is required is that the costs for the Project must be estimated and partitioned into that which “can be repaid by the water users” and other project beneficiaries. We support Reclamation’s seeking alternatives that emphasize lower costs, so that the repayment costs are affordable and “can be repaid by the water users.” We recommend that Reclamation consider a water delivery contract subscription process and method, based on cost estimates, to ascertain the extend of demand for surface water delivery as a better measure of economic justification.

We acknowledge that the Principles and Guidelines help to analyze and compare the various alternatives under consideration, and may guide the Secretary and President with respect to their actions anticipated by 16 U.S.C. 835 and 485h. But the benefit-cost factor, and the “economic justification” for which it serves as a proxy, is not a statutory determinant for Columbia Basin Project construction. The authorizing statute contains no provision mandating that project “feasibility” determinations be made on any basis other than engineering feasibility and sufficient repayment. Nor does it contain any provision mandating that the economic benefits of a project exceed the costs of the project, however measured.

## VII. Benefit-Cost Analysis, DEIS Section 2.8

Reclamation should be cautious regarding the degree of its reliance on the outcome of benefit-cost analysis. Benefit-cost analysis should be an information-providing tool which is available to improve decision making. Its product, a numeric factor, should be understood as advisory information, not qualification/disqualification information. Alternatives under consideration may be comparatively viewed through benefit-cost analysis to have performed better or worse but none can be said to have succeeded or failed because the benefit-cost ratio does not attain a precise standard (e.g. 1.0).<sup>33</sup> Chapter II of the Principles and Guidelines, National Economic Development (NED) Procedures, recognizes this:

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<sup>32</sup> The Water Conservation and Utilization Act of August 11, 1939, 53 Stat. 1418; 16 U.S.C. 590y *et seq.*

<sup>33</sup> Reclamation should also consider that revision of the Principles and Guidelines, which set forth the procedures by which benefit-cost analysis is performed, is currently under consideration by the Council on Environmental Quality. The U.S. Council on Environmental Quality proposed “National Objectives, Principles and Standards for Water and Related Resources Implementation Studies” on December 3, 2009. The National Objectives and the supporting Planning Principles and Standards are proposed to be established pursuant to the Water Resources Planning Act of 1965 (Public Law 89-8), as amended (42 U.S.C.1962a-2) and to be consistent with Section 2031 of the Water Resources Development Act of 2007 (Public Law 110-114). They would supersede the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies dated March 10, 1983.

2.1.1. Purpose:

(b) This chapter provides procedures for evaluating NED effects of alternative plans.

(1) When an alternative procedure provides a more accurate estimate of a benefit, the alternative estimate may also be shown if the procedure is documented.

(2) Steps in a procedure may be abbreviated by reducing the extent of the analysis and amount of data collected where greater accuracy or detail is clearly not justified by the cost of the plan components being analyzed. The steps abbreviated and the reason for abbreviation should be documented.

NED effects evaluation, utilizing benefit-cost analysis, is clearly a comparative approach. Failure to proceed with the action alternatives based on the pretext of failure of the alternative to meet an arbitrary benefit-cost standard should be considered as administrative action inconsistent with Congress' prior statutory authorization.

Reclamation should reperform the benefit-cost analysis performed in the DETR and DEIS. Assumptions about the underlying values of the land and commodity assets involved in the Odessa area agricultural economy should be modified. The analysis should be repopulated with more current information reflecting changes in the agricultural commodity market since enactment of the Energy Policy Act of 2005. The Columbia Basin Project discount rate should be adopted for present and future value determinations. The same rate should be used to determine the costs of interest. The timing horizons of various decisional factors should be made uniform. The analysis' assumptions regarding consequential economic effects should be made more internally consistent. Computational accuracy should be improved.

A. Planning Rate

DEIS Table 2-13<sup>34</sup> summarizes the benefit-cost analysis of the proposed action alternatives. The benefit and cost totals included in the text are derived from DETR<sup>35</sup> Table NED\_BCA1.—Results of NED BCA (based on current planning rate: 4.375%). A second table, DEIS Table 2-14,<sup>36</sup> derived from DETR Table NED\_BCA2.—Results of NED BCA (based on current planning rate: 3.0%),<sup>37</sup> is also set forth. The DETR explains that “the results in table NED\_BCA2 were generated using the planning rate in place when the Columbia Basin Project was first authorized (3.0 percent) and are presented for informational purposes only.” The DEIS explains: “The results in Table 2-14 were generated using the 3.0 percent planning rate originally

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<sup>34</sup> DEIS, p. 2-72.

<sup>35</sup> “Draft Economics Technical Report, Odessa Subarea Special Study, Columbia Basin Project, Washington,” U.S. Bureau of Reclamation, Technical Services Center, Denver, undated, (hereafter “DETR”), p. 4.

<sup>36</sup> DEIS, p. 2-73.

<sup>37</sup> DETR, p. 4.



authorized under the Columbia Basin Project Act of 1943. The use of the lower planning rate results in somewhat higher costs, but considerably higher benefits, thereby resulting in higher net benefits and BCRs for all partial and full replacement alternatives.”

Section 2.1.3 of the Principles and Guidelines require that compounding and discounting be performed at the “applicable project discount rate.”

#### 2.1.3 Calculating net NED benefits in average annual equivalent terms.

Net NED benefits of the plan are calculated in average annual equivalent terms. To perform this calculation, discount the benefit stream, deferred installation costs, and OM&R costs to the beginning of the period of analysis using the applicable project discount rate. Installation expenditures are brought forward to the end of the period of installation by charging compound interest at the project discount rate from the date the costs are incurred. Use the project discount rate to convert the present worth values to average annual equivalent terms. (Emphasis supplied.)<sup>38</sup>

Section 6 of the Columbia Basin Project Act, as amended in 1943,<sup>39</sup> establishes the Project’s discount rate:

#### Sec. 835c-2. Authorization of appropriations; establishment of Columbia Basin Land Development Account

There are authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, such moneys as may be necessary to carry out the provisions of this Act, to be reimbursable to the extent required by this Act. All revenues received in carrying out the provisions of section 4 hereof [16 U.S.C. 835c] shall be covered into the General Treasury as miscellaneous receipts. Amounts equal to appropriated funds requisitioned by the Secretary and made available for disbursement on the books of the Treasurer of the United States shall be debited in a special account in the Treasury, to be known as the Columbia Basin Land Development Account. Amounts equal to revenues covered into the General Treasury as miscellaneous receipts shall be credited in said special account. After such credits equal the amount of the debits with interest thereon at the rate of 3 per centum per annum from the respective dates of the debits, additional credits in said special account shall be made by the Secretary, in the manner determined by him, the basis of corresponding credits to the construction cost obligations of the district or districts entering into contracts for the repayment thereof. (Emphasis supplied.)

<sup>38</sup> See also, P&G Secs. 1.7.1(h), 2.12.4(b).

<sup>39</sup> May 27, 1937, ch. 269, Sec. 6, as added Mar. 10, 1943, ch. 14, 57 Stat. 19; amended Pub. L. 87-728, Sec. 6(b), Oct. 1, 1962, 76 Stat. 679.

The DEIS refers to “the Federal 2009-2010 water project planning rate of 4.375%” but makes no reference to the authority under which that rate is promulgated. The “applicable project discount rate” in the case of the Columbia Basin Project is 3.0 %. Neither the authorizing statutes nor the 1983 Principles and Guidelines use the term “planning rate.”

The Principles and Guidelines use the terms “project discount rate” and “applicable discount rate,” suggesting that the rate will vary depending on the project under analysis, rather than any general commercial or governmental rate. The “applicable discount rate” in this case is 3 %. That rate is derived from the interest rate declared applicable by the Columbia Basin Project Act which would be incorporated within the amounts Columbia Basin Project Act irrigation districts would be required to pay the United States pursuant to their repayment contracts. The irrigation districts had secured statutory 3% project financing. As the 16 U.S.C. Sec. 485h reminds, Congress required that projects be evaluated on the repayment-cost approach. A “planning rate” approach which utilizes a different planning rate than the project financing rate disregards the repayment-cost requirement and frustrates implementation of Congress’ prior enactment.

The statute is still current. It has not been changed. Repayment of project works would still be financed at 3%. The financing paradigm of the project is one of reimbursement of project costs with a statutorily established rate of interest. Use of any other rate is inconsistent with the statute. There is no basis for any other “planning rate.”

#### B. Deterioration Rate of Groundwater Wells

The DEIS clearly states that groundwater wells will continue to deteriorate under the No Action Alternative.

“Under the No-Action Alternative, irrigated agriculture in the Study Area that currently relies on groundwater would continue using that source of water. With continued dependence on groundwater, aquifers would further decline in quantity and quality. As groundwater declines, well yield and irrigation capability will progressively diminish in the Study Area.”<sup>40</sup>

But the rate of deterioration is not quite so clear. The conflict between the Columbia Basin Groundwater Management Association (GWMA) conclusions and the DEIS methodology needs to be reconciled. GWMA concludes that any well may deteriorate from any stage to level 5 in any one season. The DEIS states that “If no action is taken, it is estimated that, at the current rates of decline, about 70 percent of the production wells in the Odessa Subarea would cease production within 10 years.”<sup>41</sup> The DEIS also acknowledges the validity of GWMA’s deterioration rate predictions. “GWMA’s assessment of well decline is generally supported by observations of groundwater decline based on measured data obtained from known, reliable well

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<sup>40</sup> DEIS, p. 2-15.

<sup>41</sup> DEIS, p. 1-8.

records.”<sup>42</sup> And the DEIS apparently adopts the assumption, presented in DEIS Table 3-42<sup>43</sup> that 10% of the acreage in each well level are lost from each well level annually.

But the DETR’s analysis of the acreage irrigated in future years under the No Action Alternative indicates that only about 38% of the study area’s irrigated acreage will be served by wells that have fallen to Level 5 (62 % will have remained above level 5) by 2020.<sup>44</sup> The DETR further indicates that five years later, in 2025, about 50% of irrigated acres will be served by wells that have fallen to Level 5. 25 years after that, in 2050, the DETR estimates that about 85% of irrigated acreage will be served by wells that have fallen below Level 5.

Interpolating from DETR Table AgBen14, and assuming that irrigated acres is a sufficient proxy for production well productivity, the DETR indicates that 70 percent of the production wells in the Odessa Subarea would cease production in 2040 (30 years), rather than in 2020 (10 years). The “spreadsheet model” used to determine irrigated acreage deterioration is not presented. The rate of deterioration actually used in the DETR analysis is not shown. The rate of 10% presented in DEIS Table 2-3, Table 3-42 and DETR Table Agben8 is not large enough to accomplish a 70 % reduction in 10 years.

The DETR and DEIS underestimation of the effect of the No-Action Alternative apparently relies on a “second analysis method” utilized by “Reclamation’s Economic and Resource Planning Team”<sup>45</sup> and a “spreadsheet model” for translating well deterioration rates into acreage farmed at various levels of pumping capacity.<sup>46</sup>

“Then the spreadsheet model, based on assumptions about decreasing well dependability, estimated the reduced number of groundwater irrigated acres annually for the without project conditions. As acres transitioned from one well level to another, a change in the crop mix occurred along with a resultant change in residual net farm income. As wells became completely unusable, acres were placed into the well level 5 category and grew only dryland wheat in a wheat/fallow rotation.”

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<sup>42</sup> DEIS, p. 2-19.

<sup>43</sup> And DETR Table AgBen8—Well levels, acres served by each well level, and rate of decline by well level.

<sup>44</sup> DETR, Table AgBen14.—No Action Alternative groundwater irrigated acres under the without project condition. It is unclear what effect occurs because of DETR’s combination of pump levels 3 and 4, precluding application of variable standard declination rates measured against fixed dates of full aquifer supply failure. Levels 3 and 4 do have different characteristics. See DEIS, p. 2-16 “GWMA Status Levels: Describing Well Performance in the Odessa Subarea.”

<sup>45</sup> See DEIS, p. 4-48, Table 4-17, Estimated Percentage Wells Going Out of Commission under the No-Action Alternative, Based on Groundwater Decline Rates, Pumping, and Stated Assumptions. The “Assumptions” are not provided in the accompanying text.

<sup>46</sup> DETR, p. 23, Section 1, 2.1.1.3.7 Finding the Change in Irrigated Acres.

The assumptions relied upon in the “spreadsheet model” should be presented and discussed with GWMA. The spreadsheet model should be published and reviewed prior to its use in the final EIS. DETR Table AgBen8 should be redrafted following reconciliation of the GWMA and DETR/DEIS conclusions.

The consequence of no action to Adams County is loss of agricultural production business opportunity and significant negative economic impact. Presuming that impact occurs sooner than anticipated by the DETR and DEIS, the economic value of the impact, as reflected in Section 4.15 of the DEIS, will be greater.

### C. Total NED Benefits of the Action Alternatives

The DEIS’ report of the benefit costs analysis sorts the benefits into three categories: a) agricultural benefits, b) other direct benefits—municipal, and c) other direct benefits—industrial. Another benefit category, “economic losses avoided” should be added.

#### 1. Agricultural Benefits

Section 2.3.5, of the 1983 Principles and Guidelines, “Evaluation Procedure: Crops” describes the process by which agricultural benefits should be valued:

The Principles and Guidelines suggest utilizing either the “farm budget analysis” or “land value analysis” “to estimate crop production benefits on lands where there would be a change in cropping pattern.”<sup>47</sup> The DEIS chooses “farm budget analysis.”

*(c) Step 3. Select evaluation method for estimating intensification benefits. For land on which the cropping pattern would change, select either farm budget analysis or land value analysis as the method for measuring intensification benefits. If land value analysis is selected, go to Step 9. If farm budget analysis is selected, proceed with Step 4. (Emphasis supplied.)*

The “farm budget analysis” chosen by the DETR and DEIS has a number of problems, particularly with the data upon which it relies. Agricultural benefits are calculated utilizing data from the Census of Agriculture and the National Agricultural Statistic Service (NASS) for the State of Washington. Section 1.2.1.1.2.1 of the DETR finds that the NASS estimated yield for wheat (101.5 bushels per acre) was too low and that the GWMA’s and WSU Farm Business Management Report EB2029E estimated yield for wheat (125 bushels per acre) was more correct. The DETR nevertheless later uses the NASS estimate in the “without project” farm summary analysis (Table AgBen10, DETR p. 17) and the GWMA/WSUFBM estimate in the “with project” farm summary analysis (Table AgBen 12, DETR p. 19 ). The same yield data should be used in both the “without project” and “with project” analyses.<sup>48</sup> GWMA

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<sup>47</sup> Section 2.3.5 (c).

<sup>48</sup> Compare DEIS Table 3.38, DETR Table AgBen 4 (irrigated wheat yield = 101.5 bushels ), DETR Table AgBen 10 (irrigated wheat yield = 101 bushels if farming in well levels 1 and 2 ), and DETR Table AgBen12 (irrigated



recommends that the yield of 125 bushels is the most accurate reflection of current agricultural production on irrigated acreage. No analysis is performed of the effect of groundwater well deterioration on crop yield.<sup>49</sup>

The DETR estimates total harvested areas of three crop categories (wheat, potatoes, and mixed crops) in proportions determined by extrapolation from GWMA data for the years 2001-2005, dismissing the NASS primary irrigated crop acreages data for 2004-2008<sup>50</sup> on the basis that it was less “appropriate.” The category “mixed crops” includes “corn, alfalfa, conservation reserve program acres, peas, onions, dry beans, and numerous other crops grown in the study area.”<sup>51</sup>

Current crop acreage distributions should be used in this analysis of farm budgets. Data derived from years prior to Congress’ enactment of the Energy Policy Act of 2005<sup>52</sup> should not be relied upon, as they do not take into account the effect of that Act’s incentivizing the creation of energy from agricultural products (including crops within the definition of “mixed crops”), thereby establishing a significant new demand for those products. Higher prices consequent of additional demand cause crop mix to change so as to seek greater placement in higher priced markets. Any acreage distribution prior to the development of cellulosic ethanol (or similar products) as an energy source should be set aside, particularly for the purpose of analyzing economic effects occurring 10 or more years into the future.

The DETR uses “normalized” prices<sup>53</sup> for crops utilizing data from the USDA Economic Research Service (ERS) and NASS. As the Water Resources Planning Act of 1965<sup>54</sup> does not use the word “normalize,” and as the 1983 Principles and Guidelines do not define the word “normalize,” the conventional definition must pertain. Normalization involves the isolation of statistical error in repeated measured data. No information is provided about how wheat prices were “normalized.” Congress’ adoption of the Energy Policy Act of 2005 had the effect of making data from years before 2005 anomalous and not statistically useful for prediction of future markets. That data should be not be utilized to determine normalized prices.

The DETR uses three-year average prices in the case of potatoes<sup>55</sup> on the basis that potatoes are not “basic crops.”<sup>56</sup> DEIS Table 3-39 and DETR Table AgBen5.—Normalized prices received

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wheat yield = 125 bushels if farming in pumping level 1, = 101 bushels if farming in pumping level 2, and = 125 bushels if farming in pumping levels 3-4.

<sup>49</sup> DETR Table AgBen 11.—Well level 5 representative farm summary uses “irrigated acres” as a divider to determine net farm incomes per acre. DETR Tables AgBen10 and AgBen12 use “farm size” as a divider.

<sup>50</sup> Table AgBen3, DETR p. 10.

<sup>51</sup> DETR, p. 13.

<sup>52</sup> Pub. L. 109-58, August 8, 2005.

<sup>53</sup> Apparently relying on section 2.3.3 (b) of the 1983 Principles and Guidelines.

<sup>54</sup> 42 U.S.C. §§ 1962a-1962a-4

<sup>55</sup> DETR, p. 11.

by crop reflect the crop price multiplier which is used in the farm summary analysis: wheat \$4.98/bushel; potatoes \$6.23/Cwt, and mixed crops \$0.2812/lb.

A normalized wheat price of \$4.98/bushel is too low. It does not take into account more recent year prices, nor the effect of the Energy Policy Act of 2005. The ERS' Wheat Yearbook Table O1<sup>57</sup> shows the "weighted average farm price" for wheat at \$6.48 for growing year 2007/2008, \$6.78 for growing year 2008/2009, and \$4.87 for growing year 2009/2010. The three year average of these years' prices is \$6.04. \$5.50 to \$6.00/bushel would be a very reasonable average wheat price for the last five years.

The three-year average potato price of 6.23/Cwt is also too low. The ERS' Potato Tables,<sup>58</sup> Table P-4—Potatoes: Grower prices in major producing states, monthly 2008/09-2010/11, shows the growers' price for potatoes at \$7.45 for the 2008/2009 growing year, and \$7.60 for the 2009-2010 growing year. The two year average of these years' prices is \$7.53. \$7.00/Cwt would be a very reasonable average potato price for the last five years. Consideration should be given to the fact that potatoes grown in the Odessa region of the Columbia Basin Project can withstand significant storage times without spoilage, giving them a pricing premium in sale to producers who desire to deliver potato products (frozen French fries) to food retailers throughout the year notwithstanding harvest dates.

The DETR provides no information describing the product mix, or the percentage of each product group mixed in the "mixed crop" group. Nor does it provide information describing whether the price determined is a "normalized" price or a three year average price. DEIS Table 3-39 and DETR Table AgBen5 suggest that the "mixed crops" price was "normalized" at \$.2812/lb. (DETR Tables AgBen10, and AgBen 12, use a 1/100x multiplier for yield units and a 100 x multiplier for price received for mixed crops). The method for determination of the price of "mixed crops" should be identified and care given to evaluating the components of those mixed crops which are sensitive to the demand for cellulosic fiber (particularly if corn is any significant component of mixed crops) as well as food product.

The DETR's crop allocation per farm in DETR Table AgBen10 and Table AgBen12 is fixed notwithstanding the variability of price/cost efficiency between crops in different production years.<sup>59</sup> The pumping level 1 scenario in DETR Table AgBen10 reflects a reasonable potato/wheat rotation (350/1400, 1/4). The pumping level 2 scenario, however, does not reflect a reasonable potato/wheat rotation (646/1400, 1/2). The pumping level 2 scenario thus assumes a

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<sup>56</sup> Apparently deferring to the list of crops contained in section 2.3.2 (b) of the 1983 Principles and Guidelines, notwithstanding the reference at p. 11 of the DETR to the Water Resources Planning Act of 1965 (42 U.S.C. §§ 1962a-1962a-4). Other crops may be treated as "basic crops", sections 2.3.2 (b) and 2.3.5 (d). The DETR does not evidence whether the analysis presented in section 2.3.5 (d) was used.

<sup>57</sup> <http://www.ers.usda.gov/Data/Wheat/YBtable18.asp>

<sup>58</sup> <http://www.ers.usda.gov/Briefing/Potatoes/data.htm>

<sup>59</sup> This preclusion from market adaptation is exacerbated by the 104 year application of the consequent Residual Net Farm Income analysis presented in DETR Tables AgBen18 and AgBen21, pp. 33, 38.

larger potato income and a larger total income than might be realized under an actual rotational farming scenario. It is unclear why a more aggressive rotation is possible in the pumping level 2 scenario when the well reliability is less. A standard appraisal assumption used by land appraisers for Columbia Basin Project properties is a potato/nonpotato rotation of 1/5.

DETR Table AgBen10 does not reflect reality. The Table produces negative residual farm income results for some well level cases. Agricultural acreage will not be farmed if negative residual farm income is the consequence. The model used to formulate Table AgBen10, and the assumptions upon which the model is based, should be calibrated to actual farming operation on properties served by groundwater and surface water. The DETR reports that the "return to management in a benefit budget is calculated as 6 percent of variable cost on a benefit study."<sup>60</sup> Yet none of the entries for "returns to farmer"<sup>61</sup> in Tables AgBen10, AgBen11 and AgBen12 are 6 % of "variable costs," nor are they the same percentage of "variable costs."<sup>62</sup> Also, the farm budgets presume that a fixed "return to management" would be taken by farm owners notwithstanding whether a negative net farm income would be incurred by doing so. While this may be necessary in the hypothetical modeling of farm budgets, a more realistic approach would be to limit losses at zero and commensurately reduce "return to management." Negative net farm income" cannot be sustained unless through multiple year net income averaging, or through farm credit financing. If financing is presumed, the cost of financing should be introduced into variable costs.

The consequence of this model fallacy is illustrated in DETR Table AgBen15.—No Action Alternative residual net farm incomes by well level under a without project condition. All total residual net farm income levels in this table are negative. No farming would be conducted if this would be the outcome. A correct model should be developed that projects the current condition of farming operations on the properties under consideration and taking into account deterioration of groundwater well capabilities.

The sensitivity of pricing and farm cost data is particularly significant in this model because of the uncertainty of well-deterioration assumptions, the multiplier effect of the long scale of the analysis<sup>63</sup> and the effects of compounding/discounting over such a long period. A shorter period

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<sup>60</sup> DETR, pp. 15, 23.

<sup>61</sup> Assuming that "return to management" and "return to farmer" mean the same thing. "Return to owner" would be the appropriate factor if the farming unit were leased. This would be the represented in the capitalization rate determined by the relationship of lease income to the owner's investment value of the farmed land.

<sup>62</sup> 1983 Principles and Guidelines, Section 2.3.3 (ii) Value purchased inputs at current market prices. Compute interest at the project discount rate. Value all labor, whether operator, family, or hired, at prevailing farm labor rates. Estimate management cost on the basis of the type of farming operation. The estimate normally is expected to be at least six percent of the variable production cost (the cost of equipment ownership and operation, production materials and labor, but excluding the cost of land and added capital improvements).

<sup>63</sup> Residual net farm income calculations range over 104 years (2019-2125). See: DETR Table AgBen 15.—No Action Alternative residual net farm incomes by well level under a without project condition; DETR Table AGBen 18.—Partial replacement alternative: Residual net farm incomes by well level under a with project condition; DETR Table AGBen20.—Full replacement alternative: Groundwater irrigated acres under a with project condition; DETR

would be less subject to distortion by compounding and discounting, and less vulnerable to inaccuracy due to changing conditions, e.g., variability of world agricultural markets, variability of demand for food based on population growth or climate change, variability of U.S. policy regarding domestic energy independence, enhancements in botanical engineering.

## 2. Other Direct Benefits—Municipal

We agree with Reclamation that the problem of groundwater supply sufficiency is equally a problem for municipal communities:

“Data available for municipal and industrial wells shows that most of these wells exhibit general trends of groundwater level declines. However, most municipal and industrial users are outside of areas experiencing the greatest groundwater level declines. Even so, groundwater levels in municipal and industrial wells would continue to decline under the No Action Alternative, which would result in increased pumping costs and the eventual need to replace pumps and deepen wells.”<sup>64</sup>

“Although domestic wells are typically completed in the upper aquifer, these wells can be impacted by water level declines in the deeper aquifer. This is because the shallow aquifer and deeper aquifer are hydraulically connected by open boreholes and vertical fracturing, which allows shallow water to drain into the deeper aquifer. Therefore, domestic wells are likely to continue to be impacted under the No Action Alternative, as the deeper groundwater declines.”<sup>65</sup>

“The ultimate long-term significant impact of the No Action Alternative would be groundwater declining to levels too deep to pump economically, groundwater with poor quality that cannot be used or requires quality management, and the eventual depletion of the aquifers.”<sup>66</sup>

These conclusions dictate significant concerns for municipal and county public service providers. The DEIS section 4.18<sup>67</sup> acknowledges the potential long term impacts of the No Action Alternative to municipal and domestic populations served by providers of public services and utilities:

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Table AgBen21.—Full replacement alternative: Residual net farm incomes by well level under a with project condition.

<sup>64</sup> DEIS, p. 4-49.

<sup>65</sup> DEIS, p. 4-49.

<sup>66</sup> DEIS, p. 4-49.

<sup>67</sup> DEIS, p. 4-240.



Implementation of the No Action Alternative would result in the continuation of current ongoing activities and programs, so groundwater availability would continue to decline for commercial, municipal, and industrial water users. This decline could result in the need to drill deeper wells, thus increasing drilling and pumping costs to supply water. Larger pumps for deeper wells require more energy, although some wells would no longer be used.

Drilling and pumping costs could, however, increase to the point where farmers, landowners, residents, or business owners cannot afford the water. This could result in changes in land use and impacts on existing businesses. In addition, if the quality of the water declines over time (as is expected with this alternative), this could also result in changes in land use, impacts on existing businesses, and health risks to human populations relying on the water.

The loss of irrigated agriculture associated with the No Action Alternative could impact businesses and people that are linked to the agricultural industry, such as farm workers, food processing facilities, seed pesticide companies, and trucking companies. This could result in a decreased population base to support law enforcement, fire protection, and medical services, resulting in layoffs of police, fire and police stations, or closure of some medical facilities in or near the Study Area. Closure of local facilities would increase response times during emergencies.<sup>68</sup>

But the DEIS declines to determine the “significance” of these impacts:

It is difficult to predict exactly when or how these changes might occur, so the significance of this potential impact cannot be determined at this time.<sup>69</sup>

The DEIS should fully evaluate the social impact of inadequate water supply to existing communities. We recommend a much more robust consideration of the consequences of groundwater decline upon populations served by municipal and domestic groundwater supplies. DEIS Table 4-94<sup>70</sup> defines the criteria for “significance” of disruption of services or utilities for existing residents and landowners only in terms of short term construction impacts.<sup>71</sup> Criteria for determination of significance should be established for long term impacts like those presented above as well. Impacts on the users of public services should be considered along with the impacts on the suppliers of public services. The costs of avoidance of those impacts should be analyzed so as to more completely describe the municipal benefits of the action alternatives.

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<sup>68</sup> DEIS, p. 4-242.

<sup>69</sup> DEIS, p. 4-242.

<sup>70</sup> DEIS, p. 2-241.

<sup>71</sup> DEIS, p. 4-277. DEIS Sections 4.29.1 Surface Water Quantity, 4.29.2 Groundwater, and 4.29.3 Surface Water Quantity also address only construction period impacts.

The DETR only discusses municipal benefits related to the action alternatives from limited the perspective of potential municipal pumping cost savings based on the amount of agricultural acreage estimated to terminate groundwater withdrawals.<sup>72</sup> A more comprehensive analysis should be undertaken. The DETR should also evaluate the economic and public health impacts on municipalities and proximate private dwellings relying on domestic groundwater wells from the possible failure of those wells.

The mitigation of municipal cost through decrease in agricultural consumption approach used is too limited. "The level of benefit to municipal water users depends on what is expected to happen under the No Action Alternative." DETR, p. 41. The study presumes that "... under the No Action Alternative, irrigators will move to less water intensive crops and ultimately convert to dryland agriculture." While this statement is theoretically correct, it fails to acknowledge that those economic choices will only be made when the underground water supply becomes exhausted. The DEIS acknowledges that the groundwater supply is already approximately 75 % consumed, and that it is a finite supply. If agriculture exhausts the supply, then it will not be available for municipal or domestic use. The farm budget analysis used to evaluate agricultural benefits anticipates over 100 years of economic activity. The supply has become 75% exhausted within 50 years. The study should predict whether the groundwater supply will be adequate to sustain municipalities and domestic wells for the same 100 years. And the study should predict the additional pumping costs which municipalities and domestic well owners will have to pay if they must follow groundwater down with new wells.

The DETR determines that the municipal benefits for the action alternatives, when compared to the No Action Alternative, were relatively significant, premised on assumptions about the speed that agricultural reliance on groundwater would diminish at about the same rate regardless whether action was or was not taken. But the DETR does not determine whether the municipal and domestic groundwater supply will remain adequate.

Changes in municipal population, economic viability and growth should be anticipated as well when anticipating municipal and domestic water demand. The DETR projects population growth in the affected municipalities based on growth in the county in which each is situated. DETR Table NED\_MUNI4, relying on Washington Office of Financial Management projections twenty years ahead (2000-2030).<sup>73</sup> Annual water use is estimated from population. The economic analysis of the agricultural benefits is projected through 100 years. The DETR estimates the pumping costs for 105 years (2019-2125) of the No Action Alternative and discounts those costs back to 2025. It does the same with the Partial Replacement and Full Replacement alternatives. The difference, a purported "benefit" of \$5.1 million and \$8.1 million, seem like a marginal conclusion, given the large number of assumptions taken in the calculus of the results and the total gross cost of pumping water from significant depth.

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<sup>72</sup> DETR, pp. 40-52.

<sup>73</sup> Short population growth analysis fails to consider the influence of changing demographics or Western Washington state urban (or other urban area) outmigration. Both central California and eastern Oregon are experiencing growth of towns and suburbs due to outmigration from coastal plain cities.

The DETR should also address the uncertainty costs and investment costs for municipalities. Municipal public works planning is uncertain because of uncertain predictions of well failure. Public works investment in well deepening will be required in advance of failure in order to avoid water supply and health risks. Waiting to see how fast agricultural water users terminate their groundwater use will not protect public health if municipal or domestic groundwater wells go dry.

The Bureau of Reclamation has authority under the Columbia Basin Project Act and Reclamation Project Act of 1939 to construct projects for municipal water supply.<sup>74</sup> The DETR and DEIS should consider both the costs and benefits of the extension of surface water supplies to the affected towns. Direct service could be provided to Warden from East Low Canal. Service could be extended to Connell from Turnout ELG89G past irrigation service (approx 2 miles). Service could be extended to Odessa, from Black Rock Coulee Pumping Plant 7R past irrigation on to Hiway 21 (approx. 7 miles). A new service line could be extended due west from the East Low Canal to Othello (approx. 7 miles). A new service line could be extended due west to Moses Lake from the East Low Canal to Moses Lake (approx. 5 miles each). Partial year water availability, water quality and treatment costs would be important considerations.

The DETR and DEIS should also consider both the costs and benefits of reverse use of existing production wells so as to inject water into the ground at depth in order to maintain groundwater levels for municipal wells.

### 3. Other Direct Benefits—Industrial

We agree with Reclamation that the problem of groundwater supply sufficiency is equally a problem for industrial water users:

“Aquifers in the Odessa Subarea also supply commercial, domestic, municipal and industrial users in and nearby the Study Area. For example, the cities of Moses Lake and Ritzville, the towns of Hatton and Wilson Creek, and numerous food processing and other agriculture-related businesses in Connell, Moses Lake, Othello, and Warden rely on this groundwater.”

“Under the No Action Alternative, irrigation groundwater would not be replaced with surface water, aquifers would continue to decline and all current commercial, domestic, municipal and industrial users would be affected in and near the Study Area.” DEIS, p. 2-20. (Emphasis supplied.)

The DEIS addresses only the direct effect of reduced groundwater availability on industrial water users. The DEIS should also address the effect of reduced irrigated land agricultural production and more dryland agricultural production on the agricultural processing industry in near the analysis area. Data should be collected from major industrial concerns, including McCains (potato products), Simplot (potato products), Harvest Fresh (fresh potatoes), Columbia Cold Storage (storage of frozen food products), SVZ-U.S.A. (juice), Cenex Feed-Land of Lakes (feed), Taggares Alfalfa (dried alfalfa and allied products), Simplot (fertilizer and chemicals),

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<sup>74</sup> 16 U.S.C. Sec. 485h (a)(5)

Ritzville Warehouse (grain), Union Elevator (grain), Consolidated Grange Supply (fertilizer, fuel and farm supplies), National Foods (eggs), regarding changes they would anticipate if the No Action or Partial Replacement alternatives were selected.

#### 4. Other Direct Benefits—Economic Losses Avoided

Economic losses avoided by implementation of a project should be considered as “other direct benefits,”<sup>75</sup> just as costs caused by implementation of a project can be considered as “other direct costs.”<sup>76</sup> DEIS section 4.5 addresses Irrigated Agriculture and Socioeconomics.<sup>77</sup> The DEIS identifies, without source, that a \$1.6 billion total gross farm economy exists in the four-county analysis area. The DEIS concludes that the partial replacement alternatives add \$36,509,910 in economic value over and above the \$42,738,724 economic value provided by continued reliance on groundwater wells (the No Action Alternative), and that the full replacement alternatives add \$65,728,653 in economic value over and above the \$42,738,724 economic value provided by continued reliance on groundwater wells.<sup>78</sup> Viewed conversely, the two sums, whose numeric values are arguably incorrect in any case,<sup>79</sup> are economic losses avoided by the action alternatives. These should be included as a portion of the Total NED Benefits. The alternative is that they should be costs attributable to the No Action Alternative. But inasmuch as the benefit-cost analysis begins with the proposition that the No Action Alternative has zero benefits or costs, these benefits should be included in the benefits calculation.

Although it may be argued that these economic losses are only regional in nature, and therefore should not be included in the national analysis, these economic losses avoided are just as “national” as are the hydropower costs discussed in section D 4 below.

#### D. Total NED Costs of the Action Alternatives

The DEIS’ benefit cost analysis sorts costs into five categories: a) canal and reservoir construction costs and IDC (“interest during construction”) costs; b) canal and reservoir OMR&P costs; c) drainage system construction and IDC costs; d) drainage system OMR&P costs; and e) lost hydropower benefits.

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<sup>75</sup> Principles and Guidelines, section 2.10.4.

<sup>76</sup> Principles and Guidelines, section 2.12.17.

<sup>77</sup> DEIS, pp. 4-199-4-225.

<sup>78</sup> DEIS Table 4-62, p. 4-200.

<sup>79</sup> These totals are stated in terms of gross farm income (which is computationally dependent on values for crop yield, crop price and residual NFI per acre, as well as well deterioration ratios, all of which need to be restudied) which does not take into account the multiplier effect of gross farm income on other industrial and service economies.



## 1. Canal and Reservoir Construction and IDC Costs

The canal and reservoir system proposed to be constructed and described in the DEIS is apparently sized to deliver 3 acre feet of surface water per year for each acre of farmland currently irrigated by groundwater. The DEIS does not report any study of the exact amount of groundwater currently being applied on acres that would be served with surface water. The water use efficiency currently accomplished by groundwater irrigation systems more than likely results in better efficiency than 3 acre feet per acre. Reclamation should determine that the facilities proposed for either the partial or full replacement alternatives are not oversized beyond the needs of current groundwater irrigators. Design choices should integrate both the need to provide replacement surface water to existing groundwater users and the need to avoid interference with potential completion of the Columbia Basin Project as originally authorized. It is not necessary to construct capacity to deliver surface water to all of the uncompleted Project lands at this time.

The DEIS accepts GWMA's estimate that some acreage in the groundwater irrigated acreage will remain in Level 1 status after the project is completed, probably because those wells are served through leakage or lateral underflow of water from proximate existing canals or reservoirs. The DEIS also identifies that 16,864 acres are already served with surface water by direct pumping from the East Low Canal.<sup>80</sup> Delivery of surface water to those acres would duplicate existing water supply. The project should be sized so as to not deliver water to these properties, thereby reducing cost.

Both partial and full replacement alternatives include construction of two components: a water supply system and a water delivery system. The delivery system for the partial replacement alternative is further segmented into an existing East Low Canal enlargement project,<sup>81</sup> an East Low Canal extension project,<sup>82</sup> and a pressurized pipeline distribution project.<sup>83</sup> The delivery system for the full replacement alternative (the components of which would be in addition to the partial replacement alternative) is further segmented into a new East High Canal construction

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<sup>80</sup> "For existing water service contracts in the Odessa Subarea, contract holders pump directly out of the East Low Canal at 34 locations. This condition, characterized by individual, unscheduled starts and stops of pumps, decreases system efficiency and can adversely affect ECBID's ability to meet delivery commitments downstream. The No Action Alternative would not address this condition." DEIS, p. 2-20.

"As part of these [partial groundwater irrigation replacement alternatives] the 16,864 acres of existing water service contracts that pump out of the East Low Canal at 34 locations would be incorporated into the delivery system." DEIS, p. 2-21

<sup>81</sup> Enlarge capacity of 43.3 miles of East Low Canal south of I-90 including adding a second barrel to all five existing siphons.

<sup>82</sup> Extend East Low Canal about 2.1 miles at southern end.

<sup>83</sup> 161 miles of buried pipeline, 200 foot wide easement, 6 canal-side pumping plants, 5 relift pumping plants, one gravity feed turnout.

project, a new Black Rock Branch Canal construction project, a Black Rock Coulee Reregulating Reservoir construction project, and a pressurized pipeline distribution project.<sup>84</sup>

The benefit-cost analysis does not evaluate each of these segments independently. The costs of each should be independently determined so as to permit evaluation of those portions of the project that may be better constructed through non-federal (private or other governmental) projects. This would allow establishment of the benefit-cost ratio with or without a particular segment.

The pressurized pipeline distribution component of both the partial and full replacement alternatives is, for example, now integrally contained but could be developed as an independent non-federal projects. It does not appear from the DEIS that Reclamation has conducted any study of non-federal interest in construction of any component of the project. Construction of a pressurized pipeline distribution system is well within the capacity of non-federal parties, who would likely utilize the same or similar engineering and construction contractors as would federal construction. Integration of federal and non-federal systems is more possible today than when prior construction of Columbia Basin Project elements occurred because of more modern supervisory control and data acquisition (SCADA) systems. Removal of the pressurized pipeline distribution component from the project would reduce project costs without reducing project benefits, thereby improving the benefit-cost equation.

The DEIS describes easement requirements for the several components of the project. Easement widths range from 600 ft. to 1200 ft, while canal cross sections indicate widened canal width at approximately 100 ft. DEIS, p. 2-27. A 600 foot easement for the East Low Canal extension is not necessary as the land involved has less relief than most of the existing East Low Canal. The 161.3 miles of pressurized distribution pipeline, DEIS, Page 2-28, does not require a 200 foot wide easement. Pressurized pipeline can be installed within a 60 foot easement/right of way without problems. Pressure pipelines can follow existing ground contours. The DEIS should reduce the size of proposed easements and explore the availability of existing public rights of way.

The DEIS states that a portion of these wider easements are necessary for "fish and wildlife purposes." No explanation is provided for these "purposes." Reclamation should evaluate whether such broad easement acquisition is required, as fish and wildlife do not know the legal status of the land over which they migrate. Wildlife migration in agricultural areas is not impeded to the same extent as wildlife migration in urban or more developed areas.

Canal-side pumping plants and re-lift pumping plants are described in the DEIS, p. 2-28, as requiring 7 acres each. No more than 3.5 acres should be required. Seven acres is more than 500 feet on each side of a square. This is more land than is required for pumping plants.

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<sup>84</sup> 187.3 miles of buried pipeline, 200 foot easement, 3 canal-side pumping plants on East High Canal north of Black Rock Coulee Reregulating Reservoir, 5 canal-side pumping plants on East High Canal south of BRRCR Reservoir, 7 canal-side pumping plants canal-side pumping plants along Black Rock Branch Canal, 3 re-lift pumping plants, 2 gravity feed turnouts.

The DEIS states that there is an O&M facility.<sup>85</sup> But, DEIS section 2.2.16 Operation and Maintenance Facilities states that O&M facilities have been eliminated. If they have been eliminated, the costs related to an O&M facility should be eliminated from the cost analysis. If they have not eliminated, an O&M facility should be eliminated, as existing maintenance facilities can be used or expanded at their present locations.

DEIS Section 2.7 presents information contained in the "Draft Engineering Technical Odessa Subarea Special Study."<sup>86</sup> The contingencies used in Chapter 6 of the Draft Engineering Technical Report are artificially high. It does not appear that the Draft Report conducted any project-specific appraisal of the risk assumptions upon which non-field cost contingencies should be based. Reclamation should re-evaluate the risk assumptions that are the basis for the non-field cost contingencies used. Reclamation should take into account that the projects under consideration are normal Reclamation construction projects and that they involve merely an extension of an existing operating portion of the Columbia Basin Project.

**Design Contingencies:**<sup>87</sup> The contingency rate recommended by the "Reclamation Cost Estimating Handbook guidelines" is 2% to 15%. The DETOSSS uses the rate of about 11% which is toward the high end. In the opinion of the Adams County Engineer, a 5% contingency should cover the variables. This project, and particularly alternatives 2A and 2B, are straightforward projects including only items that are standard Reclamation type projects, i.e., pumping plants, canal widening, a short canal extension, pressure pipelines and siphons. The complexity of these items does not require a large contingency.

**Construction Contingencies:**<sup>88</sup> The contingency rate suggested by the "Reclamation Cost Estimating Handbook guidelines" is 20%. The amount used is about 24%. In the opinion of the Adams County Engineer, a 15% construction contingency is more than enough to cover even extremely complex projects. This project, and particularly alternatives 2A and 2B, are straightforward projects including only items that are standard Reclamation type projects, i.e., pumping plants, canal widening, a short canal extension, pressure pipelines and siphons. This project area includes soils and subsurface conditions that are well known, as they are adjacent and partially included in the existing completed Columbia Basin Project. There is little uncertainty. The lack of complexity of the project under consideration does not require a large contingency, nor a contingency larger than the one suggested by the Cost Estimating Handbook guidelines.

**Studies, Investigations, and Design Data Collection and Engineering Design:**<sup>89</sup> Noncontract costs for this project, particularly alternatives 2A and 2B, which have many elements that are

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<sup>85</sup> DEIS, p. 2-31.

<sup>86</sup> Hereafter, "DETOSSS."

<sup>87</sup> DETOSSS, Section 6.1 Field Cost Estimates.

<sup>88</sup> DETOSSS, Section 6.1 Field Cost Estimates.

<sup>89</sup> DETOSSS, Section 6.2 Noncontract Costs.

already known from the previous construction of the Columbia Basin Project and are repetitive in nature should be in the range of 10% of the Total Field Cost.

Other Cost:<sup>90</sup> Other costs for a project like this should not exceed 5% of Total Field Cost.

The totals for construction costs and interest during construction set forth in DEIS Table 2-12, appear to have been derived from Table ES-2 in the DF-LSSR.<sup>91</sup> The totals are different than those totals listed in DETR Table NED\_BCA1, DF-LSSR Table 5-11, p. 29, and DF-LSSR Table 5-12, p. 5.31. No explanation is given. Both tables show IDC costs.

"Interest during construction" is compounded, using the "planning rate of 4.375 percent."<sup>92</sup> DETR, p. 53. The statutorily defined interest rate for the Columbia Basin Project is 3.0 percent. DF-LSSR Table 5-13, DETR Table NED\_BCA2, and DEIS Table 2-14 should be the basis for decision making regarding the action alternatives. Tables based on the rate of 4.375 percent may be presented as informative, but should not be used as a basis upon which to analyze or compare alternatives.

## 2. Canal and Reservoir OMR&P

## 3. Drainage Costs

The benefit-cost analysis considers the costs of construction of drainage, including IDC, and the cost of drainage system OMR&P.<sup>93</sup> However, no drainage system for the acreage newly watered by the Columbia River surface water supply may need to be constructed. In the alternative, a more limited or smaller scale drainage system may be sufficient. Under the action alternatives, the same acreage now watered by groundwater through efficient pivot irrigation systems will be watered by surface water through efficient pivot irrigation systems. No additional amount of water will be applied to the acreage. There is no rill irrigation as commonly used when the Columbia Basin Project was first designed and used. There is no current wastewater. There is no current wastewater drainage system for the groundwater-irrigated properties. The DEIS acknowledges this:

"[The] estimated costs [for irrigation water drainage facilities] are based on 20- to 30-year old CBP design assumptions, which included new irrigation development, and were based on platted, concentrated farms using gravity flow and rill irrigation. These assumptions are no longer valid, because the current farms in the Study area are spaced widely and use pressurized delivery systems. Although

<sup>90</sup> DETOSSS, Section 6.2 Noncontract Costs.

<sup>91</sup> Draft Feasibility-Level Special Study Report, Odessa Subarea Special Study, U.S. Bureau of Reclamation, October 2010, p. ix, hereafter "DF-LSSR".

<sup>92</sup> See discussion above at VI, A.

<sup>93</sup> DETR, Tables NED\_BCA1, NED\_BCA2, pp. 4, 5.



project design has not progressed to the point of addressing irrigation water drainage in detail, estimates of drainage system costs using the original CBP assumptions are included to ensure complete and conservative cost estimates.” DEIS, p. 2-67, note 3.

It would be fiscally wasteful to construct a wastewater drainage system if it is not needed. If any waste water is created after surface water has been delivered to the currently irrigated acreage, it should be impounded and permitted to percolate down within the soils as groundwater aquifer recharge.

The Draft Feasibility-Level Engineering Report on page 2-65 assigns a value of 33% costs taken from previous 1966-1972 costs and then are used for alternative #2 drainage costs. This number should be zero. The Adams County engineer for over 10 years has seen no surface or subsurface drainage issues on or near the relevant properties that would require remediation.

The fatal flaw with “Monte Carlo” system of cost analysis is that the most probable low is zero. Since zero is the lowest you can go, the most probable has to be above that even if logically it should be zero. Zero is a troubling number. Care should be exercised in any sort of analysis since it always produces zero in math products that may be in your equation.

#### 4. Lost Hydroelectric Generation Benefits

DETR Section 1.2.2.2.1 and DEIS Section 4.17 presume that the diversion of Columbia River surface water under the action alternatives causes reduction in hydroelectric generation in the lower Columbia River. The effect is based upon the BPA’s calculations. “BPA multiplied the changes in average monthly hydropower generation by Aurora model based on average monthly power values to estimate losses in average annual hydropower benefits.” DETR, p. 71. The 1983 Principles and Guidelines characterize this category of consequential effects, which are “caused by” the project, as “other direct costs.”

##### 2.12.7 Evaluation procedure: Other direct costs.

(a) These are the costs of resources directly required for a project or plan, but for which no implementation outlays are made. Consequently, they are included in the economic costs of a plan but not in the financial costs. These costs may be important for both structural and nonstructural plans. For example, a zoning plan to preserve floodplain values by restricting development would have as a cost the value of with-project development opportunities foregone. A plan that responds to demand growth by reallocating existing outputs from low value uses to high value uses through pricing mechanisms (i.e., raising the price of existing outputs) would have as its main cost the value of the outputs to the users who forego its use as a result of its higher price. On the other hand, a structural project may displace recreation use at the project site. Whenever possible, compute these costs using the procedure set forth in this manual for computing benefits. If these costs are not quantified, they should be otherwise identified.

(b) Other direct costs also include uncompensated NED losses caused by the installation, operation, maintenance, or replacement of project or plan measures. All uncompensated net losses in economic outputs (not transfers) that can be quantified shall be considered project NED costs. The evaluation of such costs requires an analysis of project effects both within and outside the project area.

(c) Examples of other direct costs include increased downstream flood damages caused by channel modifications, dikes, or the drainage of wetlands; increased water supply treatment costs caused by irrigation return flows; erosion of land along stream banks caused by dams that prevent the replenishment of bed load material; loss of land and water recreation values through channel modifications, reduced instream flow due to consumptive use of water by irrigated agriculture, or inundation by reservoirs; increased transportation costs caused by rerouting traffic around a reservoir; new or increased vector control costs caused by the creation of wetlands; and decreased output or increased cost payoff unit of output of private firms caused by project-induced decreases in raw materials. When applicable, compute such costs using the procedures for computing benefits contained in this chapter. Some costs such as increased water supply treatment costs, may be computed on the basis of increased costs to resource users." (Emphasis supplied.)

Reclamation should address two questions:

- Which elements of "lost hydroelectric generation" have senior enough rights to entitle them to continue without interference from further development of Columbia Basin Project agriculture, i.e., are hydroelectric generation reductions "caused by" project development or otherwise "caused by" the fact that they are more junior status water uses within the Columbia River flow system?
- Does BPA's method of calculation of "lost hydroelectric generation" use "the procedures for computing benefits contained in this chapter" including computation "on the basis of increased costs to resource users?"

a. Hydropower's More Junior Status

Reclamation's Reservoir Certificate No. 11793, Grand Coulee Dam Storage, was issued by the State of Washington on \_\_\_\_\_. That certificate creates Reclamation's right to store 6,400,000 acre-feet of water per year in Lake Roosevelt. The "place of use" for the water stored pursuant to that certificate is the Columbia Basin Project. Reclamation's diversion permits, issued by the State of Washington on May 15, 1938, \_\_\_\_\_, permit diversion of up to 3,154,000 acre feet of water per year for irrigation. Reclamation currently diverts 2.3 to 2.7 million acre-feet per year of water from Lake Roosevelt for delivery into Columbia Basin Project pursuant to that permit.

Chelan County PUD's Rock Island Dam is the only hydroelectric generating facility on the mainstem Columbia River that predates Congress' authorization of the Grand Coulee Dam and the Columbia Basin Project. Its construction occurred in 1929-1933. All five of the

congressional authorizations for the construction of Columbia River mainstem federal hydroelectric generating facilities post-date authorization of Grand Coulee Dam and the Columbia Basin Project. The Bonneville Dam was authorized in 1937 two months after the Columbia Basin Project.<sup>94</sup> McNary Dam was authorized in 1945,<sup>95</sup> Chief Joseph Dam in 1946,<sup>96</sup> and John Day Dam and the Dalles Dam in 1950.<sup>97</sup> Water rights for Grand Coulee Dam's third power plant and pump-generating plant were created on October 16, 1969. The nonfederal hydroelectric generating facilities on the mainstem Columbia, all of whose licenses to operate are issued by the Federal Energy Regulatory Commission, include Grant County PUD's Priest Rapids and Wanapum Dams, put in place in 1959 and 1964, respectively, Chelan County PUD's Rocky Reach Dam, put in place in 1956-1969 and Rock Island Dam. Douglas County PUD's Wells Dam was put in place in 1962.

Congress' 1943 reauthorization of the Columbia Basin Project made the Project subject to the Reclamation Act of 1939.<sup>98</sup> Section 9 of that Act authorized the Secretary of Interior to investigate and construct projects within allocated cost groups: irrigation water users, power users, and municipal water users. 16 U.S.C. 485h<sup>99</sup> provides:

No expenditures for the construction of any new project, new division of a project, or new supplemental works on a project shall be made, nor shall estimates be submitted therefor, by the Secretary until after he has made an investigation thereof and has submitted to the President and to the Congress his report and findings on—

- (1) the engineering feasibility of the proposed construction;
- (2) the estimated cost of the proposed construction;
- (3) the part of the estimated cost which can properly be allocated to irrigation and probably be repaid by the water users;
- (4) the part of the estimated cost which can properly be allocated to power and probably be returned to the United States in net power revenues;
- (5) the part of the estimated cost which can properly be allocated to municipal water supply or other miscellaneous purposes and probably be returned to the United States.

If the proposed construction is found by the Secretary to have engineering feasibility and if the repayable and returnable allocations to irrigation, power, and

<sup>94</sup> 16 U.S.C. § 832, Act of Aug. 20, 1937, ch. 720, Sec. 1, 50 Stat. 731; July 26, 1947, ch. 343, title II, Sec. 205(a), 61 Stat. 501.

<sup>95</sup> Pub. L. 79-14, 59 Stat. 10, 21 (1945).

<sup>96</sup> Pub. L. 79-525, 60 Stat. 634, 637 (1946).

<sup>97</sup> Pub. L. 81-516, 64 Stat. 163, 179 (1950).

<sup>98</sup> "This Study is being conducted under the authority of the Reclamation Act of 1939 and the Columbia Basin Project Act of 1943." DEIS, p. 1-9.

<sup>99</sup> Act of August 4, 1939, Ch. 418, Sec. 9, 53 Stat. 1187.

municipal water supply or other miscellaneous purposes found by the Secretary to be proper, together with any allocation to flood control or navigation made under subsection (b) of this section, equal the total estimated cost of construction as determined by the Secretary, then the new project, new division of a project, or supplemental works on a project, covered by his findings, shall be deemed authorized and may be undertaken by the Secretary. If all such allocations do not equal said total estimated cost, then said new project, new division, or new supplemental works may be undertaken by the Secretary only after provision therefor has been made by Act of Congress enacted after the Secretary has submitted to the President and the Congress the report and findings involved. (Emphasis supplied.)

Congress' authorization for Project construction is stated in terms of cost-repayment sufficiency of each of the water use categories independently. Each water use must bear its own burden with respect to repayment. Congress authorized independent evaluation of water users' and power users' ability to repay costs. The DEIS' analysis merges that evaluation in a manner contrary to the authorizing statute. If maximization of hydropower cost recovery is weighed as a "cost" of the use of water for irrigation, and the cost is calculated in benefit-cost analysis so as to make irrigation projects unviable, then Congress authorization to the Secretary will have been frustrated. Congress took no action, in this provision of the Reclamation Act or any other statute, prioritizing the use of Columbia River water for hydropower production over the use of Columbia River water for agricultural irrigation. There is consequently no federal law preempting the priorities established through Washington State's water law.

Development of hydropower on the Columbia River (other than Grand Coulee Dam and Rock Island Dam) was subject to the prior claim of the Columbia Basin Project's use of Columbia River water for irrigation purposes. Any operating agreement between producers of hydropower on the Columbia River, made pursuant to the BPA's authority under the Bonneville Project Act,<sup>100</sup> the Pacific Northwest Electric Power Planning and Conservation Act,<sup>101</sup> or the Pacific Northwest Coordination Agreement, is made subject to the incumbent superior right created by the Columbia Basin Project Act and Washington state water rights created by permit # \_\_\_\_\_. Use of Columbia River water for agricultural purposes thus does not "cause" reduction of hydropower generation.<sup>102</sup> Reclamation apparently agrees, as the DEIS states that "no impacts to water rights are anticipated for any of the alternatives."<sup>103</sup> It is hydropower's

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<sup>100</sup> 16 U.S.C. § 832 et seq.

<sup>101</sup> 16 U.S.C. § 839 et seq. (sometimes called simply "Northwest Power Act").

<sup>102</sup> BPA's approach assumes that Reclamation's power generation water right provides an assurance to continued generation at the current level. The "benefit" of continued hydropower production using water subject to the prior water right is artificial. Hydropower producers have thus enjoyed a windfall of accessible water during the interim that construction of water delivery facilities has been delayed to serve the eastern portions of the Columbia River Project. The future delivery of water from Grand Coulee Dam for purposes of hydropower production therefore has no economic value, as it may be discontinued, to the extent necessary to meet irrigation needs, which hold a superior right.

<sup>103</sup> DF-LSSR, p. 4-64.



more junior rights which “cause” reduction of hydropower generation under all the various alternatives with the exception of No Action.<sup>104</sup>

Only those other direct costs which result from water rights which are equivalent or senior to existing Columbia Basin Project water rights<sup>105</sup> should be counted as other direct costs.<sup>106</sup> Only the Rock Island hydropower generation should be included in this approach if it is used.

- b. “Other direct costs” should be “computed on the basis of increased costs to resource users.”

The DEIS concludes that the reduction of surplus energy production due to reduction of available water supply attributable to the action alternatives

“is anticipated to have a minimal impact in the short term (1 percent under the critical water conditions in 2010) but over time would result in an adverse impact (the available energy reduction relative to surplus increases to 11 percent by 2017). It is assumed that a small amount of the regional surplus could be acquired as an offset for the additional energy consumed by this alternative and that no additional generating facilities would be needed.” “Cumulative impacts to energy resources would include lost downstream hydroelectric generation resulting from this alternative compounded by the additional small loss of downstream generation from the lake Roosevelt Incremental Storage Releases Project. The extent of those compounding impacts would be minimal.”<sup>107</sup>

Apparently disregarding this more sanguine view of the effects of the action alternatives on energy production, and the “offset” of available regional surplus energy, the DETR/DEIS adopts BPA’s analysis and contends that the 100 year cumulative discounted cost of the “lost benefit,” using the BPA “surplus” approach, is \$156.4-\$557.3 million, depending on the alternative and the discount rate applied.<sup>108</sup>

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<sup>104</sup> Generation of hydropower at Rock Island Dam is, of course, the exception.

<sup>105</sup> “The proposed action is to replace groundwater with CBP surface water as a solution to declining groundwater levels within the Odessa Subarea. This surface water would be provided as part of the continued phased development of the CBP. The surface water would come from existing water rights in the Columbia River system.” DEIS, p. ES-2. (Emphasis supplied.)

<sup>106</sup> In its energy effects analysis, DEIS section 4.17, pp. 4-233-240, combines “direct costs” with “other direct costs.” These include reduced groundwater pumping, and additional surface water pumping (direct costs), and lost hydroelectric generation (other direct cost). The DEIS determines a net consequence to these direct and other direct costs. A “Net Change” factor is calculated, by subtracting the lost hydroelectric generation and additional surface water pumping volumes from the reduced groundwater pumping volumes for each of the respective alternatives. The analysis fails to distinguish between direct project costs and “other direct costs.”

<sup>107</sup> DEIS, p. 4-238.

<sup>108</sup> “The average annual loss in hydropower benefits was estimated by BPA at \$6.939 million for all four partial alternatives.” “The same average annual loss in hydropower benefits, \$17.638 million, was estimated by BPA for

But that “lost benefit” estimate was not established pursuant to Section 2.12.7 (c) of the Principles and Guidelines. Section 2.12.7 (c) requires that other direct costs should be computed on the basis of increased costs to resource users.

BPA’s analysis is not a computation of increased costs to resource users. It neither computes increased costs of water to hydropower producers or the cost of hydropower to hydropower consumers. It is important to distinguish between the costs of users of water and the costs of consumers of hydropower. At present, there is no cost to use water for hydropower production. Likewise, there will be no cost to use water for hydropower production under all of the action and No Action alternatives. There would thus be no increased water costs to hydropower. The hydropower consumer’s cost of hydropower includes the value added to the water’s use by the manufacture of hydropower (dams, turbines, generators, etc), and is affected by the overall supply of hydropower in a complex, mixed multi-generation power market. These manufacturing cost and market factors are taken into account in BPA’s ratemaking process where cost recovery is an essential component.<sup>109</sup> But none of these manufacturing components is “caused by” the use of the underlying resource (water) for agriculture instead of for hydropower.

BPA’s analysis computes loss of “surplus energy.” Under BPA’s approach, energy in any year is “surplus” if it is greater than “firm energy” in a base case year. DEIS section 3.17.2 describes “firm energy” as “energy produced on a guaranteed basis.” “In hydroelectric generation, firm energy is the energy that can be reliably generated during the region’s worst historical water conditions.” “A historic low water year (1937) is the base case used. . . .” “This approach is consistent in all planning years and is accepted by all participants in the Pacific Northwest energy planning process.” “These regional total surpluses [over the base case] are used to evaluate the impact of each of the alternatives.” BPA’s method is incorrect to the extent that it presumes that any supply of water to hydropower is “guaranteed” other than through the water rights of each hydropower facility, as established under Washington State’s water law.

The BPA’s method also does not consider the effects of energy conservation or the availability of alternative sources of energy, including wind-generated energy. Nonfirm energy (energy other than that produced on a guaranteed basis) also has value, because water pumping can be timed to coordinate with nonfirm power generation facilities. Because of the size of water storage facilities, including Lake Roosevelt and Banks Lake, available to the Columbia Basin Project, pumping water for delivery into the Columbia Basin Project irrigation delivery system can be accomplished during periods when wind energy is available, thereby “integrating” the resource into the regional energy production system.

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all four full replacement alternatives.” DETR, p. 71. DEIS Table 2-13, p. 2-72, Table 2-14, p. 2-73, DETR Table NED\_BCA1, p. 4, Table NED\_BCA2, p. 5.

<sup>109</sup> See, section 7(i) of the Northwest Power Act, 16 U.S.C. 839e(i), Procedures Governing Bonneville Power Administration Rate Hearings, 51 FR 7611 (1986). Once rates have been decided, BPA submits them to the Federal Energy Regulatory Commission for confirmation and approval. FERC’s approval is based on whether the proposed rates are sufficient to recover BPA’s total costs.

The Washington State legislature has mandated that the Washington State Department of Ecology aggressively develop Columbia River flows. Recognition of hydropower water rights above pre-existing and superior agricultural water rights so as to preclude that development would be a clear violation of that mandate. While development of Columbia River flows pursuant to any future (junior) Columbia River water rights would need to be resolved against existing water rights to use water for hydropower,<sup>110</sup> development of more senior rights does not. The Washington legislature created no exception to its mandate where “surplus” energy as calculated by the BPA’s process is involved. Ecology’s reliance on that factor in the DEIS so as to preclude further development of Columbia River flows after enactment of the 2006 statute (Ch. 90.90.RCW) would violate the statute, just as “... the No Action Alternative would fail to meet the specific provision of Chapter 90.90.RCW.”<sup>111</sup>

#### 5. Environmental Compliance and Mitigation Costs

A basic purpose of the study is to address environmental concerns and interests including Endangered Species Act matters.<sup>112</sup> The DEIS identifies the environmental assets that may be affected<sup>113</sup> and discusses the environmental consequences of the actions under consideration.<sup>114</sup> However, because a preferred alternative has not yet been selected, it is uncertain whether the evaluations contained in Sections 4.8 through 4.11 of the DEIS are sufficient. This is addressed by comments submitted by the U.S Fish and Wildlife Service.

“[C]onsultation under section 7 of the Endangered Species Act of 1973, as amended, will be conducted at a later date.”<sup>115</sup>

“This report does not complete consultation under section 7 of the ESA; therefore the Service recommends that Reclamation complete consultation with the Service on this project, if Reclamation moves forward to implement a preferred alternative.”<sup>116</sup>

“Our evaluation and analyses indicate that none of the action alternatives will benefit fish, wildlife, or their habitats, to the degree that negative effects will be outweighed by positive effects, without the added benefits of mitigation and

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<sup>110</sup> RCW 90.03.290 (3).

<sup>111</sup> DEIS, pp. 2-20, 21.

<sup>112</sup> DEIS, p. 1-9. See also, p. 4-100.

<sup>113</sup> DEIS, Ch. 3.

<sup>114</sup> DEIS, Ch. 4.

<sup>115</sup> DFWCAR, p. 23.

<sup>116</sup> DFWCAR, p. 61.

wildlife habitat improvements. Mitigation and wildlife habitat improvements could and may be done, but are not currently proposed as part of the Project.”<sup>117</sup> “Although irrigation and agricultural conversion may adversely impact riparian habitats, it is also true that seepage and leaks from irrigation systems may create riparian and wetland areas.”<sup>118</sup>

Sections 2.12, 4 and 2.12.5 identify that environmental mitigation costs are NED costs. The U.S. F.W.S. proposes 31 environmental mitigation strategies<sup>119</sup> and the Washington State Department of Fish and Wildlife proposes additional “mitigation measures and enhancements.”<sup>120</sup> We are concerned that delaying initiation of consultation under the ESA will cause significant project delays once Reclamation adopts a preferred alternative. Reclamation, U.S F.W.S and W.D.F.W. should begin work now to explore the interaction between the proposed action and the Endangered Species Act. All of the action alternatives are sufficiently similar to permit initiation of that process now. Identification of the extent of ESA compliance and fish and wildlife impact mitigation scenarios should be accomplished earlier, rather than later, so that the costs of necessary mitigation will become early-known and anticipated in project funding.

#### VIII. Conclusion

We encourage the Bureau of Reclamation and the Washington State Department of Ecology to proceed diligently and quickly to publication of a final environmental impact statement. Reclamation and Ecology should design the project conservatively so as to meet the clear current need without interference with or construction of the complete Columbia Basin Project at this time. Reclamation and Ecology should project benefits realistically and avoid cost projections which are unrealistic or overly conservative. The projects under consideration are essential to the well-being of Adams County’s citizens. We support them.

Respectfully Submitted,

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Hon. Roger Hartwig, Chairman

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Hon. Rudy Plager, Commissioner

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Hon. Jeff Stevens, Commissioner  
Adams County Commission  
210 W. Broadway  
Ritzville, WA 99169

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<sup>117</sup> DFWCAR, p.56.

<sup>118</sup> DFWCAR, p. 15.

<sup>119</sup> DFWCAR, pp. 61-65.

<sup>120</sup> Washington Department of Fish and Wildlife, “Odessa Subarea Special Study, Wildlife Survey Final Report,” October 2010, pp 22-25.





January 28, 2011

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sent via email: [odessa@usbr.gov](mailto:odessa@usbr.gov)

**RE: Odessa Subarea Special Study DEIS**

The Northwest Food Processors Association is writing to support the Bureaus' efforts to replace groundwater irrigation wells with surface water from the Columbia Basin Project in the Odessa Groundwater Management Sub-area. NWFPFA is part of the Odessa Aquifer Replenishment Coalition and has participated in developing a series of measures we believe are both cost effective and reasonable in the development of future options to protect the Odessa aquifer and maintain healthy agricultural production in the region. Several of these options are included in the Bureau's partial replacement option in the DEIS. I have attached a copy of the Coalition's Common Plan, which has been submitted to the Bureau in previous comments.

The Odessa sub-area is a critically important production area for processed food products, especially for potatoes and sweet corn. Declining water levels in the Odessa aquifer are threatening the viability of this growing area and are thus threatening the long term viability of the food processing industry in the Northern Columbia Basin.

ORG8-1

While we support the intent of the DEIS, NWFPFA believes that the Bureau has dramatically understated the economic impact in the Cost-Benefit Analysis of the EIS document. Several other commenters have also pointed to deficiencies in the calculations and we would like to state our support for the comments submitted by the Washington Potato Commission on the inadequate nature of the cost estimates. We would also like to add to those comments by explaining the unique nature of the Odessa production area and its irreplaceable contribution to the potato and sweet corn processing industry in the Columbia Basin.

ORG8-2

As you are aware, potato storage technology has developed to the point where the processed potato industry is able to operate on a year round basis. The economics of potato processing are based on this ability to keep the plants running throughout the year, providing full time, non-seasonal employment to those who work at the plants. Without the ability to run processing plants from storage, the economics of potato production in the Columbia Basin would not allow for continued operation of those plants.

ORG8-3

The Odessa production area is the only area in the north end of the Columbia Basin that produces potatoes that will withstand the rigors of storage for an extended period of time and allow for a 12 month production schedule. Odessa potatoes are known for their storage capability and are grown for that purpose. Eliminating the production of potatoes in the Odessa sub-area would not simply eliminate the equivalent of one plant's production capacity, it would cripple the entire industry in

ORG8-4

ORG8-5

the North end of the Columbia Basin and put the future of frozen potato production in jeopardy. This claim can be easily verified by checking with the field staff of the processors, agronomists at the various agricultural consulting firms or researchers at WSU extension. Additionally, the sweet corn industry in the North Columbia Basin is only economically feasible when corn can be grown as a rotational crop with potatoes. Eliminating potato production will also end sweet corn production, as the two are economically tied.

ORG8-5

Additionally, if production in the Columbia Basin is curtailed, it is unlikely that any of that production will be shifted to plants in the United States. Potato processing plants in the Basin produce extensively for export, which is a growing part of the processed potato market. All major processors have production facilities in these markets currently, particularly in China and India. The most likely scenario is that production that is moved out of the Columbia Basin will go to one of these overseas facilities, since they are so much closer to the markets they serve. Once lost, this is production that will not be coming back on-shore.

ORG8-6

In summary, NWFPA urges the Bureau of Reclamation to revise and correct the economic analysis that is included in the DEIS. It dramatically underestimates the impact of limiting production in the Odessa growing area and will falsely make the "no action" alternative a viable, cost effective alternative. Nothing could be further from the actual facts on the ground. Investing in alternative sources of water for Odessa growers will return significant economic benefits to the Columbia Basin and the U.S. economy. We urge the Bureau to adopt an alternative that brings new sources of surface water into the Odessa sub-aquifer.

ORG8-7

Thank you for the opportunity to comment. Please contact us if you have questions or would like further information.

Sincerely,



Craig Smith  
Vice President  
503-371-3123 (direct line)

## ODESSA AQUIFER COORDINATION TEAM

### **Mission:**

The Odessa Aquifer Coordination Team (OACT) is a group of all the parties that are working on projects to maintain irrigated agriculture in the Odessa Ground Water Management Subarea of Central Washington State. These projects include those that replace ground water with surface water and also conservation projects that reduce the water withdrawals from the aquifer. It is the Mission of OACT to: maintain a listing; to coordinate; to prioritize and; to identify the responsible party for the various projects, into one common plan.

After a common plan has been established, OACT will remain active to: update the common plan as individual projects are accomplished/modified or new projects added; to communicate the common plan to interested parties including the press; to build coalitions of related groups that benefit; to lead efforts favorable legislation/funding at the federal level and; to coordinate efforts of member parties for favorable legislation, funding, and support at the State and local level.

### **The Odessa Aquifer Common Plan July 2006**

#### **I. Projects to Reduce Pressure On the Aquifer**

<b><u>Project Name</u></b>	<b><u>Brief Description/Expected Outcome</u></b>	<b><u>Org/Information contact</u></b>	<b><u>Timing</u></b>	<b><u>\$ Required</u></b>	<b><u>Status</u></b>
<b>I-A</b> CREP Program	Pay deep well irrigators not to irrigate Estimate 10,000 acres	WA Conservation Com	2007-11	\$ 2-3 mil/yr	Being Developed
<b>I-B</b> BPA Buyback	Annual program to not pump to save power Estimate 10,000 acres	OARC	2007-11	\$ 2-3 mil/yr	Being Developed
<b>I-C</b> Water Save Program	Provide funding to deep-well irrigators for conservation programs i.e. IWM/EQIP/ Other	OARC	2007-10	\$2-4 mil/yr	Being Developed

Note: ECBID- East Columbia Basin Irrigation District, OARC - Odessa Aquifer Replenishment Coalition, USBR - United States Bureau of Reclamation, DOE - Washington State Department of Ecology, CBPID's - Columbia Basin Project Irrigation Districts, CBDL - Columbia Basin Development League

## 2. Projects To Replace Aquifer Water With Surface Water

<u>Project Name</u>	<u>Brief Description/Expected Outcome</u>	<u>Org/Information contact</u>	<u>Timing</u>	<u>\$ Required</u>	<u>Status</u>
<b>2-A</b> ECBID Conser- vation program	Previous conservation projects credited for new water projects-2400 acres	ECBID	2006/7	None	In Process
<b>2-B</b> 30 KAF Permit	Process USBR permit request for new 30 KAF from CBP water right to replace ground water with surface water	USBR,DOE, CBPID's	2007/09	None	In Process
<b>2-C</b> Potholes Sup Feed Route	Develop a supplemental feed route for SCBID. Use freed up E Low Canal capacity to replace deep wells	USBR,DOE,CBPID's CDDL	2008/09	TBD	In Process
<b>2-D</b> USBR Odessa Sub- area Special Study	Study Elements - Identification of alternative engineering proposals for water delivery.	USBR, DOE, CBPID's CDDL	2010	\$ TBD	In Process
Odessa Special Study addresses Additional Coordination Team items: (2-E)	- Assure adequate supply for existing users				
North of I-90 deep well replacement (2-F)	Use E Low Canal capacity N of I-90 to replace ground water with surface water.		2010	\$ TBD	
Small Scale Res- ervoir Storage & other alternative water sources	Store surface water in several small reservoirs using during off season and investigate other new ideas		2010	\$ TBD	

ORG8-



**Project 1-A: CREP Program****Contact: Washington Conservation Commission****AN ODESSA CREP PROGRAM**

The Conservation Reserve Enhancement Program (CREP) is a federal-state cooperative conservation program that addresses targeted agricultural-related environmental concerns. CREP participants voluntarily enroll in Conservation Reserve Program (CRP) contracts with USDA's Commodity Credit Corporation. Participants receive financial incentives, cost-share assistance, and rental payments in exchange for removing cropland from agricultural production.

Irrigators pumping from the Odessa aquifer are facing a critical problem. Steady depletion of the aquifer has occurred over the last 20 years, and during the drought of 2005 wells pumping out of that aquifer actually ran dry. A long-term solution may take many years. Accordingly, Washington State needs to develop a short-term solution that will ensure this aquifer can continue to provide the water necessary to agriculture in the Odessa area until a more permanent solution is found.

One possible short-term solution is an Odessa CREP Program. Modeled after the Idaho Eastern Snake Plane Aquifer CREP Program, an Odessa CREP Program would look to enroll up to 20,000 acres of land in the Odessa area that are presently irrigated by deep wells. This program would not involve the permanent acquisition of water rights by the state, and any contracts entered into for this program would not exceed five years in duration.

Though Adams County has already enrolled over 25% of its land mass in the CRP program, (and thus is not eligible for participation in an Odessa CREP program), there are roughly 35,000 acres in Lincoln County, (as well as some acreage in Franklin and Grant Counties), that could be eligible for enrollment into the CREP Program.

In order to implement an Odessa CREP Program, stakeholders in the Odessa area will need to work with the Conservation Commission and the Department of Ecology to develop recommendations for the Governor and the 2007 Legislature. Close coordination with Ecology groundwater staff, and representatives from the Columbia Basin Ground Water Management Area, will be needed to target wells that could be turned off in order to maximize the benefit of pressure taken off of the aquifer.

**Project 1-B: BPA Buyback****Contact: Odessa Aquifer Replenishment Coalition**

During the past few years, BPA has developed and utilized power-buy-back programs in the Pacific Northwest. Generally, these programs pay customers in Washington, Oregon and Idaho to reduce or not use blocks of electrical power that can be resold at a higher value in another marketplace.

Agricultural irrigation power demand is typically focused in the summer months. In addition, the regional power market value usually spikes during the summer months because of increased demands on the electrical grid for uses such as air conditioning, etc. Because of the difference between the agricultural irrigation power rates and the retail or industrial rates during certain years, there is an occasional or periodic need for BPA to buy-back power from agricultural users and re-sell it at a higher rate in the retail or industrial marketplace.

For the Odessa Aquifer deep well irrigators, the advantage of such a program is simple. It would provide an opportunity or incentive for deep-well irrigators to be compensated to idle their wells during certain years when BPA needs extra power. This sort of program would be optional and would provide some short-term relief to the Odessa Aquifer by not only helping to reduce irrigation demand on the Aquifer, but also keeping deep-well irrigators (who choose to participate) economically viable and/or financially solvent.

For example, agricultural irrigation power is generally contracted in the \$.03-\$.04 per Kilo-Watt-Hour (KWH) range. Given recent trends in electrical power rates, it has been suggested that the \$.03-\$.04 per KWH power could be marketed by BPA at an average price of approximately \$.12 per KWH. A portion of the resulting \$.09 per KWH increased value could be used as an incentive payment for Odessa Aquifer deep-well irrigators to idle their pumping facilities on a seasonal basis.

It is estimated that a maximum of 50,000 acres out of 200,000 acres in the Odessa Aquifer area would sign-up. Using the above example, a 50,000 acre sign-up would save 104,000 acre feet of withdrawal from the aquifer per season. This reduction in aquifer demand may have significant effect in sustaining the aquifer levels until such time as the current efforts to bring Columbia River water in to replace the groundwater can be accomplished. Additionally, as 50,000 acres sign-up with a return of 3,584 KWH per acre would be made available for resale in the high value summer market, a total of 179,000,000 KWH would be conserved.

In summary, the Odessa Aquifer Coordination Team and/or its designee would work with BPA and local electrical utilities to implement a Power-Buy-Back program for the Odessa Aquifer area. Having BPA and/or local electrical utilities implement an optional program to buy-back power from deep-well irrigators (in the Odessa Aquifer) is a viable and sensible short-term, temporary solution that will help take some pressure off of the aquifer until longer-term, permanent solutions can be implemented to bring surface water to deep-well irrigators.

Over the past several years, many deep-well irrigators in the Odessa Aquifer have foregone needed repairs and/or upgrades to their irrigation systems as they were concerned that they would either relinquish the water (as a result of water savings from repairs/upgrades) or they would not be able to recoup their investment as they thought the Aquifer might run out of water before they would be able to depreciate their repairs, improvements or upgrades.

Given the passage of the Odessa Aquifer relinquishment time-out legislation (earlier in 2006) and the grassroots initiative (that began in 2004) to bring surface water to the Odessa Aquifer, there is renewed confidence and hope about the long-term outlook of the Aquifer. However in the near-term, many deep-well irrigators need financial assistance to make necessary repairs or upgrades to their irrigation systems to help stop unnecessary leakage of irrigation water. It has been estimated that this overall leakage from antiquated or inefficient (leaky) irrigation systems in the Odessa Aquifer could be as high as 30,000 acre feet of water per year.

As a result, it is critical that approximately \$2-\$4 million of funding per year be obtained for the "Odessa Aquifer Water Save Program" from the Department of Ecology (from the Columbia River Account) or from the Conservation Commission (via USDA-EQIP and other related programs). The funds would then be allocated to local Conservation Districts in the Odessa Aquifer area to implement the "Water Save" program. The local Conservation Districts would then work with Odessa Aquifer Coordination Team (and/or its designee) to determine the appropriate criteria to provide on-the-ground funding for "Water Save" projects in the Odessa Aquifer. The result would be substantial water savings for the Aquifer while also providing some underlying confidence to deep-well irrigators that the State is helping to make investments (via the Conservation Districts) in on-farm irrigation efficiency infrastructure and systems in the Odessa Aquifer.

Using Columbia Basin Project Conserved Water as a Replacement Irrigation Source in the Odessa  
Ground Water Subarea

East Columbia Basin Irrigation District

In April 2001 the East Columbia Basin Irrigation District proposed to the Department of Ecology and the Bureau of Reclamation that water being conserved by lining and piping canals and laterals operated by the East District be used as a source of irrigation water to replace ground water pumping in the Odessa Subarea. Most of the District's future development area is within the Odessa Subarea and there is considerable ground water irrigated acreage within reasonable proximity of the East Low Canal. At the time of this proposal the District was already supplying 14,000 acres in that future development area from the East Low Canal.

The District proposed that 60% of this conserved water be allocated to replacing ground water irrigation, that 20% be allocated to municipal-industrial water use in the East District area that 20% be allocated to Endangered Species Act or other on-Columbia Basin Project environmental purposes. Much of the current M&I water use in the East District area relies on ground water meaning the proposed M&I allocation may also benefit the Odessa Subarea. The environmental portion was based on past precedent in ESA affected areas where some portion of conserved water is shared.

Ecology and Reclamation supported the District proposal subject to verification of the quantity of conserved water. By late 2004 Montgomery Water Group, Inc. completed two seepage analyses reports that verified 49 lining and piping projects completed by the District between 1986 and 2004 had reduced seepage losses by a total of 16,276 acre feet per year. Some of those losses would have been recaptured in Potholes Reservoir and become part of the irrigation supply for the South Columbia Basin Irrigation District. Montgomery Water Group concluded, with concurrence by Reclamation and Ecology, that the net amount of water conserved by these conveyance system improvements was 10,536 acre-feet per year.

In 2004 the Washington State Legislature unanimously passed and the Governor signed Substitute House Bill 2504. The legislation made it state policy to substitute Odessa Subarea groundwater irrigation with Columbia Basin Project conserved water to the extent possible. Also, the Department of Ecology was authorized to enter into the necessary agreements with the District and Reclamation to implement these substitutions. The bill also enabled deep well irrigators to accept Columbia Basin Project water without being exposed to relinquishment of their state water right.

During 2005 the District, Reclamation and Ecology developed the various agreements and contracts necessary to implement this conserved water program. The District began taking applications from prospective water service contractors in January 2006. The first contracts were executed in May 2006. Presently it appears that the available 6,322 acre-feet (60% of 10,536) will replace ground water irrigation for 8 to 10 farmers on about 2,400 acres.



**Project 2-B: 30 KAF Permit**

**Contact: USBR, DOE, CBPID's.**

**30 KAF PERMIT**

The three Irrigation Districts that operate the Columbia Basin Federal Reclamation Project in partnership with the U.S. Bureau of Reclamation, in December of 2004, entered into a Memorandum of Understanding with the Washington Department of Ecology and Reclamation to cooperate on a group of activities that address water management on the mainstem of the Columbia River and operational issues and problems on the Columbia Basin Project.

One of the activities identified in the MOU was the processing by DOE of a new permit application by Reclamation for an additional 30 KAF (thousand acre feet) from the overall water reservation held by Reclamation for the Columbia Basin Project. The MOU contained the following:

Section 14. The parties will cooperate to support and pursue the diversion and delivery of an additional 30,000 acre-feet of water from Lake Roosevelt to the Odessa Subarea. In an effort to satisfy this objective, Reclamation will file by March 2005 an application with the State for a water right permit to divert 30,000 acre-feet of water from the federal withdrawal and storage rights for the Project to serve the Odessa Subarea. The State will process the application and issue a permit decision by September 2005. If the permit decision is challenged, the State commits to active and good faith defense of the permit, with assistance from Reclamation and the Districts, as appropriate. The goal is to make up to 30,000 acre-feet of water available to the Odessa Subarea no later than December 2006 for use during the 2007 irrigation season. Use of this water is limited to existing agricultural lands, with priority for use on lands currently irrigated under state ground water permits in areas where the Odessa aquifer is declining. Lands receiving water under this section which are also covered by state ground water permits shall not divert water under the permits. This water is separate from and in addition to other ongoing programs to deliver water within the Project.

The timeline provided in the MOU has been adjusted to take into account actions taken by the Legislature in the 2005 and 2006 Sessions and current ESA related litigation in the Federal Courts.

Reclamation made application for the permit in September 2005 and DOE has decided to include the environmental review of this permit in the Programmatic Environmental Impact Statement they are preparing for the new Columbia River Basin Water Management Program authorized by the Washington Legislature during the 2006 Session.

The DOE PEIS is projected for completion in the spring of 2007. Reclamation actions related to the new permit are subject to ESA Section 7 consultation which must be concluded before water from this permit could be contracted.

Water made available through this permit will be delivered through existing project facilities subject to delivery system operational constraints which will limit availability primarily to lands lying north of Interstate 90.

### **POTHOLES SUPPLEMENTAL FEED ROUTE**

The three Irrigation Districts that operate the Columbia Basin Federal Reclamation Project in partnership with the U.S. Bureau of Reclamation, in December of 2004, entered into a Memorandum of Understanding with the Washington Department of Ecology and Reclamation to cooperate on a group of activities that address water management on the mainstem of the Columbia River and operational issues and problems on the Columbia Basin Project.

One of the activities identified in the MOU was the development of a Supplemental Feed Route for the Potholes Reservoir. The current requirement to directly feed project water to Potholes Reservoir is an existing operational constraint to increasing Project water deliveries to replace deep well pumping in the Odessa subarea. The Department of Ecology is funding and Reclamation has begun the necessary studies to move the Supplement Feed Route project forward.

The Columbia Basin Project was originally designed so that return flows from irrigation on the northern half of the Project would be captured in Potholes Reservoir and used to supply land in the south half of the Project. Irrigation development in the north half is still not complete so it is not yet capable of providing the return flows needed to provide a full supply of water for the south end of the Project.

To correct this problem, a feed route was developed to move water from Banks Lake to Potholes Reservoir. The feed route transports water through the Main Canal to the Bifurcation, then south through the East Low Canal to Rocky Coulee Wasteway where the feed is discharged into Upper Crab Creek near the north end of Moses Lake. From this point, the water moves through Moses Lake and into Potholes Reservoir. Feeding can be done early and late in the irrigation season when demand for irrigation water is low and the East Low Canal is operating at less than full capacity. At these times, the "unused" capacity is used to carry feed water to Potholes Reservoir. This route solved the immediate problem in 1980's and is still the primary route however; its ability to meet the need has diminished over time.

Improvements in irrigation efficiency in the northern half of the Project have led to lower returns and a commensurate increased need for feed. In addition, demand has changed. Block 26 was added to the Potholes system in 1984 and ECBID Supplement No. 1 to the Master Water Service Contract allowed for additional use out of the East Low Canal. As a result, the demand on Potholes is greater and the amount of "unused" capacity in the East Low Canal has declined. These factors have lead to the need for a supplemental feed route. Correcting this operational constraint is a necessary first step in being able to implement solutions to the Odessa aquifer problem.

DOE has committed \$1.2 million for the study that Reclamation plans to complete by October 2007. Implementation costs are expected to include capital facilities and right-of-way land acquisition.

**ODESSA SUBAREA SPECIAL STUDY**

The three Irrigation Districts that operate the Columbia Basin Federal Reclamation Project in partnership with the U.S. Bureau of Reclamation, in December of 2004, entered into a Memorandum of Understanding with the Washington Department of Ecology and Reclamation to cooperate on a group of activities that address water management on the mainstem of the Columbia River and operational issues and problems on the Columbia Basin Project.

Section 15 of the MOU provided that "in addition to the quantity of water described in Section 14, (30 KAF Permit) the parties will cooperate to explore opportunities for delivery of water to additional existing agricultural lands within the Odessa Subarea. As opportunities become known, the State will seek state funding to cost share the potential development of infrastructure to deliver this water."

The Columbia Basin Development League (CBDL) encouraged Reclamation and the State of Washington to move forward with the studies necessary to develop a solution for the Odessa aquifer problem, and in September 2005, Governor Gregoire committed the State as the 50% cost share partner in the study process, as required in Reclamation rules for water supply studies.

Reclamation's Odessa Subarea Special Study will investigate the possibility of continuing development of the Columbia Basin Project to deliver Project water to lands currently using groundwater in the Odessa Ground Water Management Subarea (Odessa Subarea). This Study will not address full completion of the Project, but does not preclude Reclamation from considering this in the future.

The Study will provide information sufficient to allow decision makers to select a preferred alternative that meets the following criteria:

- Is technically viable
- Protects Indian Trust Assets
- Complies with NEPA, ESA, and other environmental regulations
- Is socially and environmentally acceptable
- Is economically justified (the benefits exceed the costs)
- Is financially acceptable (farmers are willing to repay construction and O&M costs)
- Is acceptable to the public

The Study is organized in four phases and is expected to take 5 years and approximately \$6 million to complete.

Phase 1 – Organize Study	FY 2005	\$ 100,000
Phase 2 – Pre-Plan Formulation	FY 2006 – FY 2007	1,568,000
Phase 3 – Plan Formulation	FY 2007 – FY 2008	1,200,000
Phase 4 – Feasibility Analysis/ Environmental Studies	FY 2008 – FY 2010	3,000,000
TOTAL		\$ 5,868,000

The State of Washington has committed to funding 50% of the cost of the study. Appropriations for the Federal share must be secured annually as budget write-ins. The appropriation for the Study for FFY 2006 is \$368,000.

**Project 2-E: North of I-90 Deep Well Replacement**

**Contact: CBDL**

Use East Low Canal capacity North of Interstate 90 to replace ground water with surface water. This option will be addressed in the Odessa Special Study by the Bureau of Reclamation and more specifics will be outlined in the study.



**Project 2-F: Small Scale Reservoir Storage &  
other alternative water sources**

**Contact: TBD**

Store surface water in several small reservoirs using existing delivery systems during the off season to be used to replace ground water during the irrigations season.

Specifics will be developed as information becomes available from USBR, DOE, etc who are working on these issues. Also as new ideas come forward, they will be added to the Plan.

Also investigate other new ideas that will replace ground water with surface water in the Odessa Sub Basin area.

## Comment Letter ORG9

From: [Janet Nelson](#)  
To: [BOR IICA OdessaStudy](#)  
Cc: [janet.nelson](#)  
Subject: Odessa Subarea Special Study DEIS  
Date: Saturday, January 29, 2011 3:29:46 PM

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I am sending this as a brief comment on the Odessa Subarea DEIS.

We ask that the No Action alternative be adopted. This is due to the potential for:

1) the large loss of sagebrush steppe habitat and accompanying loss of habitat for dispersal of associated imperiled wildlife such as pigmy rabbits and sage grouse

2) loss of Columbia River water for salmon.

3) spending billions of our tax dollars, when we can ill afford it, for a few farmers.

According to the WDFW wildlife document these farms primarily use dryland farming techniques. Keep it that way.

— ORG9-1

Yours,

M. Janet Nelson  
Conservation Chair  
Kittitas Audubon Society



**Comment Letter ORG10**  
**WASHINGTON STATE POTATO COMMISSION**  
**108 INTERLAKE ROAD, MOSES LAKE, WA 98837**  
**PH: 509-765-8845 FAX: 509-765-4853 WWW.POTATOES.COM**

**January 30, 2011**

Chuck Carnohan  
Study Manager  
U.S. Bureau of Reclamation  
1917 Marsh Road  
Yakima, WA 98901-2058

sent via email: [odessa@usbr.gov](mailto:odessa@usbr.gov)

RE: Odessa Subarea Special Study DEIS

Dear Mr. Carnohan,

As the voice for the Washington State potato growers, the Washington State Potato Commission is very supportive of the efforts in the Odessa Sub Area to replace groundwater irrigation wells with surface water. This area is critical to the Washington State potato industry. We appreciate the efforts of the Bureau of Reclamation and the Washington State Department of Ecology on this important issue. Your work with all stakeholders has been a model of cooperation.

We are offering the following comments in regards to the Draft Environmental Impact Statement for the Odessa Subarea Special Study.

**Overview of Washington State Potato Commission**

The Washington State Potato Commission (WSPC) is a Quasi-Governmental Organization that represents all potato growers within the State of Washington. The State of Washington's Department of Agriculture provides oversight for the function and activities of the WSPC. No state funding is provided to the WSPC but state statute provides the WSPC authority to collect mandatory assessments from all potato growers within the State of Washington. These funds are used in four primary activities. The majority of funding goes to Potato Research. The WSPC is also engaged in Public and Industry Education, improving Trade and Market Access for Washington potatoes, and providing industry information to Legislative and Regulatory officials.

**Overview of the Washington State Potato Industry**

Washington State is the second largest producer of potatoes in the U.S. It is comprised of three primary growing areas. The smallest production area is in the Yakima valley. The Skagit valley in the NW corner of the state has a strong reputation for the highest quality red potatoes in the country. The largest growing region is the Columbia Basin. Approximately 90% of all Washington State potato

ORG10-1

production occurs within the Columbia Basin in E. Central Washington. This is also the area of the state that has the highest per acre yields of any growing region in the world. The Columbia Basin has the right combination of rich volcanic soils, a long growing season, warm summer days and cool nights which are perfect for potato production, and the ability to provide the precise amount of irrigation at the precise time the plant needs moisture. These conditions help the Columbia Basin lead the world in most consistent quality and highest yields of any potato growing region in the world. A strong chain of value added potato processing facilities have located in the Columbia Basin due to the quality and high yielding potatoes.

ORG10-1

The farm gate value of potatoes grown in Washington State range between \$600-700 million, depending on market conditions. Due to the high percentage of value added processing, (approximately 90% of the crop is processed) the economic value of the Washington State potato industry is between \$3.5-4.0 billion.

ORG10-2

A very unique attribute for the Washington State potato industry is the volume of potato and potato products exported. Approximately 50% of the crop is exported out of the country, primarily to Pacific Rim countries but not exclusively.

ORG10-3

#### **GENERAL COMMENTS REGARDING ALTERNATIVES:**

The Washington State Potato Commission supports Alternative 3, full groundwater irrigation replacement. It should be reflected in the EIS that the total cost of alternative 3 would not be incurred all at once but would be spread over a period of many years as the construction would be done in increments over an extended period of time.

ORG10-4

If after this comment period and further review, analyzing lower costs options and missing benefits, it is deemed that Alternative 3 is not cost effective, the WSPC would be supportive of a modified Alternative 2. We would support a partial groundwater irrigation replacement that would include all of the lands in Alternative 2 and would propose additional lands above Interstate 90 that could be served from the existing E. Low Canal. We believe there are cost saving comments by various organizations that could make this modified Alternative 2 cost effective.

ORG10-5

The No Action Alternative would be too detrimental to the potato industry and surrounding communities. It is not supported by the WSPC.

ORG10-6

#### **COMMENTS ADDRESSING BENEFITS OF ACTION:**

##### **Potato Processing and the Importance of "Odessa Subarea" Potatoes**

There are 8 full time potato processing facilities located in the Columbia Basin. These frozen processing facilities are located in Quincy, Moses Lake, Warden, 2 in Othello, Connell, Pasco, and Richland. There are 3 dehydration processing facilities in the Columbia Basin, one in Warden and 2 in Moses Lake. There are 3 additional frozen or refrigerated processing facilities that are located within the Columbia Basin that utilize potatoes along with other vegetables at their facilities,

ORG10-7



two in Pasco and one in Quincy. All of these processing facilities utilize potatoes grown in the Odessa Subarea. There are other processing facilities outside of the Columbia Basin that utilize "Odessa Subarea" potatoes at unpredictable volumes or times of the year. These facilities are located in Vancouver, WA, Hermiston, OR, Boardman, OR, Ontario, OR, Nampa, ID, Caldwell, ID, Twin Falls, ID, and occasionally at a few facilities in Canada.

ORG10-7

The potatoes that are produced within the lands of the Odessa subarea are the ones that store the longest. These are the potatoes that processors rely on late in the year prior to the new crop of potatoes. For reasons that are unknown, perhaps it's the heavier soil type that is common in the Odessa subarea, these potatoes have the best quality of any storage potatoes in the Columbia Basin. These are the potatoes that allow our processing plants to continue operating in the months of May, June, and July. Potatoes grown in other parts of the Columbia Basin are typically not capable of the high level of quality that comes out of the Odessa lands late in the year.

ORG10-8

If no action alternative is implemented, it is likely that nearly all potato processing plants will have to reduce their year round production schedules. The inefficiencies from not running facilities year round could lead to plant closures or reluctance to upgrade to new technologies. This issue is difficult to quantify and does not seem to be adequately documented in the economic analysis.

#### **IMPLAN Data Understates Economic Value**

IMPLAN data used to measure the economic activity of irrigation in the Special Study understates the value as it uses county wide data. Adam County dominates the Study area while the county has only 11% of the total farm land irrigated. Most of the farmland in the four county area is dry land wheat production. The 2005 Washington State University study that used different methodology trying to get a more accurate measurement of the value of irrigated potatoes in this area showed that every acre of potatoes generated \$17,700 of regional economic activity each year. This compares to \$113 if this same land was to revert to dry land wheat production.

ORG10-9

#### **Value for Mixed Crops is understated**

The Study combined grass production with irrigated wheat production and showed an annual gross value of production of \$622/acre. While grass production may have been combined with irrigated wheat in the GWMA study, it was because water use and timing are similar, but not economic value. The category of Mixed Crops (38.2% of the acres) was combined and based on dry edible bean production at \$632/acre. Many of the other crops grown in this area, including dry beans are grown as seed production due to the isolation this area offers at a substantial premium. Crops like mint, sweet corn, green peas and seed crops are all grown under contracts at firm prices substantially above \$633/acre. Why would a grower get involved in these other crops if he could only get \$10 an acre more?

ORG10-10

### **Loss of jobs in area understated**

The study shows a potential loss of 460 jobs. The study also shows a loss of 12,000 acres of potatoes. This amount of potato production is approximately what is needed to operate one potato processing plant. If this loss happens, one processing plant would close and the loss of jobs in a single plant would equal this number of jobs at risk in the report. WSPC firmly believes that a loss of potato production in the Odessa area would not be replaced in the area or anywhere in the United States. Most likely this production and associated processing would be lost to China.

—ORG10-11

### **Are New Surface Water Costs Reflected in Benefits?**

How are the dollars that grower will pay each year for surface water reflected in the benefit equation? Currently growers only pay the pumping costs for deep well water in the area. Once surface water is provided the BOR/ECBID will charge a fee for the water, something in the \$50/acre/year range.

—ORG10-12

### **Loss of Exports Not Accurately Accounted For**

If no action in the Odessa Subarea occurs and as production drops and processing facilities close, it is very likely that any new production or processing will be relocated overseas. Approximately 50% of current potato production is destined for international exports. Washington State gave processors a competitive advantage due to access to shipping ports, consistent quality, and high yielding crops. Production would not be moved further away from the ports if the Odessa subarea goes dry, it would likely move to China.

—ORG10-13

### **Lack of U.S. Food Security Benefit**

As the world population continues to grow at exponential rates, there will be a greater demand for food. U.S. farmers will play an even more critical role in feeding the nation and assisting the world. Losing agriculture production in the Odessa Subarea, some of the most fertile ground in the world, would be a great detriment. The economic growth of India and China will put large strains on the food system and the overall costs of food. It will be important to retain the most fertile lands. This is a benefit that is difficult to quantify but it is lacking in the Draft EIS.

—ORG10-14

## **COMMENTS ADDRESSING COST REDUCTION:**

### **Cut Costs by Focusing on Areas Showing Greatest Declines**

Focus on replacing those deep wells in the GWMA areas showing the greatest water table decline, both North and South of I-90 that can be supplied with surface water from the East Low Canal. Increase the number of acres converted from the 57,068 acres in the Partial Replacement Plan to a minimum of 66,699 areas listed as Category 3, 4, 5 in the GWMA Study.

—ORG10-15

**Common Sense Transfers**

Allow growers to transfer to lands closer to the East Low Canal. If land is available closer to the canal, allow a deep well permit that is further away to be moved. } ORG10-16

**Explore Possibility of Private Operation and Construction of Laterals**

Use private funding for all or part of the costs to construct and operate pumping plants/pipelines for lands being converted from deep wells to surface water. } ORG10-17

**Allow Flexibility for Interruptible Contracts**

Make surface water contracts firm (not interruptible) or provide other alternatives, such as ponds, for backup other than keeping the deep well operational for emergencies. } ORG10-18

**Closer Examination of Power Production Costs/Benefits**

Investigate the potential savings as a result of the change in water and power production in the area caused wind turbine power generation. In both 2009 and 2010, which were considered low water years, there was too much water in the river and hydro power was sold at a negative price during the spring runoff period. This situation will only become a bigger factor as we continue to add capacity to wind generation and we have more normal spring water flows. } ORG10-19

**Using Existing Facilities in Water Service Contracts**

How will the existing water service contracts (190,290 and 390 contracts) be handled and could there be cost savings by using some of the existing facilities. } ORG10-20

Thank you for allowing us to offer comments on the Draft EIS for the Odessa Subarea Special Study. Please do not hesitate to contact us if you have any questions or require any clarifications. We look forward to working with the Bureau of Reclamation on this important project.

Sincerely,

Chris Voigt  
Executive Director

LOWER COLUMBIA BASIN AUDUBON SOCIETY  
9016 Sunset Trail  
Pasco, Washington 99301

January 30, 2011

U.S. Bureau of Reclamation  
Mr. Chuck Carnohan, Study Manager  
1917 Marsh Road  
Yakima, Washington 98901-2058

Dear Mr. Carnohan,

We are writing to comment on your Odessa Subarea Special Study Draft Environmental Impact Statement dated October 2010.

The draft EIS reviews nine alternatives, one No Action, four partial replacement and three full replacement alternatives for ground water in the study area. The draft EIS does not designate any of the alternatives as the preferred alternative. We are very disturbed by this failure to designate a preferred alternative and seriously question whether the draft EIS meets the requirements of federal law. Without designating a preferred alternative, the public is left to randomly guess what the BOR plans to do? ORG11-1

The No Action Alternative seems to have been given scant consideration and was not really considered as a viable alternative. We do not believe the draft EIS adequately reviewed the No Action alternative. We strongly recommend further development of No Action Alternative data prior to issuance of the Final EIS or making a record of decision. ORG11-2

We are concerned about the impacts of all the partial or full replacement alternatives on shrub steppe habitat and wildlife. Shrub steppe habitat has been decimated in eastern Washington with 68% of that habitat having been lost in the four counties covered by the draft EIS. The remaining shrub steppe is fragmented and under constant threat of conversion to agriculture or urban development. All of the replacement alternatives would destroy shrub-steppe habitat and further fragment what remains. ORG11-3

The draft EIS admits on page ES-33 that all the replacement or action alternatives would cause significant long-term impacts to wildlife, including special status species, due to habitat loss. These special status species include the Washington ground squirrel, Burrowing Owl, Loggerhead Shrike, Long-billed Curlew, Peregrine Falcon, Swainson's Hawk and Grasshopper Sparrow to name only a few. The draft EIS also notes on page ES-33 that "a shift from irrigated agriculture to dryland farming under the No Action Alternative would cause minimal impacts to wildlife that use irrigated croplands". ORG11-4

The Black Rock Coulee Flood Storage Area is particularly important to the Washington ground squirrel, a Federal species of concern. The largest known Washington ground squirrel colony exists in this area due to the deep soils in the coulee bottom. Flooding this area would completely destroy the colony. This is absolutely unacceptable. ORG11-5

The wildlife reports submitted by US Fish and Wildlife Service and Washington Department of Fish and Wildlife lead me to believe far more information and basic on site data needs to be gathered before the true impacts to wildlife and habitat can be predicted. Impacts to wildlife, under the No Action ORG11-6



alternative, need to be development in more detail. How would conversion from irrigation to dryland farming impact shrub steppe fragmentation and mobility of wildlife? How could the Conservation Reserve program assist wildlife and the farmer as irrigation is phased out under the No Action Alternative?

ORG11-6

We disagree with the draft EIS conclusion that surface water withdrawals for the replacement alternatives would have minimal if any adverse impacts on fish migration and spawning in the Hanford Reach. Water levels and velocity in the Hanford Reach are critical. The fluctuation of a few inches in the river's level can strand thousands of salmonid smolts in a matter of minutes or hours. The river's flow velocity is critical to keep the gravel beds swept clean for successful spawning and nesting. We do not know what the impact of climate change will be on the river with earlier snowmelt or declining snowpack. The electrical ratepayers of the Northwest have invested hundreds of millions of dollars in salmon recovery. The Hanford Reach is critical to those recovery efforts and must be protected.

ORG11-7

Contaminates from mining, smelting, pulp mill effluents and other industrial uses which have settled in Lake Roosevelt over decades could be released into the Columbia Basin Irrigation Project as the lake level is drawn down to supply water for the additional acreage. These contaminants would threaten fish, wildlife, human health and agricultural products.

ORG11-8

The Benefit-Cost Analysis clearly shows all action alternatives to be uneconomical. The economic benefits range from of a low of 39.6 cents to a high of 91.7 cents for every dollar spent on the project. Every action alternative loses money.

The project costs range from \$841.6 million for Alternative 2A to \$3.314.4 billion for Alternatives 3C and 3D. That means the cost per acre would range from \$14,765 to \$32,304, which is far more than the fair market value of these lands. Figure 4 on page ES-38 indicates current Gross Farm Income on these lands to be roughly \$100,000,000 per year. Figure 4 also indicates that under the No Action Alternative Gross Farm Income would drop to roughly \$40,000,000. Based on Figure 4, the full replacement alternative would enable the area to maintain the \$100,000,000 annual Gross Farm Income – or \$60,000,000 above the No Action Alternative. If the entire \$60,000,000 were applied to paying for the project, it would take 55 years to recoup \$3.314.4 billion. There is no economic justification for any of the Action Alternatives. The Action Alternatives should be rejected out of respect for the American taxpayer

ORG11-9

We recommend adoption of the No Action Alternative as the preferred alternative. The No Action Alternative is cost effective and provides maximum benefits to fish and wildlife. The No Action Alternative protects the Hanford Reach of the Columbia River and its ability to produce native fish.

We are concerned about the social and economic impacts on the area as a result of shifting from irrigated to dryland farming and ranching. Although BOR may not be the proper agency, we believe plans and projects should be developed to assist the area in this transition.

ORG11-10

Thank you for this opportunity to comment on this important project.

Sincerely,

Rick Leumont  
Conservation Committee Chairnman

Comments of the Columbia Basin Development League  
Regarding the  
Draft Environmental Impact Statement  
Odessa Subarea Special Study

These Comments are submitted by the Columbia Basin Development League (CBDL), in response to the U.S. Bureau of Reclamation's and Washington State Department of Ecology's publication of the Draft Environmental Impact Statement (DEIS), Odessa Subarea Special Study (OSSS).<sup>1</sup> The CBDL is a 501(c)(6) non-profit corporation, organized in 1964 to support the Federal Reclamation Columbia Basin Project. The League's functions include, advocating for the continued development of the Project, protecting the Project's water rights and educating the public as to the renewable, multi-purpose benefits of the Project. The League recognizes the continued cooperative effort on the part of the Bureau of Reclamation, Washington State Legislature, Washington Department of Ecology Office of Columbia River and Columbia Basin Project Irrigation Districts to address the looming environmental and economic disaster caused by the depletion of the Odessa Groundwater Management Subarea aquifer. Implementation of the full replacement surface water solution examined in this DEIS is the only approach that will maintain the economy of the region and prevent the extreme social dislocation created by the loss of municipal, industrial and agricultural water supplies.

These comments are intended to further the effort to implement the alternatives identified in the DEIS. Among the action alternatives, we most prefer Alternatives 3A, 3B, 3C, and 3D because they do the most to address the conspicuous and aggravated problem of deteriorating groundwater supplies in the Odessa Groundwater Management Subarea.

The Columbia Basin Development League has reviewed the Comments of the Adams County Commissioners regarding the OSSS DEIS and concurs in those comments and incorporates the same in their entirety here by reference.

State of Washington Commitment of Non-renewal Resources in Reliance of Federal Actions

The Columbia Basin Project was intended to be built in incremental stages over the course of many years. This fact was recognized by the Secretary of Interior in the report<sup>2</sup> he submitted to Congress in 1945 on the feasibility of the Project. While discussing methods for evaluating the

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<sup>1</sup> United States Bureau of Reclamation, Washington State Department of Ecology, "Draft Environmental Impact Statement, Odessa Subarea Special Study, Columbia Basin Project, Washington," September 26, 2010. (hereafter "DEIS"). Prepared pursuant to its Federal Notice of Intent to Prepare an EIS, Federal Register, August 21, 2008.

<sup>2</sup> House Document 172, 79<sup>th</sup> Congress, 1<sup>st</sup> Session, Report on the Columbia Basin Project on the Columbia River.

payback capabilities of the Project the Secretary indicated that Reclamation expected the irrigable lands to be developed over a 75 year period. Project water deliveries began in the early 1950's and the benefits of irrigation development were immediately clear to farmers in the region. Farmers in the Eastern portion of the Project who had committed to receiving Project water supplies by inclusion of their lands in the Project service area, recognized that it could be many years before Project water supplies would reach their lands. Farmers in this area applied to the Washington Department of Water Resources for permits to drill wells to develop irrigated agriculture on the assumption that use of the wells would be discontinued once Project development reached their area.

The following are excerpts from a statement submitted in 1989 by Glen H. Fiedler<sup>3</sup> at a public hearing conducted by the Bureau of Reclamation on the Draft Environmental Impact Statement for Continued Development of the Columbia Basin Project, Washington. In his statement Mr. Fiedler describes the events unfolding during this period and policy decisions that involved then Governor Daniel J. Evans regarding utilization of non-renewable water resources.

Statement of Glen H. Fiedler  
Regarding Draft Environmental Impact Statement  
For Continued Development of the Columbia Basin Project, Washington  
November 30, 1989

"Throughout my years of personal involvement in the Columbia Basin project I found the State policy to be one of general support for the first half of the development and the continued development of the second half. The 1976 contributions of State Funds to assist in construction of the Second Bacon Siphon and Tunnel and thereby provide hydraulic capacity for further development was a visible sign of this support. There were some rough spots in working relationships between the State, the U.S. Bureau of Reclamation, and the irrigation districts, particularly with respect to questions of ownership and management of artificially stored groundwaters. However, in the big picture, the State did participate in the cooperative partnership with the federal government and the Columbia Basin irrigation districts in pursuing full development of the Columbia Basin project.

I make this point because a major State policy decision was made in the early 1970's based, in part, on the premise that the project would be expanded over time. The

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<sup>3</sup> Glen H. Fiedler is a retired Civil Engineer who worked for the State of Washington for over 34 years primarily in the water resources management area. Mr. Fiedler started his career in 1951, about the same time as the first Columbia Basin Project water was delivered. At the time of his retirement in December 1985, he was the Deputy Director of the Washington Department of Ecology; involved in all water policy decisions made by the State of Washington.

decision to which I refer was to allow groundwater depletions in the so-called Odessa area.

The Draft Environmental Impact Statement briefly describes how, in the early to mid-1960's, individual farmers constructed deep wells under State-issued water right permits for irrigation of land to the immediate east of the East Low Canal. There was concern at the State level as early as the mid-1960's that pumpage would exceed annual recharge if more permits for groundwater use were issued. For this reason, a moratorium on issuance of permits was placed on the Odessa area. At the same time, a cooperative study was entered with the U. S. Geological Survey (USGS) which led to the development of a mathematical groundwater model and publication of a technical paper and general reports as Water Supply Bulletin Number 36 in 1968 and Water Supply Bulletin Number 55 in 1984.

In the decades of the 1960's and 1970's there was intense pressure from interests in the Odessa and surrounding area to allow an overdraft of the aquifer system as an interim supply of irrigation water pending extension of the Columbia Basin projects into the area. The 1968 USGS report dramatically reported the groundwater level declines that had occurred between 1963 and 1967. Annual pumping increased 344 percent during this period.

In 1968, I was the Assistant Director of the Department of Water Resources responsible for the water right and water resources management programs. With issuance of the USGS report in that year, it was clear that an overdraft was occurring in certain portions of the Odessa area. Many new applications for permits were pending and pressures for additional development were strong. Again, the local argument for increased development was that, based upon the experience on the first half of the Columbia Basin Project, the groundwater level would quickly rise and the aquifer be recharged upon introduction of project water into the area.

Given these circumstances, the Director of the Department of Water Resources and I met with Governor Evans in late 1968 or early 1969 to discuss how we should proceed in management of the aquifer system. It was decided to proceed under the provision of the State Groundwater Code that limits groundwater appropriations to an amount that maintains groundwater levels at a "reasonable or feasible pumping level" (RCW 90.44.070). The reasonable test was to be determined primarily by public acceptance of a program for the area and the feasible test by a detailed economic analysis. To address the feasible question, the Department contracted with Washington State University to examine the economics of pumping from deep wells for irrigation purposes and to recommend a "feasible" pumping level for the Odessa area. Based upon the then cost of power, the value of crops, and other considerations, Washington State University



advised in a report issued in 1971, that the water level could be lowered 300 feet below the 1967 level while maintaining the aquifer as a viable economic source of irrigation water.

Soon thereafter, a groundwater management program was proposed for the Odessa subarea. It was publicly reviewed and adopted in 1973 as Chapter 173-128 of the Washington Administrative Code. This program allowed for the issuance of new groundwater permits providing the rate of water level decline did not exceed a total of 30 feet in 3 consecutive years, and the total lowering did not exceed 300 feet below the water level that existed in 1967. In essence, an average decline of 10 feet per year until the year 1997 was allowed. Although the regulation was amended in 1982, the policy of the controlled decline remains in place today.

Public support of this program hinged on the belief that within the 30-year management period, the Columbia Basin project would be expanded into the Odessa area. However, the State, in adopting the regulation and granting new permits, gave no guarantee that such action would take place. . . . *In my opinion, the State would not have entered into this program if it had been clear there would be no expansion of the Columbia Basin project beyond the first half development.*  
(Emphasis provided)

ORG12-1

The Columbia Basin Development League believes the United States is obligated live up to its commitment to the State of Washington by restarting development of the Columbia Basin Project, with attention in the short term, focused on replacing groundwater supplies being used for irrigated agriculture. This obligation is incurred due to the irrevocable nature of the good faith decisions made by the State of Washington to commit non-renewable resources, the loss of which will cause extreme social and economic dislocation.

ORG12-2

#### Repayment of Columbia Basin Project Costs

The Columbia Basin Project is subject to the Reclamation Project Act of 1939 which provides that a project which is brought within the scope of section 9 thereof is feasible and therefore authorized if its estimated cost, excluding any allocation properly made to flood control and navigation, is found probably to be returnable to the United States from various sources. Landowners receiving Columbia Basin Project water supplies have been repaying the cost of developing Project facilities and will do so until the portion of Project construction costs assigned to irrigation are recovered by the United States. In addition to repaying the cost of construction, landowners pay the ongoing costs of operation and maintenance of facilities on an annual basis. Future investments in Columbia Basin Project infrastructure will also be treated as an expense that is returnable to the United States.

ORG12-3

## Return on Investment by the United States

The United States will eventually be repaid the cost of constructing the Columbia Basin Project as sited above. Returns to additional investment by the United States achieved by expanding Project water deliveries is not adequately reflected in the rigid formulas prescribed by the Principles and Guidelines process used in the Draft Economics Technical Report. More significant though are the benefits received at the local, state and national level due to the increased economic activity generated by development of irrigated farming enterprises. The three Columbia Basin Project Irrigation Districts commissioned an analysis of the "Economic Contribution of Agriculture Irrigated by the Columbia Basin Project"<sup>4</sup>, which was released in February 2010. Results from the economic and fiscal impact are summarized below:

— ORG12-4

### Economic Impact Analysis

The total economic impact across the nation is the sum of the economic impacts within each of the three regions of analysis. These total economic impacts are presented in **Table ES-1**. The \$1.44 billion in crop production in the CBP supports economic activity throughout the United States of \$5.81 billion, and generates \$2.42 billion in income, and nearly 39,000 jobs.

Table ES.1 Total Economic Impacts by Geographic Area

Geographic Area	Output (Millions \$)	Income (Millions \$)	Employment (Jobs)
Local 3-County Area	\$3,679.1	\$1,567.9	28,500
Elsewhere in Washington State	\$484.2	\$194.2	2,400
Other States in the Nation	\$1,649.0	\$662.3	8,000
National Total	\$5,812.3	\$2,424.4	38,900

Although not quantified in this study, the CBP also generates economic impact in the study area through provision of water-based recreation. The CBP creates or enhances significant recreation opportunities in the study area, which attracts numerous visitors to the area. Visitors spend money at retail stores, hotels, restaurants, gas stations, and other local businesses, thereby generating local jobs and income. Although estimating the actual economic impact of visitor-related spending was outside the scope of the study, an example analysis of the impact of 10,000 waterfowl hunting days indicates that the impacts may be significant.

— ORG12-5

### Fiscal Impact Analysis

<sup>4</sup> "Economic Contribution of Agriculture Irrigated by the Columbia Basin Project", prepared by Entrix, Inc., Vancouver, WA for East Columbia Basin Irrigation District, Quincy-Columbia Basin Irrigation District and South Columbia Basin Irrigation District. February 2010

The total tax contribution of the CBP includes study area property taxes, study area and state sales taxes, and federal income taxes. While the CBP may generate additional taxes, these are expected to be the primary tax revenue sources. **Table ES.2** summarizes the total taxes generated by CBP-related activity for study area local government, Washington State government, and the national government by tax source.

Table ES.2 Summary of CBP-Related Tax Revenues (Millions \$)				
	Study Area Revenues	Washington State Revenues	United States Revenues	All Regions
Property Tax	\$13.4	N/A	N/A	\$13.4
Sales Tax	\$6.9	\$37.8	N/A	\$44.7
Income Tax	N/A	N/A	\$128.2	\$128.2
Total	\$20.3	\$37.8	\$128.2	\$186.3

Recognition of the broader economic impact of the contribution of irrigated agriculture should be reflected in the Draft Economic Technical Report. } ORG12-6

#### Infrastructure Sizing and Assignment of Costs to Current Alternatives

The CBDL agrees with the decisions made during the early stages of the feasibility design, when the Project Management Team (PMT), which is comprised of key personnel from Reclamation, Washington State Department of Ecology (Ecology), the East Columbia Basin Irrigation District (ECBID), and the South Columbia Basin Irrigation District (SCBID), established an overall design requirement that the engineering designs developed in this study not compromise the ability of the project, at full development, to deliver water to the maximum authorized acreage of 1,029,000 acres. } ORG12-7

With regard to the feasibility design of the proposed East High Canal (EHC) and Black Rock Branch Canal (BRBC), the PMT established an additional requirement that all key structures on these proposed canals be designed to their ultimate project development capacity. Structures for which this requirement applies are the EHC headworks, the Black Rock Coulee Dike, canals constructed completely in embankment, siphons, tunnels, canal inlet structures, canal outlet structures, and canal check structures. The CBDL believes that for the purposes of the current Alternative analysis, only the proportional share of the cost of the structures necessary to deliver water quantities proposed in the current Alternatives be considered and that excess capacity of those structures be assigned to lands that may be developed in the future. } ORG12-8

#### Aquifer Depletion Affect on Farm Domestic Water Supply



The DEIS fails to include an analysis of the social, economic and environmental impact that the depletion of the Odessa Subarea aquifer has on individual farm domestic water supplies within the Study area. Many wells in the region that are used to supply the domestic water needs of farm families are experiencing the same precipitous declines as wells used for agricultural or municipal supplies. Farm families caught in this situation do not have the options to access municipal supplies and are often left in the unacceptable situation of trucking water for household needs or abandoning their farmstead. The DEIS should address this issue and recognize it in the DEIS.

ORG12-9

#### Economic Analysis Fails to Recognize Impact to Washington Ports

The State of Washington is one of the Nation's leading agricultural product exporting States and the Columbia Basin Project area, including existing irrigated agricultural production in the DEIS study area, are major contributors to that produce supply. The Draft Economic Technical Report fails to take this benefit which accrues to the region and nation into account. The Draft Economic Technical Report should be corrected to correct this oversight.

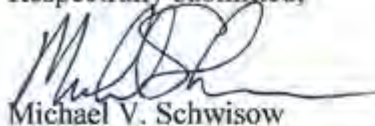
ORG12-10

#### Conclusion

The Columbia Basin Development League encourages the Bureau of Reclamation and the Washington State Department of Ecology to proceed diligently and quickly to publication of a final environmental impact statement. Reclamation and Ecology should design the project conservatively so as to meet the clear current need without interference with or construction of the complete Columbia Basin Project at this time. Reclamation and Ecology should project benefits realistically and avoid cost projections which are unrealistic or overly conservative. The projects under consideration are essential to the well-being of region and State of Washington as a whole.

ORG12-11

Respectfully submitted,



Michael V. Schwisow

Director of Government Relations  
Columbia Basin Development League  
P.O. Box 745  
Cashmere, WA 98815





January 31, 2011

Chuck Carnohan  
Study Manager  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Via email: [odessa@pn.usbr.gov](mailto:odessa@pn.usbr.gov)

Dear Mr. Carnohan:

Thank you for this opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Odessa Subarea Special Study.

American Rivers is the leading conservation organization fighting for healthy rivers so communities can thrive. American Rivers protects and restores America's rivers and the clean water that sustains people, wildlife, and nature. Founded in 1973, American Rivers has more than 65,000 members and supporters, with offices in Washington, D.C. and nationwide. Our Northwest office serves our members in Washington, Oregon, and Idaho.

Based on the DEIS, six of the eight alternatives in the DEIS – 2C, 2D, 3A, 3B, 3C, and 3D would clearly prove infeasible economically and environmentally, and do not merit further consideration. Alternatives 2A and 2B are at best borderline in terms of their benefit-cost ratio, and have significant environmental impacts. In addition to continuing consideration of the “no action alternative,” we propose adding a “Market Solution” alternative along the lines proposed by Professors Norman Whittlesey and Walter Butcher in their *Review of Economic Technical Report Odessa Subarea Special Study* (p. 18).<sup>1</sup> Given the nearly \$1 billion cost estimate for alternatives 2A and 2B, it may be more realistic and economically and environmentally sustainable over the long run to provide financial assistance for farmers to convert to dryland farming. As Whittlesey and Butcher note, “it would be possible to retire 100,000 acres of deep well irrigation for a cost of \$120 million” (pp. 18-19).

A “Market Solution” alternative would have the added advantage of avoiding or at least minimizing new surface water withdrawals from the Columbia as well as most or all

<sup>1</sup> See [http://www.waterplanet.ws/pdf/Odessa\\_Whittlesey-Butcher\\_12-05-2010.pdf](http://www.waterplanet.ws/pdf/Odessa_Whittlesey-Butcher_12-05-2010.pdf).

ORG13-1

ORG13-2

terrestrial impacts associated with expanding water conveyance and storage infrastructure.

Other prospective federal water projects in Washington state, including the Yakima Integrated Plan and the Walla Walla pump exchange, have significant potential to be “win-win” projects for the environment and irrigated agriculture. Since the Odessa subarea will likely have to compete against these more balanced projects for limited federal and state funding, it will be important for the Odessa subarea’s preferred action to minimize its environmental harm, ensure long-term sustainability in light of competing water needs (including instream needs), and identify restoration opportunities where possible.

ORG13-2

In determining the preferred alternative, the Bureau and Ecology should assess whether the alternatives considered can:

- Ensure no negative impact on the federal government’s current or future ability to manage the Columbia to meet Federal Columbia River Power System Biological Opinion (FCRPS BiOp) flow targets (which over the last two decades have been frequently missed, especially in the summer) in light of other water management decisions on the Columbia and Snake rivers, the effects of climate change, and reasonably foreseeable operation of Canadian storage reservoirs;
- Ensure compliance with the current FCRPS BiOp and allow enough flexibility to comply with reasonably foreseeable future FCRPS BiOps or court-ordered interim operating plans;
- Comply with the one-third instream flow requirement for “new” water supplies under RCW 90.90. This standard was applied to the Lake Roosevelt drawdown and should be applied to any further drawdowns of Lake Roosevelt and/or Banks Lake;
- Fully comply with dams operations designed to protect Hanford Reach fall chinook spawning, incubation, or rearing;
- Ensure no additional harm to late migrating (September or later) Snake River fall chinook and allow flexibility for future flow improvements for these fish; and
- Identify biologically sound mitigation for shrub steppe and riparian habitat harmed by new or expanded conveyance structures or other adverse changes in land and water management.

ORG13-3

ORG13-4

ORG13-5

ORG13-6

ORG13-7

ORG13-8

In addition, if an alternative involving any new surface water is selected (after a full and fair comparison with the “Market Solution”), state-of-the-art water conservation and efficiency measures should be required to be in place before any new surface water is allocated.

Finally, the final EIS should address critiques of the Bhattacharjee and Holland economic analysis<sup>2</sup> (and interpretations of that analysis) on which many of economic assumptions in the DEIS are based. Those critiques suggest that the Bhattacharjee and Holland analysis made, or has been interpreted as making, unrealistically conservative assumptions regarding the ability of the Washington's potato industry to adjust to changes over time.

ORG13-9

Thank you for your consideration of these comments.

Sincerely,

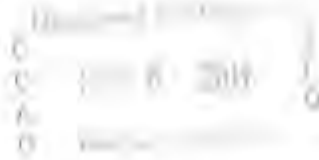


Michael D. Garrity  
Washington State Conservation Director

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<sup>2</sup> See Professor Joel Hamilton's critique at [www.columbiana.org/PDFs/HamiltonAnalysis.pdf](http://www.columbiana.org/PDFs/HamiltonAnalysis.pdf) and the Whittlesey-Butcher critique at the link provide in footnote 1.





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CLEAN, FLOWING WATERS FOR THE WEST

The Center for  
Environmental Law & Policy

SW	CD	ENCL
1000	X	
1002	X	
11001	X	
10001		
10001	X	
1120	X	X
1120	X	
ACTUAL		

w/orig  
CD  
Encl.

January 31, 2011

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Re: Odessa Subarea Special Study Draft EIS

Mr. Carnohan and Mr. Sandison:

These comments on the Odessa Subarea Draft Environmental Impact Statement (DEIS) are submitted on behalf of:

- Center for Environmental Law & Policy, ([rosborn@celp.org](mailto:rosborn@celp.org)) 25 W. Main, Suite 234, Spokane, WA 99201
- Sierra Club Washington State Chapter, Attn: Tristen Brown, Conservation Chair ([trilliam@u.washington.edu](mailto:trilliam@u.washington.edu)), 180 Nickerson St., Suite 202, Seattle, WA 98109
- Columbia Riverkeeper, Attn: Lauren Goldberg, Legal Director ([Lauren@columbiariverkeeper.org](mailto:Lauren@columbiariverkeeper.org)), 724 Oak St., Hood River, OR 97031
- Spokane Audubon Society, Attn: Lindell Haggin ([lindell4118@comcast.net](mailto:lindell4118@comcast.net)), P.O. Box 9820, Spokane, WA 99209
- Lower Columbia Basin Audubon Society, Attn: Rick Leaumont, Conservation Chair, ([leaumont@owt.com](mailto:leaumont@owt.com)), 9016 Sunset Trail, Pasco, WA 99301
- Spokane Falls Trout Unlimited, Attn: Harvey Morrison, President ([harvey@roenassociates.com](mailto:harvey@roenassociates.com)), P.O. Box 30185, Spokane, WA 99223

(collectively "CELP"). Our comments fall into general and topical categories, as enumerated below. CELP also adopts and incorporates by reference the comments, including attachments, submitted by Professors Norm Whittlesey and Walt Butcher, by James D. McClure of Colfax, and by Rick Leaumont on behalf of the Lower Columbia Basin Audubon Society. Please also note that our organizations sponsored an alert that returned approximately 650 postcards from our members, many with individualized comments that are being transmitted to you under separate cover.



## **I. General Questions & Comments**

### **1.1 The Odessa Subarea DEIS should be withdrawn and re-issued with complete and accurate information.**

For the many reasons discussed below, the DEIS is inadequate and should be withdrawn and amended and, only if the project can be justified from both environmental and economic perspectives, re-issued as a draft that includes proper analysis of impacts and appropriate economic analysis.

The Fish & Wildlife Coordination Act Report (draft Sept. 16, 2010) ("CAR"), prepared by the U.S. Fish & Wildlife Service and issued at the same time as the DEIS also notes that the DEIS fails to fully consider the substantial impacts associated with the proposed actions. For example, U.S. Fish & Wildlife Services notes that "Reclamation's estimates do not reflect a complete picture of habitat impacts that will result to areas outside the Project Area, no[r] do they consider temporary impacts," and "the Service has determined that the area of impacts will be much greater than that reported by Reclamation in the acreage estimates . . ." CAR at 28-29. The issues and impacts raised in the CAR study merit serious consideration that can only occur with a new DEIS.

—ORG14-1

### **1.2 The DEIS, although issued jointly with the WA Department of Ecology, is inadequate for Washington SEPA purposes.**

The DEIS states that it is prepared in accordance with the Washington State Environmental Policy Act (SEPA) requirements (Cover Letter, 10/26/10). However, there are identified adverse impacts for which it is stated that no mitigation will be suggested or required, most particularly substantial negative impacts to surface water quality in Banks Lake. DEIS, p. 4-59 and subsequent references to mitigation for various alternatives. Unlike the federal NEPA, state SEPA laws require substantive mitigation for all significant adverse impacts to the environment. The DEIS fails to satisfy SEPA requirements.

—ORG14-2

### **1.3 Failure to include water storage reservoir mitigation renders the proposed project out of compliance with state laws.**

At Section 1.3.4, p. 1-9 of the DEIS, you indicate that RCW Ch. 90.90 authorizes this project. That statute requires that "Columbia Basin development account" funds spent on storage projects must include mitigation that benefits instream flows in addition to fostering new water diversions from the Columbia River (see p. 1-10, "In Feb. 2006 the State legislature direct[ed] Ecology to aggressively pursue development of water resources benefiting both instream and out-of-stream uses . . . and p. 1-12 "Water for allocation to instream uses could be provided by . . . any new storage within the Study alternatives being address in this EIS."). No such mitigation is identified in this DEIS. We understand (pers. comm. with Al Josephy of the Department of Ecology) that Columbia River Account funds were utilized for this project. Given that the project depends on development of new storage, including Rocky Coulee and Black Rock Coulee Reservoirs, it appears that mitigation is non-compliant with state laws and funding that are cited as a basis for the study.

—ORG14-3

### **1.4 Failure to consider 2003 Banks Lake Drawdown information renders the DEIS incomplete.**

While the DEIS mentions the 2004 Banks Lake Drawdown EIS, p. 1-15, it fails to mention the ROD associated with that EIS, which adopted the No Action Alternative and concluded that Banks Lake should not be drawn by an addition 5 feet in order "to avoid adverse impacts identified in the FEIS to recreation, resident fish, vegetation, cultural resources, the local economy around Banks Lake, and Federal and non-Federal power production." The DEIS also fails to cite or discuss the substantial public opposition to Banks Lake drawdown as represented in comments submitted on the Banks Lake Drawdown draft EIS. See Attachments 1 and 2 (Banks Lake FEIS and ROD (2004) and XX (Banks Lake DEIS Comments (2003)).

ORG14-4

### 1.5 Cumulative Impacts

The identification of just four water projects as "cumulative impacts" associated with the proposed Odessa actions, at Section 1.8.1, p. 1-18, is inadequate. The DEIS fails to discuss past actions of damming and withdrawing water from the Columbia River. Attached are comments from CELP, et al. submitted in response to the Lake Roosevelt Incremental Storage Releases Project draft Supplemental EIS (issued by WA Department of Ecology) and Environmental Assessment (Issued by the Bureau of Reclamation). See Attachments 3 and 4. We specifically reference and incorporate the discussion and associated attachments into this comment letter, including discussion of cumulative impacts. Also attached are a map and pie chart describing water projects into which the Department of Ecology is pouring massive amounts of funding. See Attachments 17 and 18. Much more activity related to water supply developments is occurring than is discussed in the DEIS. Piecemeal evaluation of projects violates NEPA and SEPA requirements.

ORG14-5

### 1.6 \$12 million dollars spent on the Odessa Subarea studies is a massive waste of public funds.

At public meetings your two agencies have indicated that you have spent more than \$12 million on preparation of the DEIS and associated documents. This appears to be a massive waste of public funding for a project that cannot even remotely meet federal protocols for water projects (e.g., the U.S. Water Resources Council's Economic & Environmental Principles & Guidelines for Water and Related Land Resources Implementation Projects (March 1983)), which require a 1:1 ratio or better for benefits and costs. See Attachment 5. To what extent have USBR and Ecology recommended that state and federal funds be spent assisting Odessa-area irrigators in changing over to dryland farming? Why is this option not discussed in the DEIS?

ORG14-6

## II. Topical Comments

### 2.1 Rationale for "need and purpose" is incorrect: Odessa Subarea farmers affirmatively rejected Columbia Basin Project water.

USBR's failure to build the second half occurred because the majority of landowners within the second-half boundary rejected project water, contrary to assertions in the DEIS (ES p. ES-2; Purpose and Need, p. 1-2) and in public presentations. The DEIS rests on an interpretation of history that is incomplete. Because the DEIS cites as its purpose a false obligation to bring water to the Odessa, the failure of the DEIS to accurately describe or even acknowledge CBP history (and the consequences of those land withdrawals for the CBP) undermines the fundamental rationale for the DEIS.

ORG14-7

The DEIS should accurately recount the history that led to decisions not to extend Project water to the eastern third of the CBP. An examination of the historic record of the CBP reveals that many farmers (especially those owning land within the eastern third of the CBP) rejected Project water during the 1940s. This rejection of Project water effectively ended the build-out of the Project.

Historian Paul Pitzer wrote in *Grand Coulee: Harnessing a Dream* (WSU Press, 1994) that the 1943 Columbia Basin Project Act "allowed farmers to withdraw their land from the project with the understanding that then they would receive no water. . . . By 1946 east side farmers withdrew over 300,000 acres - nearly a third of the [Columbia Basin Project] total."

Pitzer explains the reasons for the land withdrawals:

The land withdrawals were a result of factors unique to the Columbia Basin Project. Not all the land was always arid; farmers had successfully raised grain on the east side since the 1880s. Only during dry cycles or when grain prices dropped was their interest in irrigation heightened, and even then they produced a paying crop if they owned enough acres. Unless conditions suited their purposes, they saw no reason to work with the Bureau of Reclamation and a few refused to comply with stringent land ownership restrictions under any conditions. They wanted cheap subsidized irrigation and the right to keep all the land they owned.

Another source for understanding what led farmers to withdraw 300,000 acres from the CBP is Dr. George MacInko in his article published by the American Geographical Society [The Columbia Basin Project: Expectations, Realizations, Implications, Geographical Review, Vol 53, No. 2 (Apr., 1963), pp. 185-199]

It is extremely unlikely that all the one million acres will ever be irrigated. Shortly after contracts were drawn up in 1945 between the Bureau of Reclamation and the project irrigation districts some 300,000 acres, about 30 per cent of the irrigable acreage, were voluntarily withdrawn from project development. Most of the withdrawn lands belong to wheat farmers in the eastern part of the project, where rainfall and soils favor dry farming. Here annual precipitation excess of eight inches and light-brown loessal soils with fair moisture-retention capability permitted three technological developments, put into effect after initial project planning had taken place, to revolutionize wheat farming. The tractor replaced the horse, and because of its great efficiency it reduce the period of soil disturbance considerably and permitted better timing of farm operations ...

The net effect of these innovations was an increase in soil moisture and a decrease in wind erosions, which made wheat growing under dry-land methods profitable. By 1948, the first year of operation, wheat farming had been reestablished over most of the eastern third of the project area. This fact was the cause of the first of the major setbacks to the orderly implementation of the project irrigation plan - the withdrawal of 300,000 acres of the best project lands. ...

Ever-increasing costs of the irrigation construction program have resulted in further reductions of irrigated acreage. ...

As noted by Pitzer, the consequence of farmers withdrawing 300,000 acres from the Project "made east side canal construction impractical." The land withdrawals also "traumatized" Bureau officials. (Pitzer, p. 274).

Since the 1940s the response from the U.S. Bureau of Reclamation has been that the CBP will be built in phases. The DEIS continues in this course.

The Study fails to either acknowledge or accurately describe the CBP history of Odessa-area farmers withdrawing 300,000 acres from the Project – and the consequences of those land withdrawals for the CBP. Never describing relevant history and consequences, the Study offers only that "surface water would be provided as part of the continued phased development of the CBP." (ES-2).

**2.2 The Proposed Project creates incentives for environmentally destructive actions, including groundwater mining and soil poisoning.**

At pp. 1-7 and 1-8, the DEIS indicates the project would provide water only to those farmers who have destroyed local aquifers and are causing harm to their own soils (via "sodicity" phenomenon). As discussed in Comment 2.1 above, the rationale that farmers were "promised" project water is incorrect. The DEIS is inadequate for its failure to advise about the destruction of public and private resources that are occurring as a result of state-sanctioned over-pumping of the Odessa aquifer system.

ORG14-8

**2.3 Federal-State MOU is not binding and therefore does not provide a proper basis for finding that USBR must prepare an Environmental Impact Study.**

The Purpose and Need statement, p. 1-9, indicates that the 2004 Memorandum of Understanding (MOU) between USBR, Ecology and various Irrigation districts creates a "need to fulfill the commitments" made in the MOU. However, USBR makes the exact opposite argument in its briefing in the matter of *CELP & Columbia Riverkeeper v. Dept. of Interior*, U.S. District Court for Eastern Dist. of Washington, Docket No. 2:09-cv-160-RMP (now pending in the 9<sup>th</sup> Circuit Court of Appeals). In the Defendants' Memorandum in Support of Cross-Motion for Summary Judgment and Opposition to Plaintiffs' Motion for Summary Judgment, at pages 11-13, USBR argues at length that the MOU is not binding and did not require preparation of an EIS for the Lake Roosevelt Incremental Storage Releases Project. See Attachment 6. This inconsistency indicates both the bias toward water development that is occurring in the basin, and a lack of integrity in the decision process that is driving the Odessa Subarea Project.

ORG14-9

**2.4 The DEIS fails to consider a Dryland Reversion Alternative, which is viable and likely to occur.**

2.4.1 Extensive discussion of 8 action alternatives belies the fundamental flaw in the DEIS, that is the failure to examine the reversion of all Odessa Subarea irrigated lands to dry-land agriculture. Contrary to the DEIS and Economics Technical Report absurd assumption that dry-land wheat farming is unprofitable, the hundreds of thousands of acres of dry-land cropping in and adjacent to the Odessa Subarea reveal a viable and profitable sector of the agricultural economy.

ORG14-10

2.4.2 A dry-land reversion alternative should be studied and incorporated as an alternative to the DEIS action alternatives. There is a substantial body of

ORG14-11



research and literature on dry-land cropping, much of it being developed at WSU's Lind Dryland Research Station, in the heart of the Odessa Subarea. See <http://www.lindstation.wsu.edu/index.html>, Attachment 7 (Lind Station information and bibliography), and Attachment 8 (Schillenger & Papendick, Then & Now: 125 Years of Dryland Wheat Farming (Agronomy Journal 2008)).

- 2.4.3 One important new development in dryland cropping is the potential for inter-seasonal plantings of camelina, an nitrogen-fixing oil-seed that can be processed into biodiesel fuels. Inland Empire Oilseeds, a new biodiesel plant in the city of Odessa provides a local market for the crop. See Attachment 9 (Spokesman-Review article) and Inland Empire Oilseeds website (URL: <http://www.inlandempireoilseeds.com/index.cfm>). This new crop provides potential for increasing the profitability of dryland farming in the Odessa Subarea. —ORG14-11
- 2.4.4 Dryland cropping is a valuable alternative to irrigated agriculture, in part because it is not dependent on water in an arid environment.
- 2.4.5 Regrettably, USBR and the Department of Ecology have spent more than \$12 million studying infeasible water supply alternatives, providing false hope to irrigators that a federal-state bail-out is possible. The public would be far better served if use of remaining Odessa study funds is directed to evaluating mechanisms, funding, and other actions needed to support conversion of Odessa irrigated farms to dryland cropping.
- 2.4.6 The DEIS is deficient for failure to consider a comprehensive dryland reversion alternative.

**2.5 The Economics Technical Report and related analysis in the DEIS is inadequate, incorrectly applies the federal Principles & Guidelines for water projects, and mandates the conclusion that none of the action alternatives is feasible.**

- 2.5.1 As noted above, CELP adopts the "Review of Economic Technical Report Odessa Subarea Special Study" submitted as comment on the DEIS earlier this month by Professors Norman K. Whittlesey and Walter R. Butcher.
- 2.5.2 The DEIS reference at p. 1-8, Section 1.3.2.2 to conclusions set forth in the Bhattacharjee and Holland 2005 study continues to be inaccurate. That study indicated that in a worst case situation, which the authors noted was unlikely to occur, where there was immediate loss of 35,000 acres of potato production, an input-output modeling analysis showed loss of \$630 million **OR** 3,600 job. The continuing inaccurate characterization of the results of the study are a sad commentary on the quality of the DEIS and supporting documents, as well as USBR bias toward attempting to show illusory benefits. —ORG14-12
- 2.5.3 Moreover, the problems with this study were critiqued by Prof. Joel Hamilton, in a publication that is cited but not discussed. We request that USBR direct its economics team to consider the flaws in the Battarcharjee-Holland Report raised in the Hamilton critique. See Attachment 10 (Hamilton Review) —ORG14-13

- 2.5.4 The ETR makes improper use of the Principles & Guidelines, including use of improper crops to construct farm budgets. } ORG14-14
- 2.5.5 The ETR overestimates pumping depths, leading to inaccurate estimate of net farm income in the no action alternative, which in turn inflates the agricultural benefits associated with the action alternatives. } ORG14-15
- 2.5.6 As a corollary, the ETR and DEIS fail to use best available science to evaluate pumping depths, including the April 2010 USGS study on Columbia Plateau groundwater availability. See Attachment 11 (Snyder & Haynes, 2010). Instead, although not explicit, there appears to be questionable reliance on the GWMA study. } ORG14-16
- 2.5.7 Whittlesey & Butcher re-calculate benefits based on accurate use of the Principles & Guidelines, and find that the ETR over-estimates agricultural benefits by 85%. } ORG14-17
- 2.5.8 The municipal benefits discussion in the ETR and DEIS is based on an unsupported assumption that a decrease in groundwater pumping will cause improvements in groundwater levels and therefore benefit municipal water supplies. } ORG14-18
- 2.5.9 Assumptions regarding energy surpluses are not realistic given changed in Grand Coulee Dam and Columbia River operations due to 2024 changes in the Columbia River treaty. It is predicted that reduction in summer hydropower generation will be especially large (greater than 1,000 average megawatts) in low water years. See Attachment 12a-e (U.S. Entity, Columbia River Treaty Supplemental Report and Appendices, September 2010). } ORG14-19
- 2.5.10 The ETR and DEIS fail to consider or even explain mitigation costs associated with action alternatives. } ORG14-20
- 2.5.11 The DEIS states at several points, e.g. pp. ES-32 and 4-46, that it is assumed that all applicable laws, regulations and BMPs will be followed, including with respect to groundwater resources. One set of laws with major economic impact are Washington state requirements that wells be constructed and sealed in a manner that protects aquifers and prevents water cascading of water. Many existing wells in the Odessa Subarea do not meet these requirements and are thus in violation of well construction laws and rules. Well casing, especially at depth, is an expensive undertaking, but these costs are not discussed in economic or other analyses in the DEIS. } ORG14-21
- 2.5.12 The recent adjustment of the federal water project interest rate from 4.375 to 4.125 (75 Fed. Reg. 82066 (12-29-10)) will increase the present value of a 100-year steady stream of benefits by about 6%. This rate change presents an opportunity for USBR to re-appraise the discounting and compounding in the ETR's benefit-cost analysis and make it consistent with instructions in Principles and Guidelines. The decrease in benefit/cost ratio from correcting for egregious departures from required P&G procedures will exceed the gains from the lower discount rate. } ORG14-22
- 2.5.13 The instructions regarding discounting and "comparing costs and benefits at a single point in time" are in Section 2.1.2 and 2.1.3 on p. 19 of the P&G's.

Reclamation stated in its September 2008 release on the Odessa Study that it will follow the P&G requirements. However, the ETR benefit-cost is calculated on the basis of total present values of benefits and costs over the life of the total project rather than on the basis of average annual equivalents.

ORG14-23

- 2.5.14 Moreover, the ETR has the installation period ending when the last phase of installation is completed, whereas the P&G's call for the installation period to end when the first phase is completed.

ORG14-24

- 2.5.15 The ETR includes benefits for production from the end of each phase up to 2025 plus benefits for 100 years to 2125 whereas the P&G calls for counting benefits from the beginning of production on Phase 1 for 100 years until 2018. This approach effectively extends the period of benefit accumulation to more than 100 years for the earlier phases, perhaps explaining why the reported benefits per acre for the Partial Replacement Alternative (57,000 acres south of I-90, constructed in earlier phases) are 40% higher than benefits per acre for the 45,500 acres added to make up the Full Replacement alternative. Annual equivalent benefits are then divided by annual equivalent costs to calculate the benefit-cost ratio. This is the way it was done and reported in the highly flawed 1989 NED analysis.

ORG14-25

- 2.5.16 The Bureau cannot select an alternative that does not meet or exceed the 1:1 benefit-cost ratio required by federal law.

ORG14-26

**2.6 Columbia River Treaty changes in 2024 will mandate change in flood operations at Grand Coulee Dam, not discussed in the DEIS.**

- 2.6.1 It is anticipated that the Columbia River Treaty may be re-negotiated in the next few years with commensurate changes in operations of the Columbia River, including at Grand Coulee Dam. While the outcome of negotiations is difficult to predict at this time, there is one change that is certain. The arrangements for flood control will change, regardless of other treaty terms. The U.S. Entity, comprised of the Army Corps of Engineers and the Bonneville Power Administration, implements the Treaty on behalf of the United States public. In September 2010, the U.S. Entity stated that:

Under the Treaty, the two nations jointly manage the Columbia River for power generation and flood control as it flows from British Columbia into the United States. Although the Treaty has no termination date, it does have two provisions that take effect on and after Sept. 16, 2024, that will change how flood control is implemented between Canada and the United States and that may impact power benefits as well. . . . Whether the Treaty is continued or terminated, requirements for flood control provided by the Treaty projects will automatically change in 2024 to an operations referred to as "Called Upon." Currently, the Treaty provides a dedicated amount of Canadian storage for flood control. This will change to a protocol where the United States may call upon Canadian storage for U.S. flood control but only after making effective use of its own reservoirs.

ORG14-27

See Attachment 12a. The U.S. Entity reports indicate that reservoir levels are driven by a combination of flood control objectives and fisheries flow targets. Future operations at



Grand Coulee Dam will be affected by changes that occur as a result of provisions contained in the Columbia River Treaty.

— ORG14-27

2.6.2 It is reasonably foreseeable that CRT changes will affect how Grand Coulee Dam is operated, including the availability of water for irrigation supply to the Odessa Subarea.

2.6.3 The DEIS says nothing about the Columbia River Treaty. This omission is a major flaw in the document and requires withdrawal and re-issuance.

**2.7 The proposed project does not have water rights for implementation and the DEIS is inadequate for failure to consider cumulative impacts**

2.7.1 The statement at DEIS, pp. 4-66 and 4-68, Sections 4.5.3.2 and 4.5.8.1 (and perhaps elsewhere), that the Project already has the water rights necessary for action alternatives is incorrect. While the CBP holds storage rights for Lake Roosevelt, a "secondary" permit would be required to divert water from the Columbia River for delivery to the Odessa Subarea.

— ORG14-28

2.7.2 As discussed throughout these comments, the DEIS is inadequate for purposes of supporting a decision by the Department of Ecology to issue a secondary permit to USBR to divert water to the Odessa Subarea.

— ORG14-29

2.7.3 The failure to discuss the cumulative impact of increased water diversions from the Columbia River, as added to past, present and foreseeable future actions affecting Columbia River diversions and flows renders the DEIS inadequate. Some 5-6 million acre feet of water is diverted annually from the Columbia River for irrigation and other uses. Neither USBR nor the Department of Ecology has analyzed the cumulative impacts of the total diversions from the Columbia.

— ORG14-30

2.7.4 In addition the states of Idaho and Oregon divert water from the Columbia or its major tributaries. Not discussed here or elsewhere.

— ORG14-31

2.7.5 The National Research Council's report on Columbia River instream flows recommends that no further diversions be made from the Columbia River, in order to retain flexibility in river management. See Attachment 13 (Columbia River: Instream Flows, Water Withdrawals, and Salmon Survival, NAS Press 2004).

— ORG14-32

**2.8 The DEIS does not use best available science to describe groundwater resources.**

2.8.1 As a corollary, the ETR and DEIS fail to use best available science to evaluate pumping depths, including the April 2010 USGS study on Columbia Plateau groundwater availability. See Attachment 11 (Snyder & Haynes, 2010).

— ORG14-33

2.8.2 The statement at pp. 4-50 and 4-66, that the state lacks authority to require well casing is incorrect.

— ORG14-34

**2.9 DEIS surface water quality discussion is inadequate.**



2.9.1 The DEIS claims to "address the [action alternatives] potential effects" on heavy metals. However, the EIS in fact fails to discuss the action alternatives' impacts on heavy metals in Lake Roosevelt, Banks Lake, the Columbia River downstream of Grand Coulee Dam, and the analysis area irrigation network. This omission is striking given the Bureau's acknowledgement that Lake Roosevelt contains "significant levels of zinc, lead, copper, arsenic, cadmium, and mercury contamination." DEIS at 3-16. For example, the EIS fails to disclose the direct, indirect, and cumulative environmental impacts sending Lake Roosevelt water, which contains "significant levels" of heavy metals, to Banks Lake and the analysis area irrigation network. While the EIS summarily concludes that "[a]dditional re-suspension of sediment-bound metals . . . is not anticipated," the Bureau fails to explain its rationale to support this conclusion.

ORG14-35

2.9.2 Section 4.4 identifies the Bureau's impacts analysis methodology as "qualitative." See e.g., DEIS at 4-54 ("A comprehensive water quality model has not been developed for Lake Roosevelt, so anticipated impacts resulting from the action alternatives were assessed in a qualitative fashion similar to the *Final Environmental Impact Statement for the Lake Roosevelt Incremental Storage Releases Program* (Ecology 2008).") Setting aside the merits of the Bureau's qualitative approach, the Bureau repeatedly fails to identify the rationale behind the conclusions it draws in Section 4.4. For example, the Bureau repeatedly concludes that action alternatives would have only a "minimal" impact on water quality. See DEIS at 4-53; 4-57; 4-58; 4-63. Yet, the agency fails to explain the bases for its conclusions.

ORG14-36

2.9.3 Statements in Section 4.4 expressly contradict other sections of the DEIS, which concede that the No Action Alternative would result in conversion to dryland farming. DEIS at ES-31 (describing consequences of "No Action" alternative and stating "[s]ignificant impact in the Study Area with change from irrigated agriculture to dryland farming conditions."); ES-36 ("The No Action Alternative would significantly change land use as irrigated agriculture transitions to dryland farming conditions."). Section 4.4 asserts:

The action alternatives would not alter land use practices or the amount of water used on the farms for agricultural purposes, so return flow regimes (volume and timing) of the drains and Crab Creek are not anticipated to change. Consequently, *the only reason water quality would be impacted is if the new surface water supply is of better or poorer quality than the existing groundwater source.*

DEIS at 4-55 (emphasis added). This statement is not supported by the EIS. In fact, new surface water supplies are *not* the only reason that water quality would be impacted. If the Bureau selects the "No Action Alternative," water quality would be *beneficially* impacted by reduced pesticide and fertilizer inputs to Crab Creek and the Columbia River. See DEIS at 4-56 (identifying water quality improvements under the No Action Alternative due to conversion from irrigated agriculture to dryland farming.). The Bureau should revise the EIS to accurately and fully disclose the water quality benefits of the No Action Alternative.

ORG14-37

2.9.4 Without support in science or technical analysis, the Bureau summarily underestimates the benefit the No Action Alternative, which would result in conversion from irrigated agriculture to dryland farming. If the Bureau pursues the No Action Alternative, the agency acknowledges that "as groundwater

ORG14-38

supplies decline further, irrigated lands would be converted to dryland crops." DEIS at 56. As a result, less pollutant laden pesticides and fertilizers would be conveyed to the canal and drain system and, in turn, Crab Creek and the Columbia River. The Bureau concludes that the No Action Alternative would cause surface water quality to "improve slightly." DEIS at 4-56. The Bureau fails to describe the qualitative or quantitative method for arriving at this conclusion. The Bureau further attempts to cabin the water quality benefits of dryland farming (*i.e.*, the No Action Alternative) by summarily asserting that the "No Action Alternative would not resolve" water quality issues and exceedances in Lake Roosevelt, Banks Lake, the Columbia River downstream of Grand Coulee Dam, and the analysis area irrigation network. Yet, it is unclear that *any* one action would "resolve" water quality impairment in the Upper Columbia River. Regardless, the extent to which the No Action Alternative would "resolve" water quality impairment is irrelevant; instead the proper inquiry is what environmental impacts (positive and negative) would result from the No Action Alternative.

ORG14-38

- 2.9.5 The Bureau discloses that, under existing conditions, Banks Lake regularly exceeds Washington State's water quality criteria for temperature. DEIS at 4-57. Nonetheless, every action alternative will result in significant, negative impacts to temperature in Banks Lake. While the Bureau concedes that the temperature impacts will be significant, it fails to disclose the extent to which each alternative will change the temperature regime in Banks Lake.

ORG14-39

- 2.9.6 The Climate Impacts Group projects that August mean surface air and maximum stream temperatures in the Columbia River Basin will range from stressful to fatal for salmon. See Attachment 14 at C-1, Fig. 9, p.13. However, the DEIS fails to disclose the direct, indirect, and cumulative impacts of removing more water from Lake Roosevelt or the Columbia River downstream of the Grand Coulee Dam. For example, in subsection 4.4.10, which discusses Alternative 3D (Full—Combined), the Bureau fails to examine the long term temperature impacts of removing more water from Lake Roosevelt.

ORG14-40

- 2.9.7 The DEIS fails to analyze the extent to which incremental releases will contribute to and exacerbate warming of river and stream temperatures in the basin. The Columbia River at and below Lake Roosevelt are water quality limited for temperature under the Clean Water Act. See Washington 303(d) list (approved by EPA in January, 2009). The DEIS fails to account for the cumulative effects of removing more water from a waterbody that the state and federal environmental agencies list as impaired for temperature.

ORG14-41

**2.10 DEIS wildlife discussion is inadequate and the action alternatives would cause significant harm to wildlife habitat and at-risk species.**

- 2.10.1 The U.S. Fish & Wildlife Service succinctly states the problem. "We have . . . determined that the most limited and imperiled habitat type in the Project Area is shrub-steppe. This Project, if implemented, would significantly and adversely impact shrub-steppe habitat." CAR at p. 58. The CAR study also notes that the area of impact is much greater than that utilized by USBR in its DEIS analysis, including that buffer widths should be 1600 feet, "significantly greater than the 600-foot wide buffer areas used in the Project." CAR at 25.

ORG14-42

- 2.10.2 As noted above, CELP adopts and incorporates by reference the DEIS comments of James D. McClure, submitted separately. } ORG14-43
- 2.10.3 The DEIS fails to address long-standing, systemic impacts on wildlife created by agricultural development in the basin, including up to 68% loss of shrub-steppe habitat and associated plant and animal species. } ORG14-44
- 2.10.4 Further, the DEIS action alternatives will contribute to further degradation of much of the last remaining pockets and corridors of shrub-stepped habitat, a significant impact that cannot be ameliorated in any reasonable time frame. Shrub steppe is extremely difficult to repair and restore. } ORG14-45
- 2.10.5 Any impacts to Greater Sage Grouse and Columbia Sharp-tailed Grouse, which are now functioning in isolated pockets around the Columbia Basin and which are the subject of substantial recovery efforts, are not acceptable. } ORG14-46
- 2.11 Water supply management issues, including climate change impacts, are not adequately discussed in the DEIS.** } ORG14-47
- 2.11.1 The assumption that flows in excess of target flows for the Columbia River at Priest Rapids, McNary and Bonneville dams (DEIS at p. 4-7) belies the complexities of climate change impacts, Columbia River Treaty-based changes for flood control, and the cumulative impacts of a century of water diversions from the Columbia River. } ORG14-48
- 2.11.2 Climate scientists are now grappling with the concept of "non-stationarity," i.e., the realization that past streamflow and weather variations may not continue into the future. See Attachment 14 (Bracken article). While the DEIS represents a first effort to model and describe climate change impacts, the conclusions are based on modeling that utilizes past climate and weather scenarios, specifically from 1929 to 1998. DEIS at p. 4-7. The very real concern that the past is not an acceptable guide to future water availability in the Columbia River is not discussed in the DEIS. } ORG14-49
- 2.11.3 A cautious approach and further analysis seems particularly important given that the Columbia Icefields, headwaters of the Columbia River, are melting. See Attachment 16 (Natural Resources Canada web excerpts). For example, identifying the Columbia Icefields as a location of substantial loss of glacial mass, Natural Resources Canada states, "[t]he most far-reaching result of predicted climate change in alpine areas is likely to be the effect of decreased snowpack and glacier ice on the discharge of the rivers that drain from the mountains." The DEIS contains no discussion of the impact of melting headwaters on future Columbia River flows. } ORG14-50
- 2.11.4 The DEIS also fails to discuss the impacts identified in the University of Washington, Climate Impact Group's Washington Climate Change Impacts Assessment. See Attachment 14. Even using conservative historical estimates for modeling climate change, the report finds that lethal water temperatures for cold-water fisheries (salmon) will become more prevalent, stream-flow runoff will decrease and water supply will become more stressed. The rather sanguine conclusions that increasing diversions from the Columbia River will have minimal } ORG14-51

to no impact on water resources fails to account for a larger context in which dire projections are being made.

- 2.11.5 The DEIS also fails to discuss climate impacts identified in the U.S. Fish & Wildlife Coordination Act Report, at pp. 30-32, that even though precipitation may increase in the Columbia River basin, it is expected there will be less "effective precipitation," and that climate change will work negative effects on water temperatures, and increased pollutants, turbidity and salinity.

ORG14-52

- 2.11.6 New diversions of surface water for irrigation supply will effectively work permanent changes in the river and reservoir management. Permanent changes increase inflexibility in management options. The DEIS contains little discussion of how new water diversions will limit the capacity of USBR to manage Grand Coulee Dam for multiple objectives required by law.

ORG14-53

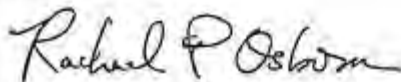
- 2.11.7 By failing to account for past impacts combined with projected changes, both environmental (climate change) and human-caused (treaty changes), the DEIS is deficient for lack of analysis concerning future management of flows in and diversions from the Columbia River.

ORG14-54

## Conclusion

Thank you for the opportunity to provide comments on the Odessa Subarea DEIS. Please provide responses to CELP and to the organizations for whom this letter is prepared at the addresses listed on page 1 above.

Sincerely,



Rachael Paschal Osborn  
Executive Director  
Center for Environmental Law & Policy  
509-209-2899 / rosborn@celp.org

And on behalf of

- Columbia Riverkeeper, Hood River, OR
- Sierra Club Washington State Chapter, Seattle, WA
- Spokane Audubon Society, Spokane, WA
- Lower Columbia Basin Audubon Society, Pasco, WA
- Spokane Falls Trout Unlimited, Spokane, WA

Attachment No.	Document
1 and 2	2004 Banks Lake Drawdown FEIS comments & responses, and ROD
3	CELP-Sierra Club comments on Lake Roosevelt Drawdown draft Supplemental Environmental Impact Statement (6-30-08)



4	CELP, Columbia Riverkeeper-Sierra Club comments on Lake Roosevelt Drawdown draft Environmental Assessment (4-17-09)
5	U.S. Water Resources Council's Economic & Environmental Principles & Guidelines for Water and Related Land Resources Implementation Projects (March 1983)
6	USBR Response Brief in USDC case <i>CELP &amp; CRK v. USBR et al.</i> , U.S. District Court for Eastern Dist. of Washington, Docket No. 2:09-cv-160-RMP, Defendants' Memorandum in Support of Cross-Motion for Summary Judgment and Opposition to Plaintiffs' Motion for Summary Judgment (2-22-10)
7	Lind Dryland Research Station information and bibliography from website
8	Schillenger & Papendick, "Then & Now: 125 Years of Dryland Wheat Farming" (Agronomy Journal 2008)
9	Caldwell, B., "Odessa Refinery Meeting Biodiesel Demand" (Spokesman-Review, 1-10-10)
10	Hamilton, Joel R., "A Review of 'The Economic Impact of a Possible Irrigation-Water Shortage in Odessa Sub-Basin: Potato Production and Processing,'" Sanjoy Battacharjee and David Holland, School of Economic Sciences, Washington State University, June 6, 2005."
11	Snyder, D.T., and Haynes, J.V., Groundwater conditions during 2009 and changes in groundwater levels from 1984 to 2009, Columbia Plateau Regional Aquifer System, Washington, Oregon, and Idaho: U.S. Geological Survey Scientific Investigations Report 2010-5040 (2010) and Appendix A.
12a	U.S. Entity, Columbia River Treaty 2014/2024 Review, United States Entity Supplemental Report (Sept. 2010)
12b	U.S. Entity, Columbia River Treaty 2014/2024 Review, United States Entity Supplemental Report, Appendix A (Sept. 2010)
12c	U.S. Entity, Columbia River Treaty 2014/2024 Review, United States Entity Supplemental Report, Appendix B (Sept. 2010)
12d	U.S. Entity, Columbia River Treaty 2014/2024 Review, United States Entity Supplemental Report, Appendix C (Sept. 2010)
12e	U.S. Entity, Columbia River Treaty 2014/2024 Review, United States Entity Supplemental Report, Appendix D (Sept. 2010)
13	National Research Council, Columbia River: Instream Flows, Water Withdrawals, and Salmon Survival (NAS Press 2004)
14	University of Washington, Climate Impact Group, Washington Climate Change Impacts Assessment (2009)
15	Bracken, Nathan S., "Climate Change Impacts on Water Supply" (LSI, Sept. 2010)
16	Natural Resources Canada, "Climate Change Impacts and Adaptation," excerpts from website (viewed on 1-31-11)
17	WA Department of Ecology, Office of Columbia River, OCR Funded Projects (10-27-10)
18	WA Department of Ecology, Office of Columbia River, Status of the \$200M[illion]OCR Account (10-20-09)



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Yakima, Washington

Comment Letter ORG15

Control #: 1101178

**COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION**

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BUREAU OF RECLAMATION

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10/31	X		

February 4, 2011

Charles A. Carnohan  
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RE: **Comments on the Draft Environmental Impact Statement-  
Odessa Subarea Special Study**

Dear Mr. Carnohan and Mr. Sandison:

The Columbia River Inter-Tribal Fish Commission (CRITFC)<sup>1</sup> appreciates the opportunity to comment on the Draft Environmental Impact Statement- Odessa Subarea Special Study (herein DEIS). CRITFC submits these comments on behalf and at the direction of our member tribes, but these comments do not constitute or substitute for consultation or direct communication with the member tribes. CRITFC's member tribes have significant interest in the outcome of this DEIS process so it is important for us to participate as much as our resources will allow. We appreciate the additional time that the Washington Department of Ecology and U.S. Bureau of Reclamation has afforded us to comment on the DEIS. The Washington Department of Ecology and particularly U.S. Bureau of Reclamation<sup>2</sup> should seek consultation with CRITFC and Accord member tribes on this issue as the NEPA process ensues.

The DEIS contains nine alternatives. Four alternatives deliver Columbia River water to replenish groundwater to irrigate 57,000 acres of cropland (i.e. "partial replacement"). Four alternatives deliver Columbia River water to replenish groundwater to irrigate

<sup>1</sup> In 1977, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, the Nez Perce Tribe, and the Yakama Nation created the Columbia River Inter-Tribal Fish Commission (CRITFC). These four tribes have 1855 treaty rights to take fish that pass their usual and accustomed fishing places. Consequently, it is of critical importance to the tribes to protect and conserve the habitat and life cycle of the fisheries. CRITFC functions to protect, promote, and enhance the Columbia River Basin's anadromous fish resources consistent with the treaty-secured interests of its member tribes by formulating a broad, general fisheries program, and providing technical and legal support.

<sup>2</sup> Reclamation has a special relationship with CRITFC and three of its member tribes, including the Yakama Nation described in the 2008 Fish Accords. Reclamation is also required to consult with CRITFC's member tribes according to the 1998 Secretarial Order between the Department of Interior and tribes affected by the Department's actions.

102,600 acres of cropland (i.e. "full replacement"). The last alternative is a "no-action" alternative. Mainstem withdrawals under the eight alternatives to replenish groundwater sources for irrigation would be provided by increased drawdowns of Lake Roosevelt, Banks Lake, or construction of a new storage reservoir. Drawdowns would reduce mainstem flows in the Columbia River vital to tribal trust fishery resources.

CRITFC finds that the DEIS failed to properly analyze the cumulative and synergistic effects of alternatives on anadromous fish and the tribal treaty fishery. We provide the following comments to be considered for a supplemental DEIS. Without thorough consideration of these fishery and tribal issues the DEIS remains considerably flawed.

### Introduction

The Yakama Nation and the Confederated Tribes of the Umatilla Indian Reservation aboriginally occupied lands in what is today the Mid-Columbia Region in Washington State. The Columbia River and its tributaries are a part of that land. Protection of rivers and flows for anadromous fish and wildlife populations, as well as cultural resources and other matters are important to these tribes. Further, all four CRITFC tribes exercise their federally reserved treaty rights by harvesting salmon in the lower Columbia. The abundance of returning salmon is dependent on flows basin wide. The DEIS failed to address how an additional increment of flow reduction to create the Odessa groundwater storage through more mainstem withdrawals is consistent with the need to increase flows to restore salmon and Pacific lamprey.

ORG15-1

Specifically, CRITFC is concerned that if any of the eight replenish options are approved, the Odessa Project would cause a reduction of flows in the mainstem Columbia River. The reduction would occur outside of the NOAA 2008 Biological Opinion water management period. Dams, irrigation, municipal withdrawals and other development in the Basin have already resulted in dramatically decreased flows in the mainstem that have significantly reduced critical anadromous fish habitat, resulting in decreased fish populations. For example, average historical flows at The Dalles Dam during June, the peak of the anadromous fish migration; have been reduced from 480 kcfs to a "target flow" of 260 kcfs at McNary Dam. Even these "target flows" are not often met under current conditions. The bulk of the adult salmon migration is in September and a considerable portion of the juvenile salmon migration is also in September (Fish Passage Center- fpc.org).

ORG15-2

In addition, as CRITFC's member tribes have addressed through the NOAA BiOp Technical Management Team, tribes conduct their major fall treaty fishery during the September through early October period. Low flows during the treaty fishery can impinge on fishers' ability to set and retrieve nets and obtain access to the river. Low flows can also impede adult passage into tributaries from the mainstem as sandbars and other barriers become exposed. If adopted, all DEIS alternatives except the no-action alternative would require refilling Lake Roosevelt and/or Banks Lake in September and October which will continue to reduce lower Columbia flows.

ORG15-3

As we stated in our November 5, 2007 comments on the Draft Programmatic EIS (DPEIS) for the Columbia River Water Management Program (CRWMP), CRITFC's member tribes have a direct interest in the waters of the Columbia River Basin related to existing treaties between the tribes and the United States. All of the CRITFC member tribes ceded territories that encompass entire large watersheds within the Columbia River Basin.<sup>3</sup> Each of these tribes exercise treaty rights to take fish from the Columbia River and its tributaries. As supported by a significant body of case law, these treaty rights include off-reservation instream water rights with priority dates that are senior to all other users and that are the necessary to protect the biological functions of fish and their habitat.<sup>4</sup> Adequate instream flow with water of high quality is essential to sustaining healthy and viable salmonid populations, and preserving tribal culture, religion and economies.

ORG15-4

The direction that the State of Washington and Reclamation are taking toward growth management is harmful to the salmon resource upon which the tribes have depended for millennia. It appears that there are no State of Washington or Bureau of Reclamation mechanisms to begin to manage population and agricultural growth that threatens to diminish water and anadromous fish resources in tribal ceded areas.

ORG15-5

The burden of reduced instream water resources must not continue to fall upon the salmon and other anadromous fish such as sturgeon and Pacific lamprey. Pacific lamprey are in serious decline in the State of Washington with only 12 adults passing Lower Granite Dam this year and only 20,000 counted at Bonneville Dam, which along with 2009 counts, are the lowest in recorded history.

ORG15-6

CRITFC participated in review of this DEIS via other proposed Columbia River water withdrawal projects for several years, beginning with the State of Washington's decision to lift the State's prior moratorium on mainstem Columbia River withdrawals. Among other proceedings that have subsequently occurred since the State lifted the moratorium, CRITFC presented scientific information to the National Research Council for their report for Ecology entitled "Managing the Columbia River: Instream flows, water withdrawals and salmon survival" (NRC 2004). CRITFC also filed the following to Ecology regarding additional water withdrawals from the Columbia Basin: 1) December 12, 2003 comments on the Columbia River Initiative SEPA Scoping, 2) November 8, 2006 comments on the draft CRWMP Inventory and Legislative Report, and 3) November 15, 2007 comments on the draft CRWMP Inventory and Legislative Report. We incorporate these comments by reference.

Mainstem flows for fish in September are already compromised by the Lake Roosevelt Incremental Storage Releases Agreement between Ecology and Reclamation and the

<sup>3</sup> We incorporate by reference our November 5, 2006 comments on the Draft Programmatic EIS (DPEIS) for the Columbia River Water Management Program

<sup>4</sup> See, e.g., *United States v. Winans*, 198 U.S. 371 (1905); *Colville Confederated Tribes v. Walton*, 647 F.2d 42 (9th Cir. 1981); *United States v. Adair*, 723 F.2d 1394 (9th Cir. 1984); *Ecology v. Yakima Reservation Irr. Dist.*, 850 P.2d 1306 (Wash. 1993).

ORG15-7



Colville Tribes. Flows drop precipitously from the end of August into September as the biological opinion ends and Lake Roosevelt is refilled. As a result, minimum flows of 70 kcfs at Bonneville Dam are now being reached earlier and more frequently (Figure 1; data from UW-DART). In 2011 Municipal and industrial withdrawals under the Agreement will begin. Between these withdrawals in September and refill of Lake Roosevelt from August drafting, lower Columbia flows will be diminished. This will further degrade water quality with respect to increases in mainstem temperatures, as well as a reduction in water quantity. Many of these issues are examined in the NRC 2004 report referenced above. In an amended DEIS, Ecology and Reclamation should carefully review and portray these synergistic and cumulative effects in context of the NRC 2004 report.

ORG15-7

### **Impacts of DEIS Alternatives on Anadromous Fish**

There is a long list of scientific literature that the DEIS should have considered in creating and analyzing alternatives. For example, construction of slack water reservoirs behind the dams significantly reduced velocities necessary to move juvenile anadromous fish downstream. Reduced velocities and the large impoundments degraded water quality and enhanced salmon predator populations. The scientific literature indicates that salmon now take 2-3 times longer to reach the estuary than before construction of the hydrosystem and water withdrawals (CBFWA 1991; CSS 2010).

ORG15-8

The literature also indicates that juvenile salmon stop migrating and may even reverse their migration and lose their ability to make physiological transformation for saltwater because of the slow velocities and high temperatures from low flows and resulting from impoundments (Zagg et al. 1981; Duston et al. 1991; CBFWA 1991; Vendetti et al. 1995; Connor et al. 2002; Connor et al. 2005). Juvenile salmon residualize and likely become prey for predators or die from disease or starvation (Williams et al. 1996; Bottom and Jones 1990; Peven et al. 1994; CBFWA 1991).

Further, adult migrants suffer from increased temperatures from reduced flows. This increases migration time, reduces critical energy reserves necessary for migration and successful spawning and reduces gamete viability (McCullough 1999; Keefer et al. 2005). For example, for salmon and steelhead, water temperatures influence the rate of upstream passage and timing of passage (Bjornn et al. 1992; Keefer et al. 2005; Clabough et al. 2007). Extant elevated water temperatures are among the most significant limiting factors to fish production in the basin and can negatively impact all life histories (McCullough 1999). Goniea et al. (2006) showed that mean and median migration rates through the lower Columbia River slowed significantly when temperatures were above 20 degrees C., while High et al (2006) noted that steelhead destined for upper basin spawning areas under historical temperature regimes now seek and hold in cool water tributaries of the lower Columbia to avoid areas of elevated water temperature. Reduced flows increase river temperatures and decrease turbidity which reduces juvenile salmon survival and causes prespawning mortality and loss of gamete viability (Connor et al. 2003a Connor et al. 2003b; McCullough 1999; McGie 1992).

The current fish “target flows” under the NOAA Fisheries’ 2008 Biological Opinions for the Federal Columbia River Power System are only specified from April 1 to August 31. While in many years since the target flows were established they have not have been met, flows outside this period are important to protect anadromous fish spawning, rearing and migratory critical habitat in the mainstem Columbia River. Additional withdrawals from the mainstem Columbia will further reduce critical habitat, lower the probability that the “target flows” will be met, and move the region further from increasing flows from the NMFS target levels.<sup>5</sup> We support the comments and technical review of the Fish Passage Center (Attachment) and include them by reference with respect to further issues surrounding the impacts of the proposed water withdrawal to anadromous fish populations.

In March, 2000, the Washington Department of Fisheries’ (WDFW) concern about additional water withdrawals led them to send a letter to Ecology recommending that:

- no additional withdrawals occur during the salmon outmigration season;
- cumulative effects analyses be performed before any new water rights are granted; and
- minimum flows for salmon must be established before water rights are approved.

— ORG15-9

These issues should be fully analyzed in a supplemental DEIS for each alternative.

In 2007, WDFW issued a report and analysis of impacts to fish from water withdrawals (Vadas and Beecher 2007).<sup>6</sup> This report and its findings need to be included in analyzing supplemental DEIS alternatives.

— ORG15-10

The DEIS range of needs failed to go beyond where the best scenario for fish production is the status quo that has resulted in the ESA listing of 13 salmon stocks, upper Columbia sturgeon and a proposed listing for Pacific Lamprey (NMFS 2000; ONRC 2002).

— ORG15-11

### **Socio-Economic Impacts of Alternatives**

The impact of lost fish and fishing opportunities must be adequately captured in a supplemental DEIS. The DEIS must analyze all of the economic impacts of each

<sup>5</sup> In the 1995-8 NMFS Biological Opinion for the Federal Columbia River Power System, NMFS attached an analysis, *Basis for flow objectives for operation of the federal Columbia River Power System*. In this attachment, NMFS stated that the flow objectives were “.... Low estimates of flow that is likely to avoid high mortality”. In the CRITFC tribes’ *Spirit of the Salmon* restoration plan calls for short (5 years) flow objectives to meet the NWPPC’s 1994 *Strategy for Salmon* sliding scale flows of 300-220 kcfs depending on the runoff year and measured at The Dalles. Long term CRITFC flow objectives (25 years) are directed to meet the 50% exceedence levels at The Dalles and other key points. At The Dalles this is 480 kcfs.

— ORG15-12

<sup>6</sup> Vadas, R.L. Jr., and H.A. Beecher. 2007. Mainstem flows - an important factor in fish production and protection in the Columbia/Snake River basin. Washington Department of Fish and Wildlife, Habitat Program. Olympia, WA. 43 pp.

alternative. For example, the report does not address impacts to the tribal fishery. Low flows that exacerbate power peaking can rip nets from their anchors and reservoirs quickly rise in elevation causing extreme economic hardship to tribal fishers. Conversely, as water elevations in reservoirs are reduced, tribal vessels can be grounded and nets cannot operate properly. Because the tribal fishing season is for a very short period- a matter of a few days or even hours, a season's opportunity to make economic gains can be quickly and completely lost.

The supplemental DEIS should consider the ceremonial, subsistence, cultural and socioeconomic values of salmon, sturgeon and Pacific lamprey, including an analysis of the socioeconomic impacts of the alternatives on tribal economies. The economic benefits of fishing should be addressed. Most of the salmon wealth has been taken away from the tribes and redistributed to non-tribal people in the form of flood control, navigation, irrigation and municipal development. This redistribution of wealth from tribal people that originated in the Mid-Columbia region has resulted in elevated poverty and death rates within tribal populations well in excess of the general population (Meyer 1999). In particular, the loss of salmon from water withdrawals in the Columbia River Basin has transferred the sustainable wealth created by the river away from tribal peoples and has redistributed this wealth to non-tribal peoples (Meyer 1999). For example, the Yakama Nation tribal members have access to and take less than 10% of their traditional salmon harvest.

ORG15-13

*Loss of tribal wealth and the diminishment of opportunities to exercise treaty fishing rights from the depletion of salmon stocks has resulted in disproportionate rates of poverty, disease, mental illness and death in tribal communities compared to non-tribal communities (Meyer1999). For example, the per capita income of a Yakama Nation tribal member is only 43% of the State of Washington per capita income, and the poverty rate of a Yakama Nation tribal member is 42.8% compared to the average citizen of Washington State at 10.9 % (Meyer 1999).*

Further, salmon are the mainstay of tribal religious and cultural practices and these values cannot be express in dollar terms. Every juvenile salmon that survives to return as an adult brings back some of the river's wealth to the tribal economy and culture. The Supplemental DEIS review of all management alternatives including mitigation and enhancement alternatives must be evaluated as to their effects on tribal culture and economies and the alternatives' ability to redistribute the river wealth back to tribal peoples.

ORG15-14

### **Reservation of Tribal Rights**

A section should be added in a supplemental DEIS to mention that tribal water rights have already been seriously diminished in the Columbia River Basin due to non-tribal development, including water withdrawals to date, whether legal or illegal (i.e. water spreading). Ecology and the State of Washington have failed to provide adequate accounting of these withdrawals in both duration and volume.

ORG15-15

A supplemental DEIS should contain economic analyses of alternatives, considering the findings in parallel with the NAS 2004 report, because economic scrutiny must be placed upon all of the alternatives developed for the recovery of salmon to naturally produced stocks capable of sustaining tribal and non-tribal harvests. A credible economic analysis should be completed that fully addresses hydrological, biological issues and ecological issues (Bunn and Arthington 2002; Williams et al. 1996) and the NAS report. A poorly developed, narrowly focused economic analysis that does not comprehensively address the NAS 2004 report will have little merit.

ORG15-16

The DEIS should examine cases with assumptions of crop prices at much reduced levels as world markets may out compete Pacific Northwest crops and Congressional subsidies may be ended for lands put in fallow.

ORG15-17

### **Drought Cycles and Climate Change**

It appears critical that Ecology determine by metering all present water use. How else can it be determined how many, if any, additional water rights should be considered? A supplemental DEIS should address significant changes in river run-off from global warming. In addition to more frequent drought cycles, climate change models indicate that reduced snowpack will reduce the average annual runoff of the Columbia River at The Dalles by 14.7 % by 2020 and 16 % by 2050 (Hamlet et al. 1997 in Cohen et al. 2002). Thus, there will be less base flow in the river to accommodate existing, much less future needs. Chatters (1991) noted that fish stocks most affected by climate change will be those where the effects of water withdrawals are already problematic.

ORG15-18

Further, warmer temperatures as a result of climate changes would result in increased growing seasons and generally increased agricultural water consumption. According to an analysis of the reliability of flows for Snake River agriculture, by 2050 agricultural flows would be reduced from 85% to 70% (Hamlet et al. 1998 in Cohen et al. 2002). Additional new water withdrawals would specify an allowable rate or total quantity of water to be diverted, but the total lost from consumptive use would increase under warmer conditions due to: 1) evaporation and crop evapotranspiration and, 2) declines in groundwater levels leading to increased seepage losses from unlined irrigation ditches (Cohen et al. 2002).

The proposition of new water withdrawals need to address the cumulative and synergistic effects of climate change on the water resources of the Columbia Basin. The DEIS contains very little information as to how the mainstream water withdrawals will affect anadromous fish populations under future climate change scenarios. Studies using projected climate change model results indicate that viability of salmon populations in the future may be significantly reduced under increased water temperature regimes in the Columbia Basin (Crozier et al. 2007; Crozier et al. 2008; WGA 2008; ISAB 2007; Mantua et al. 2009). The synergistic interaction between more water withdrawals called for by most of the DEIS options and future climate change scenarios and the impact on

ORG15-20

ORG15-19



fish has yet to be even qualitatively described in the DEIS. This is a significant omission that needs to be addressed in a supplemental DEIS.

#### **Losses between diversions and return flows**

A supplemental DEIS should include water losses from evaporation or seepage in irrigation systems when providing estimates of return flows. This should be included in the final report.

The supplemental DEIS should contain and analyze the following alternative:

- Draft without out-of-stream withdrawal to support fish flow objectives to elevation 1278 in average to wet years and 1276 in dry years. Implement ramping down operations for flows in September to avoid sudden drops over the Labor Day weekend and into September. As noted above, additional flow augmentation will reduce fish travel time to the estuary. Addition of 2-8 feet of Lake Roosevelt storage in dry years would add 100-600 Kaf to help meet flow targets and assist in achieving a more normative hydrograph. Protection of fish runs in low flow years is critically important (NRC 2004).

ORG15-21

#### **Conclusion**

We strongly encourage Reclamation and Ecology to prepare a supplemental DEIS that addresses our comments. Of the proposed alternatives, the No-Action alternative provides the best flow conditions of DEIS alternatives in the Columbia River for protection of our member tribes' treaty trust fishery resources. Fish flows in the mainstem river have already been compromised by recent agreements between Reclamation and Ecology. We note that among other things, the DEIS has not cumulatively analyzed alternatives in relationship to these recent agreements or to changes in flows from climate change. In this regard, we view all alternatives other than the no-action alternative, as yet another reduction in mainstem flows, reducing the quantity and quality of critical habitat. This habitat is necessary to reverse the decline and rebuild depressed populations of salmon, steelhead, sturgeon and Pacific lamprey. In addition, Reclamation and Ecology should consult directly with our member tribes on this NEPA proceeding. Should you have questions regarding these comments please contact Bob Heinith at 503-731-1289.

ORG15-22

Sincerely,

A handwritten signature in black ink, appearing to read "Babtist P. Lumley". The signature is fluid and cursive, with the first name "Babtist" written in a stylized manner.

Babtist Paul Lumley  
Executive Director

Attachments: Reference List  
Memo from Michele DeHart  
Figure 1: 2010 Flows at Bonneville Dam from UW DART

Cc: Stanley Speaks, NW Regional Director, BIA

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## FISH PASSAGE CENTER

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### MEMORANDUM

TO: Bob Heinith

*Michele DeHart*

FROM: Michele DeHart

DATE: January 13, 2011

RE: Draft Environmental Impact Statement, Odessa Subarea Special Study

In response to your request we have reviewed the Draft Environmental Impact Statement (EIS) for the Odessa Subarea Special Study. We hope that these comments are helpful to you in the development of your response to the Draft EIS. Our primary conclusions are listed below, followed by a more detailed discussion.

- The Draft EIS does not adequately address the importance of migration flow level on juvenile salmonid survival and adult salmon return.
- The Draft EIS alternatives include water withdrawals during which juvenile fish are migrating.
- By using monthly flow data the action alternatives could result in long periods of low flows, by not accounting for flow shaping or load following.

The Draft EIS considers the feasibility, acceptability, and environmental consequence of alternatives to replace groundwater currently used for irrigation on approximately 102,600 acres of land in the Odessa Ground Water Management Subarea with Columbia Basin Project surface water. A No Action Alternative, four partial-replacement alternatives, and four full replacement alternatives are evaluated. The Draft EIS incorporates the Columbia River flow objectives from the 2008 FCRPS Biological Opinion (BIOP) as constraints to the development of the action alternatives and implementation of alternatives occur when flows exceed the Biological Opinion average flows.

We have concerns regarding the approach taken in the Draft EIS regarding the impact of reductions of flows when the flow exceeds the BIOP flow objective. This approach assumes that there is no impact to fish survival at flows above the Biological Opinion flow objective and that the BIOP flow objectives represent maximum levels of flow. This falls back on the old paradigm of a "broken stick" model, where flow increases survival up to a certain level and above that level there are no benefits. This old model is not consistent with flow, fish travel time, migration timing and survival to adulthood (smolt to adult return rates) analyses that have been conducted.

There is also some concern that while the Biological Opinion flow objective is a seasonal average, the shaping of that seasonal average could dramatically affect fish survival. Seasonal shaping is only partly addressed in the EIS, since monthly averages are used for flow for all months except for April and August, when bi-monthly flows are used. In reality this could result in low flows and impacts on survival for long periods of time.

In addition, there are no BIOP flow objectives for September and October, when most of the impact of the groundwater replacement withdrawals occur under the various alternatives. This suggests that reductions in Columbia River flow can occur when some fish can still be migrating through the system and were not specifically addressed by the EIS. Juvenile fall Chinook are present in the Columbia in September and October.

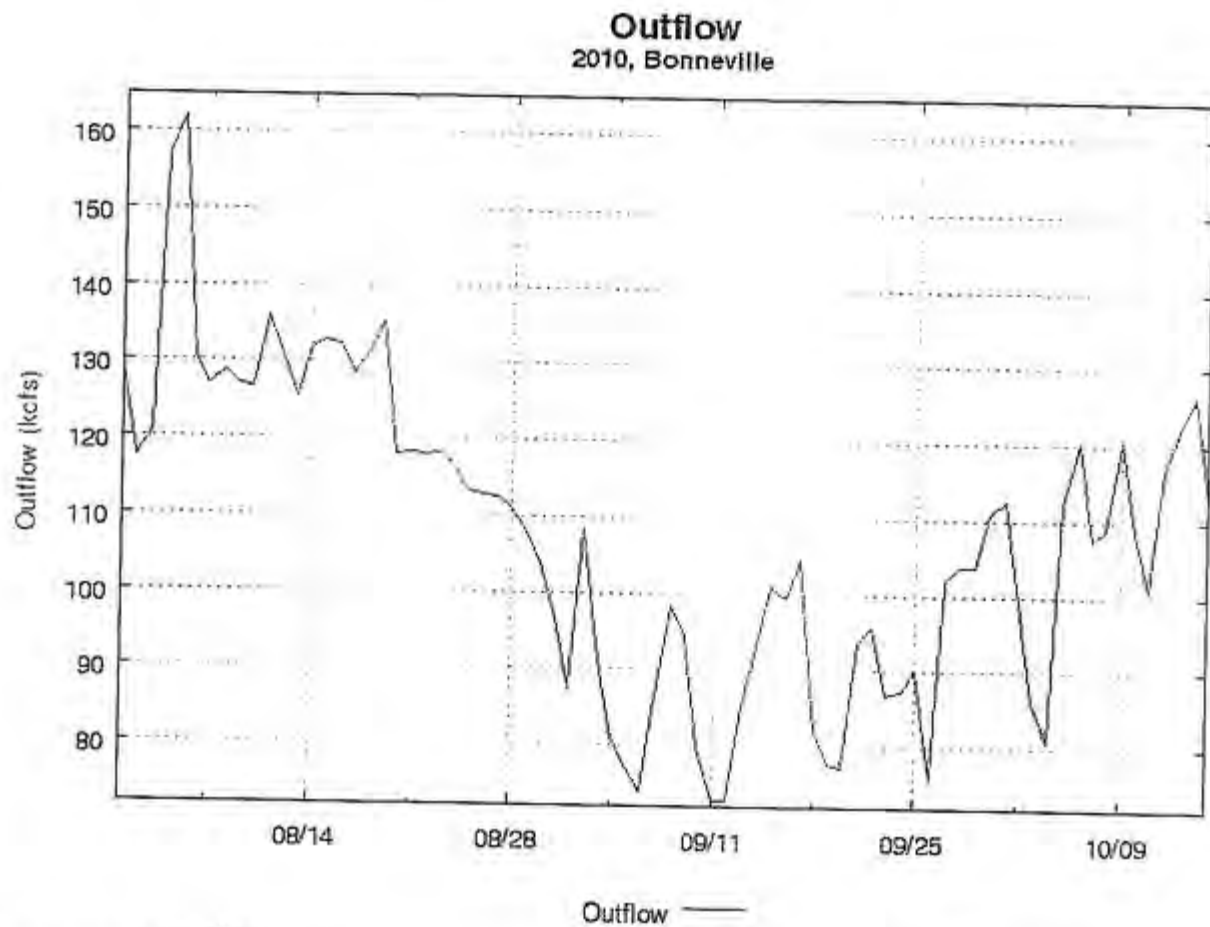
The EIS significantly downplays the relation between flow and fish survival, and suggests that flow is only important during low flow years (page 4-131). The document uses a statement made by the Independent Scientific Advisory Board in 2003 to suggest that above a certain level of flow there are no additional benefits to fish survival in increasing flow. While the ISAB conducted a review of flow augmentation (ISAB 2003-1) and noted that many questions remained in regard to the relationships between river flows and salmonid production, studies and analysis have since been conducted based upon the questions raised in the 2003 ISAB review. Some of these questions included "whether instantaneous mortality rates are increased in a given reach as a result of low flow (or other factors such as temperature, water particle travel time, turbidity, and calendar date)" and "whether decreased travel time through a reach results in decreased mortality rates measured downstream." The Comparative Survival Study of PIT tagged Spring /Summer Chinook and Steelhead In the Columbia Basin, Ten Year Retrospective Report (Schaller et al. 2007) analyzed the relationship between environmental variables such as water travel time (i.e. flow) and spill, on travel time, instantaneous mortality, and survival rates of juvenile yearling Chinook and steelhead through the Lower Snake and Columbia Rivers. This analysis concluded that simple models incorporating water travel time (i.e. flow), average percent spill, and date (measured in Julian Day) explained 79-95% of the variation in median fish travel time. Variations in instantaneous mortality rates of juvenile Chinook in the Lower Granite-to-McNary reach were explained by date and water travel time (i.e. flow). For steelhead, variation in instantaneous mortality rate was explained by date, flow, and average percent spilled.

Although the relationship of flow level on migration timing is well established, the importance of juvenile passage conditions as measured by adult return is emerging from recent



analysis. Additional analysis has indicated that migration timing affects smolt to adult return. Scheuerell et al. (2009) concluded that migration timing of juvenile Chinook and steelhead in the Columbia Basin affected survival to adult. Their conclusion supports a management objective of increasing the speed of migration and speeding arrival to the estuary by increasing springtime river flows.

The use of newer PIT tag technologies since this time has facilitated further studies on flow and survival of salmonids in upper Columbia River reaches. A recent analysis of ten years of PIT tag data for steelhead survival between Rock Island Dam and McNary Dam concluded that juvenile steelhead average survival for 2007-2008 was higher than previous years' averages and had the shortest combined average water travel time (i.e. higher average flow) than averages in the 1998-2006 period (FPC 2009). Recent analysis of subyearling fall Chinook survival and travel time has shown that increases in migration flow, increases in spill, and decreases in temperature result in higher juvenile survival and faster juvenile migration timing (FPC, 2005; Connor et al, 2003).



Columbia River DART  
School of Aquatic & Fishery Sciences  
University of Washington  
<http://www.cbr.washington.edu/dart/dart.html>

## ***Columbia-Snake River Irrigators Association Policy Memorandum***

DATE: November 29, 2010

TO: Derek Sandison, Director, Columbia River Office,  
WA State Dept. of Ecology

FROM: Ron Reimann, President, CSRIA  
Darryll Olsen, Ph.D., CSRIA Board Rep.

SUBJECT: CSRIA Policy Recommendations For:  
Odessa Subarea Special Study Draft EIS

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The CSRIA concurs with several state legislators that the alternatives advanced within the Odessa Subarea Draft EIS are threatening to the future well being of a significant segment of the irrigated agriculture industry (joint legislative letter to Dir. Sandison dated November 8, 2010, attached).

We fully support the policy recommendations and the requested action agenda voiced by our legislative representatives. The CSRIA also offers specific comments and recommendations stated below:

### CSRIA Comments/Recommendations:

- The previous Odessa Subarea feasibility study included an "Alternative D" that focused on giving priority to the irrigated area above I-90, for the delivery of new Columbia River surface water. This alternative, with modifications, should be given preferred action status by the state.
- Affecting about 46,000 acres, the above I-90 action alternative should be modified to embody a public-private sector partnership to build adequate pumping and mainline facilities, branching-off from the East Low Canal.
- Presentation of a succinct action plan for the above I-90 surface water project should adhere to the legislative request for a March 1, 2011, deadline.
- The above I-90 project should consider not only surface water supply from re-regulating Banks Lake, but also from Conservation O&M to provide immediate relief to the Odessa Subarea. This would be done in consultation with the Columbia Basin Project (CBP) irrigation districts, CBP irrigators, and the local Conservation Districts.

**3030 W. Clearwater, Suite 205-A, Kennewick, WA, 99336  
509-783-1623, FAX 509-735-3140**

The model for this effort should be based on the Irrigation Water Management (IWM) program, already being implemented within the CBP, and the policy/technical provisions developed by the CSRIA (for Conservation O&M implementation). While this water supply alternative is based on seasonal water right transfers, we hold that it a better near-term approach than waiting for the wells above I-90 "to go dry."

PUB1-2

All direct CBP irrigation district costs associated with this water supply alternative should be paid by the above I-90 irrigators. This should be a revenue/cost neutral measure relative to current irrigation district operations.

- We cannot perceive real financial or technical conflicts between immediate surface-water service for the above I-90 area and continued, phased review/development of the below I-90 area. The above I-90 infrastructure should be capitalized based on private and some partial public sector funds (such as some of the funds allocated under the initial RCW 90.90 legislation). Additional funding for the below I-90 area will require a stronger state and federal financial commitment, relative to decision-makers' discretion.

PUB1-3

The Director of the Columbia River Office should identify any conflicts per his March 1, 2011, development plan.

Given state and federal funding realities, time constraints, and technical realities, the CSRIA recommends that the near-term water delivery focus should be on the above I-90 area. This action should bring immediate relief to the area, but it should not interfere with continued state/federal planning and funding acquisition efforts for the below I-90 area.

cc: Sen. Lisa Brown  
Sen. Mike Hewitt  
Sen. Mark Shoesler  
Sen. Janea Holmquist  
Rep. Brian Blake  
Rep. Bill Hinkle  
Rep. Judy Warnick  
And Interested Parties

Attachment: November 8, 2010, Legislative Letter





## Washington State Legislature

November 8, 2010

Mr. Derek Sandison, Director  
Columbia River Office  
Washington State Department of Ecology  
Wenatchee, Washington

Dear Mr. Sandison:

With the release of the Odessa Subarea Special Study (Draft EIS), we are greatly concerned that the state's fundamental interest in protecting the irrigated agriculture industry is not being aggressively met. We are also very concerned that this Study is not pragmatically dealing with the imminent needs of the Odessa Subarea, nor illuminating a least-cost path toward protection of the overall Subarea, even in terms of phased actions.

As a result, we are writing this letter to bring to your attention several critical observations and to request immediate agency action to preclude further jeopardy to the state's valuable irrigated agriculture industry.

One of our major concerns is that the alternatives provided in the Study do not follow a least-cost path or available near-term relief measures, and they could very likely lead to no action within the foreseeable future to provide surface water to any portion of the Odessa Subarea.

First and foremost, the Study has not adequately depicted the near-term alternative available to the state, and private parties, to apply surface water to the "above I-90" portion of the Subarea (about 46,000 acres). "Skipping over" this portion of the Subarea, while waiting for funds (one-billion plus dollars) and development below I-90 to occur (57,000), is not effective water resources management. Further, depicting that the above I-90 acres would then be served by multi-billion-dollar development of the East-High canal ensures (de facto) that action will never be taken.

We fear that within the next few years it will be difficult enough to secure state-federal funding for the below I-90 portion of the Subarea (about \$1-1.5 billion), much less find additional dollars for the above I-90 area. Thus, we are skeptical of this approach and are disappointed with the direction taken.

Consequently, we request that the Department of Ecology (i.e., the Columbia River Office) provide us with a Draft Technical Memorandum by March 1, 2011, that separates the above I-90 Subarea development costs, provided with water delivery from the East-Low Canal; and provided with water

supply from either Banks Lake operations, or from seasonal water right transfers acquired through CBP conservation O&M measures.

Given the review already undertaken by multiple parties affecting the Subarea, we request that the Department of Ecology's Columbia River Office prepare a Technical Memorandum, for submittal to us by March 1, 2011, outlining water service to the above I-90 Subarea from the East-Low Canal. This Technical Memorandum is to be *expedited summary information* per our request, and may or may not provide supplemental materials to be presented/used in the Special Study Final EIS (use of this information in the Final EIS is discretionary by the Ecology Columbia River Office/USBR).

The Technical Memorandum should focus on all available information and expert knowledge to review:

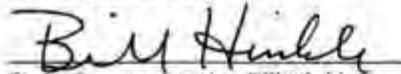
- Surface water service to the above I-90 subarea from the East-Low Canal, with distribution facilities (turn-outs, pumps, and pipes) including partnerships with private and public entities.
- Water supply for the above configuration to come from a mix of near-term options from Banks Lake operations and seasonal water right transfers conveying Conservation O&M water savings from within the CBP lands (such as the program being managed by the Conservation Districts).
- Estimated costs of the above, with review by public and private sector experts; estimated schedule for operations of the above, with review by public and private sector experts.
- Any tangible reasons or hard constraints that would suggest immediate surface water service to the above I-90 Subarea would preclude continued phased development of the below I-90 Subarea per the schedule indicated in the Draft Study EIS.

In conclusion, while we respect all of work that has been completed, we are very concerned that any near-term actions are being steered off-course. Consequently, given what is at stake to our regional and state economy, we urge expedited action regarding our above request so that much more emphasis is given to appropriate corrective measures (such as the above I-90 option) that can be implemented in the near term to help the Odessa Subarea.

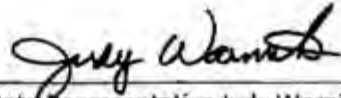
Sincerely,



State Sen. Janéa Holmquist  
13<sup>th</sup> Legislative District



State Representative Bill Hinkle  
13th Legislative District



State Representative Judy Warnick  
13<sup>th</sup> Legislative District



## Big Bend Electric Cooperative, Inc.

1373 N. Hwy 261  
PO Box 348  
Ritzville, WA 99169-0348

**Comment Letter PUB2**

Telephone: (509) 659-1700  
Toll Free: (866) 844-2363  
Fax: (509) 659-1404

December 2, 2010

Submitted electronically at: [odessa@usbr.gov](mailto:odessa@usbr.gov)

U.S. Department of the Interior  
Bureau of Reclamation

State of Washington  
Office of Columbia River  
Department of Ecology

Re: Columbia Basin Project – Odessa Subarea Special Study  
Comments on October 2010 Draft Environmental Impact Statement

PUB2-1

Thank you for the opportunity to provide comments regarding the Odessa Subarea Special Study Draft EIS released October 26, 2010. Big Bend Electric Cooperative (BBEC) has supported continued development of the Columbia Basin Project (CBP) through participation in the Columbia Basin Development League. BBEC supports project alternatives to deliver surface water from the CBP to irrigated lands that currently rely on a declining groundwater supply within the Odessa Subarea.

BBEC is a consumer-owned electric utility serving over 8,500 consumers primarily in Adams and Franklin Counties. Nearly 60% of electricity sold by BBEC is for irrigated agriculture. About 20% of electricity sold by BBEC is to commercial accounts. Many of those commercial accounts are closely tied to agriculture dependent on irrigation. As concluded in the EIS, taking no action on the declining groundwater problem will result in lost jobs and lower farm income in the Odessa Subarea, harming the economy and consumers within the service area of BBEC.

The EIS concludes that all of the four full replacement alternatives provide the highest benefits pertaining to maintaining the depth and quality of groundwater, protecting irrigated agriculture, benefiting municipal and industrial users, and preserving employment. BBEC supports any of the full replacement alternatives.

If a full replacement alternative cannot be achieved, BBEC supports any of the partial replacement alternatives, particularly an alternative that supports the ability to build out the remainder of a full replacement alternative at a later time.

The EIS points out that, over time, irrigators will require more energy to pump groundwater from greater depths under the No Action alternative. Given the resulting negative economic impact of doing nothing, BBEC opposes the "No Action" alternative.

BBEC commends the USBR and the Washington State Department of Ecology for preparing the Odessa Subarea Special Study to evaluate surface water delivery alternatives and for the opportunity to comment on this issue.

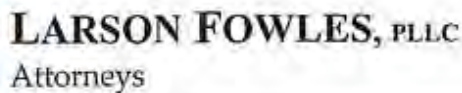
Respectfully,

A handwritten signature in black ink, appearing to read "James A. Johnson".

James A. Johnson  
Manager

CC: Big Bend Electric Cooperative Board Members





DEC 21 2010

[illegible]

306





**Grant County**  
**PUBLIC UTILITY DISTRICT**  
*Excellence in Service and Leadership*

Control #: 11007266

January 27, 2011

Subject: The Odessa Subarea Special Study Draft Environmental Impact Statement

Mr. Chuck Carnohan, Study Manager  
 United States Department of the Interior  
 Bureau of Reclamation  
 Columbia-Cascades Area Office  
 1917 Marsh Road  
 Yakima, Washington 98901-2058

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January 27, 2011

PUB4-3

The District would appreciate a coordinated effort with the USBR to reduce the impact to these facilities, such that the District and our customers will minimize any economic loss associated with any of the Replacement Alternative construction projects.

The District also has many facilities that will be economically stranded, primarily if one of the Full Replacement Alternatives (3A-3D) is chosen. The stranded facilities would include electric distribution lines and transformers that serviced deep wells, but that would no longer be utilized with the conversion to surface water. District staff has identified 139 customers and 224 transformers ranging in size from 112 kVA to 2000 kVA that may be affected by the Full Replacement Alternatives. However, the draft EIS declared that these stranded facilities would need to remain in place for backup purposes. The District and our customers would be responsible for the depreciated capital costs and for the operation and maintenance costs associated with these facilities that would no longer be in active service. Although the proposed Replacement Alternatives will have a positive effect for the service area, these specific negative economic impacts need to be addressed.

PUB4-4

Detailed long term agreements will be required between the USBR and GCPUD under most of the alternatives for facilities and electrical service. The District envisions direct negotiations and detailed coordination and planning between all parties as the preferred plan is developed in the final EIS and implementation stages of the project.

Best regards,



Matthew Truscott  
Systems Engineer  
Grant County PUD



PUB5-1

# EAST COLUMBIA BASIN IRRIGATION DISTRICT

55 North 8th  
P.O. Box E

OTHELLO, WASHINGTON 99344

Phone 509 488 9671  
Fax 509 488 6433

January 31, 2011

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Mr. Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Rd.  
Yakima, WA 98901-2058

RE: Odessa Subarea Special Study DEIS

Dear Mr. Carnohan:

The East Columbia Basin Irrigation District thanks you for the opportunity to comment on all of the Odessa Subarea Special Study reports made available for public review and comment. The District appreciates Reclamation's commitment to study the continued development of the Columbia Basin Project (CBP) in an effort to address the environmental concerns promulgated by the declining Odessa Subarea Aquifer by replacing the groundwater supply with Columbia Basin Project water. Pursuant to the 2004 MOU between Reclamation, Washington State and the CBP Irrigation Districts, the study seeks to find an alternative water delivery solution to the declining ground water supplies in the Odessa Subarea. We recognize that this has been no small undertaking and appreciate your efforts to progress this study in a timely manner. A solution to Odessa's groundwater supply cannot occur too soon.

The East Columbia Basin Irrigation District operates and maintains the Reclamations East District facilities and would have delivery responsibilities to the majority of land that would receive CBP water under either alternative being contemplated.

By separate correspondence the District has submitted comments on the Draft Feasibility - Level Special Study Report and the "Draft Feasibility- Level Engineering Report" including the drawings. I will focus more on overall comments of the study in comments.

These comments are presented to assist in finding an acceptable alternative that supplies CBP water for groundwater replacement in the Odessa Subarea.

The District agrees with much of what is presented in these documents, however we do not support many of the conclusions and estimates that are derived from Reclamation's Study.

Replacement of groundwater supplies in the Odessa Subarea provides the latest approach to addressing the continued development of the Columbia Basin Project. The proposed alternatives for supplying CBP water to groundwater irrigated lands deviates from the original development envisioned during design. The phased development of the CBP that has resulted in the present 670,000 acres of CBP irrigated cropland was the result of a methodical development that irrigated all suitable lands adjacent to the constructed facilities in order to retain the development's highest economic benefits. These proposed Alternatives for delivery depart from that methodology, but for a specific purpose. The declining groundwater in the Odessa Subarea necessitates our attention and warrants the consideration of development that would otherwise not be considered. This is being done to address an environmental problem. Though not as glamorous as other environmental issues, it still demands our attention. Many

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1608	X
1609	X
1610	X
1611	X
1612	X
1613	X
1614	X
1615	X
1616	X
1617	X
1618	X
1619	X
1620	X
1621	X
1622	X
1623	X
1624	X
1625	X
1626	X
1627	X
1628	X
1629	X
1630	X
1631	X
1632	X
1633	X
1634	X
1635	X
1636	X
1637	X
1638	X
1639	X
1640	X
1641	X
1642	X
1643	X
1644	X
1645	X
1646	X
1647	X
1648	X
1649	X
1650	X
1651	X
1652	X
1653	X
1654	X
1655	X
1656	X
1657	X
1658	X
1659	X
1660	X
1661	X
1662	X
1663	X
1664	X
1665	X
1666	X
1667	X
1668	X
1669	X
1670	X
1671	X
1672	X
1673	X
1674	X
1675	X
1676	X
1677	X
1678	X
1679	X
1680	X
1681	X
1682	X



individuals, communities, and local governments are relying on the CBP to provide a solution to this issue.

"No Action" is not a solution. It is not acceptable. Unlike many other "No Action" alternatives that get studies, this "No Action" alternative has damaging results. "No Action" jeopardizes the livelihoods of many that rely on the irrigated cropland in the Odessa for income, jobs, products and associated revenues and taxes generated by the agricultural production in the area. "No Action" jeopardizes the domestic water supply for many individual homes and complete communities that rely on the aquifer. The East Columbia Basin Irrigation District does not support the "No Action" alternative.

Reclamation explored multiple delivery/supply options that resulted from earlier pre-appraisal and alternative selection processes. These alternatives were publicly reviewed and commented upon, with the result being the 3 delivery alternatives ("No Action" alternative included) and 4 supply alternatives. We are certain that you will receive many additional alternative suggestions through this comment period. Reclamation needs to retain the underlying tenets that have been prevalent throughout this process. The future development and completion of the Columbia Basin Project cannot be jeopardized or precluded by any selected alternative for delivery to Odessa Subarea groundwater replacement lands. Failure to conform to the previous statement is not acceptable by the District.

Development of an alternative to address the declining groundwater should maximize the acreage that can be served and remain economically justifiable. Consideration should be given to delivery of CBP water to all lands that receive groundwater irrigation in the Subarea. This includes the additional 37,400 acres of irrigated land that receives groundwater through seasonal transfers. These additional eligible lands lie within CBP boundary, received groundwater, will be lost for their irrigated agricultural production value and would be a benefit to any delivery alternative selected to deliver to them. They do not represent an increase of irrigated agriculture since they currently receive water on a rotational basis. If a CBP water supply replaces the groundwater supplies used for these lands, the ability to transfer water will cease, leaving these lands to revert to dry-land production. The additional water supply needed for this acreage is available by altering any number of the supply alternative combinations. The Columbia River has approximately 65 million acre-feet that passes downstream. Finding another approximate 100,000 acre-feet, which Reclamation already possesses the withdrawal right for, and has created the storage for, is not a major hurdle. The economics of delivering to those lands needs to be considered. We should be looking at the full 140,000 acre-feet as was originally proposed.

Using Lake Roosevelt as a water supply option was earlier taken out of consideration for multiple reasons, mostly political. It was added back for consideration during the feasibility process, concurrent with the removal of a Banks Lake Raise. Lake Roosevelt, as well as Banks Lake, should be considered as independent water supply alternatives. Both facilities were constructed for ultimate development of the Columbia Basin Project and should be used to that extent.

If other beneficiaries of these two reservoirs would like to minimize the impacts of their intended use, they should be wholly responsible for alternatives that provide drawdown relief, namely the cost of the Rocky Coulee Reservoir. The District is not opposed to the construction and District operation of the Rocky Coulee Reservoir; however Project facilities should be used

fully as they were intended prior to saddling our landowners with unneeded costs that they derive no direct benefit from.

The loss to hydropower production that is used in these documents is fatally flawed and requires a completely new analysis. The East District is incorporating into its comments the following as prepared by the CBP irrigation districts power authority, Grand Coulee Power Hydroelectric Authority:

*"The Draft Economics Technical Report Odessa Subarea Special Study p 71 indicates that BPA made its calculation of lost hydro power based on comparing current monthly generation levels with reduced future monthly generation levels in the various options. The value of the energy was converted to dollars using BPA's Aurora Model. We do not agree with BPA's method of calculating the impact as it contains a serious flaw. BPA's modeling and conclusions are incorrect for two reasons:*

- 1. BPA does not appear to acknowledge the limits contained in Reclamation's hydropower generation water right at Grand Coulee; and*
- 2. BPA has ignored the limitations on the amount of power it has to market from Grand Coulee contained in IBP-4512.*

*BPA simplistically assumes that Reclamation's power generation water right provides that all water in the Columbia River above Grand Coulee is available for power generation. This is not the case and BPA's models need to be corrected to recognize these limitations. Reclamation and BPA entered into an MOU covering the Columbia Basin Project's power and irrigation features in 1946. BPA needs to recognize the power reservation for the irrigation features of the Columbia Basin Project in its resource planning.*

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*It should be noted that BPA has had the benefit of the underutilized irrigation water right for over 60 years and elected not to include an offset by including the value of power generated for many year with water remaining in the River due to the underutilized irrigation right.*

*The forgone hydro generation needs to be removed from the benefit cost calculation and BPA's models need to be updated to include the limits of both the hydropower water rights and IBP-4512.*

*These comments also need to be applied to the nonfederal hydro projects as BPA apparently made calculations for the Mid-Columbia projects. However, the DEIS provides no indication if the calculations were done by BPA or the nonfederal project licensees."*

Additionally, as stated in a synopsis of comments from the Adams County Commissioners:

*"BPA's estimates of "lost hydro-electric generation benefits" and BOR's identification of them as project "costs" should not be used. The benefit-cost analysis should use the "other direct costs" evaluation procedure, which requires measurement of the "increased costs to resource users" for the "cost of resources directly required for a project or plan, but for which no implementation outlays are made." The manufacturing costs of hydropower are not costs of the resource, i.e., water. If the lost benefits approach is used, only the lost benefits derived from*

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*the use of water pursuant to rights established prior to 1938, when the Columbia Basin Project's water right was established, should be counted."*

The District concurs with portions of sections of the comments developed by the Adams County Commissioners, specifically Section VI, "Economic Justification" and Section VII, "Benefit Costs Analysis, DEIS Section 2.8", and Section VII – "Planning Rate", incorporated in the District's comments as follows:

*"VI. Economic Justification*

*The DEIS states that "Acting for the Secretary, Reclamation is authorized to implement additional development phases of the CBP as long as the Secretary finds it to be economically justified and financially feasible."<sup>22</sup> But the Columbia Basin Project Act does not establish economic justification as a statutory prerequisite for completion of the Columbia Basin Project. Rather, the Columbia Basin Project Act presumes that the project is economically justified and establishes a financing paradigm which provides for reimbursement of costs. Congress determined the economic justification for the Columbia Basin Project when the authorizing legislation was originally passed in 1937. Unless Congress acts again to the contrary, the economic justification of the Project's completion should be assumed.<sup>23</sup> Moreover, a proper comparison of those portions of the Project already completed with those that are not, as contemplated by section 2.3.5 of the Principles and Guidelines, will confirm the economic justification of moving further toward completion of the Columbia Basin Project.*

*The Columbia Basin Project was begun with the allocation of funds for Grand Coulee Dam pursuant to the National Industrial Recovery Act of June 16, 1933.<sup>24</sup> In 1935, Grand Coulee Dam Project was specifically authorized for construction by the Rivers and Harbors Act of 1935.<sup>25</sup> Two years later, in 1937, Congress passed the Columbia Basin Project Act of May 27, 1937.<sup>26</sup> In 1939, Congress passed two additional Acts authorizing the Secretary of the Interior to investigate and construct water projects. These included the Reclamation Projects Act of 1939<sup>27</sup> and the Water Conservation and Utilization Act of 1939.<sup>28</sup> In 1943, Congress passed the Columbia Basin Project Act of 1943,<sup>29</sup> reauthorizing the Columbia Basin Project "subject to the*

<sup>22</sup> DEIS, p. 1.9.

<sup>23</sup> Any determination to the contrary would have the effect of removing the economic benefits of land acquisition by property owners within the Project who had relied upon Congress' and the U.S. Bureau of Reclamation's prior actions.

<sup>24</sup> Act of June 16, 1933, Ch. 90, 48 Stat. 195, previously codified at 15 U.S.C. Sec. 703 (now omitted).

<sup>25</sup> Act of August 30, 1935, 49 Stat. 1028, 1039-1040, Pub. L. 74-409.

<sup>26</sup> Act of May 27, 1937, Ch. 269, Sec. 1, 50 Stat. 208.

<sup>27</sup> Act of August 4, 1939, Ch. 418, 53 Stat. 1187.

<sup>28</sup> Act of August 11, 1939, Ch. 717, 53 Stat. 1418, 16 U.S.C. 590y et seq.

<sup>29</sup> Act of March 10, 1943, 57 Stat. 14, Public Law 78-8.

*Reclamation Project Act of 1939.* " That reauthorization, now codified at 16 U.S.C. 835,<sup>30</sup> provides:

*In addition to the primary purposes for which the Grand Coulee Dam project (hereafter to be known as the Columbia Basin project and herein called the "project") was authorized under the provisions of the Act of August 30, 1935 (49 Stat. 1028), the project is authorized and reauthorized as a project subject to the Reclamation Project Act of 1939; and the provisions of each of those two Acts together with the provisions of this Act shall govern the repayment of expenditures and the construction, operation, and maintenance of the works constructed as a part of the project.*

*The Reclamation Projects Act of 1939 set forth the requirements the Secretary must follow when investigating construction "of any new project, new division of a project, or new supplemental works on a project." Those requirements are now codified at 16 U.S.C. 485h.<sup>31</sup>*

*No expenditures for the construction of any new project, new division of a project, or new supplemental works on a project shall be made, nor shall estimates be submitted therefor, by the Secretary until after he has made an investigation thereof and has submitted to the President and to the Congress his report and findings on—*

- (1) the engineering feasibility of the proposed construction;*
- (2) the estimated cost of the proposed construction;*
- (3) the part of the estimated cost which can properly be allocated to irrigation and probably be repaid by the water users;*
- (4) the part of the estimated cost which can properly be allocated to power and probably be returned to the United States in net power revenues;*
- (5) the part of the estimated cost which can properly be allocated to municipal water supply or other miscellaneous purposes and probably be returned to the United States.*

*If the proposed construction is found by the Secretary to have engineering feasibility and if the repayable and returnable allocations to irrigation, power, and municipal water supply or other miscellaneous purposes found by the Secretary to be proper, together with any allocation to flood control or navigation made under subsection (b) of this section, equal the total estimated cost of construction as determined by the Secretary, then the new project, new division of a project, or supplemental works on a project, covered by his findings, shall be deemed authorized and may be undertaken by the Secretary. If all such allocations do not equal said total estimated cost, then said new project, new division, or new supplemental works may be undertaken by the Secretary only after provision therefor has been made by Act of Congress enacted after the Secretary has submitted to the President and the Congress the report and findings involved. (Emphasis supplied.)*

*The 1939 Reclamation Act thus establishes a statutory standard authorizing construction of a new division of the Columbia Basin Project. It is a two part standard. First, the new division's*

<sup>30</sup> 16 U.S.C. 835, The Act was later amended by the Act of Mar. 10, 1943, Ch. 14, 57 Stat. 14.

<sup>31</sup> Act of August 4, 1939, Ch. 418, Sec. 9, 53 Stat. 1187.



construction must "have engineering feasibility." Second the "repayable and returnable allocations to irrigation, power and municipal water supply" must "equal the total estimated cost of construction." The statute contemplates no benefit-cost analysis. Rather, it contemplates a repayment-cost analysis. Only if costs exceed repayments, as allocated to the several water user categories, must the project proposal be newly authorized by Congress.

Likewise, Congress established its policy that a repayment-cost equation, and not a benefit-cost equation, was essential to continued authorization or development of water projects under the Water Conservation and Utilization Act of 1939.<sup>32</sup>

The Project's authorizing legislation makes clear that economic justification is not required. Rather, what is required is that the costs for the Project must be estimated and partitioned into that which "can be repaid by the water users" and other project beneficiaries. We support Reclamation's seeking alternatives that emphasize lower costs, so that the repayment costs are affordable and "can be repaid by the water users." We recommend that Reclamation consider a water delivery contract subscription process and method, based on cost estimates, to ascertain the extent of demand for surface water delivery as a better measure of economic justification.

We acknowledge that the Principles and Guidelines help to analyze and compare the various alternatives under consideration, and may guide the Secretary and President with respect to their actions anticipated by 16 U.S.C. 835 and 485h. But the benefit-cost factor, and the "economic justification" for which it serves as a proxy, is not a statutory determinant for Columbia Basin Project construction. The authorizing statute contains no provision mandating that project "feasibility" determinations be made on any basis other than engineering feasibility and sufficient repayment. Nor does it contain any provision mandating that the economic benefits of a project exceed the costs of the project, however measured.

## VII. Benefit-Cost Analysis, DEIS Section 2.8

Reclamation should be cautious regarding the degree of its reliance on the outcome of benefit-cost analysis. Benefit-cost analysis should be an information-providing tool which is available to improve decision making. Its product, a numeric factor, should be understood as advisory information, not qualification/disqualification information. Alternatives under consideration may be comparatively viewed through benefit-cost analysis to have performed better or worse but none can be said to have succeeded or failed because the benefit-cost ratio does not attain a precise standard (e.g. 1.0).<sup>33</sup> Chapter II of the Principles and Guidelines, National Economic Development (NED) Procedures, recognizes this:

<sup>32</sup> The Water Conservation and Utilization Act of August 11, 1939, 53 Stat. 1418; 16 U.S.C. 590y *et seq.*

<sup>33</sup> Reclamation should also consider that revision of the Principles and Guidelines, which set forth the procedures by which benefit-cost analysis is performed, is currently under consideration by the Council on Environmental Quality. The U.S. Council on Environmental Quality proposed "National Objectives, Principles and Standards for Water and Related Resources Implementation Studies" on December 3, 2009. The National Objectives and the supporting Planning Principles and Standards are proposed to be established pursuant to the Water Resources Planning Act of 1965 (Public Law 89-8), as amended (42 U.S.C. 1962a-2) and to be consistent with Section 2031 of the Water Resources Development Act of 2007 (Public Law 110-114). They

### 2.1.1. Purpose:

*(b) This chapter provides procedures for evaluating NED effects of alternative plans.*

*(1) When an alternative procedure provides a more accurate estimate of a benefit, the alternative estimate may also be shown if the procedure is documented.*

*(2) Steps in a procedure may be abbreviated by reducing the extent of the analysis and amount of data collected where greater accuracy or detail is clearly not justified by the cost of the plan components being analyzed. The steps abbreviated and the reason for abbreviation should be documented.*

*NED effects evaluation, utilizing benefit-cost analysis, is clearly a comparative approach. Failure to proceed with the action alternatives based on the pretext of failure of the alternative to meet an arbitrary benefit-cost standard should be considered as administrative action inconsistent with Congress' prior statutory authorization.*

*Reclamation should reperform the benefit-cost analysis performed in the DETR and DEIS. Assumptions about the underlying values of the land and commodity assets involved in the Odessa area agricultural economy should be modified. The analysis should be repopulated with more current information reflecting changes in the agricultural commodity market since enactment of the Energy Policy Act of 2005. The Columbia Basin Project discount rate should be adopted for present and future value determinations. The same rate should be used to determine the costs of interest. The timing horizons of various decisional factors should be made uniform. The analysis' assumptions regarding consequential economic effects should be made more internally consistent. Computational accuracy should be improved.*

### A. Planning Rate

*DEIS Table 2-13<sup>34</sup> summarizes the benefit-cost analysis of the proposed action alternatives. The benefit and cost totals included in the text are derived from DETR<sup>35</sup> Table NED\_BCA1.—Results of NED BCA (based on current planning rate: 4.375%). A second table, DEIS Table 2-14,<sup>36</sup> derived from DETR Table NED\_BCA2.—Results of NED BCA (based on current planning rate: 3.0%).<sup>37</sup> is also set forth. The DETR explains that "the results in table NED\_BCA2 were generated using the planning rate in place when the Columbia Basin Project was first authorized (3.0 percent) and are presented for informational purposes only." The DEIS explains: "The results in Table 2-14 were generated using the 3.0 percent planning rate originally authorized*

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would supersede the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies dated March 10, 1983.

<sup>34</sup> DEIS, p. 2-72.

<sup>35</sup> "Draft Economics Technical Report, Odessa Subarea Special Study, Columbia Basin Project, Washington," U.S. Bureau of Reclamation, Technical Services Center, Denver, undated, (hereafter "DETR"), p. 4.

<sup>36</sup> DEIS, p. 2-73.

<sup>37</sup> DETR, p. 4.

under the Columbia Basin Project Act of 1943. The use of the lower planning rate results in somewhat higher costs, but considerably higher benefits, thereby resulting in higher net benefits and BCRs for all partial and full replacement alternatives."

Section 2.1.3 of the Principles and Guidelines require that compounding and discounting be performed at the "applicable project discount rate."

#### 2.1.3 Calculating net NED benefits in average annual equivalent terms.

Net NED benefits of the plan are calculated in average annual equivalent terms. To perform this calculation, discount the benefit stream, deferred installation costs, and OM&R costs to the beginning of the period of analysis using the applicable project discount rate. Installation expenditures are brought forward to the end of the period of installation by charging compound interest at the project discount rate from the date the costs are incurred. Use the project discount rate to convert the present worth values to average annual equivalent terms. (Emphasis supplied.)<sup>38</sup>

Section 6 of the Columbia Basin Project Act, as amended in 1943,<sup>39</sup> establishes the Project's discount rate:

#### Sec. 835c-2. Authorization of appropriations; establishment of Columbia Basin Land Development Account

There are authorized to be appropriated, out of any money in the Treasury not otherwise appropriated, such moneys as may be necessary to carry out the provisions of this Act, to be reimbursable to the extent required by this Act. All revenues received in carrying out the provisions of section 4 hereof [16 U.S.C. 835c] shall be covered into the General Treasury as miscellaneous receipts. Amounts equal to appropriated funds requisitioned by the Secretary and made available for disbursement on the books of the Treasurer of the United States shall be debited in a special account in the Treasury, to be known as the Columbia Basin Land Development Account. Amounts equal to revenues covered into the General Treasury as miscellaneous receipts shall be credited in said special account. After such credits equal the amount of the debits with interest thereon at the rate of 3 per centum per annum from the respective dates of the debits, additional credits in said special account shall be made by the Secretary, in the manner determined by him, the basis of corresponding credits to the construction cost obligations of the district or districts entering into contracts for the repayment thereof. (Emphasis supplied.)

The DEIS refers to "the Federal 2009-2010 water project planning rate of 4.375%" but makes no reference to the authority under which that rate is promulgated. The "applicable project

<sup>38</sup> See also, P&G Secs. 1.7.1(h), 2.12.4(b).

<sup>39</sup> May 27, 1937, ch. 269, Sec. 6, as added Mar. 10, 1943, ch. 14, 57 Stat. 19; amended Pub. L. 87-728, Sec. 6(b), Oct. 1, 1962, 76 Stat. 679.

discount rate" in the case of the Columbia Basin Project is 3.0 % Neither the authorizing statutes nor the 1983 Principles and Guidelines use the term "planning rate."

The Principles and Guidelines use the terms "project discount rate" and "applicable discount rate," suggesting that the rate will vary depending on the project under analysis, rather than any general commercial or governmental rate. The "applicable discount rate" in this case is 3 %. That rate is derived from the interest rate declared applicable by the Columbia Basin Project Act which would be incorporated within the amounts Columbia Basin Project Act irrigation districts would be required to pay the United States pursuant to their repayment contracts. The irrigation districts had secured statutory 3% project financing. As the 16 U.S.C. Sec. 485h reminds, Congress required that projects be evaluated on the repayment-cost approach. A "planning rate" approach which utilizes a different planning rate than the project financing rate disregards the repayment-cost requirement and frustrates implementation of Congress' prior enactment.

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The statute is still current. It has not been changed. Repayment of project works would still be financed at 3%. The financing paradigm of the project is one of reimbursement of project costs with a statutorily established rate of interest. Use of any other rate is inconsistent with the statute. There is no basis for any other "planning rate."

Reclamation's 1989 Draft Environmental Impact Statement, Continued Development of the Columbia Basin Project, Washington, recognized this distinction between the "Authorized Criteria" and the Principles and Guidelines Procedures."<sup>40</sup> The document explains that the higher discount rate used in that case was the "federal discount rate for FY 1989" and that this higher discount rate was used as "a sensitivity analysis" used "to determine how changes in the discount rate...would affect the results." This approach recognized that the outcome of analysis might differ when different discount rates were used, but appropriately recognized that the "applicable project discount rate" is the "authorized criteria." Any other interpretation causes the Principles and Guidelines Procedures to amend the statute without Congressional action.

#### B. Deterioration Rate of Groundwater Wells

The DEIS clearly states that groundwater wells will continue to deteriorate under the No Action Alternative,.

"Under the No-Action Alternative, irrigated agriculture in the Study Area that currently relies on groundwater would continue using that source of water. With continued dependence on groundwater, aquifers would further decline in quantity and quality. As groundwater declines, well yield and irrigation capability will progressively diminish in the Study Area."<sup>41</sup>

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<sup>40</sup> Draft Environmental Impact Statement, Continued Development of the Columbia Basin Project, Washington, U.S. Bureau of Reclamation, September 1989, Tables 1, 2, 3, pp. VIII-4-2, VIII-4-3, VIII-4-4

<sup>41</sup> DEIS, p. 2-15.



*But the rate of deterioration is not quite so clear. The conflict between the Columbia Basin Groundwater Management Association (GWMA) conclusions and the DEIS methodology needs to be reconciled. GWMA concludes that any well may deteriorate from any stage to level 5 in any one season. The DEIS states that "If no action is taken, it is estimated that, at the current rates of decline, about 70 percent of the production wells in the Odessa Subarea would cease production within 10 years."<sup>42</sup> The DEIS also acknowledges the validity of GWMA's deterioration rate predictions. "GWMA's assessment of well decline is generally supported by observations of groundwater decline based on measured data obtained from known, reliable well records."<sup>43</sup> And the DEIS apparently adopts the assumption, presented in DEIS Table 3-42<sup>44</sup> that 10% of the acreage in each well level are lost from each well level annually.*

*But the DETR's analysis of the acreage irrigated in future years under the No Action Alternative indicates that only about 38% of the study area's irrigated acreage will be served by wells that have fallen to Level 5 (62 % will have remained above level 5) by 2020.<sup>45</sup> The DETR further indicates that five years later, in 2025, about 50% of irrigated acres will be served by wells that have fallen to Level 5. 25 years after that, in 2050, the DETR estimates that about 85% of irrigated acreage will be served by wells that have fallen below Level 5.*

*Interpolating from DETR Table AgBen14, and assuming that irrigated acres is a sufficient proxy for production well productivity, the DETR indicates that 70 percent of the production wells in the Odessa Subarea would cease production in 2040 (30 years), rather than in 2020 (10 years). The "spreadsheet model" used to determine irrigated acreage deterioration is not presented. The rate of deterioration actually used in the DETR analysis is not shown. The rate of 10% presented in DEIS Table 2-3, Table 3-42 and DETR Table Agben8 is not large enough to accomplish a 70 % reduction in 10 years.*

*The DETR and DEIS underestimation of the effect of the No-Action Alternative apparently relies on a "second analysis method" utilized by "Reclamation's Economic and Resource Planning Team"<sup>46</sup> and a "spreadsheet model" for translating well deterioration rates into acreage farmed at various levels of pumping capacity.<sup>47</sup>*

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<sup>42</sup> DEIS, p. 1-8.

<sup>43</sup> DEIS, p. 2-19.

<sup>44</sup> And DETR Table AgBen8—Well levels, acres served by each well level, and rate of decline by well level.

<sup>45</sup> DETR, Table AgBen14.—No Action Alternative groundwater irrigated acres under the without project condition. It is unclear what effect occurs because of DETR's combination of pump levels 3 and 4, precluding application of variable standard declination rates measured against fixed dates of full aquifer supply failure. Levels 3 and 4 do have different characteristics. See DEIS, p. 2-16 "GWMA Status Levels: Describing Well Performance in the Odessa Subarea."

<sup>46</sup> See DEIS, p. 4-48, Table 4-17, Estimated Percentage Wells Going Out of Commission under the No-Action Alternative, Based on Groundwater Decline Rates, Pumping, and Stated Assumptions. The "Assumptions" are not provided in the accompanying text.

<sup>47</sup> DETR, p. 23, Section 1, 2.1.1.3.7 Finding the Change in Irrigated Acres.

"Then the spreadsheet model, based on assumptions about decreasing well dependability, estimated the reduced number of groundwater irrigated acres annually for the without project conditions. As acres transitioned from one well level to another, a change in the crop mix occurred along with a resultant change in residual net farm income. As wells became completely unusable, acres were placed into the well level 5 category and grew only dryland wheat in a wheat/fallow rotation."

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The assumptions relied upon in the "spreadsheet model" should be presented and discussed with GWMA. The spreadsheet model should be published and reviewed prior to its use in the final EIS. DETR Table AgBen8 should be redrafted following reconciliation of the GWMA and DETR/DEIS conclusions."

### C. Total NED Benefits of the Action Alternatives

The DEIS' report of the benefit costs analysis sorts the benefits into three categories: a) agricultural benefits, b) other direct benefits—municipal, and c) other direct benefits—industrial. Another benefit category, "economic losses avoided" should be added.

#### 1. Agricultural Benefits

Section 2.3.5, of the 1983 Principles and Guidelines, "Evaluation Procedure: Crops" describes the process by which agricultural benefits should be valued:

The Principles and Guidelines suggest utilizing either the "farm budget analysis" or "land value analysis" "to estimate crop production benefits on lands where there would be a change in cropping pattern."<sup>48</sup> The DEIS chooses "farm budget analysis."

(c) Step 3. Select evaluation method for estimating intensification benefits. For land on which the cropping pattern would change, select either farm budget analysis or land value analysis as the method for measuring intensification benefits. If land value analysis is selected, go to Step 9. If farm budget analysis is selected, proceed with Step 4. (Emphasis supplied.)

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The "farm budget analysis" chosen by the DETR and DEIS has a number of problems, particularly with the data upon which it relies. Agricultural benefits are calculated utilizing data from the Census of Agriculture and the National Agricultural Statistic Service (NASS) for the State of Washington. Section 1.2.1.1.2.1 of the DETR finds that the NASS estimated yield for wheat (101.5 bushels per acre) was too low and that the GWMA's and WSU Farm Business Management Report EB2029E estimated yield for wheat (125 bushels per acre) was more correct. The DETR nevertheless later uses the NASS estimate in the "without project" farm summary analysis (Table AgBen10, DETR p. 17) and the GWMA/WSUFBM estimate in the

<sup>48</sup> Section 2.3.5 (c).

"with project" farm summary analysis (Table AgBen 12, DETR p. 19 ). The same yield data should be used in both the "without project" and "with project" analyses.<sup>49</sup> GWMA

recommends that the yield of 125 bushels is the most accurate reflection of current agricultural production on irrigated acreage. No analysis is performed of the effect of groundwater well deterioration on crop yield.<sup>50</sup>

The DETR estimates total harvested areas of three crop categories (wheat, potatoes, and mixed crops) in proportions determined by extrapolation from GWMA data for the years 2001-2005, dismissing the NASS primary irrigated crop acreages data for 2004-2008<sup>51</sup> on the basis that it was less "appropriate." The category "mixed crops" includes "corn, alfalfa, conservation reserve program acres, peas, onions, dry beans, and numerous other crops grown in the study area." <sup>52</sup>

Current crop acreage distributions should be used in this analysis of farm budgets. Data derived from years prior to Congress' enactment of the Energy Policy Act of 2005<sup>53</sup> should not be relied upon, as they do not take into account the effect of that Act's incentivizing the creation of energy from agricultural products (including crops within the definition of "mixed crops"), thereby establishing a significant new demand for those products. Higher prices consequent of additional demand cause crop mix to change so as to seek greater placement in higher priced markets. Any acreage distribution prior to the development of cellulosic ethanol (or similar products) as an energy source should be set aside, particularly for the purpose of analyzing economic effects occurring 10 or more years into the future.

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The DETR uses "normalized" prices<sup>54</sup> for crops utilizing data from the USDA Economic Research Service (ERS) and NASS. As the Water Resources Planning Act of 1965<sup>55</sup> does not use the word "normalize," and as the 1983 Principles and Guidelines do not define the word "normalize," the conventional definition must pertain. Normalization involves the isolation of statistical error in repeated measured data. No information is provided about how wheat prices were "normalized." Congress' adoption of the Energy Policy Act of 2005 had the effect of

<sup>49</sup> Compare DEIS Table 3.38, DETR Table AgBen 4 (irrigated wheat yield = 101.5 bushels ), DETR Table AgBen 10 (irrigated wheat yield = 101 bushels if farming in well levels 1 and 2 ), and DETR Table AgBen12 (irrigated wheat yield = 125 bushels if farming in pumping level 1, = 101 bushels if farming in pumping level 2, and = 125 bushels if farming in pumping levels 3-4.

<sup>50</sup> DETR Table AgBen 11.—Well level 5 representative farm summary uses "irrigated acres" as a divider to determine net farm incomes per acre. DETR Tables AgBen10 and AgBen12 use "farm size" as a divider.

<sup>51</sup> Table AgBen3, DETR p. 10.

<sup>52</sup> DETR, p. 13.

<sup>53</sup> Pub. L. 109-58, August 8, 2005.

<sup>54</sup> Apparently relying on section 2.3.3 (b) of the 1983 Principles and Guidelines.

<sup>55</sup> 42 U.S.C. §§ 1962a-1962a-4

*making data from years before 2005 anomalous and not statistically useful for prediction of future markets. That data should be not be utilized to determine normalized prices.*

*The DETR uses three-year average prices in the case of potatoes<sup>56</sup> on the basis that potatoes are not "basic crops."<sup>57</sup> DEIS Table 3-39 and DETR Table AgBen5.—Normalized prices received by crop reflect the crop price multiplier which is used in the farm summary analysis: wheat \$4.98/bushel; potatoes \$6.23/Cwt, and mixed crops \$0.2812/lb.*

*A normalized wheat price of \$4.98/bushel is too low. It does not take into account more recent year prices, nor the effect of the Energy Policy Act of 2005. The ERS' Wheat Yearbook Table O1<sup>58</sup> shows the "weighted average farm price" for wheat at \$6.48 for growing year 2007/2008, \$6.78 for growing year 2008/2009, and \$4.87 for growing year 2009/2010. The three year average of these years' prices is \$6.04. \$5.50 to \$6.00/bushel would be a very reasonable average wheat price for the last five years.*

*The three-year average potato price of 6.23/Cwt is also too low. The ERS' Potato Tables,<sup>59</sup> Table P-4—Potatoes: Grower prices in major producing states, monthly 2008/09-2010/11, shows the growers' price for potatoes at \$7.45 for the 2008/2009 growing year, and \$7.60 for the 2009-2010 growing year. The two year average of these years' prices is \$7.53. \$7.00/Cwt would be a very reasonable average potato price for the last five years. Consideration should be given to the fact that potatoes grown in the Odessa region of the Columbia Basin Project can withstand significant storage times without spoilage, giving them a pricing premium in sale to producers who desire to deliver potato products (frozen French fries) to food retailers throughout the year notwithstanding harvest dates.*

*The DETR provides no information describing the product mix, or the percentage of each product group mixed in the "mixed crop" group. Nor does it provide information describing whether the price determined is a "normalized" price or a three year average price. DEIS Table 3-39 and DETR Table AgBen5 suggest that the "mixed crops" price was "normalized" at \$.2812/lb. (DETR Tables AgBen10, and AgBen 12, use a 1/100x multiplier for yield units and a 100 x multiplier for price received for mixed crops). The method for determination of the price of "mixed crops" should be identified and care given to evaluating the components of those mixed crops which are sensitive to the demand for cellulosic fiber (particularly if corn is any significant component of mixed crops) as well as food product.*

<sup>56</sup> DETR, p. 11.

<sup>57</sup> Apparently deferring to the list of crops contained in section 2.3.2 (b) of the 1983 Principles and Guidelines, notwithstanding the reference at p. 11 of the DETR to the Water Resources Planning Act of 1965 (42 U.S.C. §§ 1962a-1962a-4). Other crops may be treated as "basic crops", sections 2.3.2 (b) and 2.3.5 (d). The DETR does not evidence whether the analysis presented in section 2.3.5 (d) was used.

<sup>58</sup> <http://www.ers.usda.gov/Data/Wheat/YBtable18.asp>

<sup>59</sup> <http://www.ers.usda.gov/Briefing/Potatoes/data.htm>



The DETR's crop allocation per farm in DETR Table AgBen10 and Table AgBen12 is fixed notwithstanding the variability of price/cost efficiency between crops in different production years.<sup>60</sup> The pumping level 1 scenario in DETR Table AgBen10 reflects a reasonable potato/wheat rotation (350/1400, 1/4). The pumping level 2 scenario, however, does not reflect a reasonable potato/wheat rotation (646/1400, 1/2). The pumping level 2 scenario thus assumes a larger potato income and a larger total income than might be realized under an actual rotational farming scenario. It is unclear why a more aggressive rotation is possible in the pumping level 2 scenario when the well reliability is less. A standard appraisal assumption used by land appraisers for Columbia Basin Project properties is a potato/nonpotato rotation of 1/5.

DETR Table AgBen10 does not reflect reality. The Table produces negative residual farm income results for some well level cases. Agricultural acreage will not be farmed if negative residual farm income is the consequence. The model used to formulate Table AgBen10, and the assumptions upon which the model is based, should be calibrated to actual farming operation on properties served by groundwater and surface water. The DETR reports that the "return to management in a benefit budget is calculated as 6 percent of variable cost on a benefit study."<sup>61</sup> Yet none of the entries for "returns to farmer"<sup>62</sup> in Tables AgBen10, AgBen11 and AgBen12 are 6 % of "variable costs," nor are they the same percentage of "variable costs."<sup>63</sup> Also, the farm budgets presume that a fixed "return to management" would be taken by farm owners notwithstanding whether a negative net farm income would be incurred by doing so. While this may be necessary in the hypothetical modeling of farm budgets, a more realistic approach would be to limit losses at zero and commensurately reduce "return to management." Negative net farm income "cannot be sustained unless through multiple year net income averaging, or through farm credit financing. If financing is presumed, the cost of financing should be introduced into variable costs."

PUB6-13

The consequence of this model fallacy is illustrated in DETR Table AgBen15.—No Action Alternative residual net farm incomes by well level under a without project condition. All total residual net farm income levels in this table are negative. No farming would be conducted if this would be the outcome. A correct model should be developed that projects the current condition of farming operations on the properties under consideration and taking into account deterioration of groundwater well capabilities.

<sup>60</sup> This preclusion from market adaptation is exacerbated by the 104 year application of the consequent Residual Net Farm Income analysis presented in DETR Tables AgBen18 and AgBen21, pp. 33, 38.

<sup>61</sup> DETR, pp. 15, 23.

<sup>62</sup> Assuming that "return to management" and "return to farmer" mean the same thing. "Return to owner" would be the appropriate factor if the farming unit were leased. This would be represented in the capitalization rate determined by the relationship of lease income to the owner's investment value of the farmed land.

<sup>63</sup> 1983 Principles and Guidelines, Section 2.3.3 (ii) Value purchased inputs at current market prices. Compute interest at the project discount rate. Value all labor, whether operator, family, or hired, at prevailing farm labor rates. Estimate management cost on the basis of the type of farming operation. The estimate normally is expected to be at least six percent of the variable production cost (the cost of equipment ownership and operation, production materials and labor, but excluding the cost of land and added capital improvements).

The sensitivity of pricing and farm cost data is particularly significant in this model because of the uncertainty of well-deterioration assumptions, the multiplier effect of the long scale of the analysis<sup>64</sup> and the effects of compounding/discounting over such a long period. A shorter period would be less subject to distortion by compounding and discounting, and less vulnerable to inaccuracy due to changing conditions, e.g., variability of world agricultural markets, variability of demand for food based on population growth or climate change, variability of U.S. policy regarding domestic energy independence, enhancements in botanical engineering.

PUB6-13

## 2. Other Direct Benefits—Municipal

We agree with Reclamation that the problem of groundwater supply sufficiency is equally a problem for municipal communities:

*"Data available for municipal and industrial wells shows that most of these wells exhibit general trends of groundwater level declines. However, most municipal and industrial users are outside of areas experiencing the greatest groundwater level declines. Even so, groundwater levels in municipal and industrial wells would continue to decline under the No Action Alternative, which would result in increased pumping costs and the eventual need to replace pumps and deepen wells."*<sup>65</sup>

*"Although domestic wells are typically completed in the upper aquifer, these wells can be impacted by water level declines in the deeper aquifer. This is because the shallow aquifer and deeper aquifer are hydraulically connected by open boreholes and vertical fracturing, which allows shallow water to drain into the deeper aquifer. Therefore, domestic wells are likely to continue to be impacted under the No Action Alternative, as the deeper groundwater declines."*<sup>66</sup>

*"The ultimate long-term significant impact of the No Action Alternative would be groundwater declining to levels too deep to pump economically, groundwater with poor quality that cannot be used or requires quality management, and the eventual depletion of the aquifers."*<sup>67</sup>

PUB6-14

*These conclusions dictate significant concerns for municipal and county public service providers. The DEIS section 4.18<sup>68</sup> acknowledges the potential long term impacts of the No*

<sup>64</sup> Residual net farm income calculations range over 104 years (2019-2125). See: DETR Table AgBen 15.—No Action Alternative residual net farm incomes by well level under a without project condition; DETR Table AGBen 18.—Partial replacement alternative: Residual net farm incomes by well level under a with project condition; DETR Table AGBen20.—Full replacement alternative: Groundwater irrigated acres under a with project condition; DETR Table AgBen21.—Full replacement alternative: Residual net farm incomes by well level under a with project condition.

<sup>65</sup> DEIS, p. 4-49.

<sup>66</sup> DEIS, p. 4-49.

<sup>67</sup> DEIS, p. 4-49.

<sup>68</sup> DEIS, p. 4-240.

*Action Alternative to municipal and domestic populations served by providers of public services and utilities:*

*Implementation of the No Action Alternative would result in the continuation of current ongoing activities and programs, so groundwater availability would continue to decline for commercial, municipal, and industrial water users. This decline could result in the need to drill deeper wells, thus increasing drilling and pumping costs to supply water. Larger pumps for deeper wells require more energy, although some wells would no longer be used.*

*Drilling and pumping costs could, however, increase to the point where farmers, landowners, residents, or business owners cannot afford the water. This could result in changes in land use and impacts on existing businesses. In addition, if the quality of the water declines over time (as is expected with this alternative), this could also result in changes in land use, impacts on existing businesses, and health risks to human populations relying on the water.*

*The loss of irrigated agriculture associated with the No Action Alternative could impact businesses and people that are linked to the agricultural industry, such as farm workers, food processing facilities, seed pesticide companies, and trucking companies. This could result in a decreased population base to support law enforcement, fire protection, and medical services, resulting in layoffs of police, fire and police stations, or closure of some medical facilities in or near the Study Area. Closure of local facilities would increase response times during emergencies.<sup>69</sup>*

*But the DEIS declines to determine the "significance" of these impacts:*

*It is difficult to predict exactly when or how these changes might occur, so the significance of this potential impact cannot be determined at this time.<sup>70</sup>*

*The DEIS should fully evaluate the social impact of inadequate water supply to existing communities. We recommend a much more robust consideration of the consequences of groundwater decline upon populations served by municipal and domestic groundwater supplies. DEIS Table 4-94<sup>71</sup> defines the criteria for "significance" of disruption of services or utilities for existing residents and landowners only in terms of short term construction impacts.<sup>72</sup> Criteria for determination of significance should be established for long term impacts like those presented above as well. Impacts on the users of public services should be considered along with the impacts on the suppliers of public services. The costs of avoidance of those impacts*

<sup>69</sup> DEIS, p. 4-242.

<sup>70</sup> DEIS, p. 4-242.

<sup>71</sup> DEIS, p. 2-241.

<sup>72</sup> DEIS, p. 4-277, DEIS Sections 4.29.1 Surface Water Quantity, 4.29.2 Groundwater, and 4.29.3 Surface Water Quantity also address only construction period impacts.

should be analyzed so as to more completely describe the municipal benefits of the action alternatives.

The DETR only discusses municipal benefits related to the action alternatives from limited the perspective of potential municipal pumping cost savings based on the amount of agricultural acreage estimated to terminate groundwater withdrawals.<sup>73</sup> A more comprehensive analysis should be undertaken. The DETR should also evaluate the economic and public health impacts on municipalities and proximate private dwellings relying on domestic groundwater wells from the possible failure of those wells.

The mitigation of municipal cost through decrease in agricultural consumption approach used is too limited. "The level of benefit to municipal water users depends on what is expected to happen under the No Action Alternative." DETR, p. 41. The study presumes that "... under the No Action Alternative, irrigators will move to less water intensive crops and ultimately convert to dryland agriculture." While this statement is theoretically correct, it fails to acknowledge that those economic choices will only be made when the underground water supply becomes exhausted. The DEIS acknowledges that the groundwater supply is already approximately 75 % consumed, and that it is a finite supply. If agriculture exhausts the supply, then it will not be available for municipal or domestic use. The farm budget analysis used to evaluate agricultural benefits anticipates over 100 years of economic activity. The supply has become 75% exhausted within 50 years. The study should predict whether the groundwater supply will be adequate to sustain municipalities and domestic wells for the same 100 years. And the study should predict the additional pumping costs which municipalities and domestic well owners will have to pay if they must follow groundwater down with new wells.

The DETR determines that the municipal benefits for the action alternatives, when compared to the No Action Alternative, were relatively significant, premised on assumptions about the speed that agricultural reliance on groundwater would diminish at about the same rate regardless whether action was or was not taken. But the DETR does not determine whether the municipal and domestic groundwater supply will remain adequate.

Changes in municipal population, economic viability and growth should be anticipated as well when anticipating municipal and domestic water demand. The DETR projects population growth in the affected municipalities based on growth in the county in which each is situated. DETR Table NED MUNI4, relying on Washington Office of Financial Management projections twenty years ahead (2000-2030).<sup>74</sup> Annual water use is estimated from population. The economic analysis of the agricultural benefits is projected through 100 years. The DETR estimates the pumping costs for 105 years (2019-2125) of the No Action Alternative and discounts those costs back to 2025. It does the same with the Partial Replacement and Full Replacement alternatives. The difference, a purported "benefit" of \$5.1 million and \$8.1

<sup>73</sup> DETR, pp. 40-52.

<sup>74</sup> Short population growth analysis fails to consider the influence of changing demographics or Western Washington state urban (or other urban area) outmigration. Both central California and eastern Oregon are experiencing growth of towns and suburbs due to outmigration from coastal plain cities.



million, seem like a marginal conclusion, given the large number of assumptions taken in the calculus of the results and the total gross cost of pumping water from significant depth.

PUB6-16

The DETR should also address the uncertainty costs and investment costs for municipalities. Municipal public works planning is uncertain because of uncertain predictions of well failure. Public works investment in well deepening will be required in advance of failure in order to avoid water supply and health risks. Waiting to see how fast agricultural water users terminate their groundwater use will not protect public health if municipal or domestic groundwater wells go dry.

The Bureau of Reclamation has authority under the Columbia Basin Project Act and Reclamation Project Act of 1939 to construct projects for municipal water supply.<sup>75</sup> The DETR and DEIS should consider both the costs and benefits of the extension of surface water supplies to the affected towns. Direct service could be provided to Warden from East Low Canal. Service could be extended to Connell from Turnout ELG89G past irrigation service (approx 2 miles). Service could be extended to Odessa, from Black Rock Coulee Pumping Plant 7R past irrigation on to Hiway 21 (approx. 7 miles). A new service line could be extended due west from the East Low Canal to Othello (approx. 7 miles). A new service line could be extended due west to Moses Lake from the East Low Canal to Moses Lake (approx. 5 miles each). Partial year water availability, water quality and treatment costs would be important considerations.

PUB6-17

The DETR and DEIS should also consider both the costs and benefits of reverse use of existing production wells so as to inject water into the ground at depth in order to maintain groundwater levels for municipal wells.

PUB6-18

### 3. Other Direct Benefits—Industrial

We agree with Reclamation that the problem of groundwater supply sufficiency is equally a problem for industrial water users:

"Aquifers in the Odessa Subarea also supply commercial, domestic, municipal and industrial users in and nearby the Study Area. For example, the cities of Moses Lake and Ritzville, the towns of Hatton and Wilson Creek, and numerous food processing and other agriculture-related businesses in Connell, Moses Lake, Othello, and Warden rely on this groundwater."

"Under the No Action Alternative, irrigation groundwater would not be replaced with surface water, aquifers would continue to decline and all current commercial, domestic, municipal and industrial users would be affected in and near the Study Area." DEIS, p. 2-20. (Emphasis supplied.)

PUB6-19

The DEIS addresses only the direct effect of reduced groundwater availability on industrial water users. The DEIS should also address the effect of reduced irrigated land agricultural production and more dryland agricultural production on the agricultural processing industry in near the analysis area. Data

<sup>75</sup> 16 U.S.C. Sec. 485h (a)(5)

should be collected from major industrial concerns, including McCains (potato products), Simplot (potato products), Harvest Fresh (fresh potatoes), Columbia Cold Storage (storage of frozen food products), SVZ-U.S.A. (juice), Cenex Feed-Land of Lakes (feed), Taggares Alfalfa (dried alfalfa and allied products), Simplot (fertilizer and chemicals), Ritzville Warehouse (grain), Union Elevator (grain), Consolidated Grange Supply (fertilizer, fuel and farm supplies), National Foods (eggs), regarding changes they would anticipate if the No Action or Partial Replacement alternatives were selected.

#### 4. Other Direct Benefits—Economic Losses Avoided

Economic losses avoided by implementation of a project should be considered as "other direct benefits,"<sup>76</sup> just as costs caused by implementation of a project can be considered as "other direct costs."<sup>77</sup> DEIS section 4.5 addresses Irrigated Agriculture and Socioeconomics.<sup>78</sup> The DEIS identifies, without source, that a \$1.6 billion total gross farm economy exists in the four-county analysis area. The DEIS concludes that the partial replacement alternatives add \$36,509,910 in economic value over and above the \$42,738,724 economic value provided by continued reliance on groundwater wells (the No Action Alternative), and that the full replacement alternatives add \$65,728,653 in economic value over and above the \$42,738,724 economic value provided by continued reliance on groundwater wells.<sup>79</sup> Viewed conversely, the two sums, whose numeric values are arguably incorrect in any case,<sup>80</sup> are economic losses avoided by the action alternatives. These should be included as a portion of the Total NED Benefits. The alternative is that they should be costs attributable to the No Action Alternative. But inasmuch as the benefit-cost analysis begins with the proposition that the No Action Alternative has zero benefits or costs, these benefits should be included in the benefits calculation.

Although it may be argued that these economic losses are only regional in nature, and therefore should not be included in the national analysis, these economic losses avoided are just as "national" as are the hydropower costs discussed in section D 4 below.

#### D. Total NED Costs of the Action Alternatives

The DEIS' benefit cost analysis sorts costs into five categories: a) canal and reservoir construction costs and IDC ("interest during construction") costs; b) canal and reservoir OMR&P costs; c) drainage system construction and IDC costs; d) drainage system OMR&P costs; and e) lost hydropower benefits.

<sup>76</sup> Principles and Guidelines, section 2.10.4.

<sup>77</sup> Principles and Guidelines, section 2.12.17.

<sup>78</sup> DEIS, pp. 4-199-4-225.

<sup>79</sup> DEIS Table 4-62, p. 4-200.

<sup>80</sup> These totals are stated in terms of gross farm income (which is computationally dependent on values for crop yield, crop price and residual NFI per acre, as well as well deterioration ratios, all of which need to be restudied) which does not take into account the multiplier effect of gross farm income on other industrial and service economies.

1. Canal and Reservoir Construction and IDC Costs

*The canal and reservoir system proposed to be constructed and described in the DEIS is apparently sized to deliver 3 acre feet of surface water per year for each acre of farmland currently irrigated by groundwater. The DEIS does not report any study of the exact amount of groundwater currently being applied on acres that would be served with surface water. The water use efficiency currently accomplished by groundwater irrigation systems more than likely results in better efficiency than 3 acre feet per acre.*

PUB6-21

*The DEIS describes easement requirements for the several components of the project. Easement widths range from 600 ft. to 1200 ft, while canal cross sections indicate widened canal width at approximately 100 ft. DEIS, p. 2-27. A 600 foot easement for the East Low Canal extension is not necessary as the land involved has less relief than most of the existing East Low Canal. The 161.3 miles of pressurized distribution pipeline, DEIS, Page 2-28, does not require a 200 foot wide easement. Pressurized pipeline can be installed within a 60 foot easement/right of way without problems. Pressure pipelines can follow existing ground contours. The DEIS should reduce the size of proposed easements and explore the availability of existing public rights of way.*

PUB6-22

*The DEIS states that a portion of these wider easements are necessary for "fish and wildlife purposes." No explanation is provided for these "purposes." Reclamation should evaluate whether such broad easement acquisition is required, as fish and wildlife do not know the legal status of the land over which they migrate. Wildlife migration in agricultural areas is not impeded to the same extent as wildlife migration in urban or more developed areas.*

PUB6-23

*DEIS Section 2.7 presents information contained in the "Draft Engineering Technical Odessa Subarea Special Study."<sup>87</sup> The contingencies used in Chapter 6 of the Draft Engineering Technical Report are artificially high. It does not appear that the Draft Report conducted any project-specific appraisal of the risk assumptions upon which non-field cost contingencies should be based. Reclamation should re-evaluate the risk assumptions that are the basis for the non-field cost contingencies used. Reclamation should take into account that the projects under consideration are normal Reclamation construction projects and that they involve merely an extension of an existing operating portion of the Columbia Basin Project.*

*Design Contingencies:<sup>88</sup> The contingency rate recommended by the "Reclamation Cost Estimating Handbook guidelines" is 2% to 15%. The DETOSSS uses the rate of about 11% which is toward the high end. In the opinion of the Adams County Engineer, a 5% contingency should cover the variables. This project, and particularly alternatives 2A and 2B, are straightforward projects including only items that are standard Reclamation type projects, i.e., pumping plants, canal widening, a short canal extension, pressure pipelines and siphons. The complexity of these items does not require a large contingency.*

PUB6-24

<sup>87</sup> Hereafter, "DETOSSS."

<sup>88</sup> DETOSSS, Section 6.1 Field Cost Estimates.

*Construction Contingencies:*<sup>89</sup> The contingency rate suggested by the "Reclamation Cost Estimating Handbook guidelines" is 20%. The amount used is about 24%. In the opinion of the Adams County Engineer, a 15% construction contingency is more than enough to cover even extremely complex projects. This project, and particularly alternatives 2A and 2B, are straightforward projects including only items that are standard Reclamation type projects, i.e., pumping plants, canal widening, a short canal extension, pressure pipelines and siphons. This project area includes soils and subsurface conditions that are well known, as they are adjacent and partially included in the existing completed Columbia Basin Project. There is little uncertainty. The lack of complexity of the project under consideration does not require a large contingency, nor a contingency larger than the one suggested by the Cost Estimating Handbook guidelines.

PUB6-24

*Studies, Investigations, and Design Data Collection and Engineering Design:*<sup>90</sup> Noncontract costs for this project, particularly alternatives 2A and 2B, which have many elements that are already known from the previous construction of the Columbia Basin Project and are repetitive in nature should be in the range of 10% of the Total Field Cost.

*Other Cost:*<sup>91</sup> Other costs for a project like this should not exceed 5% of Total Field Cost.

The totals for construction costs and interest during construction set forth in DEIS Table 2-12, appear to have been derived from Table ES-2 in the DF-LSSR.<sup>92</sup> The totals are different than those totals listed in DETR Table NED\_BCA1, DF-LSSR Table 5-11, p. 29, and DF-LSSR Table 5-12, p. 5.31. No explanation is given. Both tables show IDC costs.

"Interest during construction" is compounded, using the "planning rate of 4.375 percent."<sup>93</sup> DETR, p. 53. The statutorily defined interest rate for the Columbia Basin Project is 3.0 percent. DF-LSSR Table 5-13, DETR Table NED\_BCA2, and DEIS Table 2-14 should be the basis for decision making regarding the action alternatives. Tables based on the rate of 4.375 percent may be presented as informative, but should not be used as a basis upon which to analyze or compare alternatives."

PUB6-25

### 3. Drainage Costs

<sup>89</sup> DETOSSS, Section 6.1 Field Cost Estimates.

<sup>90</sup> DETOSSS, Section 6.2 Noncontract Costs.

<sup>91</sup> DETOSSS, Section 6.2 Noncontract Costs.

<sup>92</sup> Draft Feasibility-Level Special Study Report, Odessa Subarea Special Study, U.S. Bureau of Reclamation, October 2010, p. ix, hereafter "DF-LSSR".

<sup>93</sup> See discussion above at VI, A.



*The benefit-cost analysis considers the costs of construction of drainage, including IDC, and the cost of drainage system OMR&P.<sup>94</sup> However, no drainage system for the acreage newly watered by the Columbia River surface water supply may need to be constructed. In the alternative, a more limited or smaller scale drainage system may be sufficient. Under the action alternatives, the same acreage now watered by groundwater through efficient pivot irrigation systems will be watered by surface water through efficient pivot irrigation systems. No additional amount of water will be applied to the acreage. There is no rill irrigation as commonly used when the Columbia Basin Project was first designed and used. There is no current wastewater. There is no current wastewater drainage system for the groundwater-irrigated properties. The DEIS acknowledges this:*

PUB6-26

*"[The] estimated costs [for irrigation water drainage facilities] are based on 20- to 30-year old CBP design assumptions, which included new irrigation development, and were based on platted, concentrated farms using gravity flow and rill irrigation. These assumptions are no longer valid, because the current farms in the Study area are spaced widely and use pressurized delivery systems. Although project design has not progressed to the point of addressing irrigation water drainage in detail, estimates of drainage system costs using the original CBP assumptions are included to ensure complete and conservative cost estimates." DEIS, p. 2-67, note 3.*

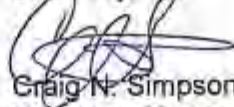
*It would be fiscally wasteful to construct a wastewater drainage system if it is not needed."*

Reclamation needs to select a water delivery alternative that maximizes the amount of Columbia Basin Project-eligible lands that can receive CBP water supply. This should be accomplished by the utilization of existing facilities to their maximum extent while maintaining the current functionality of the existing project. All new development must occur without jeopardy to the existing Project or future development and must not preclude future development. ECBID landowners need to be responsible for costs associated with the benefits they receive. All other costs need to be borne by other Project beneficiaries

PUB6-27

The District again thanks Reclamation and the Washington State Department of Ecology for their efforts to find a solution to the Odessa Subarea's declining groundwater issue by replacing the water supply with Columbia Basin Project irrigation water. We appreciate the opportunity to comment on these studies and are available to discuss any of our comment in further depth.

Sincerely,



Craig N. Simpson, P.E.  
Secretary Manager

CNS:nr

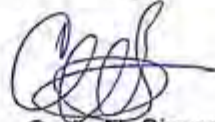
cc: Board of Directors  
Richard Lemargie

<sup>94</sup> DETR, Tables NED\_BCA1, NED\_BCA2, pp. 4, 5.

Mr. Chuck Carnohan  
January 31, 2011  
Page 7

The District is available to discuss our comments and look forward to an opportunity to do so.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Craig N. Simpson', with a stylized, cursive script.

Craig N. Simpson, P.E.  
Secretary – Manager

CNS:wj

*"The Green Spot of the Columbia Basin"*



## South Columbia Basin Irrigation District

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January 31, 2011

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VIA ELECTRONIC AND U.S. MAIL

Mr. Charles A. Carnohan  
U.S. Bureau of Reclamation  
1917 Marsh Road  
Yakima, WA 98901-2058

Dear Mr. Carnohan:

Subject: Comments in Response to U.S. Bureau of Reclamation and  
Washington State Department of Ecology Draft Environmental  
Impact Statement (DEIS), Odessa Subarea Special Study (OSSS)

Enclosed are comments of the South Columbia Basin Irrigation District  
concerning the above Draft EIS.

Thank you for the opportunity to provide these comments. Please contact us if  
you have any questions.

Sincerely,

David A. Solem  
Secretary/Manager

DAS:kgm  
Enclosure

DATE	BY	INITIALS	COPY
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10/13	X		
11/17	X		
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**Comments of the South Columbia Basin Irrigation District  
Regarding the  
Draft Environmental Impact Statement, Odessa Subarea Special Study**

These comments are submitted by the South Columbia Basin Irrigation District (SCBID) in response to the U.S. Bureau of Reclamation's and Washington State Department of Ecology's publication of the Draft Environmental Impact Statement (DEIS), Odessa Subarea Special Study (OSSS)<sup>1</sup>. SCBID is one of three irrigation districts that comprise the Columbia Basin Project along with the Quincy-Columbia Basin Irrigation District (QCBID) and the East Columbia Basin Irrigation District (ECBID). We appreciate the opportunity to make comments and support the evaluation of the alternatives to replace depleted ground water reserves in the Odessa Subarea.

The Columbia Basin Project (CBP or Project) was created by an act of Congress in 1943 and was authorized to irrigate 1,029,000 acres. The CBP would make use of power generated at Grand Coulee Dam to lift water from the Columbia River into Banks Lake, from which the irrigation system would deliver irrigation supplies to Project lands. Construction was to occur in stages as infrastructure was developed. Build-out of the Project was estimated to be over a 70-year period. Today, about 671,000 acres (often referred to as the first half) are being irrigated with Columbia River water from infrastructure constructed in the Project. About 232,000 acres of the 671,000 acres are located in SCBID's service area. Up to 300,000 acres may be developed in SCBID pursuant to a repayment contract with the United States<sup>2</sup>.

No Impacts to Current Irrigation

The baseline of the DEIS should be no impacts to surface water supplies currently being delivered to CBP land. The three CBP irrigation districts commissioned an analysis entitled, *Economic and Fiscal Contribution of Agriculture Irrigated by the Columbia Basin Project*<sup>3</sup>, which values the production of the CBP to be \$1.44 billion annually. This production is possible through a complex balancing of supply with infrastructure throughout the CBP. For example, SCBID's supply is impacted by operations of the East Low Canal (ELC) in the East Columbia Basin Irrigation District (ECBID). Direct deliveries from the ELC irrigate lands in SCBID's Block 18. A majority of the feed from the ELC system to the Potholes Reservoir, up to 350,000 acre-feet annually, originates in ECBID and is essential to SCBID's operation. The

<sup>1</sup> United States Bureau of Reclamation, Washington State Department of Ecology, "Draft Environmental Impact Statement, Odessa Subarea Special Study, Columbia Basin Project, Washington," September 26, 2010 (hereafter "DEIS"). Prepared pursuant to its Federal Notice of Intent to Prepare EIS, Federal Register, August 21, 2008.

<sup>2</sup> U.S. Bureau of Reclamation, Columbia Basin Project, Washington, Contract No. 14-06-100-6420, "Amendatory, Supplemental, and Replacement Repayment Contract Between the United States of America and the South Columbia Basin Irrigation District," December 1968.

<sup>3</sup> "Economic and Fiscal Contribution of Agriculture Irrigated by the Columbia Basin Project," prepared by Entrix, Inc., Vancouver, Washington, for the East Columbia Basin Irrigation District, the Quincy-Columbia Basin Irrigation District, and the South Columbia Basin Irrigation District, February 2010.



infrastructure of both SCBID and ECBID is near its design capacity to service currently irrigated land. Because of these limitations, the existing infrastructure is not adequate to deliver Columbia River water to replace groundwater in the Odessa Subarea Special Study area without major modifications to the system.

PUB7-1

#### Full Development of the CBP

The full development of the CBP to its authorized acreage of 1,029,000 acres should not be compromised or limited as a result of the implementation of any alternative. The CBP was to be developed in stages. The first half (approximately) has progressed as planned. Block 1 in SCBID—the first block developed—has now paid off its construction obligation to the United States, and the rest of the blocks will follow. This block method of development should continue, and consideration of alternatives should include a requirement that engineering designs fully consider the full development of the CBP.

PUB7-2

#### Full Development of SCBID

It is critically important to reserve the ELC potential to irrigate SCBID land—both that which is currently irrigated and future development of non-irrigated land in the SCBID service area. Over 50,000 acres in SCBID were designed to be irrigated from the ELC in future development. The extension of the ELC to SCBID will require an adequate reservation of capacity at the top end of the system. Construction of the East High Canal and other facilities will be necessary to convey the amount of surface water required to replace the groundwater pumped and should be considered.

PUB7-3

#### Compliance with Bureau of Reclamation Contract

SCBID operates pursuant to the aforementioned contract with the U.S. Bureau of Reclamation. The contract contains provisions relating to water supply and the development of lands within the SCBID. In considering the DEIS alternatives and options, compliance with the contract is necessary in order for the United States to meet its contractual obligations.

PUB7-4

#### Conclusion

SCBID has and will continue to support the full development of the CBP. While recognizing the more immediate need to address the dwindling groundwater resource in the Odessa Subarea, SCBID has cooperated with the other CBP irrigation districts to conserve water and make it available to a portion of the Odessa Subarea. However, the requirements for current and future irrigation in SCBID cannot be overlooked. SCBID does not support a no-action alternative but does not take a position on any of the other alternatives at this time.

PUB7-5

From: [K. Russel](#)  
To: [BOR, NDA, Odessa Study](#)  
Subject: water rights  
Date: Tuesday, October 26, 2010 9:44:02 PM

---

I live at the foot of the Andes, where despite record snows, it fell on the "wrong" mountains this year.

As a result, this community rations its garden water, allowed usage monitored by irrigation police.

The little river has to be diverted half the time from upstream into another channel.

ISSUE NO NEW WATER PERMITS WITHOUT PUBLIC REVIEW

Allow no corporate exploitation of Washington's water, regardless of what tax revenues or bribes legislators want  
The water belongs to the people, native americans, other americans, tourists, and future generations

exploitation: profit at another's expense

Kathleen  
NeedtoKnow

IND1-1

Received in 11-11  
C NOV 09 2010  
A  
O Yakima, Washin

**Bureau of Reclamation and  
Washington Department of Ecology  
COMMENT FORM**

**Odessa Subarea Special Study, Columbia Basin Project  
Draft Environmental Impact Statement**

Name (please print legibly): <u>JOHN KENNETH TOLONEN</u>	
Organization: <u>Land owner between Krupp &amp; Almira in Lincoln Co. / PH (Grange)</u>	
Mailing Address: <u>12307 Marble Rd</u>	
City, State, and Zip Code: <u>Yakima WA 98908-9152</u>	
Telephone: <u>509 965 4584</u>	E-mail:

**Requests to be placed on the mailing list and/or receive a copy of the Draft EIS:**

- ☐ I would like to receive a copy of the Draft Environmental Impact Statement: ☐ printed or ☐ CD-ROM.  
☒ I want my name put on the mailing list to receive information on the Final Environmental Impact Statement.  
☐ I want my name removed from this mailing list.

**Please note:** Our practice is to make comments, including names, home addresses, home phone numbers and email addresses of respondents, available for public review. Individual respondents may request that we withhold their names and/or home addresses, etc., but if you wish us to consider withholding this information you must state this prominently at the beginning of your comments. In addition, you must present a rationale for withholding this information. This rationale must demonstrate that disclosure would constitute a clearly unwarranted invasion of privacy. Unsupported assertions will not meet this burden. In the absence of exceptional, documentable circumstances, this information will be released. We will always make submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public disclosure in their entirety.

**My comments on the Odessa Subarea Special Study Draft EIS are:**

There are deep wells for irrigation (wheat & potatoes) between Odessa and Wilbur And between Almira and Krupp. Apparently this project won't affect these wells. So, the home wells in these areas are going low/dry and that's too bad! Or has the deep well use been restricted - or will it be? Also, what will become of small city water & ground water?

NG?

What would Margaret Keys say?

(Use back of sheet or additional sheets as necessary)

You may mail, fax, email, or call in your comments before December 31, 2010, to: Chuck Carnohan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email [odessa@usbr.gov](mailto:odessa@usbr.gov); phone 509-575-5848, ext. 603.



**Bureau of Reclamation and  
Washington Department of Ecology  
COMMENT FORM**

*I*

**Odessa Subarea Special Study, Columbia Basin Project  
Draft Environmental Impact Statement  
Public Hearing, Coulee Dam, WA  
November 17, 2010**

Name (please print legibly): <u>Geraldine M. Friedlander Gabriel</u>	
Organization: <u>Colville Confederated Tribes</u>	
Mailing Address: <u>PO Box 142</u>	
City, State, and Zip Code: <u>Elmer City WA 99124</u>	
Telephone: <u>(509) 633-3456</u>	E-mail: <u>gerry.gabriel@wildblue.net</u>

**Requests to be placed on the mailing list and/or receive a copy of the Draft EIS:**

- ☒ I would like to receive a copy of the Draft Environmental Impact Statement: ☒ printed or ☐ CD-ROM.  
☒ I want my name put on the mailing list to receive information on the Final Environmental Impact Statement.  
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**My comments on the Odessa Subarea Special Study Draft EIS are:**

For 60 yrs. ranchers, hay growers, orchardists, vegetable growers, vine yards, recreation people, fishermen, bird hunters, resorts (have been using enormous amounts of water 24hrs per day) from Grand Coulee Dam. When the Colville Tribe established the ownership of 1/2 the river to win the Grand Coulee Dam Claim from the Third Powerhouse in which

(Use back of sheet or additional sheets as necessary)

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 Chuck Carnahan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email [odessa@usbr.gov](mailto:odessa@usbr.gov); phone 509-575-5848, ext. 603. <http://www.usbr.gov/pn/programs/ucao/misc/odessa/index.html>





I

Comments (continued)

we receive payments from revenue from the third powerhouse. Which was a 54 yr. old claim.

IND3-1 The Colville Tribe agreed to the previous draw down in which we receive 3.2 million dollars a year. Many Tribal members do not agree to the draw down of water from Lake Roosevelt, as it effects our fish, recreation al pursuits for now & the future. Many believe the dollar amounts are not enough, merely Chump Change, Compared to the <sup>600</sup> million dollar made annually for the past 60 years.

IND3-2 I am a direct descendent of Chief Moses, whose homeland was primarily the Moses Columbia Area. Cattle men & miners moved in, so we were moved to the City of Wenatchee again the cattle men, & miners moved in so we were moved to the Methow, where the town of Ruby is, again the cattlemen & miners moved in & we were put where we are now at our present reservation. As a tribal member I feel "we the people" have prior aboriginal water rights & need to be compensated for any & all water as we have already established this right under the Grand Coulee Dam Claim. Incidentally when we were encroached upon the first time in the Columbia Basin & had to move, we were compensated at \$1.00 per acre.

You may leave your comment in the box provided or mail, fax, email, or call in your comments before December 31, 2010, to: Chuck Carnahan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email [odessa@usbr.gov](mailto:odessa@usbr.gov); phone 509-575-5848, ext. 603. [http://www.usbr.gov/pn/programs/ucac\\_misc/odessa/index.html](http://www.usbr.gov/pn/programs/ucac_misc/odessa/index.html)

Continued on next page

II

**Bureau of Reclamation and  
Washington Department of Ecology  
COMMENT FORM**

**Odessa Subarea Special Study, Columbia Basin Project  
Draft Environmental Impact Statement**

**Public Hearing, Coulee Dam, WA  
November 17, 2010**

Name (please print legibly): <u>Geraldine M. Friedlander Gabriel</u>	
Organization: <u>Colville Confederated Tribes</u>	
Mailing Address: <u>PO Box 142</u>	
City, State, and Zip Code: <u>Elmer City WA - 99124</u>	
Telephone: <u>(509) 633-3456</u>	E-mail: <u>geri.gabriel@blwblue.net</u>

**Requests to be placed on the mailing list and/or receive a copy of the Draft EIS:**

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**My comments on the Odessa Subarea Special Study Draft EIS are:**

IND3-3

We still own hunting, fishing, gathering rights in usual & accustomed places in the former North half of our reservation as well in the Wenatchee fisheries at the Tricle as well as the Columbia Basin, headwaters of the Columbia River Arrow Lakes is part of our tribe.

(Use back of sheet or additional sheets as necessary)

You may leave your comment in the box provided or mail, fax, email, or call in your comments before December 31, 2010, to: Chuck Carnohan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email [odessa@usbr.gov](mailto:odessa@usbr.gov); phone 509-575-5848, ext. 603. <http://www.usbr.gov/pn/programs/ucac/misc/odessa/index.html>



II

Comments (continued)

IND3-4

For over 60 years the farmers, hay growers, orchardists, vegetable growers, vine yards, vegetable growers, (recreation people, resorts) have made an average of 600 million dollars a year using our water. I would like to know when these business people are going to pay us back payments for the past 60 yrs. That any & all water taken be paid in advance a fair market value comparable to the state of California & Arizona which pays for the use of the Colorado River Water.

IND3-5

Our water for 60 yrs has provided a livelihood, a home for, compensation from the use of our water for 60 yrs with out a dime, we have been unjustly treated in respect to our water rights. If every Native American was to be compensated for the big land steal of all the United States, we would be all very well off. Yet today we all struggle to get adequate health care, housing, jobs to provide for our families. Our forests are being depleted, timber prices are low, gaming is down.

You may leave your comment in the box provided or mail, fax, email, or call in your comments before December 31, 2010, to: Chuck Carnohan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email [odessa@usbr.gov](mailto:odessa@usbr.gov); phone 509-575-5848, ext. 603. [http://www.usbr.gov/pn/programs/ucao\\_misc/odessa/index.html](http://www.usbr.gov/pn/programs/ucao_misc/odessa/index.html)



III

**Bureau of Reclamation and  
Washington Department of Ecology  
COMMENT FORM**

**Odessa Subarea Special Study, Columbia Basin Project  
Draft Environmental Impact Statement**

**Public Hearing, Coulee Dam, WA**

**November 17, 2010**

Name (please print legibly): <u>Geraldine M Friedlander Gabriel</u>	
Organization: <u>Columbia Confederated Tribes</u>	
Mailing Address: <u>PO Box 142</u>	
City, State, and Zip Code: <u>Elmer City WA 99124</u>	
Telephone: <u>(509) 633-3456</u>	E-mail: <u>geri.gabriel@wildblue.net</u>

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**My comments on the Odessa Subarea Special Study Draft EIS are:**

IND3-6 About the waste of water - why do they  
run water 24 hrs a day. The enormous  
amount of water used by hay growers, the  
orchardists, vineyards, vegetable growers.  
I see so much waste - by the time  
it reaches the ground its nearly lost,  
there is sprinklers which are lower  
(Use back of sheet or additional sheets as necessary)

You may leave your comment in the box provided or mail, fax, email, or call in your comments before December 31, 2010, to:  
Chuck Carnohan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email [odessa@usbr.gov](mailto:odessa@usbr.gov); phone 509-575-5848, ext. 603. [http://www.usbr.gov/pn/programs/ucao\\_misc/odessa/index.html](http://www.usbr.gov/pn/programs/ucao_misc/odessa/index.html)





III

Comments (continued)

IND3-7  
to the ground, that puts out a mist. I have seen the color plates for the Columbia Basin in which the huge aquifer was 2800 ft deep. The people in this region have been so greedy, water use more than is necessary have depleted this aquifer, & now want more. When will this ever stop. Water conservation should be a top priority as the Colville Tribe has not even tapped into their own potential of irrigated agricultural crops, which we need to save for ourselves. What water we do sell needs to be adequate & comparable to the Colorado River water, to Arizona & California.

Please read Half-Son of the Columbia to see that all I have commented on is true & accurate. I have 2 sons on the Tribal Council Andrew Joseph Jr. & Richard J. Gabriel who are in agreement to my comments.

Thank You

Cory Gabriel

You may leave your comment in the box provided or mail, fax, email, or call in your comments before December 31, 2010, to: Chuck Carnahan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email [odessa@usbr.gov](mailto:odessa@usbr.gov); phone 509-575-5848, ext. 603. <http://www.usbr.gov/pn/programs/ncag/misc/odessa/index.html>

mother of 8 Adult Children

Grand mother of 27

Great Grand mother of 14

**Bureau of Reclamation and  
Washington Department of Ecology  
COMMENT FORM**

**Odessa Subarea Special Study, Columbia Basin Project  
Draft Environmental Impact Statement**

**Public Hearing, Coulee Dam, WA  
November 17, 2010**

Name (please print legibly): <u>TOM MCPHERSON</u>	
Organization: <u>Landowner</u>	
Mailing Address: <u>PO Box 574</u>	
City, State, and Zip Code: <u>Wilkes, WA 99185</u>	
Telephone: <u>509-641-0194</u>	E-mail: <u>jtom.mcp@gmail.com</u>

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**My comments on the Odessa Subarea Special Study Draft EIS are:**

The current consumptive use of water out of the Columbia River is an average  
year has been estimated at approx. 3%. Based on that, I believe the extra con-  
sumptive use for this expansion would have minimal, if any, detrimental  
effect on river water flow or salmon recovery. Also, salmon stocks have  
already recovered substantially, with record runs in recent years. The  
economic benefit of the proposed project, in light of the substantial  
area that will, by recent estimates, be reverted to dryland within 10 years,  
 (Use back of sheet or additional sheets as necessary)

You may leave your comment in the box provided or mail, fax, email, or call in your comments before December 31, 2010, to:  
 Chuck Carnahan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email  
 odessa@usbr.gov; phone 509-575-5848, ext. 603. <http://www.usbr.gov/pn/programs/ucan/misc/odessa/index.html>



Comments (continued)

will, I believe, far offset potential adverse environmental effects. Environmental benefits in fact will accrue as a result of the project, including enhanced <sup>migrations & indigenous</sup> watershed nesting, foresting, areas, public recreational use, & ~~and~~ improved water quality. In my opinion, these benefits have not been given enough weight in the EIS.



## Comment Letter IND5

Received by [unclear]  
C NOV 30 2010 Y  
C F  
A O  
O Yakima, Washington

November 24, 2010

Control #:

10086119

SUPERVISOR INFORMATION			
MAIL	DATE	TIME	COPY
1000	X		
1002	X		
1100	X		
1600			
1700	X		
5000			
1120	X		
ACTION			

Charles A. Carnohan  
Bureau of Reclamation Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

Re: Odessa Aquifer comments

I'm against direct injection into the Odessa Aquifer because of the fear of contaminating the entire aquifer forever be it bacteria, or toxic metals (such as lead and mercury), or minerals (such as arsenic). IND5-1

I would guardedly approve the concept of passive rehydration but would first need more information. IND5-2

I would recommend a Phase I, 5-year moratorium on withdrawing from the aquifer during which yearly (or more frequent) measurements are taken to gauge natural rehydration. During the 5-year period, farmers would have to do without irrigation such as dry land farmers on the Waterville Plateau who manage with less than 10" of annual precipitation. Perhaps a partial yearly reimbursement could be given based on proof of crop loss through a farmer & BLM paid, negotiated insurance plan during this initial 5-year period. IND5-3

Once the 5-year moratorium ends, sufficient information should have been gathered to ascertain a Phase II.

Sincerely,



Gaye V. Hunt  
POB 111897  
Anchorage, AK  
99511-1897

907 345-5527



From: [Walt Butcher](#)  
 To: [Carnohan, Charles A; Christensen, Gwendolyn W](#)  
 Cc: [whittlecaven@gmail.com](#)  
 Subject: Comments on Draft Economics Technical Report, Odessa Subarea Study  
 Date: Monday, December 06, 2010 10:46:34 AM  
 Attachments: [REVIEW OF ECONOMIC TECHNICAL REPORT final 12.05.2010.doc](#)

Chuck Carnohan  
 Wendy Christensen

Attached is a report of our comments on the economic analysis of the Odessa Subarea Special Study as reported in the Draft Economics Technical Report and the Draft EIS.

Three errors account for more than one-half of the agricultural benefits. First, it is claimed that, expansion of the CBP is the only way to rescue farmers currently irrigating with groundwater from the endless huge negative net farm incomes that will result from being forced back to dryland wheat production. No notice is taken of the fact that those now irrigating with groundwater used to make modest incomes from dryland wheat production and that a majority of the farms in the area remain economically viable by dryland wheat production. Also not noted is that the continuing loss of \$290,000 per year for a typical 1470 acre farm could be avoided at worst by just walking away, long before 2125. Correcting this error would reduce agricultural benefits by about one-fourth.

IND6-1

Second, most of the NFI with the project comes from potato production which, according to the DETR, will increase to three times its current level. However, it is not feasible to produce potatoes on nearly one-half of the total acreage supplied with Columbia River water, for the next 100 years. Reducing potato acreage to about its current level of 15% of the irrigated area would reduce NFI with Replacement by approximately one-third.

IND6-2

Third, the Principles and Guidelines are clear that National Economic Benefits can include income from only "basic crops." Crops such as potatoes may contribute greatly to income of local farmers; however, from a national perspective, making it profitable for farmers to produce these crops is considered to be a gain balanced by losses to farmers in competing areas. The project area farmers or local governments and the state may decide to pay the costs of the project in order to gain the local economic and income growth. However, spending federal funds to provide this local and private advantage is not permissible by either the P&G or federal statutes.

IND6-3

We estimate that correcting only these three errors will reduce the BCR to about 0.1 for the proposed expansion of the Columbia Basin Project into the Odessa Subarea.

We are disappointed to see such simple but significant errors in the feasibility analysis of a proposed multi-billion dollar project. Horrified would be a better characterization of our reaction when we saw that four of the five economists working on this study have either masters or PhD degrees in agricultural or natural resource economics from well respected graduate programs with which we are very familiar! We are certain that they would not wish to have important decisions about this project based on misperceptions of economic and financial feasibility that arise from large errors in their work.

Please allow us to help these economists correct the errors in their analysis and calculate for this important project a benefit-cost ratio that conforms to the federal Principles and Guidelines.

Norman Whittlesey  
509-332-0773  
[whittlesey@gmail.com](mailto:whittlesey@gmail.com)

Walter Butcher  
509-332-1775  
[butcherw@adelphia.net](mailto:butcherw@adelphia.net)

# **REVIEW OF ECONOMIC TECHNICAL REPORT ODESSA SUBAREA SPECIAL STUDY**

**By**

**Norman K. Whittlesey  
and Walter R. Butcher**

**Professors of Agricultural Economics (Emeritus)**

## **INTRODUCTION**

The Draft Economic Technical Report (DETR) on the Odessa Subarea Special Study reports on the analysis by US Bureau of Reclamation (Reclamation) of the economic feasibility of bringing Columbia River water to farms irrigating with groundwater in the Odessa Subarea of Eastern Washington. The results of the economic analysis and some of the data are also reported in the Draft Environmental Impact Statement (DEIS) for the Odessa Subarea Special Study that was prepared by Reclamation and the Washington State Dept. of Ecology and also released in October 2010.

The results of the economic analysis are very discouraging for the prospects of proceeding with construction of any of the eight Action Alternatives evaluated in the study. The Draft DEIS and the DETR for the Odessa Subarea Special Study report that "all of the alternatives result in negative net benefits....As a result, none of these alternatives would be considered economically justified." (DETR, p.4)

According to US Bureau of Reclamation Standards, as confirmed in a September 2008 release from the Odessa Subarea Special Study, Reclamation is authorized to continue development of the Columbia Basin Project only if the benefits exceed the costs, as determined according to the federal Principles and Guidelines (P&G) (US Water Resources Council, Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies, Federal Register, March 10, 1983; [http://www.usace.army.mil/CECW/PlanningCOP/Documents/library/Principles\\_Guidelines.pdf](http://www.usace.army.mil/CECW/PlanningCOP/Documents/library/Principles_Guidelines.pdf)). Since none of the eight Odessa Subarea Alternatives is expected to have benefits exceeding costs, none are eligible to be appropriated federal funds for construction. IND6-4

Normally, if no economically feasible alternatives are identified, further federal spending is considered unwarranted, and project investigations do not proceed. When continued development of the Columbia Basin Project was last studied, in the 1980s, the study was terminated in 1989 for lack of an economically feasible alternative, and the Draft DEIS became the final report on the project.

Reclamation has stated (Public meeting, Moses Lake Washington, November 18, 2010) that they will continue preparation of the Final EIS for the Odessa Subarea Study; however, the Full Replacement Alternative will not be considered further. Constructing facilities to supply water to the 45,000 project acres north of I-90 is so costly, \$45,000 per acre benefited, that the benefit-cost ratio for the full 102,600 acre development falls to a clearly infeasible 0.44, according to Reclamation's analysis. IND6-5



Nevertheless, Reclamation intends to continue preparation of the Final DEIS because it is anticipated that further investigation may identify additional municipal and industrial benefits sufficient to make Partial Replacement Alternatives 2A and 2B economically feasible. Reclamation has suggested that the additional benefits needed for economic feasibility may come from increases in the M&I benefits or from a BCA using an interest rate of 3%. However, the M&I benefits are admittedly already "overstated" (DETR p.46), and it is impossible to imagine the seven-fold increase needed to provide the \$106.5 million in benefits required to bring total benefits up to equal with total costs. IND6-6

Reclamation also implies that the positive net benefits for Partial Development Alternatives 2A and 2B found using a 3% discount rate (DETR, Table NED\_BCA2, p. 5) indicates the possibility of economic feasibility, and funding. However, the US General Accounting Office determined in 1986 that an interest rate other than the official rate, could not be used to determine economic feasibility. The DETR notes correctly on page 5 that the results using a 3% discount rate "are presented for informational purposes only." The showing of positive net benefits with a 3% discount rate does not change the conclusion that "none of these alternatives would be considered economically justified." IND6-7

The only possibility left for economic feasibility for Alternatives 2A and 2B would be finding enough overlooked Agricultural Benefits to provide the necessary \$106.5 increase in total NED benefits. This too is improbable. Agricultural benefits are already greatly inflated. The assumptions and methods used for the estimation do not conform to the P&G. Further review will significantly decrease, rather than increase, estimated agricultural benefits and further confirm the impossibility of finding enough additional benefits to achieve economic feasibility for any of the Alternatives. IND6-8

Since satisfying P&G rules is a requirement for federal funding there is no chance that any of these Alternatives will qualify for federal funding and thus little purpose in further analysis and the presentation of this report.

## REVIEW OF AGRICULTURAL BENEFITS ESTIMATE

This review will focus on some of the major problems and issues bearing on the analysis of economic feasibility of getting surface water to deep well farms in the Odessa Subarea. Also, we suggest some clarifications for the reporting of the procedures, assumptions, and data used in the analyses and for the interpretation of the results. Care needs to be taken to avoid misleading interested parties into believing that the project is closer to economic feasibility than it is in reality.

Prior to this review we sent a list of questions to the project manager seeking additional information that would be helpful in a review of the study. We are hopeful that the requested information will reach us in time to make revisions and corrections to these comments before the close of the comment period. Since the DETR is a subset of the broader Environmental Impact Study conducted by USBR we will also reference the DEIS when necessary to complete the review process.



We will attempt to bring to light a more realistic view of the economic feasibility of this project. But, for lack of access to data, models and information used by USBR our analysis will not be complete in all respects. We will focus only on elements of the study that are obviously wrong or out of line with reality but important in the determination of economic feasibility.

### **Present Crop Acreage**

Table AgBen7 shows the existing land use in the deep well irrigated project area. Approximately 15% of the irrigated land is in potatoes, 42% in irrigated wheat, and the remainder in a mixture of other crops including some dryland wheat. This crop distribution accounts for 102,370 acres of the study area. The rest of the irrigated land in the four county area, mostly in the CBP, has 12% of irrigated land in potatoes.

IND6-9

### **Well Levels**

Many, if not most, of the wells in the Odessa Subarea are experiencing a decline in the level of groundwater due to mining of the aquifer. Some are also experiencing reduction in capacity or decline in the quality of the water pumped from the wells. Some have already returned to dryland farming and others will be forced to follow in the future.

The DETR forms a qualitative classification among the existing wells according to their current dependability and suitability for production of potatoes. These distinctions are labeled as well levels 1-5. The current distribution of farms among the well level categories is shown in Table AgBen 8.

Specific criteria and data used for the classification are not reported. Current pumping depth and cost and rate of decline in the static level of groundwater do not enter into the classification. The rate at which wells drop to a lower productivity level or are abandoned altogether also appears to be unrelated to pumping depth or cost.

Well level 1 represents those farms with wells that are showing sufficient capacity to irrigate high value crops such as potatoes and apparently no significant decline in water level. These farms represent about 5% of the study area.

Level 2 wells, currently serving about 30 percent of the study area lands, are suitable for producing high value crops but are projected to eventually experience reduced productivity and dependability. Level 3 and 4 wells represent 60 percent of the study area acres. These wells are already of reduced productivity and cannot support high value crop production. Level 5 wells represent about 5 percent of the area and have already returned to dryland farming practices, primarily wheat/fallow rotations.

The DETR relies on a spread sheet analysis to determine the life of wells in each category. This analysis is summarized in Table AgBen 14 as the No Action alternative. Level 1 farms are assumed to exist through 2125 without being diminished. About 6000 acres of level 2 farms will exist through 2025 but be mostly gone by 2050. Level 3-4 farms continue to represent about 40 percent of the acreage in 2025 and 9 percent as long as 2050. By 2075 most of the well irrigated land will have returned to dryland farming with an injection of surface water from the Columbia River. **It should be noted that Table AgBen 14 (No Action Alternative) shows 3,828 acres of unused land in 2019, and this unused land eventually declines to near zero in 2125. There is no explanation for this land use category.**

IND6-10

This brief discussion of well levels described in the DETR is only to set the stage for our review of the economic analysis. We agree that land will continue to go back to dryland farming in the absence of more surface water. However, the progression will be slow and easily absorbed into the regional and state economies. Potatoes are the only high value crop currently being produced in the study area and the current 15,000 acres of potatoes can be readily moved into the existing 670,000 acres of the Columbia Basin Project as market conditions dictate. **We argue that the No Action alternative will have a non-measurable impact on the regional and state economies. That is, the desperate measures being considered in the DETR to bring surface water to the farms of the Odessa Subarea are not justified.**

IND6-11

## Representative Farm Budgets

### Without Project Budgets

The DETR analysis of farm profitability was conducted using representative farm budgets reflecting the range of dryland farming, well irrigation, and surface water irrigation. The "without" project farms represented current and future deep well irrigated farms and the ultimate dryland wheat/fallow farm. The farms relying on deep well irrigation are shown in Table AgBen 10. Each farm type will be discussed in order. All of the well irrigated farms are assumed to be 1470 acres in size with 1400 acres in crops.

In general, we suggest that there were fundamental problems with the farm budgets used in this analysis. There were frequent measures of negative net farm income for farms that have existed for many years and projections of these same farms existing with negative net farm income for another 100 years. Such conditions could not exist for an agricultural industry that has been and is expected to remain viable and stable for many years. It suggests that the farm budget analysis is flawed and unreliable for measuring agricultural benefits either with or without the proposed projects.

IND6-12

The first representative farm is for well level 1 which has a sustainable water supply and is capable of producing high value crops. The crop rotation on this farm includes 25 percent potatoes and 75 percent irrigated wheat. The crop rotation is probably realistic for this well level. It allows for land to be in potatoes only once every four years, which is generally required for disease and weed control. However, this farm

IND6-13

with the best quality well is shown to incur an annual net loss of \$53 per acre in the without project situation. The USBR analysis assumes that, without the project, this farm will continue to operate for 115 years with a loss of about \$75,000 each year, an economic impossibility. **Such farms in the region would not exist at all if not profitable and certainly none of the lower quality well level farms could exist. One has to conclude that the crop data, budgets, and/or methods used to construct the net farm income for this farm were wrong or improperly used.**

IND6-13

Representative farm well level 2 reflects the supposed current practices of farms in the next best category of well quality. Strangely, however, this farm is allocated a crop rotation including 46 percent potatoes, 41 percent wheat, and the remainder in "mixed crops" represented by dry beans. It is not clear how this farm with a lower quality of well can sustain a more intense cropping pattern than that of well level 1. Moreover, a farm with 46 percent potatoes is not sustainable over time because of crop rotation requirements for potato production. Most farms producing potatoes will keep potato acreage between 25 and 30 percent of total crop acreage for reasons of disease control. **The crop selection for one or both 1 and 2 well level farms seems to be contradictory or inconsistent with the well level definition. Apparently there was a need to bring the acreage of potato and mixed crop production up to the current levels shown in Table AgBen 7. But the logic of this process is not discernable.**

IND6-14

It will be noted that the well level 2 farm does show a net farm income of positive \$167 per acre, a plausible and economically sustainable condition if not agronomic sustainable. This profitability is largely due to the inclusion of more high value crops in the rotation. **It is not clear and seemingly implausible that the farm with the best wells are losing money while the lower quality well level 2 is showing a profit.**

IND6-15

Well levels 3-4 are combined into a single representative farm, though there is no explanation of why this is done. In any case, this farm contains a crop rotation of 50 percent irrigated wheat and 50 percent mixed crops. Whether or not this is an accurate reflection of what is currently being done in the study area the farm budget reflects a distinctly unsustainable condition with an annual net loss of \$309 per acre per year. The farm is shown to be losing \$454,354 per year. Yet Table AgBen 14 shows the acreage of this farm with more than 39,000 acres in 2025 and still producing on more than 9,000 acres in 2050. This condition is impossible and, like some of the anomalies of the budgets for well levels 1 and 2, cast serious doubts on the reliability of the socioeconomic analysis in the DETR. The only obvious motivation for using the budgets for well level 3-4 production is to show a great economic loss for current production with wells making even a small profit with surface water look good. That is, the difference between a significant net farm income loss (without case) and a modest profit (with case) reflects well on the gains from surface water deliveries. **If the NFI losses were as great as shown for farms with well levels 1 and 3-4 they would have all quit production long ago. Again, the validity of these data should be considered with deep suspicion.**

IND6-16

The DETR explains that "the primary driver for agricultural benefits comes from a change in pumping costs" and that "The 'without' project condition was....based on a

IND6-17

900-foot [pumping] lift.” (DETR, p. 24) However, groundwater level projections presented in Table NED\_MUN12 and DEIS map 2. Groundwater Level Decline in Aquifers of the Odessa Subarea, 1981-2007 both show that pumping depths average far less than 900 feet at this time and are not expected to reach that level before almost all irrigation wells are abandoned. **There is no explanation for why pumping depths were not established on the basis of the extensive groundwater research conducted as a part of the Odessa Subarea Special Study by both the State of Washington and Reclamation and also recently released studies by the US Geological Survey. It is clear that, had more realistic pumping depths been used, NFI in the No Action Alternative would have been much higher and agricultural benefits lower.**

IND6-17

Since all lands currently with well levels 2-5 are projected to eventually return to dryland farming in the without project alternative, it is necessary to also have a budget for the wheat/fallow farm to complete the production alternatives. The farm budget for well level 5 is shown in Table AgBen 11. This farm is now considered to include 4070 acres with 4000 acres in crop or fallow. This farm budget is probably the most egregious of all for the without project alternatives. Keep in mind that wheat/fallow farms have existed for over 100 years in the region and are projected to exist for more than another 100 years by the USBR analysts. **In order to have existed for so long and with the expectation of continued existence such farms have to be profitable.**

IND6-18

Yet the budget for the dryland wheat farm shows an annual net loss of \$205 per acre, or a negative net farm income of \$820,991 per year. To begin, the variable costs for this farm are nearly 2.5 times total farm revenue. First year economic students are taught that if variable costs exceed total revenue all production stops in the short run. And if total costs exceed total revenue in the long run (say more than 5-8 years) production will stop. According to this budget there should be no dryland wheat/fallow production in the region. Neither could it have existed for the past 100 years and certainly cannot exist for the next 100 years as projected by USBR economists. The negative farm income for dryland agriculture does create a potential for great income gains from surface water irrigation and accounts for about one-fourth of claimed benefits for the project.

IND6-19

#### **With project budgets**

The farm budgets for the various well level farms after receiving surface water are shown in Table AgBen 12. In most all respects the crop rotations and crop yields are the same as for the same farms irrigating with well water. The major difference in net farm income being accounted for by the elimination of well pumping and receiving free surface water for irrigation in the with project case. **It is not clear why a single surface irrigated farm would not be used for the “with” project analysis, or why well farms would continue to maintain their distinctions after receiving surface water.**

IND6-20

Well level 1 farm now shows a net farm income with the project of \$124 per acre while growing the same crops as with groundwater. The only difference between with and without farms crops is an increase of wheat yield from 101 bushels per acre to 125 bushels per acre. There is no explanation for why switching from an adequate supply of groundwater to an equally adequate supply of surface water would result in a yield

IND6-21



increase. However, the increase in yield does add \$130,725 per year to farm income, accounting for more than one-half of the increase in net farm income achieved with the project. Since acreage of potatoes and wheat are the same with the project as before receiving surface water, the other half of the gain in net farm income must come from the elimination of energy costs from well pumping. **There is insufficient detail in the DETR to know why variable costs decline (probably energy pumping) and fixed costs increase after receiving surface water.**

IND6-21

The well level 2 farm budget has the same crop distribution with surface water as in the without project case. And the crop yields are the same except for the modest increase in wheat yield to 125 bushels per acre. But in this farm budget the variable costs (pumping costs) decrease by \$332,000 per year while fixed costs remain the same as with the deep well pumping. It would seem logical that the abandonment of deep wells and their capital requirements that fixed costs would decline with the arrival of surface water. Again, there is insufficient information in the DETR to discern why some of these budget inconsistencies and anomalies occur. The end result of the budget for this farm shows a net farm income of \$439 per acre, a significant increase over the without project case.

IND6-22

The with project representative farm for pumping levels 3-4 is also shown in Table AgBen 12. The crops on this farm are divided evenly between irrigated wheat and mixed crops (represented by beans) as in the without project case but with higher yields. As with the level 2 farm the variable costs decline while fixed costs remain constant after receiving surface water. Net farm income for this farm is \$110 per acre which is nearly the same as for the level 1 farm which grows potatoes and irrigated wheat.

IND6-23

Income with the project for the level 3 and 4 farms is irrelevant to the estimation of net benefits since all of those farms are assumed to be transformed by the supply of surface water into Level 2 farms. That is, the level 3-4 farm budget with project water is not used in the USBR analysis. According to the DETR, the level 3 and 4 farms will, with the project's supply of surface water, enjoy a \$750 per acre increase in NFI. Since 60% of the project land is assigned to these farms, the contribution to annual benefits is a very substantial \$46 million per year, accounting for 70% of the claimed total annual benefits from the Full Replacement Alternatives.

IND6-24

Using the Level 2 farm budget for all with-project lands except for Level 1 implicitly assumes that the 65% of land in Levels 3, 4, and 5 change from raising no potatoes to having 46% of their land in potatoes. This is an unreasonably high concentration of potato production and implies that the study area would progress from producing about 15% of the 100,000 acres of potatoes produced in the four-county region to producing 45%. The other 740,000 acres of irrigated land would drop from 11% potato production to only 7%.

IND6-25

In calculating irrigation water requirements (DETR p. 35) and Regional Economic Impacts (DETR, p.96), it is assumed that the production of potatoes will not change from the 2010-level of 15,495 acres and \$59 million. **This is inconsistent with the NFI and benefits calculations.**

IND6-26

The net farm income in the crop budget tables is based on the total acreage in the farm rather than the cropped acreage of each farm. This is incorrect procedure since the purpose of the budget exercise is to determine the value of production per cropped acre. **That is, the NFI for each farm should be based on cropped acres not total farm acres.**

IND6-27

**Another matter that should have received some attention in the DEIS is that of farm size.** After receiving surface water from a federal project the farm size should have to conform to USBR limits. Theoretically farm size for single ownership (husband and wife) is still limited to 960 acres. The USBR has been negligent in enforcing this limitation for many years but, at least, in the discussion of new projects it should be recognized.

IND6-28

**Finally, the P&G stipulate that only basic crops, such as wheat, mixed crops as defined by USBR in this analysis, and hay, can be used in calculating national economic benefits. High value (market constrained) crops cannot be used in project evaluation because it is presumed that increased production in the project area will be balanced by reduced production in another region as land is forced out by competition from the project area. There may be substantial gains to the farmers in the project area; however, these are balanced by losses in other areas and hence no national economic benefit. Enforcing this rule would eliminate the use of both level 1 and 2 farm budgets from use in the with project case. Only the budget for well level 3-4 qualifies for use in this analysis. That is, the budget that was not used by USBR.**

IND6-29

At the time this is written there is insufficient information to further critique the crop budgeting analysis, reconstruct the crop budgets, or examine the data used therein. Hence, we will turn to the manner used by USBR to evaluate the project net benefits.

## Measuring Irrigation Benefits

### With versus Without

The net benefits of replacing deep wells with surface water is appropriately measured comparing total net farm income from the no action alternative to that of the with project alternatives. The DETR does this for each irrigation alternative.

In the absence of surface water the assumption in the DETR is that deep wells would continue to decline in quality and water yield over time. Eventually most of the land would return to dryland farming using a wheat/fallow rotation. Only the lands served by well level 1 would be able to sustain irrigated production for the next 100 years. In the analysis it is assumed that the irrigation project would be constructed in phases with completion by 2025. Production is then evaluated over the next 100 years. The net present value of both with and without project conditions are compared in terms

of year 2025. That is, costs and benefits are compounded forward from the present to 2025 and then discounted back to that year from the next 100 years.

A spread sheet analysis was used by USBR to predict the rate of land transfer from the higher to lower quality well levels over time in the without project case. The acreage in each category is shown in Table AgBen 14. By 2125 there are still 5131 acres irrigated from wells under well level 1. Essentially the lands under well levels 2-4 would have returned to dryland farming by 2075, approximately a 65 year transition period.

**It is noted that in all evaluations of deep well pumping by the USBR, fixed and variable costs are based on the assumption that, without the proposed project, all farms from Level 1 through Level 4 will be pumping from a depth of 900 feet.** The DETR explains that "the primary driver for agricultural benefits comes from a change in pumping costs." However, present pumping depths average about half as much. In Table NED\_MUNI2, groundwater levels without the project are not projected to reach 900 feet for most project areas until 2075. DEIS map 2., Groundwater Level Decline in Aquifers of the Odessa Subarea, 1981-2007, shows declines of less than 125 feet in 27 years over most of the Study Area. Doubling pumping depth increases both fixed and variable pumping costs and leads to a significant underestimate of NFI without the project. **There is no explanation for why pumping depths were not established on the basis of the extensive groundwater research conducted as a part of the Odessa Subarea Special Study by both the State of Washington and Reclamation and also recently released studies by the US Geological Survey. It is clear that, had more realistic pumping depths been used, NFI in the No Action Alternative would have been much higher and agricultural benefits lower.**

IND6-30

The cost benefit analysis conducted by USBR is summarized in Table NED\_BCA1. It was briefly discussed above. The benefit cost ratios ranged from 0.9 for alternative 2A down to 0.4 for alternative 3C. The total NED benefits for the partial replacement alternatives 2A-2D were the same at \$1,170.2 million and for the full replacement alternatives \$1,820.5 million. Costs differed for each alternative creating the range of values for the CBR. This evaluation is accomplished by comparing NED benefits (including municipal and industrial) for 100 years of production without the project and 100 years with each project alternative. This part of the review, however, will focus only on the agricultural benefits with and without the project. Municipal and industrial impacts are discussed in a later section. Table Ag Ben 13 summarizes the per acre irrigation pumping benefits from with and without project farm budgets. These measures of net farm income resulted in the BCR values described above.

We have previously discussed the whole farm budgets used by the USBR and the perceived problems therein. Because of the many problems presented by these budgets, it is our opinion that the resulting CBR values are not acceptable. Since we do not have the detailed information about crop budgets available to the USBR we cannot reconstruct them in detail. We will, however, evaluate the irrigation benefits using more realistic farm budget values for net farm income. Since we do not have access to the spread sheet information used to transfer wells from one category to another over time in the without

project case we will accept the USBR values for this exercise. **Our purpose in this exercise is to present a more realistic measure of project irrigation benefits than those developed by USBR.**

First it may be helpful to briefly describe the process followed by the USBR. Table AgBen 15 shows the residual net farm income by well level for the no action alternative. It will be noted, for example, that total residual net farm income in 2025 is a negative \$21,509,291. This huge loss of net farm income is based on the farm budgets of Tables AgBen 10 and 11. Most all of the farming is assumed to be losing money with wells or dryland farming. From this assumed position of losing money without the project it is not difficult for the USBR to show a gain in net farm income in the with project alternatives.

IND6-31

To conclude discussion of USBR methods we turn to Table AgBen 17. This table shows the acreage of irrigated lands with project water and in various well level categories for lands not served by project water in the partial replacement alternative. Using the farm budgets of Tables AgBen 12 for project served lands and the budgets of Tables AgBen 10 and 11 for remaining lands, it is shown in Table AgBen 18 that the residual net farm income for 2025 is \$21,630,949. The difference between the net gain with the partial replacement alternative and the large negative income in the no action case is \$43,140,240. Such values are calculated for the next 100 years and discounted to a NPV for 2025 to compare with project costs. This procedure results in the benefit cost ratios discussed earlier.

#### **No Action Alternative (reconstructed)**

The first step in our analysis is to revisit the dryland wheat budget shown in Table AgBen 11. The USBR has determined that this farm will lose \$205 per acre for the next 100 years. Since we know that dryland wheat farming has a long history in the region it has to be marginally profitable and sustainable. We assumed that dryland wheat would provide a net farm income of \$25 per acre over time. We believe this to be a modest but realistic assumption.

IND6-32

Next we revisit the whole farm budgets shown in Table AgBen 10 for the no action alternative. We contend that the well level 1 farm pumping from a modest depth and a stable water supply must be marginally profitable. Otherwise it could not continue to exist for more than 100 years as the USBR assumes. We changed the residual net farm income from -\$52.97 to \$50. Since the well level 2 farm is shown to be profitable with a large measure of high value crops we made no changes for this farm, though the intensity of potato production at 46 percent of farm acreage is unrealistic. It was assumed by USBR that farms would transition from level 2 to level 3-4 category over time. However, the level 3-4 farm budget was shown to have a large negative net farm income and could not be sustainable over time. Hence, we assumed that when wells transitioned below level 2 they would go directly to dryland farming, which by our assumption, would be profitable at \$25 per acre.

IND6-33



Using the acreage transitions shown in Table AgBen14 we calculate a net farm income for the no action alternative. Again we will stay with the example of year 2025. Following the budget adjustments described in the previous two paragraphs we calculate a residual net farm income for 2025 of \$3,532,075. This compares to the negative \$21,509,291 developed under USBR assumptions. It is a modest but sustainable income for the no action alternative and that is the point at which the farms would largely transition to dryland farming and continue for another 100 years.

IND6-33

*(It will be noted that we could not reproduce the values in the row labeled Level 3-4 of Table AgBen18. Possibly there is an omission or mistake of some kind here)*

### **Partial Replacement Alternative (reconstructed)**

The next step is to calculate a residual net farm income for the partial replacement alternative using appropriate adjustments in USBR budgets. In this process we imposed the rules of the P&G that disallow the use of high value crops in water project evaluation.(Principles and Guidelines, p.24-25) Since both level 1 and 2 budgets in Table AgBen 12 contain potatoes they were disqualified. We turned then to the use of the level 3-4 farm for calculating the net farm income from project water. Using this budget with a net income of \$110.24 the lands served with project water in 2025 would show a net farm income of \$6,291,397. This compares to the USBR value of \$24,172,797. Using the same procedure described for the no action alternative we calculate a residual net farm income for lands not served by project water in 2025 to achieve a value of \$1,567,642. Adding this value to the net farm income of project lands we get a total residual net farm income of \$7,859,029. Now subtracting the without project net farm income for that year (\$3,532,075) we obtain a net benefit from the partial alternative of \$4,326,954. This compares to the USBR number of \$43,140,240.

This procedure was followed for all of the years shown in Table AgBen 18. Our calculated annual benefits from the project were 10 percent of those presented by USBR in 2025 and stabilized at about 13 percent for the next 100 years. **It is our considered opinion that the net agricultural benefits from project development calculated by USBR should be reduced by at least 85 percent.** There are other adjustments to the cost side of the BCR that will further reduce that value for each action alternative. This would create a CBR for the partial alternative close to 0.1 as compared to the USBR value of 0.9.

IND6-34

## **Municipal and Industrial Benefits**

The Draft Environmental Impact Statement points out that “municipal and industrial uses in the Study Area would likely be impacted by continued groundwater level declines under the No Action Alternative” and that this decline “would result in increased pumping costs and the eventual need to replace pumps and deepen wells.” (DEIS, p.4-49)

The DEIS goes on to point out for each of the eight Alternatives that “municipal and industrial users would benefit by the lack of continued groundwater level decline by having longer-life wells with more stable pumping costs.” (DEIS, p.4-52)

### **Benefits from Reducing Municipal Pumping Costs**

The savings in municipal pumping cost are overestimated. The Draft Economics Technical Report Table NED\_MUN15 shows pumping costs for the 8 municipalities in or close to the project area rising from 2019 to 2125, in the No Action Alternative, by 400 times. This incredibly large increase may be due to some error of arithmetic or document preparation, but the Draft Economics Report acknowledges that “alternative specific pumping cost saving estimates may also be overstated (Economics Report, p. 46).”

IND6-35

Reclamation estimates benefits from the reduced rate of groundwater level declines by subtracting estimated pumping costs with the Partial and Full Alternatives from the cost with the No Action Alternative. The steps to cost estimation were:

1. Project population growth to 2125 in each of the 8 municipalities
2. Assume a constant rate of water use per person
3. Project groundwater level to 2125 for each Alternative
4. Calculate the pumping cost for each relevant depth
5. Multiply water requirement by pumping cost
6. Calculate savings by subtracting pumping cost with each Replacement Alternative from the cost with No Action

The approach is reasonable; however, several key assumptions that are not warranted by the facts cause a large exaggeration of the projected municipal benefits from the Replacement Alternatives. For example:

1. Assumption: All Municipal wells in or near to the project area are assumed to pump from the rapidly declining lower Grande Ronde aquifer.

Facts: Several municipal wells are continuing to pump from the Wanapum aquifer which has lower pumping lifts and, according to the GWMA report, Groundwater Level Declines in the Columbia River Basalts, has been stable for 30 years. The GWMA report also points out that the Grande Ronde and Wanapum aquifers are completely separated and further decline in static water level in the Grande Ronde will have no effect on water level in the Wanapum aquifer. There is no reason for

IND6-36

believing that reducing pumping from the lower aquifer would raise water levels in the upper aquifer unless the uncased boreholes are sealed off.

2. Assumption: Without a supply of replacement water, pump lifts for municipal wells will continue to increase at the recent rates of decline of groundwater level in the irrigation wells in the Project Phase closest to the municipal wells.

Facts: No data are presented to show that the pump lifts for the municipal wells have been increasing at the same rate as in the irrigation wells in the Project area. The DEIS p.4-49 states: "most municipal and industrial users are outside of areas experiencing the greatest groundwater level declines."

The two largest cities for which benefits have been claimed, Othello and Moses Lake, are located several miles within the CBP area that has been supplied surface water for more than 50 years. Both report that pumping lifts in their wells average about 300 feet and are declining by 3-4 feet per year. The DETR assumes pumping depths and rates of decline are about twice what are actually being experienced.

Four other supposedly threatened municipalities are located on the western edge of the Project area and close to the East Low Canal. According to Map 1-2 of the Draft DEIS, the four are within the zone where the total decline for irrigation wells was less than 50 feet from 1980 to 2007.

3. Assumption: Replacing irrigation withdrawals in the project area will stop declines in municipal wells of Odessa and Lind, which are located outside the project area.

Facts: Both Odessa and Lind are located approximately 10 miles from the eastern edge of the area that would be eligible to receive water under the proposed project. No evidence is presented from the extensive groundwater modeling studies to indicate that replacing groundwater withdrawals at that distance would offset the effects of continued pumping close to the towns.

4. Assumption: If the project is not completed, withdrawals from the aquifer will not be limited to protect prior appropriators and non-irrigation users from excessive depletion of their water supply.

Facts: WAC 173-130A calls for Dept. of Ecology to take action to prevent too rapid a rate of decline (more than 30 feet in 3 years) or drawdown to more than 300 feet below 1967 static water levels. The Odessa Subarea Groundwater Management Policy also requires casing and sealing of wells in order to protect the municipal and other users from drawdown of the aquifer reserved for them from the depleting effect of water cascading of water from the upper aquifer to the lower.

### **Industrial Benefits from Replacing Groundwater**

According to the Draft DEIS, decline in groundwater level and increase in pumping depth and pumping costs will impact industrial users in the same way as municipalities. However, industrial benefits are based not on preventing groundwater decline but rather on the project making it possible for the East Irrigation District to continue delivering 4700 acre-feet per year of irrigation water for use in diluting processing waste water. After dilution, the 4700 acre-feet is applied to irrigated

The explanation given for stopping deliveries to the industrial users is that with the No Action Alternative—no construction of enlargements to the system—“there is not sufficient capacity within the canal for delivery to all users.” (DETR, p. 53)

The value lost due to removing water from industrial users is estimated in the Economics Report to be \$111 per acre-foot, which is “the agricultural benefit per acre-foot of water less the cost of industrial water.” The explanation for valuing lost industrial deliveries on the basis of agricultural benefits is that, after the industrial use, the water is applied to irrigated crops. So, it is presumed that denying the water to the industries also denies it to irrigators and reduces the total irrigation from the system.

This rationale needs explanation. If the water is currently being supplied to the industrial users, why does the No Action Alternative, which presumes no new irrigation, cause a shortage of canal capacity? Why would industrial users be denied water when their use causes no net reduction to the amount of water supplied for irrigation? If the industries are denied use of CBP water for dilution, why can't the loss of agricultural benefits be avoided by rerouting the water to the same or other lands and continuing to use it for irrigation? If the industries are denied CBP water, won't they have to find other, potentially costly means of disposing of high nutrient content process wastewater?

**In conclusion, no clear reason is presented for cutting off the industrial users if the CBP is not expanded. Also, there is no explanation for why refusing to allow industries to inject their wastewater into irrigation water would result in ceasing to use the water for irrigation.**

IND6-41

### **Energy Costs**

To discuss the energy cost issue for this analysis we return to the DEIS. Section 4.17.1 of the DEIS describes the methods and assumptions used by USBR to calculate the energy costs for water diversions and farm delivery. The USBR does consider both lost hydropower and energy use in pumping for water delivery in this section of the DEIS. However, in the final analysis of the CBR for each development alternative the USBR deliberately omits some energy costs. This omission should invalidate the energy costs for development shown in Table NED\_BCA2 of the DETR. In this table the “lost hydropower” costs are shown as \$219.3 million for partial alternative and \$557.3 for the full development alternative. These values were obtained by using the Bonneville Power Administration models to calculate the amount lost hydropower and then applying some

IND6-42



value to this energy and then discounting the annual values over 100 years back to the year 2025. **There is no explanation of what cost per unit value the USBR used in this calculation.** (A footnote to Table 4-91 in the DEIS does indicate that the energy for pumping from Grand Coulee into Banks Lake was included as part of the lost hydropower.)

IND6-42

To continue we will briefly point to some errors of assumption and procedure used by USBR in calculating the energy costs. First note that on page 4-235 of the DEIS it is shown that the project alternatives would divert from Grand Coulee 176,343 acre feet of water (3.09 af/a) for the partial development alternatives and 347,137 acre feet (3.38 af/a) for the full development alternatives. These were not the values used by USBR in calculating energy costs however. First, it was assumed by USBR that the considered development alternatives would include the 30,000 acre feet of diversion already designated under the Management Program MOU and the Coordinated Conservation Program. Since this designated diversion by the State of Washington would presumably continue with or without the USBR development alternatives the cost of energy associated with the 30,000 acre feet of water was eliminated from the USBR energy cost calculation. We consider this to be an egregious error. **It does not matter that the State has previously designated this amount of water to be used for irrigation in the Odessa Subarea it still incurs lost hydropower and energy pumping if delivered for irrigation. Such costs cannot be ignored in this analysis.**

IND6-43

Second, the USBR analysis assumed that there would be significant irrigation return flows that could be recaptured to create hydropower. This assumption was apparently based on models used for current irrigation within the existing Columbia Basin Project (CBP). However, given the assumed farm delivery of 3.0 acre feet per acre for USBR development alternatives there would be no irrigation return flows captured for surface use from irrigation in the Odessa Subarea. **It is our opinion that total diversions of water must be used for calculation of lost and used energy in this analysis.**

IND6-44

Third, the USBR analysis simply omitted a significant amount of surface water pumping for water delivery. The amount of pumping was estimated by USBR and shown in Table 4-92. In fact, the amount of energy used for surface water pumping is as much as 176 percent of the lost hydropower that was used by USBR in its cost calculation. The surface water pumping by USBR in water delivery would be heavily subsidized by regional ratepayers. The USBR would charge the farmers about 3 mills per kWh for this power and it would cost the region more than 50 mills per kWh for replacement. **This pumping energy was eliminated by the USBR by assuming that there is a regional surplus of energy production capacity currently in the region. Hence, the region could presumably absorb this additional pumping at zero cost. This is a fallacious argument because all lost hydropower and subsidized energy use will eventually have to be replaced in the region.**

IND6-45

We have calculated energy costs per acre of development as shown in Table 1 below. In this calculation we have assumed that total diversions must be used to determine the amount of lost hydropower. Second, we have included the surface water

pumping shown in Table 4-92 (DEIS). We include the pumping from Grand Coulee into Banks Lake at an assumed pump lift of 285 feet. There was no allowance provided for irrigation return flows to create downstream hydropower. It was assumed that the on-farm pumping is included in costs of crop production so we do not include that cost in Table 1.

Table 1. Energy costs for Odessa Subarea Development\*

	<u>Partial Dev.</u>	<u>Full Dev.</u>
Hydropower Loss (kWh/A)	3176	3434
Grand Coulee to Banks (kWh/A)	1100	1204
Water delivery pumping (kWh/A)	4620	4396
Total Energy (kWh/A)	8896	9034
Cost \$/A (@50m/kWh)	\$443	\$452

\*Based on diversions of 3.09 af/a for partial development and 3.38 af/a for full development.

The sum of lost hydropower and used energy for surface pumping is shown to be 8896 kWh/A for partial development and 9034 kWh/A for full development. Valuing this energy at 50 mills per kWh provides an estimated annual energy cost per acre of \$443 per acre for partial development, twice the amount of \$219 per acre estimated in the draft report. Full development costs would be \$452 per acre per year. Either of these costs far exceed the estimated annual net farm income from surface water irrigation. **Hence, even if construction costs for water delivery facilities were zero, the net farm income could not cover the imposed energy costs. Moreover, it is likely that the cost of replacing this lost and used energy would be as much as 100 mills per kWh, or twice the costs shown above.**

IND5-46

The NPV of the energy costs for partial development (\$447/acre) results in a value of \$577.1 million. This is more than twice the cost of lost hydropower shown in Table NED\_BCA2 (DETR) as calculated by the USBR. **Again, the USBR has biased the cost of this project to show a BCR that is greater than in reality.**

IND6-47

## Summary and Conclusions

This review focused only on the socioeconomic portion of the project DEIS and did not attempt to determine whether problems exist with other, mainly environmental, aspects of the DEIS report. We have shown that:

- Agriculture benefits from project development were seriously overestimated by the USBR.
- Municipal and industrial benefits were overestimated.
- Energy costs were understated by USBR by as much as 75 percent.
- Correcting for the above errors would result in a benefit/cost ratio close to 0.1 for partial development and an even lower value for full development
- It is not logical to propose spending \$15,000 to \$30,000 per acre in development costs to raise land values in the project area from \$500 per acre (dryland wheat) to \$2500 per acre (with project irrigated value).

IND6-48

The USBR and the State DOE should quickly admit that this project is far short of economic feasibility. There are no economically viable options for delivering surface water to this region and "saving the deep well irrigators." There should be no further spending of public funds on planning, studies and building of portions of the facilities for delivering surface water to the Odessa Subarea. Agency leaders and politicians for both State and Federal levels should admit this reality and turn to more productive alternatives for use of taxpayers' money. The minor amount of agricultural production from deep well irrigation in the study area can be easily absorbed into the remainder of the irrigated regions of the state. To cease production from deep wells in the region would result in a small, immeasurable impact on the state economy. There is no rational reason to propose spending hundreds of millions of taxpayer and rate payer dollars to "save" the irrigation of this region.

IND6-49

Finally, the DEIS and DETR reports and general discussion of the alternatives for expanding the Columbia Basin Project into the Odessa Subarea makes reference to the adverse impacts on the local economies that will happen if replacement water is not provided to the deep-well irrigators. Most commonly cited are estimates by Bhattacharjee and Holland (B&H, School of Economic Sciences, Washington State University, June 6, 2005) ([http://www.agribusiness-mgmt.wsu.edu/AgbusResearch/docs/PotatoCommission\\_finalreport.pdf#search=%22Holland%20Bhattacharjee%22](http://www.agribusiness-mgmt.wsu.edu/AgbusResearch/docs/PotatoCommission_finalreport.pdf#search=%22Holland%20Bhattacharjee%22)). The B&H study of potato production benefits of this region, has been seriously misinterpreted and misused. It describes gross values of production and economic activity in the region if failure to supply replacement water results in regional loss of 35,000 acres of potato production and associated processing. Political leaders and project proponents have used these numbers to claim as much as \$1.6 billion per year of benefit to the region from potato production. THIS IS NOT A CORRECT INTERPRETATION OF THE B&H STUDY. The acreage "saved" by supply of replacement water would be no more than one-fourth as much. Furthermore, the impact should be properly viewed through the value added (net income) created by potato

IND6-50



production. This would be far smaller figure approaching zero in reality. For a proper interpretation of the B&H report one should read the review of that report by Joel Hamilton, Professor of Agricultural Economics Emeritus, University of Idaho. A Review of "The Economic Impact of a Possible Irrigation-Water Shortage in Odessa Sub-Basin: Potato Production and Processing", (<http://www.columbiana.org/PDFs/HamiltonAnalysis.pdf>)

IND6-50

It makes little sense to claim \$1.6 billion of benefits from an industry that is losing more than \$20 million annually (USBR calculations, Table AgBen 15, year 2019, DETR). Even our own calculation of approximately \$4.3 million net income for that year would not support a claim of regional benefits of \$1.6 billion.

IND6-51

### Market Solution

We suggest that the plans for delivering surface water to the Odessa Subarea should be permanently abandoned. Quit spending money on studies of irrigation development that are clearly infeasible. Even if the partial development alternative were to be adopted and built, there would still remain more than 100,000 acres of deep well irrigation that would eventually run out of water. Hence, the USBR plan, despite its unreasonably high costs, would not save the deep well irrigators or the aquifer. The partial development alternative would not deliver water to farms north of I-90, the area of greatest decline in aquifer productivity and wells most in danger of shutting down. It is time to turn to more realistic alternatives.

IND6-52

The first alternative to consider is to do nothing and let the aquifer eventually be depleted and the land returned to wheat/fallow production. Some irrigated agriculture would continue to exist in the region for at least another 40-50 years. The adjustment to dryland farming would be slow and changes in irrigated crop production easily absorbed into the remaining irrigated lands of the state as market conditions would dictate. This alternative would not, however, save the aquifer and any permanent dependence on it (say municipalities) would have to seek other alternatives. With this alternative there is a known ending and all parties would have ample time to adjust to the required changes.

IND6-53

We propose another alternative that is much less costly and could actually save what remains of the aquifer. That is, seek a market solution to the problem. It is currently estimated that irrigated land in the Odessa Subarea has an average market value between \$1600 and \$1700 per acre. Lands with good wells probably have a bit higher value and lands with wells approaching demise would be expected to be much lower. Finally, land without deep well irrigation has a market value of \$500 to \$600 per acre. It should be possible to buy the well irrigation rights in this region at a reasonable price and return all land to dryland production. For example, if farmers of the region were offered, say, an average of \$1200 per acre to shut down the wells and return to dryland farming we believe there would be wide acceptance. The farmers would retain current accumulated wealth and still be able to farm indefinitely while their alternative is to watch the aquifer decline and their land values dissipate. In this example, it would be possible to retire 100,000 acres of deep well irrigation for a cost of \$120 million. This is



an amount that could be managed by the State without federal assistance if it is deemed necessary to save the farmers in some way. The aquifer would be stabilized at current capacity. The loss of production from irrigated agriculture would be negligible. Municipalities and others dependent on the aquifer for existence could probably expect at least another 100 years of dependable water supply. Regional economies should not be severely impacted because every landowner in the region would suddenly have a large amount of cash in hand with some expectation to spend a portion locally. Compared to the USBR alternatives of spending \$15,000 to \$30,000 per acre for water delivery facilities while imposing very significant energy costs on the region, a market solution seems quite reasonable and attainable. Indeed, the cost benefit ratio of spending \$120 million to save the tax payers \$1.6 billion is 13.3, highly favorable from an economic feasibility stance.

### **Reader Response**

This review of the DETR and DEIS is intended for public view and response. It will be submitted to the USBR in response to its request for public comment. However, it will also be available to anyone who wishes to use our comments and analysis. We each have more than 40 years of professional experience in the fields of irrigation development economics and water policy and believe our comments merit serious consideration and welcome debate and responses from all respondents.

Norman Whittlesey  
509-332-0773  
[whittleseyn@gmail.com](mailto:whittleseyn@gmail.com)

Walter Butcher  
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[butcherw@adelphia.net](mailto:butcherw@adelphia.net)

Response to the  
Odessa Subarea Special Study  
Draft E.I.S.

By: Louis Nevsimal

The following comments pertain to issues and concerns brought forth by the review of the Odessa Subarea draft E.I.S. dated Oct. 2010.

First, I want to address the inadequacies of the meeting for public input on Nov. 17, 2010 in Coulee Dam Hall. Having been very active in the issues involving Banks Lake for the last 25 years, it should be understood that I have attended dozens of these types of events. This meeting however, was a complete insult to anyone who understood and had questions about the Odessa issue. The hall was ice cold. In this large, 40'x40' space, sat 7 chairs in front of a single table in the corner of the room. On that table sat a 14" computer screen. When we decided to break out some tables and chairs and began to set them up, we were questioned as to why? When we explained that we had several things to discuss and that we needed to take notes we were told that this meeting was not set up for discussion. Misleading at best considering the "public input" line in the title of the meeting. We then were expected to suffer thru a 20 minute presentation that was little more than a commercial for the B.O.R. and WA. Ecology. When a few asked questions, the answers were vague, demeaning and misleading.

I walked out!

Had it not been for Stephanie Utter, with B.O.R., that night would have been a complete waste of time. She asked why I was leaving and when told, she arranged a private room for me, Mayor Jerry Sands of Electric City, and the Director of our local chapter of P.O.W.E.R. She then went through each of the issues at hand and insured that they were recorded into the draft submission.

It's a shame that some agencies have such disdain for public involvement. Many people outside the loop of government bureaucracy have a great deal of real life experience and hands on knowledge that is so critical in developing real world policy. The meeting I attended was nothing more than a step in fulfilling legal requirements in the path of an E.I.S. Ecology, you should be very embarrassed by this effort, and ashamed for your treatment of the public trust. I suggest you review your mission statement and then figure out how to live up to it.

Regarding the Draft E.I.S., the following reflect our concerns.

1. Under Federal permits, licenses, approvals. Executive Order#12962 of June 1995 regarding recreational fisheries is apparently being minimized, if not outright ignored. Can this be explained? As far as I know, this document is not limited to endangered or threatened species or environments. Yet the only serious reflections regarding fisheries in this document pertain only to Salmon, Bull Trout, or Kokanee. Warm water environments and fisheries seem to be dismissed as unimportant. Many of the statements regarding warm water fisheries are prefaced with, " May, possible, unknown, unsure," etc. If not enough is known to make good decisions/predictions, maybe more time investigating is needed. IND7-1
2. Page ES-33 Paragraph 1 states, "Impacts to wetlands surrounding Banks lake...and would not be significant!" Paragraph 2 states, "Primary impacts to wetlands around Banks lake...which constitute adverse to significant impacts" Which of these do you think is true? I'm sure we know! IND7-2
3. Page ES-33 Paragraph 2, who is responsible for the wetlands mitigation plans? When will they be available for review and implementation? I only ask IND7-3

because very similar management actions were called out in the 2001 Banks Lake Resource Management Plan and have not been developed or implemented to this date.

IND7-3

4. ES-34 Fisheries; Considering Odessa is all about water, warm water at that, one may expect that those issues would have been studied and plans to minimize impact to those environments would be quite detailed. In reality, not so much! The statements make it clear that no good will come from this for warm water fisheries. The impacts are wide spread and diverse. Wash. Fish and Wildlife's report, pg. 41, table 7, indicates impacts ranging from moderate to high across the board. Yet there is NO discussion of mitigation, NO discussion of refill strategies, No addressing offsetting the impacts to aquatic vegetation, No plan to reduce the effects of entrainment. It's as if our warm water environments are considered expendable. Should the powers at hand be reminded that over 50% of license sales are to those pursuing warm water species? Also, fishing productivity is a huge part of the economic vitality of this area. Considering the loss of other recreation in August and September that will occur with low water, fishing the rest of the year may be the saving grace for resorts on Banks Lake.

IND7-4

IND7-5

5. Recreation Resources ES-37; Recreation significantly impacted! Well at least you can recognize the obvious. Do you really think that folks come to Banks Lake to use swimming pools? Coulee Dam filled theirs with sand because of low use and high cost. The resorts I've spoken to don't want the liability, cost or labor burdens. Money would be better spent on offsetting other issues like access and habitat! All resorts will need to move their waterborne assets to deeper water. Extending launch docks will also be a priority. Off shore assets will be exposed to increased wave and current regimes. Securing and protecting those assets should be a priority. The net pens that raise trout and kokanee will also need to place where they can function in protected deep water. These are the kinds of mitigations that will help businesses deal with the low water issues. Please, come and talk with the resort owners.

IND7-6

IND7-7

IND7-8

6. Economic Impacts; I have to give you all credit for a superb sleight of hand in burying the local Banks Lake Recreation Impacts under an avalanche of locally irrelevant farm projection data. It is well know that the farmers of eastern Washington will get what they need. After all, they are the major tax revenue source in this area. But from

IND7-9



Ephrata/Soap Lake north the big game in town is tourism. Much of that is tied to hunting and fishing opportunities and water is the key to both. We here are truly disappointed these impacts and the potential changes they will bring were not specifically broken out in the economic forecasts of this document. We may not be the largest contributors to the tax base in this region, but we are significant none the less. To be ignored in the development of this draft is insulting and a major oversight on your part.

IND7-9

All in all, this E.I.S. leaves much in limbo, provides little solid information for businesses that will be effected to plan around, and leaves sportsmen feeling like they have little value in the State of Washington. Considering the time invested in development, this is a very disappointing document. Here's hoping that significantly more research and many more defined mitigation plans will be forthcoming in the final E.I.S. We, the people of Washington will be expecting no less.

IND7-10

Lou Nevsimal

[lnevsimal@centurytel.net](mailto:lnevsimal@centurytel.net)

1-509-647-5527

From: [Jimmibaird@aol.com](mailto:Jimmibaird@aol.com)  
To: [BOR UCA OdessaStudy](#)  
Subject: Odessa Aquifer Issues  
Date: Tuesday, December 14, 2010 3:00:38 PM

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Attn: Charles A. Cornohan,

In regard to the issues around the Odessa Aquifers depletion, and subsequent strategies to rectify the problems, I am choosing to make some comments.

First of all, I am a land owner and farmer in Grant County, with most of my acreage in the QuincyCo.Basin district, though, I do own a hundred acres or so near the town of Wilson Creek that I believe is in the Odessa Subarea.

I was born and raised in Ephrata, and I have farmed in the Columbia Basin for the last 35 years. Though, I am an irrigated farmer/orchardist, and make my livelihood from this occupation, I do not necessarily believe that the irrigation project has been a cost-effective endeavour for the citizens of this country. I have and continue to oppose any new developments or more expansion to the existing irrigation projects. Taken into a longterm view it has been an environmental disruption, with only questionable shortterm benefits.

I strongly feel that expanding our withdrawal of water from the Columbia River system for the remaining acres in the originally proposed project, or for allowing further irrigation by those who have chosen to drill deep wells in the Odessa Subareas is unwise. As an American citizen I feel that many of our development decisions have been done without longterm consequences for the eco System and longer term sustainability of our grasslands, and native lands. New evidence continues to point to the value of undisturbed native grasslands for their carbon sequestering abilities. Modern farming practices and irrigation projects are under increased scrutiny as to their tendencies towards depletion of nutrients, release of carbon into the atmosphere, and ultimate erosion of the topsoils.

IND8-1

To sum up, I am opposed to expansion of the second half of the Columbia Basin Project, or any projects that only facilitate continued deep well drilling, which I believe make longterm habitation of this area more questionable.

I am committed to working towards the sustainability of this region.

Sincerely,

James Baird

To whom it may concern:

I live on the corner of Rosenoff and Batum road in Adams County. At one point the ground that I farm was irrigated, but as surrounding irrigated farmers drilled deeper for water my well went dry. At this point it was not cost effective for me to drill so now all the ground is farmed dry land. This was a huge economic impact for my farm. In the years that have past my domestic well has gone dry twice which has cost me a large amount just for drinking water. When a deep well goes in within 5 miles of my place, within 2 years I have to drill to find drinking water again.

1. Shut off all deep well irrigation in the Odessa aquifer area now before we lose what is left of our drinking water.
2. Bring water to the complete East High Canal project to water all the ground and shut off all the deep wells to save our ground water in the Odessa aquifer.

-IND9-1

1. Economically this is the best choice for the communities.
2. Bringing water to the area will turn the area into a very diverse region both in the Crops grown to the jobs that becomes available.
3. There will be a big increase in the wildlife in the area for the outdoor sportsman.
4. There will also be more crops then just potatoes raised. There will be corn, timothy, alfalfa, peas, beans, apples, mint, wheat, onions, and many more crops just like is raised in the Columbia basin right now.
5. Last this choice may insure that all the citizens of this region may have access to affordable drinking water, not just a few of the wealthiest irrigated farmers. When it is all done at the end of the day we can live without a few circles of potatoes but we can not live without drinking water.

—IND9-2

Jeff Greenwald

MATH	NAME	DATE	SCORE
1000	X		
1002	X		
1100	X		
1000			
1700	X		
2000			
1120	X		
ACTION			

From: [Aaron Hintz](#)  
To: [BOB UDA Odessa Study](#)  
Subject: Water Project  
Date: Friday, December 17, 2010 1:33:26 PM

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Hello,

I am a resident of Moses Lake, and wanted to let you know I fully support the \$4+ billion option to bring water to the Odessa area. I would much rather pay people to work, than sit at home like we are now with welfare. I believe it is a wise investment for our future of crop production, recreation (on the reservoir and with wildlife related activities), and agriculture related industries. ] IND10-1

Sincerely,

Aaron Hintz



From: [Glenda Phillips or Chris Bice](#)  
To: [StudyManager@on.usbr.gov](mailto:StudyManager@on.usbr.gov)  
Cc: [BOR UCA OdessaStudy](#)  
Subject: comment The Odessa Subarea Special Study  
Date: Friday, December 17, 2010 4:32:41 PM

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After review of the DEIS documents on the USBR website for the Odessa Subarea Special Study I support the "No Action Alternative". The farming community needs to adjust its farming practices to change to dry farming, improve water conservation measures and let more acres rest between planting cycles. Additional drilling of wells to supplement irrigation already available needs to be discontinued. The aquifer is already being drawn down at an unsustainable rate. The existing water rights/uses of the water contained in the reservoirs is already spoken for in one way or another. No change in current practices should be allowed. ] IND11-1

Glenda Phillips  
PO Box 1122  
Selah, WA 98942

From: [Paul Scheller](#)  
To: [BOR IICA Odessa Study](#)  
Subject: Odessa rehydration project  
Date: Thursday, December 23, 2010 4:10:59 PM

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Dear Sirs,

I am writing to give my support to those efforts to replenish the water table in the Odessa sub-area. I would like to quote an article that appeared today in our local paper from Dr. E. Kirsten Peters, a geologist from Washington State University.

"It is an unfortunate fact that we are pulling water out of major American aquifers at a faster rate than Mother Nature recharges them. The day will come that we will have to change our way of doing business. It is not that we will abruptly have no water at all to use, but that we will have to engineer more solutions to meet our needs, deal with new environmental impacts, and end up spending a lot more money for water than we are used to."

I am greatly concerned about depletion of our aquifers here in the Odessa area. Not only that impact it would have on our agricultural productivity, but on our very day to day lives. I believe the time to do something is now not when the situation becomes critical. I have listened to the Lake Creek Replenishment Project proposal and it sounds like an excellent place to start. While the benefits to our deeper aquifers may take many years, the immediate benefit to refilling our local lakes would be to provide a boost to local tourism, to the quality of recreational life in this area, and to the sustainability of our towns and rural homesites.

IND12-1

Paul Scheller  
Odessa, Washington

From: [Larry Zagelow](#)  
To: [ROS NCA OdessaStudy](#)  
Cc: [Larry D. Zagelow](#)  
Subject: odessa subarea special study  
Date: Friday, December 31, 2010 12:54:10 PM

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Attention Chuck Camoham:

In reference to the Environmental Impact Statement of the Odessa Subarea Special Study. It is my understanding that the EIS shows the largest and fastest area of aquifer depletion is north of Highway 90. It is my recommendation to have the Bureau develop the approximate 46,000 acres to the North of I-90 addressing the Odessa Subarea and its problems. ] IND13-1

Larry Zagelow  
16000 Zagelow Rd. E.  
Odessa, Wa. 99159  
509-988-2100

From: [Tom McPherson](#)  
 To: [BOE IICA Odessa Study](#)  
 Subject: Odessa Subarea Special Study-DEIS  
 Date: Friday, December 31, 2010 9:04:33 AM

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At meetings I have attended, impacts on Columbia River flow were brought up. Credible estimates by various hydrogeologists as well as government agencies have placed total human consumptive use out of the Columbia at between 3% and 5% of total river flow, the variance depending on the snowpack year. This is minuscule, compared to consumptive use out of other river systems, for example the Colorado. Further, the additional amount of water projected for the Odessa project is a very tiny percentage of current use out of the river. Concerns over impact on river flow lack credibility, in my opinion.

The economics of the Odessa Subarea, and to a great extent, the entire Columbia plateau, are in dire jeopardy due to drastically declining water tables. Any additional water that can be supplied to this area will be of tremendous benefit, not only to the immediate area supplied, but to the economy of the surrounding region.

On the environmental side, I believe substantial benefits will accrue to the area as well. Existing wetlands will be enhanced and new ones created. From better flyways for migratory waterfowl, to fish, to recreational opportunities, the environmental benefits far outweigh any purported negatives.

IND14-1

Have the potential environmental benefits and recreational opportunities been given proper weight in cost/benefit analyses for this project?

IND14-2

Tom McPherson



From: [Dean White](#)  
 To: [BOB LIDA, Odessa Study](#)  
 Subject: Comments on Odessa Subarea Special Study Draft EIS  
 Date: Tuesday, January 04, 2011 9:00:41 AM

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January 3, 2011

Charles Carnohan  
 Study Manager, Odessa Subarea Special Study  
 US Bureau of Reclamation  
 1917 Marsh Road  
 Yakima, WA 98901-2058

Charles,

Below are some comments I have on the Odessa Subarea Special Study Draft EIS that I would like to submit during the comment period that has been extended to January 31, 2011. I did not have extensive to time to review this large document, and so my comments mostly refer to the Soils and to the Groundwater Quality portions of the study.

1. During this past summer, I assisted with the sampling for well water age dating on Lincoln County wells that was sponsored by the Columbia Basin Ground Water Management Area (CBGWMA) that now covers Adams, Franklin, Grant, and Lincoln counties in Eastern Washington. It is my current understanding that the 2010 well water age dating and water chemistry results done for Lincoln County are now back, but that the CBGWMA is still in the process of developing the final report to submit for public review. I believe that it is important that these latest well water results along with the latest hydrostratigraphy mapping results for the basalt layer aquifers, shallow surface sediment aquifers, and deep basement rock aquifers for Lincoln County be incorporated if at all possible into the Odessa Subarea Special Study.

IND15-1

The CBGWMA results for well water age dating and hydrostratigraphy mapping are part of the most up to date and most definitive study ever done on the hydrology and declining groundwater levels in this four county area of Eastern Washington. Much of the well water age dating in Lincoln County was done on deep irrigation wells in the southwestern portion of Lincoln County that are also located within the northern section of the Odessa Subarea. The deepest irrigation wells in the southwest part of the county that are 1,000 to 2,000 feet or so deep tended to have the warmest water (up to 30 to 36 degrees Celsius / 86 to 97 degrees Fahrenheit) with pH as high as 9.0 to 9.6. As already mentioned by the CBGWMA, water from these deep wells is most likely old water that has been in contact with the deeper Grand Ronde basalt aquifers for thousands of year, perhaps 10,000 years, and has relatively high levels of dissolved sodium that has raised the pH above 9. Application of irrigation water from these wells with high sodium and high pH levels to the soils in the affected fields over many years can be a cause for concern for continued soil productivity.

IND15-2

2. In the Soils section on page 4-74 in the draft study, the following concern is mentioned: "Based on the distribution of groundwater with relatively high sodium across the study area (including the number of wells with an SAR greater than 6), it is estimated that at least **one-third** of the lands irrigated with groundwater are

experiencing problems that require special soils management to maintain productivity." On page 3-12 in the Groundwater Quality section, it is noted that the most extensive set of groundwater quality data was obtained from CBGWMA from 1982 through 2008. My concern here is that the very latest well water sampling done by the CBGWMA in Lincoln County in 2010 was not available to be included in the draft EIS, and that there are even more deep irrigation wells in the northern portion of the Odessa Subarea that have the potential to be causing soil productivity problems due to elevated sodium content and high pH.

IND15-3

3. From my experience with well water age dating sampling in SW Lincoln County, the well water characteristics could vary greatly between wells within 1/2 a mile or closer, based on how deep the wells are and which specific aquifer they are accessing. A deeper well with water pH above 9.0 can be nearby a shallower well less that is less 1,000 feet deep and has water pH between 8.0 and 8.5. The apparent younger water from the shallower well should be having a less adverse affect on the soil than the older water from the deeper well with pH greater than 9.0.

In order to get a better idea of how much an adverse affect the older well water with pH greater than 9.0 and relatively high dissolved sodium content is having on the soil in the fields that it is being applied, soil sampling and lab analysis could and should be done to determine what the exchangeable sodium percentage (ESP), sodium absorption ration (SAR) and saturated extract conductivity (EC) of the irrigated soil is along with an evaluation of soil structure and any soil crusting. The results of the irrigated soils with high pH and high sodium water could then be compared to soils irrigated with better quality groundwater with lower pH and sodium content. Reference samples could also be taken from adjacent non-irrigated/dryland crop soils to help show any adverse changes between the irrigated and the dryland cropland soils. Maybe I missed it, but I did not see any reference in the draft EIS to any soil sampling and lab data results on possible adverse affects to irrigated soils caused by high pH/high sodium from deep irrigation wells.

IND15-4

4. Concerns were raised in the Soils section about potential soil erosion that might occur due to construction activities if the second half of the Columbia Basin Irrigation project was implemented. Soil erosion due to any construction activities should be mitigated as much as possible. But it would appear that the potential impacts of not implementing the second half of the project could affect a much larger area than areas impacted by any construction activities. If no additional surface water is brought in to replace the water currently provided by deep irrigation wells, a number of deep wells in the area are at risk of running out of water, and the irrigated cropland here will revert back to dryland cropland. Much of the area within the Odessa Subarea, including southwest Lincoln County, receives 10" or less of annual precipitation and is on the drier end of the summer fallow region in Eastern Washington. As noted in the draft EIS, summer fallowing on dryland cropland that is needed to store more water for a crop every other year also comes with an increased risk of wind erosion. The lower annual precip also produces less crop residue to help protect the soil from water erosion on seeded winter wheat fields due to rainfall on frozen soil events that commonly occur in winter in Eastern Washington.

IND15-5

IND15-6

As noted in the draft EIS, another potential adverse affect of deep irrigation wells drying up and irrigated cropland reverting back to dryland cropland is any sodium affected soils that may have been produced by irrigation with high pH/high sodium

IND15-7



well water. Some new soil amendments have been developed that work better at reversing the adverse affects of sodium than gypsum (calcium sulfate) and calcium nitrate. However, in order for these amendments to work in a shorter, more feasible time span, water typically needs to be applied and adequate drainage needs to be available in order for the sodium to be removed from the cation exchange sites and flushed out of the soil profile. In addition, as noted in the draft EIS, the production of higher value irrigated crops is needed to help offset the costs of removing the sodium from the soil. With no more irrigation water, deep well irrigated cropland that reverts back to dryland cropland and that is adversely affected by sodium may take many years, if ever, for the excess sodium to flushed out of the soil profile. Does anyone really know if excess sodium in such soils would be flushed out of the upper soil profile by naturally occurring annual precip of 10" or less per year? Where is the data to support this supposition? How can anyone really know without the supporting soil lab data to help define what the extent of any adverse soil quality problems caused by high pH/high sodium irrigation water from deep wells may be?

IND15-7

5. Map 2-1 shows that at least some of Lincoln County is now included within the full groundwater irrigation replacement alternative. However, only the extreme southwest corner of Lincoln County would be covered under the full groundwater irrigation replacement alternative. If only the partial groundwater replacement alternative is implemented south of I-90, no surface water will be delivered to any portion of Lincoln County to help deal with declining irrigation well water levels. In addition, the vast majority of the Odessa Subarea within the southwestern quarter of Lincoln County will receive no surface water even if the full groundwater irrigation replacement alternative is implemented. It would be helpful if a GIS shapefile of the proposed service area with the full groundwater irrigation replacement was made available to the public and/or Lincoln County and the Lincoln County Conservation District.

IND15-8

6. The Lincoln County Conservation District and contractors are completing the final edits to the pre-feasibility study for the proposed Lincoln County Passive Rehydration project. This passive rehydration project proposes to pipe water from the Lincoln area along Lake Roosevelt up and over the drainage divide and into the upper headwaters of selected tributaries of Crab Creek. The Lake Creek drainage has recently been identified by the pre-feasibility study as the most favorable tributary of Crab Creek to pipe water to and let run down the existing creek channel to help rehydrate the creek, the lakes within the Lake Creek drainage, and in the process, help to recharge the basalt aquifers from the now dry lakes along the lower part of the Lake Creek chain, including Pacific Lake.

I have heard anecdotal stories from some irrigated farmers southwest of Odessa that in the years when Pacific Lake was full, their deep irrigation wells had less problems with water levels. It may be possible that in some areas close to Lake Creek and to Crab Creek west and southwest of Odessa, water that would passively infiltrate into the local basalt aquifers would help to recharge the nearby irrigation wells within a relatively short period of years. For areas that are farther to the south of Hwy 28, it may take many more years for any passively infiltrated water to help recharge deep irrigation wells. The proposed Lincoln County Passive Rehydration project may be the only project to help with well water levels in the southwest corner of Lincoln County if the full groundwater irrigation alternative is not implemented, but the passive rehydration project, if only implemented on Lake Creek, will still not help with declining groundwater levels farther to the northeast within the northeast corner of the Odessa Subarea inside Lincoln County.

IND15-9

7. I have previously discussed some concerns about deep well irrigation water and long term soil quality with Steve Rolph, a fellow soil scientist that works in the BOR office in Yakima. I believe that Steve shares similar concerns about the potential effects of high pH/high sodium water from deep well irrigation in Eastern Washington. Steve may have some additional perspectives about the high pH/high sodium well water issue that I haven't mentioned in this email.

Sincerely,

Dean White  
Water & Soil Resources Technician  
Lincoln County Conservation District  
PO Box 46/1310 Morgan St.  
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ARCPACS Certified Professional Soil Scientist # 22725



7. 2014

Figure 5. (continued)

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1000	X		
1002	X		
1100	X		
1000			
1700	X		
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1120	X		
1123	X		
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1120	X		
1122	X		
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Jan 9 - 2011

1123

Charles A. Carnahan

I put my support on the building of the East High Canal and completion of what Congress and Washington D.C. promised the people many years ago.

We still have the water rights available to the area from the Columbia River. So let's use it now.

The amount of water used in the East Low Irrigation area is far less today than what it was in the early part of use, because of conservative watering methods that are now being used which allow for less water being taken from the Columbia River now. And the same measure will be used if the East High area is completed. Plus any other water conservation methods will be adopted as they come along.

IND17-1-

Farmers are very conservative with farming practices, care strongly about conservation, and are very active Environmentalists. Because farmers know this is the best way to keep our land and be able to provide food for a hungry nation. As the population grows and it is growing very fast in the world the demand for food to fight hunger needs to be addressed now.

You'll never feed a person with so called sagebrush Steeps.

As far as the cost of building the East High Canal system and completion of W.D.C.'s promise to the people goes, many people said we couldn't pay the costs for the construction of the East Low Canal. Well 50 years later the farmers had proved that. And so give us a chance and we will again.



The cost of building and completing the East High Irrigation Canal system sounds very expensive <sup>but</sup> look at the numbers being used and these are numbers as being used without real knowledge of what the actual cost will be. If you use said numbers in comparison to the cost of the East Low Irrigation system actual cost, and adjust for inflation and all other factors thrown in the cost would not be much different project.

Back in 1950 if you got paid \$1<sup>00</sup> per hour you had money in your pockets.

Back then you <sup>could</sup> buy a nice new 4 door Sedan for less than \$1500<sup>00</sup>. Try it today.

You need to compare apples to apples.

IND17-1

It is our God given duty to work to provide food for the future of our nation and the world and we need the water to do this. The farmers will pay for the project if given a chance.

As for the economic impact goes, if the East Low Canal would not have been built, Moses Lake would be a small town. Ephraim would look like Okeesa, Quincy would look like Reelfoot, Othello and Connell, people would even notice, and few many people could live off the sagebrush land before the water came maybe 10. And now it feeds thousands of people. Same land.

The East Low Canal Area consisted of mostly sage brush and was converted from brush and blue sand to a very high producing Area. The East High Area is mostly all cultivated land and has a chance to become a very high production return for the money invested. Give us the water and let us pay for it and then by increase production, jobs, increase economic value for our area, plus food for the nation and the world.

Once again: develop and finish the East High as promised.

David J. Brammwell  
C. A. Brammwell

From: [Donna Del Porto](#)  
 To: [ROE IIDA Odessa Study](#)  
 Subject: Concerns about Odessa Subarea water  
 Date: Sunday, January 09, 2011 10:09:19 PM

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January 9, 2011

Dear Mr. Carnohan,

I live in the Columbia Basin and, in fact, I lived in Warden, Washington, from 1972 to 1980. My family moved to Quincy, WA, in 1980 and we now live in the country near George, WA. I know lots of people in and around Warden and Lind. My husband worked in Lind, WA from 1997 to 2005. I know exactly the properties that have the deep water wells and I know how angry those folks will be when and if some of the restrictions will be placed on them for land ownership. The water and the land have been the encompassing topics of conversation forever.

My concern is different. As I mentioned, I live near Quincy. Our community has seen an astonishing influx of technology data centers. Each of these data centers uses huge amounts of resources. They take good farm ground out of production, they use lots and lots of water and, as we are now learning, they pollute the air. My concerns have focused on the air quality and the lack of controls that have been put in place for protection of the residents in and around Quincy. I am now going to write you and express my concerns about the water use.

I have the first and second set of documents that were used to permit the Microsoft Columbia Data Center. The project started in late 2006 and the permit was granted in 2007. The expansion permit was granted in the Fall of 2010, although that permit is under appeal. As I looked at these documents, I did not see anywhere the amount of water being used for the cooling towers. The cooling towers are discussed. There is data about the toxic drift from the mist released and some discussion about the chemicals that had to be added to the Quincy city water to reduce the scale and other water related issues, but no where did I find any list of the total amount of water used by the facility. I understand that the water quality is poor with lots of suspended silica and other goodies that make it impossible for the water to recirculated very many times. I heard the number of "1 1/2" times for recirculation but I cannot see how it could be circulated 1/2 time. Anyhow, the water is altered chemically and then discharged. An interesting fact is that the City of Quincy received a letter for the Washington State Department of Ecology that stated they had no more ability to accept wastewater from data centers and they should not advertise that they could do that. In the mean time, two more data centers received a SEPA of non-significance from Tim Sneed the Quincy City Administrator. Those SEPA documents are also under appeal. Lots of interesting things happening here in Quincy.

Now, I wonder how much water is being drawn from the ground water and through the City of Quincy water system to provide for these commercial, industrial facilities? Is that possible that the city water could be used this way? Microsoft uses city water and one of the proposed new data centers, Dell, is apparently going to use City of Quincy water. I still do not know how the City can accept more

IND18-1



industry without the ability to handle their wastewater. There are two other data centers, Intuit and Yahoo. These facilities have their own wells. Is that possible? How much ground water are they using? How deep are their wells? I have heard of another farmer (Billy Webber) up north of town that is using lots of ground water because the people on the hill above town are starting, again, to have water problems. My well is not very deep and I wonder how much water can be withdrawn without all of us being compromised. Once those data centers are built, they are not going away anytime soon so I hope someone is keeping track of water issues around this part of the county.

My purpose in writing to you was to let you know of these facilities (which you certainly already knew about) but to specifically ask if the data centers are drawing down the Odessa Subarea water even though they are far removed from the focus of the study way over by Warden. I hope this letter has been of interest to you. I will share one other rumor. One option I heard about was if the City of Quincy cannot find another way to recycle the data center wastewater, they might pipe it to Crescent Lake, west of town, and let it flow through the draws and end up in the Columbia. Sounds kinda crazy to me but stranger things have happened.

I do not know if you have had the pleasure of living in a small farming community, if not, you are missing a real life adventure. The ancient hostilities last forever and having some of the folks from the dry land get together and agree on anything is almost a miracle. I wish you all the luck and skill in the world to solve the ground water issue over by the East High.

Sincerely,

Danna Dal Porto  
16651 Road 3 NW  
Quincy, WA 98848  
(509) 785-2380

IND18-1

10 Jan 2011

Chuck Camohan  
Bureau of Reclamation  
1917 Marsh Road  
Yakima, WA 98901-2058  
RE: Odessa Subarea (Groundwater)

As a former geologist (4 yrs work) + 17 yrs dryland farmer, I do have a few comments, even though I have not seen details of the no-action alternative, nor the (4) partial replacement plans, nor the (4) full replacement ideas.

(a.) Via my college studies, the Columbia plateau is a gentle sloping monocline sloping downhill from Lake Roosevelt southwest. Some of Banks Lake (formerly Grand Coulee) <sup>may</sup> abuts to basalt flows, ~~like near the Vantage bridge~~, but little water is recharging the aquifers (can't go uphill). AND, yes at that time, we thought there was little if any vertical movement of water naturally, the early deep wells were draining some water from above aquifers as they did not case down to where they pumped, then. NOW, I understand within the past 10 years or <sup>so</sup>, anything over 400 feet has to be cased to the pump. Some guys cemented, then rebore another hole.

(b.) Years ago some guy (Hornbeck or Hornfelt) proposed taking the effluent sewer plant water <sup>from Spokane</sup> and channelling it down the nearby North fork of Coal Creek (I think). This runs down one of the channeled scabland coulees, containing Coffee Pot Lake Twin Lakes?, and a few others. Coffee Pot + probably the others ~~do~~ are situated well within basalt flows.

(c.) Supposedly, there's a connection underground from Coeur d'Alene lake to Sprague Lake?!

(d.) In Southwest Spokane County, other lakes sit in ~~the~~ basalt (Badger, Williams, Downs, etc.).

(f.) The upper north fork of Crab Creek ends up there near Reardan but this has very little lakes if any until Sytan Lake near Odessa, but this is <sup>388</sup> like a shallow swamp.



OTHER: (a) Shut down the pump! Some of the deep wells were <sup>prior</sup> dryland producing 35 to 45 bushel ~~per~~ acre wheat. They used to say with all the expenses with irrigation it took something like 75 to 85 bushel per ac. just to break even. (b) where more drier, perhaps go semi-irrigate, once to get the seed going then 1 or 2 times more, rather than running so much getting the ground terribly muddy (& probably leaching out some fertilizer / chemicals). (c) Corn & potatoes need huge amounts of chemicals / fertilizer / water. (d) Hay - could probably be semi-irrigated.

The one neighbor not far away DID SHUT DOWN his circle (costs too much) & does fine w/ 35 to 45 Bu/Ac wheat, more like 65 to 70 Bu/Ac on real good years.

Another neighbor deepened his well to what 800' or 900' & the water is bath tub hot!!

Construction of the so-called East High Canal, NO WAY!?

The Wanapum Dam/Lake does about against basalt flows but ~~is~~ <sup>is</sup> not this uphill, also?

Sometime ago, a big aquifer, parts of Texas / Oklahoma (an Indian name like Ogalala sp.) was pumped dry!

Back in 1967, Ring or Ringe was doing extensive work for his doctorate on our basalts, as I understand.

Errol Kramer  
2776 Downs Road  
Ritzville WA 99169  
509-659-1611

January 14, 2011

Mr. Chuck Carnohan  
Study Manager  
Bureau of Reclamation  
1917 Marsh Road  
Yakima, WA 9801-2058

RE: Odessa Subarea Special Study Draft EIS Comments  
By Alice Parker,  
8582 Rd, K SW  
Royal City, WA 99357  
509-346-9383 home--cell 509-750-2485  
mrsp@smwireless.net

I want to complement and say Thank You to the Bureau of Reclamation on the extensive work done to put this Draft EIS together in such a short time frame. The assistance provided by the State of Washington (i.e Department of Ecology) and others is greatly appreciated.

My major concern with the overall effort is that it has focused only on an exchange of surface water for ground water. Farmers in the area that were part of the original designated Columbia Basin Project who did not have the money or opportunity to make the large investment in drilling of deep wells are now being left out. A concern is Reclamation and the State is letting special environmental groups dictate how the process moves forward. By not looking at the entire area and including those who have not converted to ground water irrigation but are still doing dryland farming and waiting for surface water are being left out of the process. I would strongly encourage Reclamation reconsider and study an option of bringing all lands into the EIS process. I am not an economist but I have been told by others that if all lands were encompassed in the study the benefit/cost ratio would show a positive ratio. I do think the process is not being fair to those landowners who have not drilled wells but have been waiting patiently to receive CBP water by bypassing them.

IND20-1

I hear remarks about how costly the development of the East portion of the CBP and how times are tough and no money to do the project. We need to reflect back and look at the economic conditions when the existing CBP began back in the 1930's and up to 1950. There was not much money then either but with the vision and foresight the project moved forward. The \$1.4 billion value in raw product that is being produced on the project every year creates a huge repayment for the \$531 million original investment. Many other benefits were created that people are enjoying today. Any money spent on the CBP generates revenue and is an investment for the future. It is not a free give away that will never generate revenue.

IND20-2

With the predictions of the increased population in both the United States and the world we need to focus on the future and how these people are going to be fed and who is going



to do it. I believe the Columbia Basin Project is an answer to the source of our food supply. Our food supply is an integral component of our National Security System. The build out of the CBP can not be done in a short period of time. We need to start the process now using a vision for the future. It must be done prior to the time when the need becomes a reality. Sooner than later is preferable.

My overall desire is to have Reclamation set a goal that encompasses a plan that begins working towards the full build out of the entire Columbia Basin Project. It is time to fix the problem with a plan that will be an investment for future years while protecting the finite resource. A Band-Aid approach and fix to the environmental problem is not a good option. We cannot afford economically or environmentally to let a few people who have a special agenda dictate our future.

Let's fix it right by beginning a process that will prove economically and environmentally sound.

Thanks for giving me opportunity to comment.

Sincerely,  
Alice Parker

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[loki2@nwi.net](mailto:loki2@nwi.net)

January 18, 2011

Mr. Charles A. Carnohan  
U. S. Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Ms. Wendy Christensen  
U. S. Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Mr. Derek I. Sandison  
Washington Department of Ecology  
Office of Columbia River  
15 West Yakima Avenue, Suite 200  
Yakima, WA 98902-3401

Re: Odessa Subarea Special Study

Thank you for the opportunity to review and comment on the following Odessa Subarea Special Study reports: "Draft Feasibility-Level Engineering Report" (October 2010), including "Drawings"; Draft Feasibility-Level Special Study Report" (October 2010); and "Draft Environmental Impact Statement Odessa Subarea Special Study" (October 2010). As a former manager of the East Columbia Basin Irrigation District I had involvement with this study process dating back to 2005 and was a member of the PASS Objectives Team in 2006. Since retiring from ECBID in 2007 I have followed this study process and have attended several of the public meetings sponsored by Reclamation and Ecology. I commend Reclamation and Ecology for keeping the study process on track and progressing over these several years.

While I take exception to several of the conclusions and judgments contained in these reports, I do feel the reports are well organized and complement one another and build on one another. I especially like the numerous side bars and how they have been used to provide useful background or summary information. I also believe that the large amount of information presented in the Chapter 3: Affected Environment portion of the "Draft EIS" will be very useful for multiple purposes in the future.

Since these reports are so voluminous and since their complementary nature creates so much overlap and repetition I will not try to always direct my comments to specific

IND21-1

subsections, figures or tables. Rather I will attempt to organize my comments within related topics.

I have had a few conversations with individuals associated with ECBID and the Columbia Basin Development League about these reports. However what follows are my individual comments as an interested citizen. These comments have not been coordinated with others or solicited by others.

#### Delivery Alternative Selection and Optimization

Two of the PASS objectives should be primary considerations in the selection of a delivery alternative:

- Replace all or a portion of current groundwater withdrawals for irrigation ... with CBP water.
- Retain the possibility of full CBP development in the future.

IND21-2

I believe that Delivery Alternative 3, Full Groundwater Irrigation Replacement, is superior in regards to those two objectives. As presently configured Alternative 3 replaces the groundwater irrigation on all, or nearly all, of the groundwater acres within the authorized study area. Taking these 102,600 acres off their present groundwater supply will provide the most agricultural benefit to those lands; probably make groundwater available longer to groundwater acres located outside the authorized study area; and level out or reverse the groundwater depletions being experienced by CBP area municipalities and industries.

Delivery Alternative 3 is also, I believe, superior to Delivery Alternative 2 in retaining the possibility of full CBP development since it starts the infrastructure of the East High Canal system.. This is not to say that that Alternative 2 will preclude eventual full development but future development of the East high Canal may have higher feasibility hurdles with 57,000 acres already being supplied by the East Low Canal. Also, while Delivery Alternative 2 does not preclude eventual full development, it does destine approximately 45,600 groundwater acres to revert to dryland farming until full development occurs.

While Delivery Alternative 3 will provide a CBP water supply to nearly twice as many groundwater irrigated acres as Alternative 2, it is over three times as costly. ECBID's manager had told me that Paul Ruchti and the Design Team have already devoted much effort toward reducing construction cost estimates. Possibly some further optimization of Alternative 3 can reduce its cost.

Is it possible, practical and/or feasible to pump to the East High Canal from either Brook Lake or Billy Clapp Lake? Brook Lake is a little over one mile west of the alignment of the EHC Crab Creek Siphon. Billy Clapp Lake is 1.5 or 2 miles west depending on where on the siphon alignment you measure from. Drawing 222-D-52036 indicates the water surface elevation at the siphon inlet will be 1490' and the water surface elevation at the siphon outlet will be 1483'. From Drawing 222-D-50201 it appears the siphon invert at its lowest point will be about 1174'. I believe the water surface elevation of Brook Lake is about 1234'. If that lake were to be used as a pumping plant forebay the water would be spilled from Billy Clapp Lake which has a water surface elevation of about 1322'. Head-wise it would be better to take advantage of the higher elevation of Billy Clapp Lake but that would need to be evaluated against the

longer penstock distance. Drawing 222-D-52035 indicates the necessary Q for Alternative 3 at the Crab Creek Siphon will be 1087 cfs.

Pumping from Billy Clapp Lake to the siphon inlet and assuming a combined electrical/mechanical pumping efficiency of 85% and neglecting dynamic head the approximate horsepower requirement would be about:

$$HP = \{(1087 \text{ cfs}) (1490' - 1322')\} / \{(8.8) (0.85)\} = 24,414 \text{ HP}$$

For the corresponding calculation pumping from Brook Lake to the siphon outlet the approximate horsepower requirement would be:

$$HP = \{(1087 \text{ cfs}) (1483' - 1234')\} / \{(8.8) (0.85)\} = 36,185 \text{ HP}$$

This is a lot of water to pump and these are large horsepower requirements but may not be unusual by CBP standards. Each of pumps P-1 through P-6 at Grand Coulee Dam are 65,000 HP each and the 6 P/G units are 67,500 HP each, or more. Another comparison is that Table 3-2 of the "Draft Engineering Report" plans for 12 pumps at the EHC Black Rock Pumping Plant having a total capacity of 12,100 HP. In CBP's 1<sup>st</sup> half, SCBID's Radar Plant has 8100 HP and QCBID's Frenchman Hills Plant has 13,500 HP.

Locating the forebay at Billy Clapp Lake has a clear horsepower advantage but the dynamic head losses and construction costs associated with a longer penstock would have to be evaluated compared to that head advantage. Dealing with the 1087 cfs during a pump outage would also be a consideration in selecting a pumping location. During the irrigation season Billy Clapp Lake has limited active storage however it could probably store some water during a pump outage before having to spill to Crab Creek. For Brook Lake spilling to Crab Creek may be more immediate. In either case routing emergency spill down Crab creek probably has to be a consideration. Brook Lake might have a further disadvantage caused by occasional natural floods in Crab Creek, although those typically occur during the non-irrigation season.

An additional pumping configuration could be to gravity pipe water from Billy Clapp Lake to a pumping plant located near the invert of the siphon (1322' vs. 1174') and locate the pumping plant there pumping to the siphon outlet. Tightlining the pump intake line that far to that large a pumping plant may not be doable but if it is this configuration may have less dynamic head to overcome than pumping at Billy Clapp.

This pumping concept may not make sense. However, if it does it would put off to a future CBP development phase up to about 9 miles of East High Canal construction including the East High Headworks, the Long Lake Siphon, the Long Lake Tunnel, the Stratford Tunnel and part or all of the Crab Creek Siphon. Those 9 miles and the listed structures would be necessary in the future for CBP completion but at that time those costs would likely be supported by more acres. Assuming that CBP completion is probably decades in the future, a pumping plant at Brook Lake or Billy Clapp Lake would likely be nearing the end of its initial useful life and would be fully depreciated by that time.

The construction cost estimates that accompany the "Draft Engineering Report" lump costs above and below the Black Rock Coulee Re-Reg Reservoir. It's about 25 canal miles from the head of the EHC to that reservoir and it's about 9 miles to the outlet of the



EHC Crab Creek Siphon. In those 25 miles, 2 of 3 siphons and 2 of 3 tunnels are in those upper 9 miles. Proportioning some of those cost estimates (rounded) gives some idea of the potential cost savings by delaying those 9 miles:

Headworks = \$3.4 million

Canal & Lining =  $(9/25)$  (\$150.5 million) = \$54.2 million

Siphons =  $(2/3)$  (\$187.6 million) = \$125.7 million

Tunnels =  $(2/3)$  (\$43.3 million) = \$29.0 million

Total Cost Reductions = \$212.3 million

The estimated construction cost for the Black Rock Coulee Pumping Plant is \$22.5 million. Using that amount as a surrogate for a pumping plant at either Billy Clapp or Brook Lake results in a net cost reduction of \$189.8 million. \$22.5 million is no doubt understated for such a pumping plant since it would need to have at least twice the horsepower as Black Rock. But \$212.3 million may similarly understate the cost savings of the delayed 9 miles of EHC since that canal cross-section and those siphons and tunnels are larger than the ones nearer Black Rock Coulee. There is enough detail in the engineering cost estimates to develop much more accurate numbers. I have done enough just to illustrate that this approach could be worthy of further analysis.

Other possible cost reduction possibilities for Alternative 3 could be to bypass some of the groundwater acres. A few of the East High Canal pump laterals serve relatively few scattered circles. Examples could be the EH 4, maybe part of the EH 11 and maybe part of the EH 29. It appears that the circles to be served by the East Low Canal are clustered more densely so a similar review may not be warranted for that area for either Alternative 3 or 2.

Another method to consider for bypassing some of the groundwater acres could be a triage approach based on the likely future dependability of the groundwater supply. In 2006 it was decided to not develop alternatives or target areas based on the local severity of the drawdown. One basis for that decision was the lack of reliable and non-conflicting groundwater data for the study area. Since that time much more, and hopefully better, information about the hydrogeology of the Odessa Subarea has been developed, most notably by the Columbia Basin Groundwater Management Area. Section 4.3.1 and Table 4-3 of the "Draft Special Study Report" discuss the varying dependability of many wells. Some consideration should be given to mapping Level 1 and Level 2 wells to see if any of those are geographically clustered in a manner that could warrant eliminating all or portions of pump laterals in both the EHC and ELC areas. This approach could apply to both Alternatives 3 and 2. If I interpret that and related sections correctly the Level 1 and 2 wells are expected to be 15% of the total wells in the future and are expected to continue providing a satisfactory supply.

Another approach to consider bypassing some of the groundwater acres could be based on identifying groundwater irrigators who will not be willing to accept CBP water if it becomes available. The excellent grass roots support for this study process confirms that the substantial majority of groundwater irrigators not only desire CBP water but are desperate to get it. But there are likely to be a few who will decline CBP water when it becomes available, for a variety of reasons. It is probably not possible to get firm

commitments in advance but it could be a good thing to try to identify non-takers now in the event that their elimination will lower cost estimates.

If, in the end, Delivery Alternative 3 cannot be afforded – Delivery Alternative 2 should be constructed. However, if that's the case, some consideration to shifting some of those acres north of I-90 may be appropriate.

IND21-3

#### Water Supply Options

It appears to me that Water Supply Option B – Banks Lake and Lake Roosevelt – is the best choice for either Alternative 3 or 2. Option B supplies the necessary water for both these alternatives without increasing the cost of either alternative, with lower adverse impacts than the other three options, all while staying neutral to Columbia River flows downstream of Grand Coulee.

IND21-4

While it's probably a difficult argument to win, it should be remembered that the original purpose of Banks Lake was to be an irrigation supply reservoir with a typical irrigation supply hydrograph and the resulting late summer "bathtub ring". Because of the fully completed pumping capacity at Grand Coulee Dam we've had the luxury of not having to operate Banks Lake that way. Everyone (communities, recreationists, irrigators, etc.) has become accustomed to this operation and naturally would prefer it to continue. The CBP irrigation districts have always supported a full, or fuller, Banks Lake. Grand Coulee's pumps must refill Banks Lake 3+ times every irrigation season so having a full reservoir provides reserve and reaction time in the event of problems at Grand Coulee. A few years ago the combination of planned maintenance outages in the P/G Plant and a major fire in the Left Powerhouse severely crippled pumping capacity. A full Banks Lake provided time for Reclamation to restore adequate (barely) pumping capacity for the balance of the irrigation season.

The now routine August pumping reduction to support Columbia River fish flows has Banks Lake down about 5 feet from full at the end of August. Figure 2-1 in the "Draft EIS" indicates that the end of August drawdown for Option B, for either Alternative 3 or 2, would be 8 feet rather than 5 feet. This will be noticeable and not popular, at least at first. I have boated and camped at Banks Lake for a long time and even though I much prefer a full lake I think quality recreation will still be possible. Reclamation should do the mitigation measures at boat launches, swimming areas and other recreation sites as discussed in the "Draft EIS". A further measure should be to mark navigation hazards exposed by the drawdown. I know that Reclamation does not normally provide navigation aids at its reservoirs but in this case I think the situation will warrant it. Possibly Reclamation could partner with State Parks, WDFW and local communities on this.

IND21-5

Figure 2-2 in the "Draft EIS" indicates the additional drawdown of Lake Roosevelt for Option B would be about 2 feet in most years (95 of 100) for Alternative 3 and about 0.5 feet in all years for Alternative 2. I have also boated and camped at Lake Roosevelt for a long time. These drawdown amounts will not be especially noticeable, by themselves, from a recreational boating and camping perspective. I believe the difference will most often be lost in all the daily fluctuations resulting from normal upstream and downstream operations and flows.

IND21-6

A new reservoir at Rocky Coulee as included in Options C and D is conceptually attractive because it would lessen or eliminate the additional drawdown of Banks Lake.

However, these are the most expensive of the Water Supply Options. Option B can provide the needed water supply without this additional cost. I think the Rocky Coulee Reservoir options should be placed on the back burner for now. It can be revisited if objections to the Banks Lake or Lake Roosevelt options become overwhelming. If Rocky Coulee Reservoir was to be built to avoid impacts elsewhere perhaps the construction and O&M costs should be allocated to project beneficiaries other than irrigators.

IND21-7

I do believe that a reservoir at Rocky Coulee could have some incidental operational benefits to the 1<sup>st</sup> half of the CBP. The 109,315 acre feet of storage it would provide could, in certain circumstances, act as a redundant supply to Potholes Reservoir. Rocky Coulee could become an operational component of Potholes direct feed during the shoulders of the irrigation season. Probably incidental benefits such as these would not justify the \$190 million construction cost or the \$276 million total cost.

IND21-8

#### Consequences of the No Action Alternative

I believe the narratives in the "Draft Special Study Report" and the "Draft EIS" do a poor job of portraying the economic and human consequences of No Action which undermines the whole goal of the Odessa Subarea Special Study and all these years of hard work by many. Those reports contain the information and statistics needed to tell the story but the narratives compare adverse consequences to larger demographic areas suggesting a conclusion that allowing all these acres to revert to dryland farming will be no big deal.

IND21-9

The Odessa Subarea Special Study is unusual because the baseline for comparison is in motion. For most water project analyses the action alternative is to improve the status quo. As a result the baseline is essentially static and the costs and benefits of the action alternative can be measured against it to see if the improvement is warranted. In this case the baseline is a steadily worsening situation which is not static and therefore harder to measure against and predict a variable difference. Complicating this is the fact that people, businesses and communities tend to take action to mitigate a worsening situation making it even harder to define what 'no action' is.

IND21-10

Pages x. and xi. of the "Draft Special Study Report" summarize the consequences of the economic losses of No Action to the surrounding area. Compared to Alternative 2 there would be 2% fewer jobs and compared to Alternative 3 there would be 6% fewer jobs. That text leads to a conclusion of minor employment impacts as a result of No Action. It would be more informative to also include the number of actual jobs behind these percentages. From Table 5-17 No Action will cost 658 jobs. From Table 5-21 Alternative 2 will save 370 of those jobs and from Table 5-27 Alternative 3 will save them all, 666 jobs. In regional or national terms that's not a lot of jobs but by rural and small town standards these are significant numbers.

Similarly Table 5-20 indicates that current annual gross farm income of \$106 million will decline to \$42 million with No Action. Alternative 2 will limit that decline to \$79 million and Alternative 3 will prevent the decline, \$108 million.

Figure 4 in the "Draft EIS Executive Summary" does a good job in illustrating the worsening conditions under No Action and the partial or full prevention of those negative results by the action alternatives. Preventing \$64 million in annual economic decline may not be a big deal when compared regionally or nationally but that is a lot of economic loss for rural areas and small towns.

IND21-11



On page ES-38 of the "Draft EIS" the section 'Irrigated Agriculture and Socioeconomics' does the same broad brush, percentage type comparison which creates the impression that the negative effects of No Action are no big deal. This is not a good stand-alone description. Especially since it's in a summary area of the reports which is all many people will bother to read.

IND21-12

Different economic studies on the same topic almost always reach different conclusions. Section 2.1.2 of the "Draft Special Study Report" summarizes the findings of the 2005 WSU study that concluded No Action will result in the loss of 3600 jobs, \$630 million in regional sales and \$211 million in regional income. These economic losses are dramatically worse than those estimated by Reclamation. Perhaps the WSU findings should be given more prominence in the final reports.

Sections 4.3.3 and 5.1.1.3 and Table 5-3 all speak to the groundwater situation for CBP area municipalities. This information explains how municipal water supplies are being affected now, how they will be more adversely affected under No Action and how they will begin to recover under the action alternatives. There is good information in these sections but it is not addressed in the summaries or even very well summarized in the referenced sections. Even though the primary focus of the Odessa Subarea Special Study and the action alternatives is irrigated agriculture, the small towns and cities that rely on the Odessa Subarea groundwater are important to decision makers. I recommend that municipal groundwater be given higher profile coverage in the final reports since it will be of interest to a broader spectrum of the public and to many public officials.

IND21-13

Section 5.1.6 of the "Draft Special Study Report" essentially states that neither action alternative is feasible. That may be true under 'principles and guidelines' but not by other standards. This section should not appear in the final reports or, at the very least, should be written in a much broader perspective.

The final decisions about the action alternatives are likely to be made by federal and state legislators and other elected officials. They are likely to consider benefits and costs in terms broader than those set forth by 'principles and guidelines' and as quantified in the BCA. I hope that Reclamation takes care in the final reports to illustrate the costs of No Action in more direct terms than simple demographically broad, percentage comparisons to better convey the impacts to real people. A better narrative description will be helpful to those elected decision makers.

#### Hydropower

Section 5.1.1.5.3 of the "Draft Special Study Report" explains how lost hydropower benefits are to be analyzed. Section 5.1.3.2.2 estimates these losses to be \$6.9 million annually for Alternative 2 and Section 5.1.4.2.2 finds the corresponding annual losses to be \$17.6 million for Alternative 3. Those estimated "lost benefits" are then classified as costs in the BCA.

This conclusion is not appropriate and those and related sections and those costs items for the BCA should be deleted for the final reports. How many other enterprises have to justify themselves in terms of power other than paying for the power they use?

Grand Coulee Dam was built as the water and power supply for the CBP. Power generated in excess of the needs of the CBP was to be available to others with a portion of the resulting power revenues being used to repay a portion of the project development costs. Since about 90% of Grand Coulee's generation is surplus to the needs of the CBP



it's turned out to be a great federal enterprise and a great regional asset. But it's resulted in the tail wagging the dog.

The "1989 Draft EIS for Further CBP Development" identified irrigation service to 87,000 acres from an enlarged and extended East Low Canal as its preferred alternative. That report estimated that the preferred alternative would have a net effect on hydropower of just under 40 average annual megawatts. Some hydropower interests objected to that preferred alternative because of hydropower impacts. That continued development effort failed for a variety of reasons and the objection of some hydropower interests was probably a minor reason at most. A year or two later a silicon chip manufacturing plant was constructed near Moses Lake. That one plant required more hydropower than the preferred alternative and everyone thought the resulting job and economic growth was a great use of Columbia River hydropower. It seems like there's a double standard going on here? It's okay for industry to use hydropower but not agriculture?

IND21-14

Today the mid-Columbia PUDs, area port districts and many area communities work hard to attract new industries using the easy availability of low cost hydropower as a selling point. Google, Microsoft and Yahoo have all located server farms in the general area in recent years and the earlier mentioned silicon chip plant has completed a massive expansion. I agree that these are good economic advances for the area and the availability of hydropower has no doubt been a major reason why all this has happened.

CBP should have to pay the cost of the hydropower it uses but it should not have to justify itself to hydropower interests.

#### Drainage Costs

Section 5.1.1.5, page 5-11 of the "Draft Special Study Report" includes a short paragraph explaining how drainage construction costs would be analyzed. Table 5-12 states drainage construction will cost \$28.5 million for Alternative 2 and \$83.5 million for Alternative 3, a corresponding O&M cost is also shown. These costs are somewhat higher on Table 5-13 when the authorized 3% interest rate for CBP is applied.

I didn't find much of an explanation of how these costs were estimated. If 1<sup>st</sup> half drainage construction costs were used as a basis these costs are too high. The irrigation technology and management practices and the soils of the groundwater acres are very different than the 1<sup>st</sup> half. Less water per acre is being used, it's being applied at appropriate rates and generally there is deep soil above bedrock or other impervious layers. There will no doubt be some drainage issues in these areas however they should be minor compared to the 1<sup>st</sup> half.

These drainage cost estimates need to be reviewed, better explained and reduced for the final reports.

#### Wildlife, Shrub-Steppe and Wetlands

The wildlife crossings and wildlife escape ramps planned for the East High Canal are a good idea. Some ramps have been retrofitted to the Main Canal and East Low Canal with good results. The wildlife escape ramps should be configured and constructed in such a way that they can also function as access ramps for maintenance vehicles and equipment.

IND21-15

The "Draft EIS" gives the impression that both action alternatives will have significant adverse impacts to shrub-steppe. For Alternative 2 this impact will be minimal. All the

IND21-16

land to be irrigated is already in an irrigated ag land use. The canal-side pumping plants, booster pumping plants and pump lateral pipelines will be situated in or along farmed areas. The shrub-steppe vegetation within the East Low Canal right-of-way has grown up since the canal was constructed and mostly borders irrigated farmland. Rocky Coulee Reservoir and Black Rock Coulee Reservoir would inundate areas of shrub-steppe. For Alternative 3 the upper reaches of the East High Canal would pass through areas of shrub-steppe. The same may be true for some of the East High Canal pump laterals. All the land to be irrigated by Alternative 3 is presently irrigated farmland.

IND21-16

Photograph 6 on page ES-35 of the "Draft EIS" creates the impression that large tracts of shrub-steppe are involved. I don't think this photo is representative of what will happen and should be replaced by a more representative photo in the final reports or deleted altogether.

The final reports should be revised to put the losses of shrub-steppe in a more accurate perspective.

Page ES-33 of the "Draft EIS" speaks of losses to wetlands adjacent to the East Low Canal south of I-90. Adjacent wetlands below the canal that have formed by canal seepage will not be affected unless the canal is lined at those locations. Leakier areas of the ELC are being methodically lined now pursuant to ECBID's Comprehensive Water Conservation Plan and the CBP Coordinated Conservation Plan. Wetlands and ponds have developed on the high side of the ELC as a result of the canal bank configurations associated with its initial development and intended enlargement. These isolated bays and wetlands do provide habitat areas for waterfowl nesting and lots of other bird life. These bays could be re-created as the canal is enlarged to its ultimate size if that is desired.

IND21-17

Photograph 4 on page ES-33 of the "Draft EIS" creates the impression that large tracts of wetlands will be affected. I don't think this photo is representative of what will happen and should be replaced by a more representative photo in the final reports or deleted altogether.

The final reports should be revised to put these canal-side wetlands in a more accurate perspective.

A companion planning activity to the "1989 Draft EIS for Continued Development" was a wildlife enhancement plan. Most of that work was done by the Columbia National Wildlife Refuge with support by WDFW. As I recall that wildlife plan called for the creation of constructed wetlands and ponds in major coulees similar to some of the features of the Columbia National Wildlife Refuge. Reclamation may want to dust off that plan to see how much of it can be directly applied to Alternative 3 or 2.

IND21-18

#### Miscellaneous Engineering Comments

In section 2.2.12.2.2 on page 2-31 of the "Draft Engineering Report" there is a good discussion of which types of pipe will be used in particular situations. I support Reclamation's intention to utilize a full range of commercially available types of pipe and pipe materials.

In Section 4.1.1 of the "Draft Engineering Report" I support the decision to use vertical turbine pumps for the canal-side pumping plants. They don't have the priming and loss of prime problems common to split-case centrifugal pumps. Besides easier operation this can be a canal safety factor by getting pumping re-established more quickly and more reliably after an outage. That same section I think implies that in a multi-pump

installation all the pumps would be of equal capacity. Consideration should be given to varying the sizes of the pumps so that individual pumps are pumping at or near their rated capacity as much of the time as possible. This will improve plant efficiency over the course of the irrigation season. However, using VFDs as discussed can have a similar effect.

Why were vertical turbine pumps not selected for the Rocky Coulee Reservoir Pumping Plant as was done for the Black Rock Coulee Reservoir Pumping Plant?

I believe the planned use of split-case centrifugal pumps for the booster pumping plants as described in Section 4.2.1 is good. These are efficient pumps and in a booster application the flooded suction situation eliminates priming concerns. I have the same comment about the planned equal sizing of pump units for the booster pumping plants as I do for the canal-side pumping plants.

Section 2.2.3 of the "Draft Engineering Report" discusses canal lining plans. It includes a statement that examining the use of membrane linings will be a consideration during final design. Using an appropriate membrane beneath earth lining or concrete lining can result in a very impervious lining with a longer useful life than earth lining or concrete lining alone. SCBID and QCBID have recently constructed finished shotcrete linings underlain with Huesker membrane with good results.

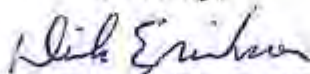
#### Conclusion

I recommend that Delivery Alternative 3, Full Groundwater Replacement, or a refined version of it, be constructed. If that is not possible then Delivery Alternative 2, Partial Groundwater Replacement should be constructed. If that is the case, consideration should be given to allocating some of the acres north of I-90. For either alternative I recommend that the water should come from Water Supply Option B, Banks Lake plus Lake Roosevelt. Rocky Coulee Reservoir may merit further consideration if objections to further drawdown of Banks Lake become insurmountable.

IND21-19

I look forward to continuing to follow the Odessa Subarea Special Study as it moves toward its conclusion and a decision. Thank you for your consideration.

Sincerely,

  
Richard L. Erickson, P.E.



From: [Jena Gilman](#)  
To: [BOE IDA Odessa Study](#)  
Subject: Odessa Sub-Area Special Study DEIS Comments Submitted by Jena Gilman  
Date: Wednesday, January 19, 2011 8:00:06 PM

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Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

[E-Mailed to [Odessa@usbr.gov](mailto:Odessa@usbr.gov) 19 January 2011]

Re: Comments on Odessa Sub-Area Special Study Draft Environmental Impact Statement

Dear Mr. Carnohan:

I am writing to express my disappointment in the Draft EIS and ask that you rewrite the document to adequately examine the benefits and negative consequences of each of the alternatives. The document is heavily slanted toward very expensive engineering solutions and does not adequately address the benefits of the No Action alternative or alternatives that do not require withdrawal of additional water from the Columbia River.

IND22-1

Purpose and Need

To begin with, the Purpose and Need statement is unclear and is probably not in compliance with NEPA. The Purpose and Need statement on Page ES-6 refers to the "Study". What "Study"? I thought this was an EIS. Also, can you clarify the Purpose? Isn't the Purpose simply to address the environmental impacts of the eight alternatives that you have developed to address water supply in the Odessa Sub-Area? On to Need: Isn't addressing declining groundwater supply the same as avoiding economic loss or is there a need to address groundwater levels simply for the sake of addressing groundwater levels? Is an intergovernmental MOU really a "Need" under terms of NEPA? Are you aware that EPA reviews NEPA EIS's pursuant to Section 309 of the Clean Air Act to evaluate their completeness and quality. If not appropriately done, EPA may appeal the EIS to the CEQ.

IND22-2

Programmatic EIS

This looks more like a Programmatic EIS because of its failure to adequately look at all of the specific issues that affect the action alternatives, including the cumulative impacts. If it is a Programmatic EIS, then it should define and examine the planning level decision making approaches being used by Reclamation.

IND22-3

Does water come from a Water Right or a river?

The CBP is going to have trouble enough supplying water to the existing users without expanding into the Odessa Sub-Area. While the CBP may claim a water right, the fundamental question is: Is there enough water to go around? Without expanding into the Odessa Sub-Area there is just enough to supply the existing surface water irrigators without drastic changes to the system as required by the eight action alternatives discussed in the draft EIS. However, in the future, there is arguably a significant problem just to supply existing surface water irrigators. Please refer to "Evaluating Sustainability of Projected Water Demands in 2050 under Climate Change Scenarios" ([http://rd.tetratech.com/climatechange/projects/nrdc\\_climate.asp](http://rd.tetratech.com/climatechange/projects/nrdc_climate.asp)). This study,

IND22-4



prepared by Tetra Tech indicates that the Columbia Basin will be an area significantly stressed by climate change over the next 50 years. I would assert that expanding the CBP will put the existing surface water irrigators at risk. This scenario was certainly not examined in adequate detail in the Draft EIS.

IND22-4

#### Municipal Groundwater Supplies

The Draft EIS refers to the depleted aquifer as affecting the Cities of Moses Lake and Othello. However, it is not clear how Othello's water supply is affected (see Map 2) nor is there a clear explanation of just why the aquifer east of Moses Lake is affected. From a hydrogeological perspective it has not been made clear what the connection is between the aquifer between Wheeler and Moses Lake is and the wells in the Odessa Sub-Area (again see Map 2).

IND22-5

#### Alternatives Cost

None of the eight action alternatives have a BCR greater than one. How could Reclamation claim that any of these alternatives is worth proceeding with? I doubt that the conservative political base of the affected communities will support this kind of socialist hand-out as it will only increase the national debt.

IND22-6

#### Basis of Hydrologic Record

What data was used to calibrate the hydrologic modeling to estimate changes in river flows and reservoir operations? What was the basis for saying that 5% of the years would exhibit drought conditions or 15% of the years would exhibit dry conditions? On page 4-5, it indicates that a record from 1929 to 1998 was used for modeling. Use of this record, while long, does not take into account the affects of future climate change on both timing of runoff as well as total supply to which you referred earlier in the document.

IND22-7

#### Another Straw Man

On Page ES-18 of the Draft EIS, it is stated, "Actions by the Columbia River Water Resource Management Program to pursue development of water supply alternatives to groundwater for agricultural users in the Odessa Subarea likely would not proceed further under the No Action Alternative...." Why not? There are other water supply alternatives, including natural rainfall. This would, of course, require a change in the agricultural methods employed, such as a switch to wheat or xerophytic crops. Therefore, the No Action Alternative does NOT fail to meet the provisions of Chapter 90.90 RCW - Columbia River Water Management Act.

IND22-8

#### Affected Resource Topics - Groundwater

Actually, once agriculture switches from irrigation to dryland crops, the groundwater resource may eventually recover. I'd give this category a beneficial rating because the impacts of groundwater pumping for irrigation on municipal, domestic and industrial pumping may eventually end.

IND22-9

#### Affected Resource Topics - Land Use and Shoreline Resources

You can't have it both ways by claiming this is consistent with plans and policies, with no qualification. Whose plans and policies? The Natural Resource Defense Council's policies with regard to sustainable agriculture? The Confederate Colville Tribes policies with regard to their Treaty rights? The EPA's policies with regard to the remediation of Teck Cominco's mess?

IND22-10

#### Affected Resource Topics - Visual Resources

You have got to be kidding by asserting that the No Action alternative would have a major

IND22-11

adverse impact on Visual resources. Conversion to dryland or xerophytic crops would result in a landscape quite familiar to residents of this area and usually acclaimed by photographers and other aesthetes.

IND22-11

Affected Resource Topics - Irrigated Agriculture

Are you sure gross farm income will decline? Have you adequately examined the switch to dryland agriculture? Wheat is an attractive alternative to row crops when you can't find a lot of surface water to irrigate with. In addition, I have to object to characterizing an impact of less than 3% either way as a significant adverse or beneficial impact.

IND22-12

Affected Resource Topics - Socioeconomics

Again, have you adequately examined a switch to dryland agriculture?

IND22-13

There are several resource topic and effect areas that you have stated no beneficial or adverse impacts.

Affected Resource Topics - Surface Water Resources

The eight action alternatives all have a negative impact on surface water resources through the requirement to draw water from the Columbia River.

IND22-14

Affected Resource Topics -Threatened and Endangered Species

The area has not been sufficiently examined for many candidate threatened or endangered species or species of concern such as the Townsend's big-eared bats and the western burrowing owl. In addition, the action alternatives would disrupt an important wildlife corridor. Therefore, to ensure that threatened and endangered species receive due consideration in this programmatic EIS, you should list this as an affected resource with at least a minimal adverse impact to their habitat.

IND22-15

Affected Resource Topics - Air Quality

This is an egregious omission. Not only will construction result in temporarily decreased air quality, but the construction of a new canal, access roads, and a regulating reservoir that periodically goes dry will result in permanent air quality reduction all due to blowing dust.

IND22-16

Affected Resource Topics - Indian Trust Assets

Lowering FDR Lake affects the real estate of the Colville Confederated Tribes. This is also not a minor issue given the possibility of exposure of toxic sediments and cultural resources.

IND22-17

Alternatives

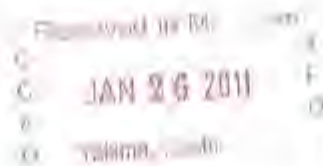
Another problem with the Draft EIS is that it limits alternatives to only those that would deliver water from the CBP to the Odessa Sub-Area. There are other alternatives to the problems experienced by the groundwater irrigators of the Odessa Sub-Area. For instance, what would be the cost of converting to dryland or xerophytic agriculture in this area? What is the true cost of surface water agriculture versus dryland agriculture in the CBP and Odessa Sub-Area? These questions are important and aren't addressed adequately in the Draft EIS. Limiting alternatives to those developed in the PASS is arbitrary and self-serving to Reclamation and not necessarily in compliance with NEPA requirements for alternatives definition.

IND22-18

Thank you for your attention to these comments.

Jena Gilman

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North Bend, WA 98045



503 W 8<sup>th</sup> Ave  
Ritzville, WA 99169

Control #: 11606270

January 21, 2011

BUREAU OF RECLAMATION PROJECT C-17			
MAIL CODE	SCN	DATE	COPY
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41000	X		
41100	X		
41200	X		
41300	X		
41400	X		
41500	X		
41600	X		
41700	X		
41800	X		
41900	X		
42000	X		
42100	X		
42200	X		
42300	X		
42400	X		
42500			



Have you considered the effect of a No Action alternative on the loss of tax revenue to the Counties and State? It will be insurmountable for the Counties to replace this lost tax revenue with the tax basis reduced to dry land farming rates. There should be a line item in this study on the anticipated income tax increase to the federal government from higher income on developed irrigated production. ] IND24-4

A significant amount of agricultural produce on this project will be exported to foreign nations. Have you considered the benefit this will have on the National Balance of Payments? This should be estimated and listed as a benefit. Have the federal farming subsidies been calculated for full development compared to a no action decision. A no action alternative will result in larger subsidies for dry land farming, not a desirable benefit. ] IND24-5

This report lists so many alternatives and assumptions available to use for developing this study that it seem that any good economist would come up with two conclusions. On one hand our conclusion is this one, BUT on the other hand! However, I remember President Harry Truman saying "the only good economist is a one handed one"

Sincerely,



Rex T. Lyle  
Farmer and past director ECBID (1987 - 2005)

January 23, 2011

Mr. Charles A. Carnohan  
Columbia Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Dear Mr. Carnohan:

These comments and the supporting documentation referenced herein address fatal flaws in the subject Odessa Subarea Special Study DEIS. None of the proposed action alternatives addressed in the DEIS serve the public interest. Any of them would require large expenditures of public resources to serve the interests of a few private landowners whose profligate and unsustainable use of ground water to grow water-intensive crops is causing precipitous decline of the underlying aquifers. All action alternatives would continue the loss, fragmentation, and/or severed connectivity of wetlands, shrub-steppe, or grassland habitats with concurrent adverse impacts on the preservation or recovery of many wildlife species, including those listed as endangered, threatened, or of concern by Washington State and/or the USFWS. I request that the USBR withdraw the OSSS proposals and consider appropriate means to address excessive water usage in the area. IND25-1

The comments below are organized as follows:

- Proposed OSSS-area projects fail to serve the public interest (pages 2-6)
- The DEIS fails to include important costs in the cost-benefit analysis (pages 3-6)
- The DEIS fails to consider special protection for species of wildlife listed by Washington State as endangered, threatened, or having greatest conservation need (pages 7-9)
- The DEIS misrepresents and understates impacts due to loss of wetlands (pages 9-12)
- The DEIS misrepresents and understates impacts due to loss of shrub-steppe habitat (pages 12-15)
- The DEIS fails to consider adverse impacts of habitat loss and barriers on landscape-scale linkages and corridors for wildlife movement (pages 16-22)
- Adverse impacts of proposed OSSS developments on State-listed species (Sage Grouse, Sharp-tailed Grouse, Pygmy Rabbit, Leopard Frog) are documented (pages 23-27)
- Adverse impacts of proposed OSSS developments on wildlife species designated as having greatest conservation need (Washington Ground Squirrel, Black- and White-tailed Jackrabbits) and Mule Deer are documented (pages 28-29)

Thank you for the opportunity to comment on the DEIS.

Respectfully yours,



James D. McClure  
108 W James St  
Colfax, WA 98111

## Failure to Serve the Public Interest: Socioeconomic Factors and Recreation

- The minimal impacts of income losses/gains for proposed OSSS alternatives are indicated by the following excerpts (DEIS, pp ES-38 and 4-200, \_\_\_\_\_ added for emphasis). IND25-2

### Irrigated Agriculture and Socioeconomics

In the four-county area, adverse impacts to gross farm income under the No Action Alternative would represent less than 3 percent of the regional gross farm income. The partial replacement alternatives would represent a beneficial effect of less than 3 percent of the total gross farm income for the four-county analysis area. Under the full replacement alternatives, a beneficial effect of less than 5 percent of total gross farm income would be realized. The effects of the

action alternatives, compared to No Action, are shown on Figure 4, *Comparison of Gross Farm Income under the No Action Alternative to the Action Alternatives*.

With respect to jobs, labor income, and sales in the four-county area, the analysis indicates that a minimal adverse impact would occur under the No Action Alternative. The net decrease would be less than 1 percent. Under the action alternatives, however, minimal beneficial effects would be expected, with a less than 1 percent increase in jobs, labor income, and sales in the four-county area.

(ES-38)

The analysis found that the Alternative 2A: Partial—Banks would provide \$36.5 million more in gross farm income than the No Action Alternative in 2025, at the end of four construction phases. The Alternative 3A: Full—Banks would return \$65.7 million more in gross farm income at the end of all nine construction phases. The analysis results are presented in Table 4-62.

The No Action Alternative gross farm income, \$42.7 million, would be less than 3 percent of the \$1.6 billion total gross farm income for the four-county analysis area. Alternative 2a: Partial—Banks change in gross farm income, \$36.5 million, would be less than 3 percent, and the change under Alternative 3a: Full—Banks, \$65.7 million, would be less than 5 percent.

(4-200)

- The proposed DEIS action-alternatives imply major public subsidies for a small number of private landowners, i.e., no more than 70 farmsteads (Reference 3, p 19) IND25-3

### Draft Economics Technical Report Odessa Subarea Special Study

Table AgBen12.—With project representative farms sum-  
WITH PROJECT representative farm pumping level 1 and 2,3,4

Farm size	1470
Irrigated acres	1400
Farmstead	70

and/or no more than 27 owner/operators (Reference 12, last page)—see marker inserts,◆.

### ODESSA SUB-AREA WELL SURVEY RESULTS January, 2010

#### 1. How many acres does this well serve?

Total Wells	Well Owner/Oper.	Total Acres	Avg. Acres Per Well
195	27◆	98,328	504.25



- Although important costs are not accounted for in the DEIS, the following table from the benefit-cost analysis clearly shows the failure of any of the proposed action alternatives to serve the public interest, i.e., project costs exceed benefits (Ref 3, p 4, see also ES-14):

Table NED\_BCA1.—Results of NED BCA (based on current planning rate: 4.375%) (\$ millions)

Alternatives	Partial replacement alternatives				Full replacement alternatives			
	2A	2B	2C	2D	3A	3B	3C	3D
1) Total NED benefits	1,170.2	1,170.2	1,170.2	1,170.2	1,820.5	1,820.5	1,820.5	1,820.5
a) Agriculture benefits	1,153.3	1,153.3	1,153.3	1,153.3	1,800.7	1,800.7	1,800.7	1,800.7
b) Other direct benefits — Municipal	5.1	5.1	5.1	5.1	8.1	8.1	8.1	8.1
c) Other direct benefits — Industrial	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
2) Total NED costs (including lost benefits)	1,276.7	1,276.7	1,726.1	1,726.1	4,148.6	4,148.6	4,597.9	4,597.9
a) Canal and reservoir construction and IDC costs	908.0	908.0	1,326.0	1,326.0	3,255.7	3,255.7	3,673.7	3,673.7
b) Canal and reservoir OMR&P costs	180.7	180.7	212.1	212.1	401.5	401.5	432.8	432.8
c) Drainage system construction and IDC costs	28.5	28.5	28.5	28.5	83.5	83.5	83.5	83.5
d) Drainage system OMR&P costs	3.1	3.1	3.1	3.1	10.4	10.4	10.4	10.4
e) Lost hydropower benefits	156.4	156.4	156.4	156.4	397.6	397.6	397.6	397.6
3) Net benefits (row 1 minus row 2)	-106.5	-106.5	-555.9	-555.9	-2,328.1	-2,328.1	-2,777.4	-2,777.4
4) Benefit-cost ratio (row 1 divided by row 2)	0.917	0.917	0.673	0.673	0.439	0.439	0.396	0.396

Total benefits were estimated at \$1,170.2 million for the partial replacement alternatives and \$1,820.5 million for the full replacement alternatives. Total costs vary by alternative and range from \$1,276.7 million to \$1,726.1 million for the partial replacement alternatives and from \$4,148.6 million to \$4,597.9 million for the full replacement alternatives. Therefore, all of the alternatives result in negative net benefits (-\$106.5 to -\$555.9 million for partial replacement and -\$2,328.1 to -\$2,777.4 million for full replacement) and benefit cost ratios less than one (0.917 to 0.673 for partial replacement and 0.439 to 0.396 for full replacement). As a result, none of these alternatives would be considered economically justified.

- The above DEIS evaluation of excess costs over benefits fails to include important costs, including but not limited to lost visitor-recreation expenditures, mitigation costs for impacted recreation facilities, and restoration of destroyed/degraded vegetation, wetlands, or other required protection for wildlife/habitat. The failed DEIS evaluation of costs re recreational loss and/or mitigation is illustrated by the following underlined statements from the DEIS.



## ES-37

### **Recreation Resources**

All action alternatives would have some degree of significant impact on water-oriented recreation facilities and uses at Banks Lake. No significant impact would occur to recreational resources at Lake Roosevelt or in the Special Study Area with any of the alternatives.

Impacts at Banks Lake would be due to the additional drawdowns of the reservoir pool beyond the No Action Alternative necessary to provide irrigation water supply to the Study Area. These drawdowns would make some boat ramps unusable periodically each year under all alternatives. Most developed swimming sites would also become unusable periodically each year under all alternatives. Developed and dispersed day

use and camping sites would be adversely impacted in two ways:

- Loss of adjacent boat launches and swimming site capacity
- Additional distance to water caused by lower pool elevation

These impacts would be greatest at the end of August each year, when drawdowns reach their maximum depth.

Generally, impacts at Banks Lake would be more widespread, impact more facilities, and last longer under the full replacement alternatives than under the partial replacement alternatives.

and

## ES-38

Impacts related to loss of boat ramp and swimming area availability would be mitigated by developing replacement facilities or redeveloping existing facilities. Mitigation would include building swimming pools near affected recreation sites to provide community swimming areas, and extension or redesign of high-capacity boat ramps. Impacts related to increased distance to the water's edge could not be mitigated.

- In addition to failure to include mitigation costs for lost recreation, the assertions of possible mitigation are significantly invalidated by Banks Lake drawdowns (incapable of mitigation). Exclusive of Alt 2C, drop in lake levels due to drawdowns are estimated to be 3-to-13 feet larger than for the no-action alternative (DEIS Fig 2-1, p 2-8), resulting in ugly, degraded shoreline impacts (muddy "bathtub" rings, etc.) that would discourage much of the existing lakeside recreation (boating, picnicking, camping).

IND25-5

- Loss of recreational income is not included as lost benefits in the DEIS cost-benefit evaluation. Though flawed as indicated below, Ref 3 (pp 83, 89) provides a separate evaluation of associated costs for Banks Lake for partial and full water-replacement options as follows :

Table NED\_REC5—Partial replacement alternative—Average annual losses in recreation visitation and value

					Loss in visitation and value with and without substitution													Average annual visit loss	Average annual value loss (\$/visit)
					North sector				Middle sector				South sector						
					Coulee Playland	Sunbanks Resort	Osborn Bay SW	Osborn Bay SE	SRSP Rest Area	SRSP Day Use Area	Barker Flat	Million Dollar Mile North	Million Dollar Mile South	Coulee City Park	Dry Falls Campground	Dry Falls			
				Low-end threshold	1560	1562	1565	1565	1560	1562	1565	1565	1565	1562	1565	1565		66.38	
Alternative	Month	Water level	Total visits																
2A	August	1561.6	99,192	Local with substitution	0	0	0	0	0	0	0	0	0	10,415	3,472	3,472	17,359	1,152,321	
	August			Nonlocal with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Total with substitution	0	0	0	0	0	0	0	0	0	10,415	3,472	3,472	17,359	1,152,321	
	August			Total w/o substitution	0	9,919	4,960	2,480	0	19,838	2,480	4,960	4,960	14,879	4,960	4,960	74,304	4,938,510	
2B	August	1562.0	99,192	Local with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Nonlocal with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Total with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Total w/o substitution	0	0	4,960	2,480	0	0	2,480	4,960	4,960	0	4,960	4,960	29,757	1,975,408	
2C	August	1564.9	99,192	Local with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Nonlocal with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Total with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Total w/o substitution	0	0	4,960	2,480	0	0	2,480	4,960	4,960	0	4,960	4,960	29,757	1,975,408	
2D	August	1562.0	99,192	Local with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Nonlocal with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Total with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	August			Total w/o substitution	0	0	4,960	2,480	0	0	2,480	4,960	4,960	0	4,960	4,960	29,757	1,975,408	

RD25-6

Table NED\_REC7—Full replacement alternative—Average annual losses in recreation visitation and value

					Total loss in visitation and value with and without substitution: Full replacement alternative													
					North sector				Middle sector				South sector					
					Coulee Playland	Sunbanks Resort	Osborn Bay SW	Osborn Bay SE	SRSP Rest Area	SRSP Day Use Area	Barker Flat	Million Dollar Mile North	Million Dollar Mile South	Coulee City Park	Dry Falls Campground	Dry Falls	Average annual visit loss	Average annual value loss (\$/visit)
					1560	1562	1565	1565	1560	1562	1565	1565	1565	1562	1565	1565		66.38
				Low-end threshold														
Alternative	Month	Water level	Total visits															
3A	August	1561.5	99,192	Local with substitution	10,415	6,942	3,472	1,736	6,943	13,887	1,736	3,472	3,472	10,415	3,472	3,472	69,434	4,609,264
	August			Nonlocal with substitution	4,464	2,976	1,488	744	2,976	5,959	744	1,488	1,488	4,464	1,488	1,488	29,757	1,975,408
	August			Total with substitution	14,879	9,919	4,960	2,480	9,919	19,838	2,480	4,960	4,960	14,879	4,960	4,960	99,192	6,584,672
	July-Sep		244,349	Total w/o substitution	14,879	9,919	12,217	6,109	9,919	19,838	6,109	12,217	12,217	14,879	12,217	12,217	142,739	9,475,600
3B	August	1562	99,192	Local with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	August			Nonlocal with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	August			Total with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	August			Total w/o substitution	0	0	4,960	2,480	0	0	2,480	4,960	4,960	0	4,960	4,960	29,757	1,975,408
3C	August	1560	99,192	Local with substitution	0	0	0	0	0	0	0	0	0	10,415	3,472	3,472	17,359	1,152,321
	August			Nonlocal with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	August			Total with substitution	0	0	0	0	0	0	0	0	0	10,415	3,472	3,472	17,359	1,152,321
	Aug-Sep		140,000	Total w/o substitution	0	9,919	7,000	3,500	0	19,838	3,500	7,000	7,000	14,879	7,000	7,000	88,636	5,781,221
3D	August	1562	99,192	Local with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	August			Nonlocal with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	August			Total with substitution	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	August			Total w/o substitution	0	0	4,960	2,480	0	0	2,480	4,960	4,960	0	4,960	4,960	29,757	1,975,408

- Even with important costs not included in the evaluation (see comments to follow), the above estimates of annual lost Banks Lake recreational benefits vary from ca \$2M-\$5M for partial and \$2M-\$10M for full water-replacement options. IND25-7
- Significant underestimates of lost revenue from recreational activities at Banks Lake in the above tables result from unsubstantiated assumptions in the evaluation (Ref 3, pp 71-87); including discounted shoreline effects, lost benefits associated with asserted partitioning between local and out-of-area recreational use, and assumed "substitution" of other lakeside opportunities/facilities for impacted locations and facilities at Banks Lake. IND25-8
- Additional major loss of recreational income from hunters would be expected from adverse impacts to the large local mule deer population as indicated by the WDFW wildlife survey report, Ref 2, p21: IND25-9

Mule deer (*Odocoileus hemionus*) are an important recreational and economic resource in Washington State. The number of deer located in the Columbia Basin varies with season. Although white-tailed deer (*O. virginianus*) also occur in this region, they do so at extremely low densities. From late-spring to early-fall mule deer are found in small numbers widely distributed across the landscape. In late-fall (October/November) however, deer begin to migrate from other regions and congregate in areas that provide cover and food (primarily winter wheat). Areas that meet these requirements are usually found along shrub-steppe and agricultural interfaces. For example, 1,500–2,000 mule deer are known to winter in areas adjacent to Billy Clapp Lake. Densities remain high throughout winter months until spring "green-up" when deer begin migrating back to their summer ranges.

Our surveys indicate areas receiving high amounts of use by mule deer occur throughout much of the proposed East High Canal alignment. Consequently, canal infrastructure along these corridors has the potential to disrupt the migratory patterns of numerous mule deer herds. Additionally, if canals significantly impede the migration of wintering deer herds, this could result in a loss of important winter habitat. Lastly, canals also have the potential to be a significant source of mule deer mortality. The inability of deer to escape from concrete lined sections of irrigation canals is well documented.

- Adverse effects to the local road network introduce important restrictions to public use and still further mitigations costs not included in the DEIS as follows (ES-39): IND25-10

Construction of the partial replacement alternatives delivery system would not significantly impact transportation. The full replacement delivery system north of I-90 would cross existing roadways more than 60 times, including one state highway, and one crossing of an active rail line by surface water conveyance facilities like canals. Through the transportation

planning process, requirements for maintaining adequate transportation service would be defined and programmed, including bridges over the new conveyances or placing the facilities underground.

For action alternatives that include construction of Rocky Coulee Reservoir, locally significant long-term impacts to vehicular circulation would be unavoidable. This reservoir would inundate portions of local north-south through travel routes, including S Road NE and U Road NE.



## **Failure to Address Major Adverse Impacts to Terrestrial Wildlife and Essential Habitat**

The DEIS systematically underestimates (misrepresents or distorts) the extent of adverse impacts the proposed alternatives would have on the subject wildlife and habitat. As shown below these deficiencies include:

- disregard of Washington-State listings of terrestrial species as endangered threatened, or as candidates for listing, } IND25-11
- failure to account for adverse impacts of lost or degraded wetlands adjacent to Banks Lake, } IND25-12
- failure to account for the large areas of shrub-steppe habitat that would be destroyed or degraded from proposed alternatives, and improper description of such habitat loss as "temporary" when restoration may be impossible and/or would require decades to accomplish, } IND25-13
- failure to account for the extreme need to prevent severing of important landscape scale linkages and connectivity between major remaining habitat-concentration areas in central Washington. } IND25-14

## **Species Listings**

- The DEIS repeatedly misrepresents or ignores the WDFW threatened and endangered species listings in Washington State, e.g., page ES-26, ES-29, 3-85, and 4-146, which says:

No short-term impacts to threatened and endangered species would occur under the No Action Alternative or any of the action alternatives. Additionally, there would be no long-term impacts to terrestrial threatened and endangered species under any of the action alternatives.

- Ref 1, page 16 and Appendices A-D provide extensive lists of dozens of species of concern to the USFWS, including bird-, mammal-, reptile-, and amphibian-species that have been observed in, or that may be expected to be present in, the OSSS impacted area. Ref 2 presents results of both field and literature surveys showing 46 species of concern to the WDFW that have been found or are to be expected in the OSSS-impacted area (Tables 2, 3, 4, and 6, pages 12, 13, and 16, respectively). The DEIS, Table 3-20, pages 3-60 to 3-67, also lists 38 species, along with expected habitats, occurrence status, and expected locations where they might be expected to occur in the areas that would be disturbed under the various proposed alternatives. The DEIS, however, fails completely to provide special conservation measures to avoid adverse effects of the proposed developments on vulnerable species that are designated by Washington State as endangered, threatened, or are candidates for listing as such. } IND25-15



- Ref 4 contains a subset of species, designated by WDFW as endangered (SE), threatened (ST), or as candidates for listing (SC), that have been observed or are otherwise expected to be present in the impacted OSSS area. The species list of Ref 4 is as follows, where the seven species listed as endangered or threatened appear in **red font**. It is to be emphasized, however, that the WDFW designation of candidate species (SC) means that all 22 species shown by this chart are in special need of conservation measures to ensure their viability and survival.

#### Species of Concern in Washington State (species relevant to OSSS area)

[From: <http://wdfw.wa.gov/conservation/endangered/lists/search.php?searchby=All&orderby=AnimalType,CommonNameASC>]

Include those species listed as State Endangered, State Threatened, State Sensitive, or State Candidate, as well as species listed or proposed for listing by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

Does not include State Monitored Species.

Common Name	Scientific Name	Animal Type	Species Status		Mapping Criteria
			State	Federal	
American white pelican	<i>Pelecanus erythrorhynchos</i>	Bird	SE	none	B, RSC
Burrowing owl	<i>Atene cunicularia</i>	Bird	SC	FCo	B
Clark's grebe	<i>Aechmophorus clarki</i>	Bird	SC	none	B
Colombian Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>	Bird	ST	FCo	B, RSC
Ferruginous hawk	<i>Buteo regalis</i>	Bird	ST	FCo	II
Golden eagle	<i>Aquila chrysaetos</i>	Bird	SC	none	B
Groener Sage-grouse	<i>Gentooecetes onychiastris</i>	Bird	ST	FC	B, RSC
Loggerhead shrike	<i>Lanius ludovicianus</i>	Bird	SC	FCo	B
Sage sparrow	<i>Amphispiza belli</i>	Bird	SC	none	B
Sage thrasher	<i>Oreoscoptes montanus</i>	Bird	SC	none	B
Sandhill crane	<i>Grus canadensis</i>	Bird	SE	none	B, RSC
Western grebe	<i>Aechmophorus occidentalis</i>	Bird	SC	none	B
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Bird	SC	FC	B, RI
Black-tailed jackrabbit	<i>Lepus californicus</i>	Mammal	SC	none	IO
Merriman's shrew	<i>Sorex merrimani</i>	Mammal	SC	none	IO
Pygmy rabbit	<i>Brachylagus idahoensis</i>	Mammal	SE	FC	IO
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Mammal	SC	FCo	B, CR
Washington ground squirrel	<i>Urocyonellus washingtoni</i>	Mammal	SC	FC	IO, RSC
White-tailed jackrabbit	<i>Lepus townsendi</i>	Mammal	SC	none	IO
Northern leopard frog	<i>Rana pipiens</i>	Amphibian	SE	FCo	IO
Sagebrush lizard	<i>Sceloporus graciosus</i>	Reptile	SC	FCo	IO
Striped whipsnake	<i>Masticophis lateralis</i>	Reptile	SC	none	IO

NOTE: Red font indicates Washington State listings as endangered (SE) or threatened (ST). The remainder (SC) are candidates for State listing.

- Furthermore, the DEIS fails to include information from Ref 5a, e.g., see Table 2.2, page 35, copied below, which lists species that are highly vulnerable to loss of habitat connectivity. Especially note those designated as "Species of Greatest Conservation Need" (SGCN) that are known or expected to be adversely impacted by OSSS-area projects (indicated by ▲).

**Table 2.2.** Vertebrates identified as highly vulnerable to loss of terrestrial habitat connectivity.

<i>Birds</i>	<i>Mammals</i>	<i>Amphibians</i>	<i>Reptiles</i>
Bald Eagle	American badger* ▲	Cascade torrent salamander	California mountain kingsnake*
Common Poorwill	American marten*	Cascades frog	night snake
Ferruginous Hawk	bighorn sheep	Columbia spotted frog* ▲	Pacific gopher snake*
Flammulated Owl	American black bear	Columbia torrent salamander	Pacific pond turtle*
Golden Eagle	black-tailed jackrabbit* ▲	Cope's giant salamander	painted turtle
Gray Flycatcher	California myotis	Dunn's salamander	pygmy horned lizard
Great Blue Heron	Columbian white-tailed deer*	Larch Mountain salamander	ring-necked snake
Great Gray Owl* ▲	cougar	northern leopard frog* ▲	rubber bon
Greater Sage-Grouse* ▲	elk*	northern red-legged frog	sagebrush lizard
Gyr Falcon	fisher*	Olympic torrent salamander	sharp-tailed snake
Lapland Longspur	fringed myotis	Oregon spotted frog	side-blotched lizard
Lewis' Woodpecker	gray wolf*	Rocky Mountain tailed frog	striped whipsnake* ▲
Long-eared Owl	gray-tailed vole	tiger salamander*	western rattlesnake
Merlin	grizzly bear*	Van Dyke's salamander	western yellow-bellied racer*
Mountain Quail	hoary marmot	western toad*	
Northern Goshawk	least chipmunk	Woodhouse's toad	
Northern Spotted Owl*	long-legged myotis		
Pileated Woodpecker*	Canada lynx*		
Prairie Falcon	Merriam's shrew		
Pygmy Nuthatch*	moose		
Sharp-tailed Grouse* ▲	mountain goat		
Short-eared Owl	mule deer		
Snow Bunting	northern flying squirrel		
Spruce Grouse	Olympic marmot*		
White-breasted Nuthatch	pygmy rabbit* ▲		
White-headed Woodpecker	pygmy shrew		
White-tailed Kite	red-tailed chipmunk		
White-tailed Ptarmigan	sagebrush vole		
Williamson's Sapsucker	silver-haired bat		
	Townsend's big-eared bat* ▲		
	Townsend's ground squirrel*		
	Washington ground squirrel* ▲		
	western gray squirrel*		
	western pocket gopher*		
	white-tailed jackrabbit* ▲		
	wolverine*		
	woodland caribou*		
	yellow-bellied marmot		

**Note:** Markers (▲) inserted to emphasize those species designated as SGCN (see footnote) that are known or expected to be impacted by the proposed OSSS-area development.

▲\*Species of Greatest Conservation Need (SGCN; WDFW 2005). For elk, western yellow-bellied racer, and gopher snake, only the Nooksack elk herd and the extirpated western Washington populations of gopher snake and yellow-bellied racer are SGCN.

## Lost or Degraded Wetlands

- The DEIS is replete with misleading and incomplete information as regards impacts of proposed alternatives on wetland habitats and associated wildlife species. For example, at ES-33 it states:

Impacts to wetlands surrounding Banks Lake would primarily shift the plant community composition and would not be significant.

However, Table 3-17 at 3-58 states:

Colonial nesting birds—Five species have been documented in the three islands in the south end of Banks Lake: great blue heron, black-crowned night heron, California gull, ring-billed gull, and Caspian tern. **Western grebes have been observed nesting in Osborn Bay and Devil's Punch Bowl and in smaller numbers elsewhere in cattails and bulrushes in the littoral zone.** American white pelicans are documented using the south end of Banks Lake during spring and fall migrations (USFWS 2000 as cited in Reclamation 2004). [ **bold** added for emphasis]



Extensive grebe nesting use of the emergent wetlands at Banks Lake is documented by Table 3-19, page 3-59 as:

TABLE 3-19

WDFW Grebe Nest Observations at Banks Lake

Date	Location	Western Grebe	Clark's Grebe	Species Undetermined
June 22	Osborne Bay - Area A			4
June 23	Osborne Bay - Area B	1		
July 9	Osborne Bay - Area B			1
July 9	Osborne Bay - Area C	37	1	15
July 31	Osborne Bay - Area C	21		10

Source: WDFW 2009 Habitat

Potential adverse impacts to grebe nesting habitat are indicated by Ref 2 at page 20, which says:

***Banks Lake***

**Operational changes in Banks Lake water levels will likely influence reproductive effort and success of breeding *Aechmophorus grebes*.** Results of our survey effort suggest that the peak nesting season for grebes at Banks Lake occurs during July in most years. **During the one-month nesting period (three days nest building, four days egg-laying, and 23 days incubation), water level fluctuations in excess of 1 foot could potentially result in nest failure. Further, water level declines associated with annual drawdown, could result in isolation or drying of Nesting area 1'** (Appendix B). [ **bold** added for emphasis]

Unquestionably adverse impacts to nesting grebes would indeed occur, at least for all proposed alternatives except Alt 2C, **because the projected draw-down levels at Banks Lake are 3'-13' larger than for the 'No Action' alternative,** see Figure 2-1, page 2-8 of the DEIS.

- The failure of the DEIS to provide essential information regarding extent of impacted high quality (PEM) wetlands at Banks Lake is shown by comparison of data presented in Table 4-28 below, DEIS, page 4-92, with excerpts from page 3-37, -57 as follows [markers ▲ , \_\_\_\_\_ added for emphasis]:

TABLE 4-28

Direct and Indirect Impacts on Wetlands Expected Under the Full Replacement Alternatives

Location	Acres of Impact	Wetland Type	Category	Wetland Impact Type	Full Replacement Alternative included in this impact			
					3A	3B	3C	3D
East High Canal	5.2	PEM	IV	Long-term direct impact	X	X	X	X
Black Rock Coulee Reregulating Reservoir	21.6	PEM	I	Long-term direct impact	X	X	X	X
Black Rock Coulee Reregulating Reservoir	0.1	PEM	III	Long-term direct impact	X	X	X	X
Black Rock Coulee Reregulating Reservoir	3.6	PFO	I	Long-term direct impact	X	X	X	X
East Low Canal	37.8	PEM	IV	Short-term direct impact	X	X	X	X
East Low Canal	1.0	PEM	III	Long-term direct impact	X	X	X	X
East Low Canal	3.4	PEM	III	Temporary construction impacts	X	X	X	X
Banks Lake	Unquantified ▲	PEM	III	Long-term indirect impact - <i>Vegetation community composition shift</i>	X			
Banks Lake	Unquantified ▲	PEM	III	Long-term indirect impact - <i>During dry year drawdown regimes only, possible wetland loss and likely community composition shift</i>	X		X	X
Banks Lake	Unquantified ▲	PEM	III	Long-term indirect impact - <i>During drought year drawdown regime only, wetland loss and community composition shift</i>	X		X	X
East High Canal	Unquantified ▲	PEM	IV	Long-term indirect impact - <i>Potential decrease in wetland function</i>	X	X	X	X

IND 25-20

from page 3-37:

Palustrine emergent (PEM) wetlands are the most common type found in the analysts area. PEM wetlands are dominated by emergent vegetation. PEM wetlands have been identified at Banks Lake, within the proposed Black Rock Coulee Reregulating Reservoir, along the East High Canal alignment, and along the East Low Canal that would be widened. A total of 486.8 acres of PEM wetland, including freshwater ponds, have been identified within the analysis area:

- Banks Lake, 413.2 acres ▲
- East High Canal, 6.1 acres
- East Low Canal, 42.2 acres
- Black Rock Coulee Reregulating Reservoir, 25.3 acres

and from page 3-57:

Emergent wetland and riparian communities around Banks Lake are described in detail in Section 3.8, *Vegetation and Wetlands*, and the locations of these habitats are shown on Maps 3-3a through 3-3e. Vegetation community mapping identified a total of 639.5 acres of wetland and riparian habitat associated with Banks Lake. This includes about 413 acres of PEM wetland, 105 acres of PSS wetland, 11 acres of PFO/PSS wetland, and about 110 acres of PFO wetland adjacent to the reservoir. Additional information about these wetland and riparian communities is included in the Banks Lake Drawdown EIS (Reclamation 2004).



● The proposed use of Black Rock Coulee (BRC) would both destroy highly valuable wetlands that provide rich habitat for wildlife species of special concern and, as will be shown below, would have major adverse impacts on essential connector links between habitat concentration areas of critical importance to wildlife. The values of BRC wetlands are highlighted by the following excerpt from page 3-59 of the DEIS. Fifteen of the 22 listed species appearing on the Species-of-Concern chart shown above (Ref 4), including seven species listed as SE or ST, have been found or are otherwise expected to use the Black Rock Coulee (Ref 2, pp 18-19).

IND25-21

#### 3.9.2.2 Black Rock Coulee

##### *Reregulating Reservoir Wetland*

A wetland located within the footprint of the proposed Black Rock Coulee Reregulating Reservoir includes about 3.6 acres of PFO, 21.7 acres of PEM, and 15 acres of open water pond. Species detected during WDFW rare species surveys in this area are noted in Table 3-20. No other wildlife surveys were conducted, but the following incidental observations were made during wetland surveys:

- Virginia rail, marsh wren, and sora were seen or heard in dense emergent wetland vegetation.
- Yellow warblers and white-crowned sparrows were observed in riparian shrubs and a pair of great horned owls was nesting in a grove of aspen trees.
- Killdeer, great blue heron, great egret, black-necked stilts, American avocets, and Wilson's phalarope were seen foraging in shallow water.

### Loss of Shrub Steppe Habitat

● As is shown by the following excerpts from the USFWS CAR document, Ref 1, the DEIS grossly underestimates, or otherwise obscures, major adverse impacts to shrub-steppe habitat that would result from implementation of any of the proposed OSSS alternatives (the **bold** font format is added to emphasize the more essential USFWS findings). As is also shown below, the underestimate of the significance of impacted acreage is due in part to the DEIS mischaracterization of impacts as "Temporary" when restoration is problematic and would, at best, require decades to implement. Also, effects on critical wildlife of noise and/or enhanced avian predation from installed power lines or fences would greatly expand the impacted areas.

IND25-22

From Ref 1, pages 28, 29:

#### 6.3.3 Method Two: Areal Analysis using Reclamation's Figures

A second method of analyzing the project's effects to habitat was done by using preliminary acreages of habitat types impacted as provided by Reclamation. However, Reclamation's estimates do not reflect a complete picture of habitat impacts that will result to areas outside of the Project Area not do they consider temporary impacts. In order to adequately assess and compare habitat impacts, we must also consider the following:

- Shrub-steppe and attendant grasslands are a priority habitat for both the Service and WDFW. The U.S. Forest Service and Bureau of Land Management determined that shrub-steppe was of the highest priority for preservation and necessary for preservation of Neotropical migrant birds (Saab and Rich, 1997 p. 16).
- The predicted acreages do not include "...those from substations, transmission lines and pump stations because their location is not known at this time." (Reclamation 2010, p 4-60) The Service and WDFW expect an increase of impacts in the Project Area.

• Destruction of the soil (biotic or cryptogammic) crust will result in long-term destruction of the habitat, may equate to permanent, irrevocable destruction (Stinson 2004, pp. 41-43). Therefore permanent impacts can be presumed to occur throughout the easements areas.

• Due to "issues related to weeds, the (in)ability to restore high quality shrub-steppe communities, and the long times required to mitigate the losses" (Reclamation 2010, p. 4-60), Temporary ("short-term") impacts may be considered as permanent impacts if implementation of restoration efforts fail. McClendon and Rodente (1990, pp. 298-299) and Samuel and Hart (1994, pp 183 & 190) report on the length of time required to achieve full restoration. Samuel and Hart (1994, p. 190) found that after 61 years, full restoration and complete ecological function had not been accomplished. Reclamation (2010, p.4-60) states that it is likely that complete restoration of shrub-steppe habitat may never be accomplished. However, enhancement of current conditions may occur, although complete restoration may not.

• Construction noise will likely interfere with vital behavior (i.e. breeding) in mammals and birds. These impacts will extend beyond the Project footprint by several hundred yards (see previous analysis). We expect this will substantially increase the impacted area. Noise resulting from operations and maintenance will continue after construction is completed.

• Predation by raptors may occur up to 4.3 miles (6.9 km) from power and fence lines, such as are planned for the Project. Access roads will facilitate predation by terrestrial predators, including domestic pets.

Based on the above assumptions, the Service has determined that the area of impacts will be much greater than that reported by Reclamation in the acreage estimates. . . . When temporary and off-site impacts (i.e. increased avian predation) are considered, the actual area of disturbance will be much larger than reported. Also, many of the impacts described by Reclamation as temporary are considered by the Service to be permanent in nature, because these impacts will either be long-term or of such duration (>10 years) as to consider them permanent.

Ref 1, page 42 reports evaluation of specific acreages affected for partial alternatives 2A-2D:

#### **9.2 Effects to Terrestrial Habitats Under the Partial Implementation Alternatives**

##### *9.2.1 Effects to Shrub-steppe Habitat Under the Partial Implementation Alternatives*

Shrub-steppe is a priority habitat for both the Service and WDFW. Therefore, the Service is concerned about the impacts expected to result from any of the partial implementation alternatives (2A, 2B, 2C, or 2D), as they all will impact shrub-steppe habitat to some extent.

According to the WDFW 2009 HEP analysis (WDFW 2009a, p. 28), a direct loss of the equivalent of over 4,000 acres shrub-steppe habitat will occur under any of the partial implementation alternatives. However, up to a total of 15,448 acres of shrub-steppe habitat may be subject to temporary noise disturbances.

and Ref 1, pages 53/54 reports evaluation of impacted acreages for alternatives 3A-3D:

#### **9.5 Effects to Terrestrial Habitats Under the Full Implementation Alternatives**

##### *9.5.1 Effects to Shrub-steppe Habitat Under the Full Implementation Alternatives*

The conservation and protection of shrub-steppe habitat is a priority for both the Service and WDFW. Therefore, we have numerous concerns about the impacts we expect to result from any of the full implementation alternatives (3A, 3B, 3C, or 3D). Alternatives 3C and 3D will

have greater impacts due to construction of the EHC canal, and a new reservoir in Rocky Coulee.

According to the WDFW HEP analysis (WDFW 2009a, p. 28) a direct loss of the equivalent of over 4,000 acres of shrub-steppe habitat will occur. This is out of an estimated 6,260 acres of available habitat within the Project footprint (WDFW 2009d, p.4). However, up to a total of 19,448 acres of shrub-steppe habitat may be lost due to temporary impacts and noise disturbances.

- The scattered citations in the DEIS of impacted acreages (4-83 to 4-89) impede evaluation of the complete impacts of partial alternatives 2A-2D. However, the comparison with USFWS-cited numbers for Alternatives 3A, 3B is facilitated by Table 4-27, page 4-90, shown below. The inserted markers (▲) in the table, along with the following DEIS statement, page 4-89, show that the area of direct physical impact would be nearly 7000 acres (bolded font added).

Transmission line construction would include short-term impacts on 2,557 acres. Most of these lines are expected to be located along existing rights-of-way where lands have been previously disturbed. Impacts listed as temporary would persist for many years because of the issues related to weeds, the inability to fully restore high quality shrub steppe communities, and the long times required to mitigate the losses.

TABLE 4-27

Short- and Long-term Impacts on Native Upland Plant Communities from Alternatives 3A, Full—Banks and Alternative 3B, Full—Banks + FDR

Facility <sup>a</sup>	Upland Vegetation Type and Acres Impacted					
	montane deciduous shrub	steppe grassland	sagebrush steppe	aspen woodland	semi-desert shrub steppe	basin cliff and canyon <sup>b</sup>
<b>Impacts from Permanent Facilities – Must be Mitigated Elsewhere Because of Permanent Facilities</b>						
East Low Canal	–	18	112	–	–	–
Black Rock Coulee Reregulating Reservoir	–	7	149	1	–	–
East High Canal	–	27	2,145	–	4	4
<b>Total Permanent Impacts</b>	–	<b>52</b>	<b>2,406</b> ▲	<b>1</b>	<b>4</b>	<b>4</b>
<b>Additional Temporary Impacts During Construction – These Impacts May Be Mitigated In-place</b>						
Pipelines for the East Low Canal	–	17	155	–	–	–
East Low Canal	–	11	98	–	–	–
Pipelines for the East High Canal	24	17	374	–	–	–
East High Canal	–	14	1,107	–	2	–
<b>Total Additional Temporary Impacts</b>	<b>24</b>	<b>59</b>	<b>1,734</b> ▲	<b>–</b>	<b>2</b>	<b>–</b>

▲ Permanent and temporary impacts do not include those from substations, transmission lines, and pump stations because their locations are not known at this time. The footprint of the dam at Black Rock Coulee Reregulating Reservoir is also not included.

<sup>b</sup> Basin cliff and canyon is potential habitat for sticky phacelia, a rare plant.

▲ Temporary impacts to mature shrub steppe communities would persist for many years because of the issues related to weeds, the ability to fully restore high quality shrub-steppe communities, and the long times required to mitigate the losses.

IND25-23



- The DEIS in Table 4-30, copied below, purports to show the area impacts for Alternatives 3C-3D are similar to those for 3A-3B described above, except for an additional habitat loss of 182 acres of grasslands and 288 acres of shrub steppe associated with the Rocky Coulee reservoir. **The cumulative total below is almost 7000 acres. Even these asserted area impacts are extremely dubious in view of the required acquisition of 8,960 acres for the Rocky Coulee reservoir (pages ES-21 and ES-29). [This same question would apply to area impacts of Alternatives 2C, 2D. The DEIS, Table 4-28, page 4-92, also asserts there is no wetland impact by establishing the Rocky Coulee Reservoir.]**

TABLE 4-30

Short- and Long-term Impacts on Native Upland Plant Communities of Alternatives 3C: Full-Banks + Rocky and 3D: Full-Combined

Facility <sup>a</sup>	Upland Vegetation Type and Acres Impacted					
	montane deciduous shrub	steppe grassland	sagebrush steppe	aspen woodland	semi-desert shrub steppe	basin cliff and canyon <sup>b</sup>
<b>Impacts from Permanent Facilities – Must be Mitigated Elsewhere Because of Permanent Facilities</b>						
East Low Canal (under permanent facilities)	-	18	112	-	-	-
Black Rock Coulee Reregulating Reservoir	-	7	149	1	-	-
East High Canal	-	27	2,145	-	4	1
Rocky Coulee Reservoir	-	182 ▲	288 ▲	-	-	-
<b>Total Permanent Impacts</b>	-	234	2,694 ▲	1	4	1
<b>Additional Temporary Impacts During Construction – These Impacts May be Mitigated In-place</b>						
Pipelines for the East Low Canal	-	17	155	-	-	-
East Low Canal	-	11	98	-	-	-
Pipelines for the East High Canal	24	12	374	-	-	-
East High Canal	-	14	1,107	-	2	-
<b>Total Additional Temporary Impacts</b>	24	59	1,734 ▲	-	2	-

▲ Permanent and temporary impacts do not include those from substations, transmission lines, and pump stations because their locations are not known at this time. The footprint of the dam at Black Rock Coulee Reregulating Reservoir is also not included. Transmission line construction would include short-term impacts on 2,557 acres. Most of these lines are expected to be located along existing rights-of-way where lands have been previously disturbed.

<sup>b</sup> Basin cliff and canyon is potential habitat for sticky phacelia, a rare plant.

▲ Temporary impacts to mature shrub steppe communities would persist for many years because of the losses related to weeds, the ability to fully restore high quality shrub-steppe communities, and the long times required to mitigate the losses.

IND25-24

- In addition to the direct destruction of shrub-steppe habitat, the DEIS at 4-98 shows that proposed establishment and use of the Black Rock Coulee reservoir per alternatives 3A-3D would undoubtedly result in still more extensive habitat loss due to ensuing development:

IND25-25

**Rural residential development expected to occur on private lands around Black Rock Coulee once the reservoir is filled would result in an additional indirect permanent loss of native shrub-steppe communities.**



## Shrub Steppe Loss: Landscape Integrity—Fragmentation and Connectivity/Linkages Between Wildlife Habitat Concentration Areas

- The DEIS at 3-71, -72, and the following excerpts from 4-117 to 4-120, demonstrate that major barriers to wildlife movement and associated habitat fragmentation would result from the proposed 3A-3D alternatives, which would clearly have large and permanent adverse impacts on wildlife migration and dispersal that are essential to their conservation, especially for the designated species of concern whose continued survival is at risk (**bold for emphasis**):

In addition to direct habitat loss, construction of the East High Canal and Black Rock Branch would create significant movement barriers for wildlife. The East High Canal, especially north of the proposed Black Rock Coulee Reregulating Reservoir, and parts of the Black Rock Branch that would be constructed through shrub steppe and steppe grassland habitats, would also fragment blocks of intact habitat into smaller isolated pieces or patches. Habitat fragmentation is the process whereby habitats that were once contiguous become divided into separate fragments. The two components of habitat fragmentation are as follows:

1. Reduction of the total amount of a habitat type in a landscape
2. Breakup of the remaining habitat into smaller patches of habitat that are separated or isolated from one another

Both of these outcomes can cause significant impacts on wildlife. Partitioning a population through habitat fragmentation reduces the potential viability of the population over the long term when a minimum viable population size threshold is reached. Small populations are less resilient and less able to adapt to the changes in their environment that may result from random or stochastic events. Small populations have a higher susceptibility to local extinction because of stochastic events. (4-117)

The width of proposed structures that would allow wildlife to cross the East High Canal and Black Rock Branch Canal are considerably narrower than the dedicated wildlife overpasses that have proven to be successful, and they include a service road. (4-118)

A study in Switzerland using infrared cameras show that dedicated overpasses wider than 200 feet are effective for a wide variety of animals including invertebrates, but that structures narrower than 165 feet are not as effective, especially for larger mammals . . . . The 14 wildlife crossing structures planned for the East High Canal and Black Rock Branch Canal would include a 12-foot-wide maintenance road planted with short grass and a 16-foot wide area planted with native grasses. This is considerably narrower than the dedicated wildlife overpasses discussed above, which would reduce their effectiveness for most wildlife species. The canal, parallel maintenance roads, berms, and spoil pile are estimated to occupy 300 feet of the 600-foot easement, all of which would be cleared of vegetation during construction. . . . Dual use of the proposed crossing structures for both maintenance vehicles and wildlife will also reduce their effectiveness for many species. (4-119, -120)

Table 4-33 contains the results of an analysis of shrub step block or patch size within 1 mile of East High and Black Rock Branch Canals. . . . Four large patches, each over 4,000 acres, would be bisected by the EHC resulting in only one patch larger than 4,000 acres. There would be more than twice as many very small isolated patches of shrub steppe and steppe grassland within 1 mile of these canals . . . (4-120)

- The DEIS completely fails to address the systemic and serious impacts on wildlife from barriers and habitat fragmentation at the landscape scale, as specifically associated with the proposed actions in the OSSS area. **Such consequences derive substantially from the extremely large past losses of shrub-steppe habitat, due largely to agricultural conversion and abetted by the many CBP actions of which these are a continuing part.** Partial perspective on landscape-scale loss of shrub-steppe habitat is provided by the DEIS, pages 3-32,-33, as follows:

IND25-27

### 3.8.2 Background and Regional Setting

**The loss of native vegetation communities to agriculture conversion has been extensive across the Columbia Basin region** (Daubenmire 1988). Estimated losses of shrub-steppe habitat for a four-county area overlapped by the analysis area are provided on Table 3-10 (Reclamation 2008 Appraisal).

TABLE 3-10

Acres of Shrub-Steppe Habitat by County

County	Historical	Remaining	Percent Lost
Adams	1,187,399	279,758	76
Franklin	753,716	230,778	69
Grant	1,614,555	571,830	65
Lincoln	1,260,032	473,674	62

Source: Reclamation 2008 Appraisal

- Refs 5a-5d document the factors underlying the severing and disruption of area-wide linkages between major habitat-concentration areas by the proposed OSSS projects. First, the following excerpt from Ref 5b graphically illustrates both the gross loss of shrub-steppe habitat from historic levels (compare left to right images) and the central location of the OSSS area, which falls across the tenuous existing connector linkages between several of the few remaining larger blocks of shrub-steppe areas in Central-Eastern Washington. For spatial reference, the ○ symbol locates the tri-county intersection of the Grant, Lincoln, and Adams county boundaries, and the ▲ symbols locate several larger existing blocks of shrub-steppe; one in North-Central Lincoln County (upper right), two in Central-Eastern Grant County, and one in Douglas County.

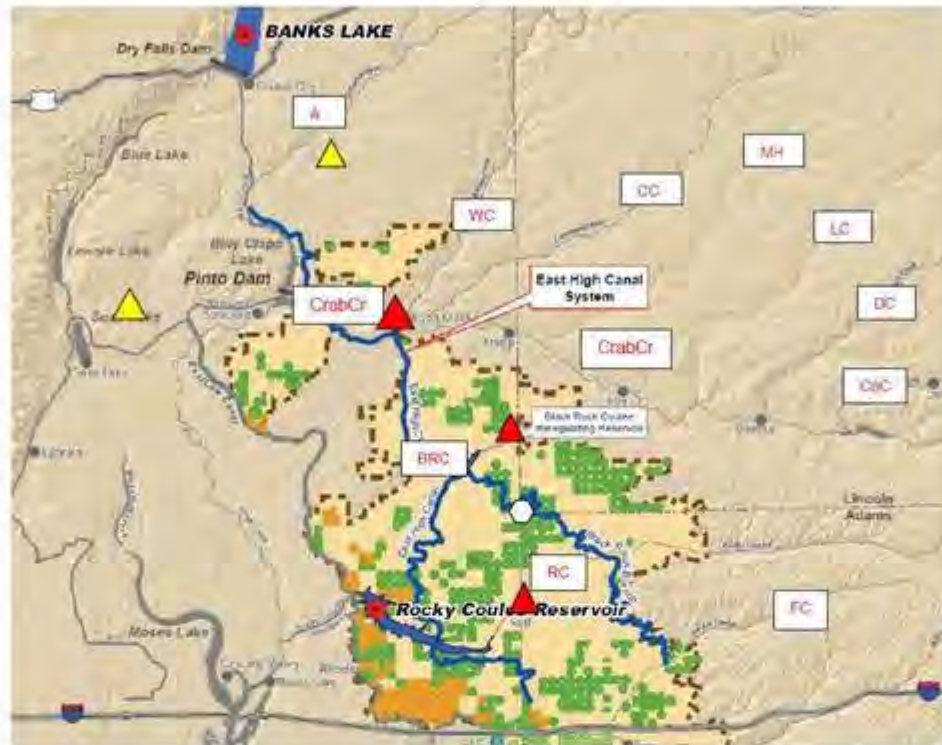


IND25-28

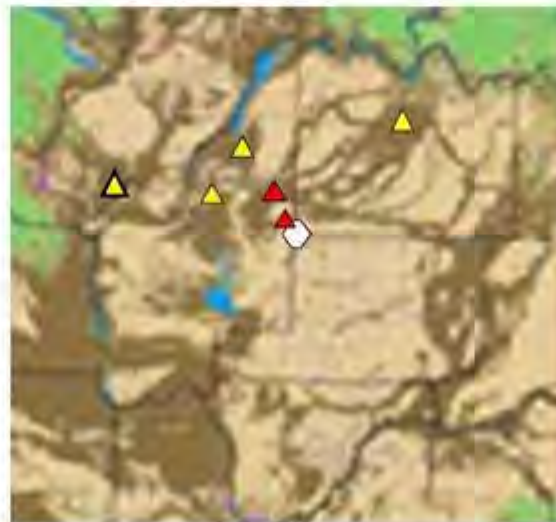
Current (left) and historic (right) extents of shrubsteppe/steppe habitats in eastern Washington. Green=forest; darkbrown=shrubsteppe/steppe; tan=cropland



- The figures below (Ref 5c) establish that key elements of the proposed OSSS project adversely impact critical shrub-steppe linkages described above. The ○ symbols mark the three-county line intersection and the ▲ symbols mark relevant larger blocks of remaining shrub-steppe habitat in Lincoln, Grant, and Douglas Counties. In the upper inset (from the DEIS Map 3), the ▲ symbols mark critical habitat features: Crab Creek, Black Rock Coulee, and Rocky Coulee blocked by proposed OSSS construction. The two ▲s in the lower inset mark Crab Creek and Black Rock Coulee. The labels appended to the upper inset identify



Subsection OSSS Map 3—Northern Area



Subsection Ref 5b—Current ShrubSteppe (dark brown), cropland (tan)

Crab Creek and the various creeks and coulees that feed into it. These are

A—Arbuckle Draw  
WC—Wilson Creek  
CC—Cannawei Creek  
MH—Marlin Hollow  
LC—Lakes Creek  
DC—Duck Creek  
CoC--Coal creek

The other features identified are:

BRC—Black Rock Coulee  
RC—Rocky Coulee  
FC—Farrier Coulee

● Careful comparison of the above images shows a one-to-one correlation between Crab Creek, its tributaries, and Black Rock Coulee with the tenuous connectors between the larger remaining shrub-steppe blocks in Central Washington. Rocky Coulee (below the O marker in the lower image) is also shown to contain remnants of shrub-steppe connector habitat. It is evident that principal elements of the proposed OSSS water-supply systems; including the East High Canal and the Black Rock Branch Canal (which begin north of Billy Clapp Lake near Arbuckle Draw, then extend south across the Crab Creek watershed, past the Black Rock and Rocky Coulees, ending at points near I-90), the Black Rock Reservoir, and the Rocky Coulee Reservoir all constitute major barriers to East-West wildlife migration and dispersion because they directly sever all connectors between the large remaining blocks of shrub-steppe habitat in Lincoln and Grant Counties. Expansion/extension of the East Low Canal south of I-90 would also bar east-west wildlife migration/dispersion to shrub-steppe habitat near Potholes Reservoir.

— IND25-29

● Data from the draft report, "Washington Connected Landscaped Project: Statewide Analysis," Ref 5a, further corroborate the adverse impacts stated above. This report presents results of extensive work by the Washington Wildlife Habitat Connectivity Working Group (WHCWG), a large team of wildlife biologists from state, federal, and tribal agencies, as well as private organizations, whose mission is:

*to promote the long-term viability of wildlife populations in Washington State through an open science-based, collaborative approach that produces analysis and tools that identify opportunities and priorities to conserve and restore habitat connectivity . . . [and to respond] to the association of Western Governors' call for identifying key wildlife migration corridors and wildlife habitats. We work in collaboration with the Western Governors' Association Wildlife Corridors Initiative, and our analyses are part of Washington's contribution to this effort. (Ref 5a, page 1)*

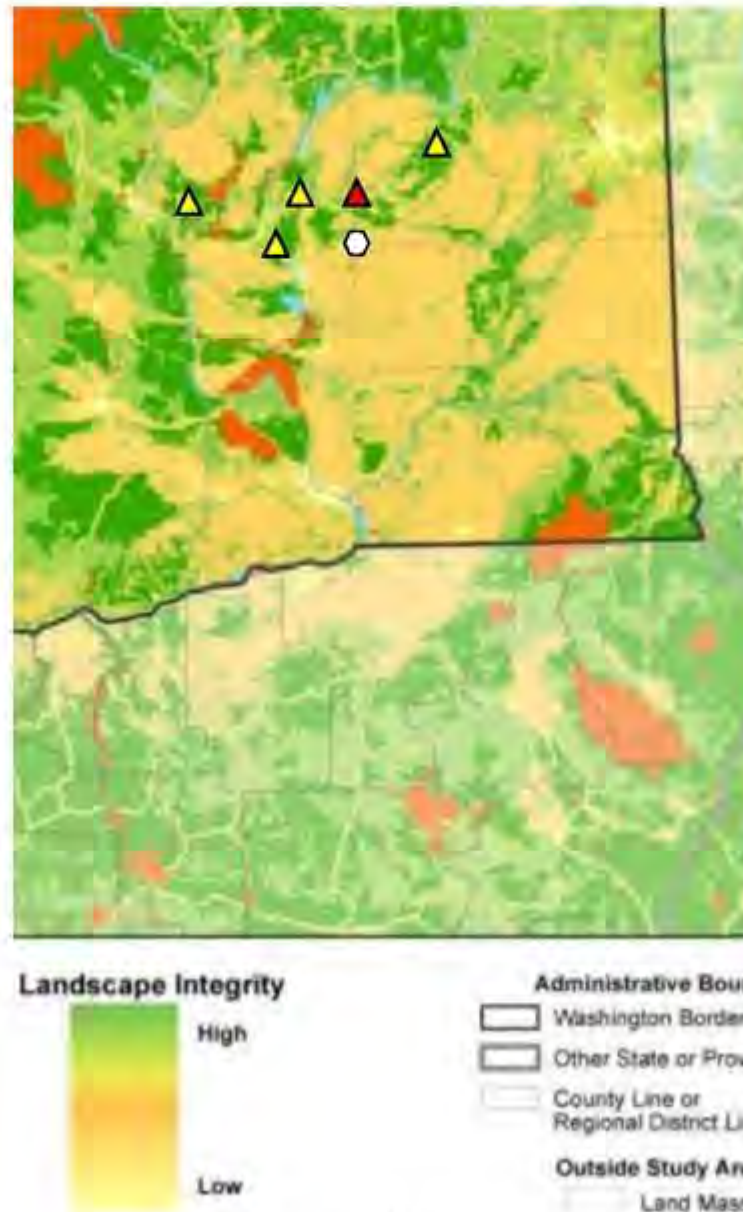
The principal results of the WHCWG are:

*The primary products of our statewide analysis are maps. Ultimately, these maps are presentations of desirable habitat networks, combinations of identified concentrations*



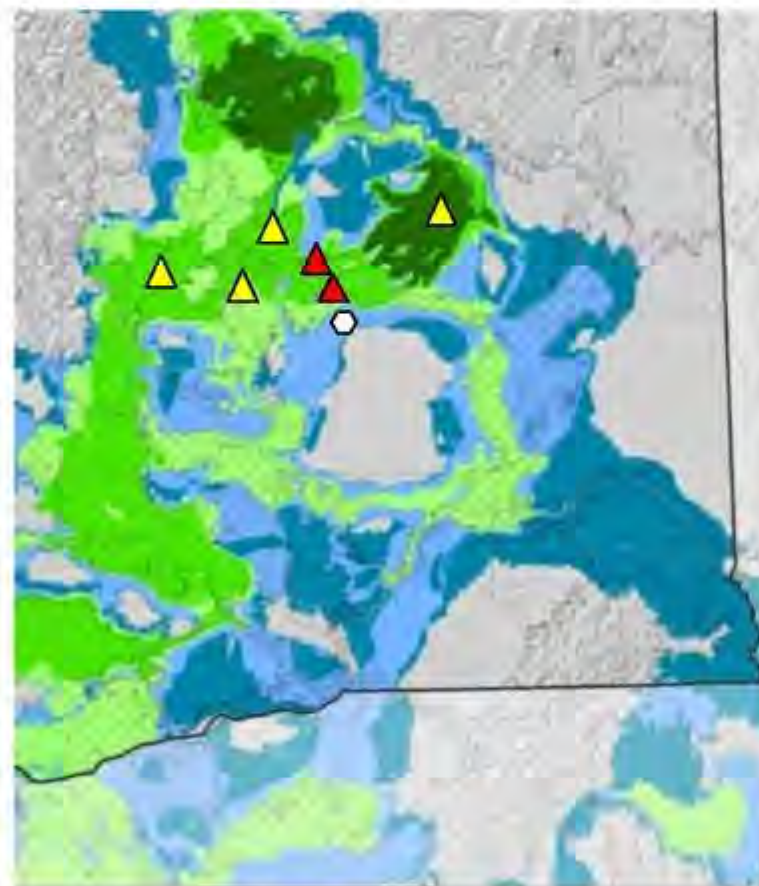
of suitable habitat, and the linkages that connect them. They attempt to identify the best habitat and they link those habitats with the best of what remains in the areas most valuable for functional connections. (Ref 5a, page 2)

- The following excerpt from Ref 5a, Figure 3.2: *Landscape Integrity Core Areas*, page 51, shows high-value "core" areas as dark green. These are large areas (>10,000 acres) that have high levels of landscape integrity (minimal fragmentation and degradation). The caption also labels the pale green areas as having good levels of landscape integrity and orange-yellow regions as fair-low. Comparison of this figure to that above from Ref 5b shows **the tenuous landscape connectors between high-value core areas in Lincoln-Grant/Douglas Counties are identical to the shrub-steppe connectors associated with the Crab Creek-Black Rock Coulee-Rocky Coulee complex, and would experience the same adverse severing by the proposed OSSS developments.** [The ○ marker again locates the Lincoln-Grant-Adams tri-county intersection, the ▲ marks locations of major OSSS-project barriers, and the ▲ mark relevant areas of core habitat in Lincoln, Grant, and Douglas Counties.]



● The map excerpt below, from Ref 5a, Figure 3.11, page 64, along with data from Refs 5d to 11 discussed in the comments to follow, provide **unquestionable evidence that severing of shrub-steppe and landscape connectors discussed above would impede important wildlife migration/dispersal, i.e., disrupt major associated corridors and linkages on a landscape scale.** Ref 5a (see its pages 21-22). integrates the landscape/habitat connectors and linkages, such as those shown above, with factors that govern migration and/or dispersal of representative “focal species” of wildlife. Focal species selected to represent migration/dispersal of a larger array of species in the “semi-desert” habitats of the Washington Columbia Plateau, including most or all of the WDFW-designated SGCN, marked ▲ in Table 2.2, page 9 above, are: Sharp-tailed Grouse, Greater Sage Grouse, American Badger, Black-tailed Jackrabbit, White-tailed Jackrabbit, and Mule Deer (Ref 5a, page 45).

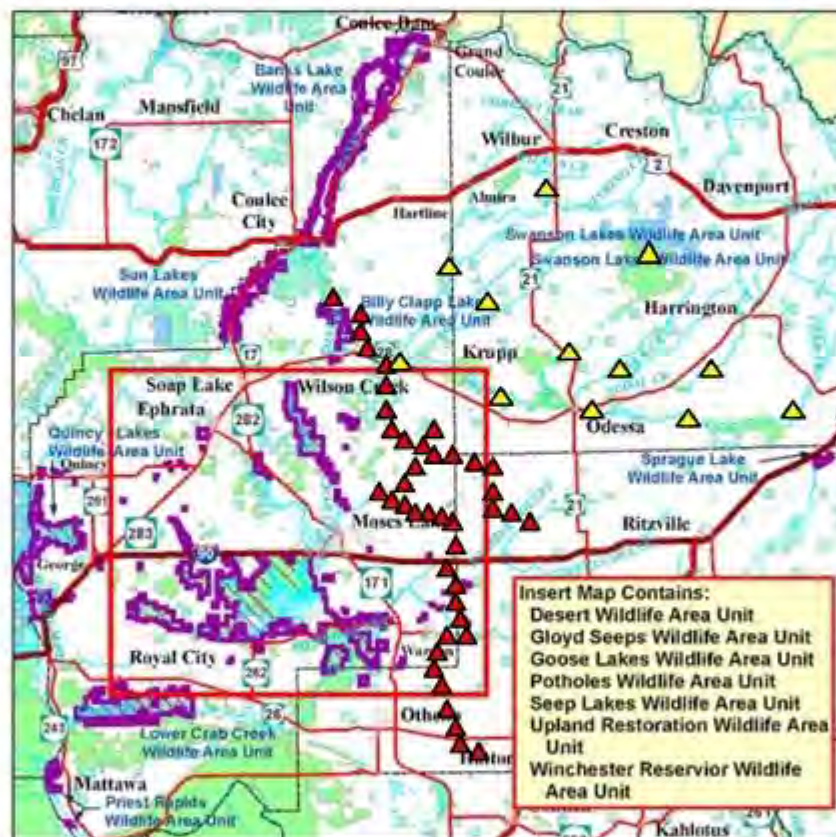
Locations of proposed OSSS actions severing the major East-West corridor below are indicated by the ▲ on the map below, where the ○, and ▲ markers key this corridor to features shown on the maps on pages 18 and 20. **These maps clearly show that important wildlife corridors and landscape-scale habitat linkages would be severed by the proposed OSSS actions.**



IND25-31



● The map below (Ref 5d, Figure 1, page 4) shows Columbia Basin Wildlife Areas (CBWAs) in Grant/Adams Counties, as well as the Swanson Lakes Wildlife Areas in Lincoln County, and graphically shows the nearly complete wildlife blockage between them by the proposed OSSS projects. The CBWAs consist of 16 scattered units, of which 192,000 acres are managed by the WDFW (Ref 5d, page 3). The SLWA, measured from the map below as ca 53,000+ acres (21,000 and 32,000+ acres owned by the WDFW and USBLM, respectively), forms a central part of the large high value, "hand-shaped" shrub-steppe wildlife-habitat area shown at the upper right of the map on the previous page (total area of about 300,000 acres, which encompasses upper Crab Creek and its various creek/coulee tributaries, indicated by ▲s on the map below). The ▲s trace the major features of the proposed OSSS developments (DEIS Map 3, Page ES-11): the East High Canal from north of Billy Clapp Lake across the Crab Creek watershed, the Rocky and Black Rock reservoirs, as well as the Black Rock Branch and the East Low Canal Expansion, extending to and beyond I-90 on the south.



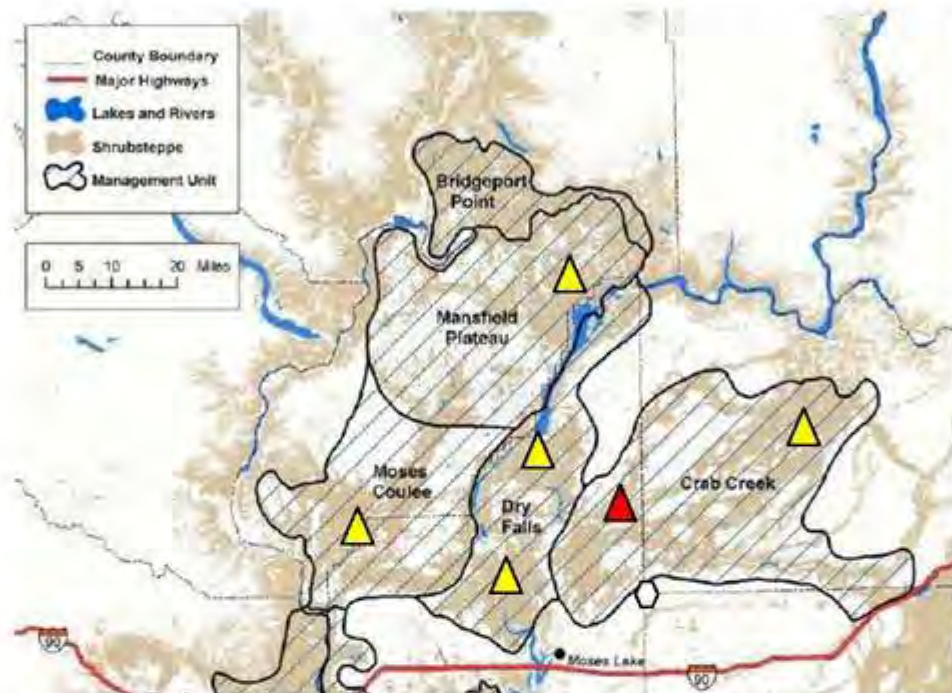
IND25-32



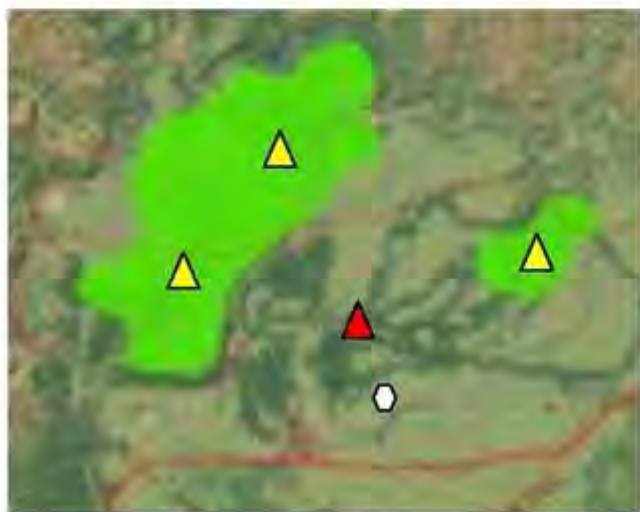
## Adverse Impacts on Selected Species of Wildlife

- **Listed species adversely impacted by proposed OSSS actions are:**

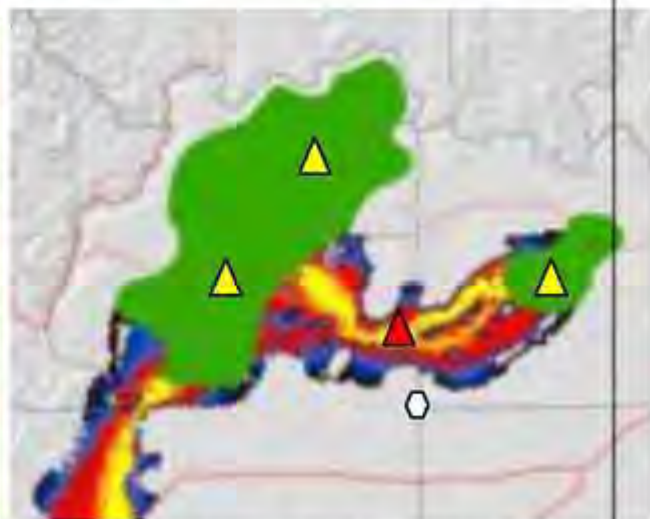
- Greater Sage Grouse (GSG)—Habitat protection, enhancement, and connectivity are essential for survival and recovery of the small remnant populations of the threatened GSG in Washington (Refs 5a, pp 74-79 and 6, pp viii, 29-36). The maps below show critical areas of existing shrub-steppe habitat (tan) and Habit Concentration Areas for GSG (green) in North Central Washington. Connectivity of the SLWA (noted above) and associated shrub-steppe



Ref 6, Fig 5: Shrub-steppe cover and Sage-Grouse Management Unit





Ref 5a, Fig 3.20: (Sage Grouse HCs and Landscape Resistance)



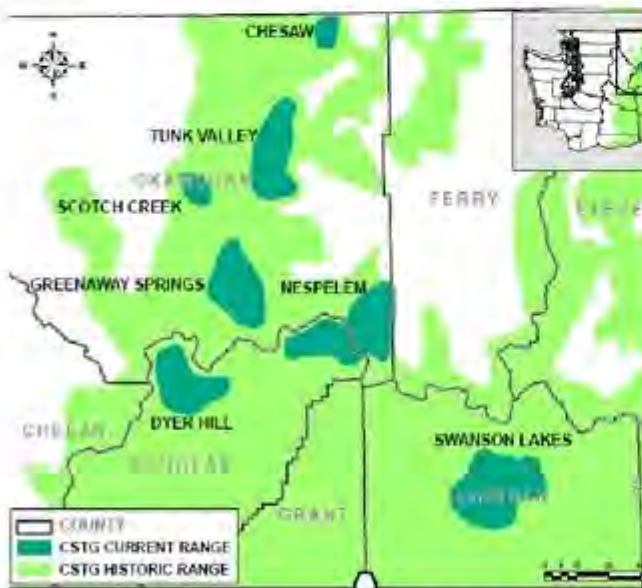
Ref 5a, Fig 3.22: (Sage-Grouse HCs and Linkages)



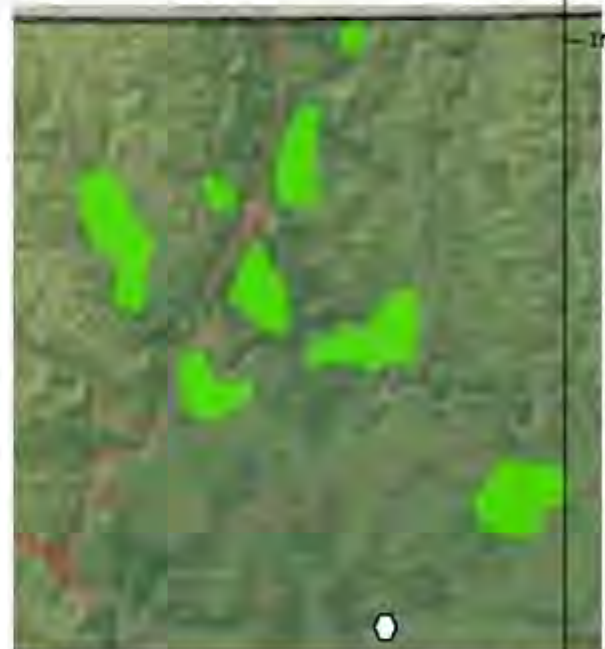
habitat in the Crab Creek GSG-Management Unit with those in the Dry Falls, Moses Coulee, and Mansfield Units (see s) is of particular significance. **Clearly, the proposed OSSS projects ( ) would impose major barriers in the critical linkages shown by excerpts from Figs. 3.20 and 3.22 above.**

- **Columbia Sharp-tailed Grouse (CSTG)**—Needs for the small, isolated populations of threatened CSTG in Washington are generally similar to those for the GSG indicted above, although their situation may be even more dire with an estimated total of only 700-800 birds existing state-wide in seven poorly connected areas, as shown by the map excerpts below (Ref 7, pages viii, ix, 5, 43, and 45 and Ref 5a, page 68). The Lincoln County HCA for the CSTG (Swanson Lakes--SLWA and extended upper Crab Creek watershed) contains the largest CSTG-occupied area and population in the state (Ref 7, pages 25, 60, 61, and 65). Extensive efforts are ongoing to both enhance/restore habitat and to directly increase the CSTG population and genetic variability by relocation of birds from Idaho, Utah, and British Columbia (Ref 7, pages 63 and 65).

**Extensive areas of well-connected, shrub-steppe habitat still exist along the Crab Creek complex and in the Dry Falls/Moses Coulee areas of Grant County as shown by the (Ref 6, Fig 5) map above and (Ref 5a, Fig 3.16) map below. The associated potential for important migration and dispersion of the threatened CSTG into these “bridge” areas between existing CSTG HCAs would be strongly impeded by the proposed OSSS developments.**



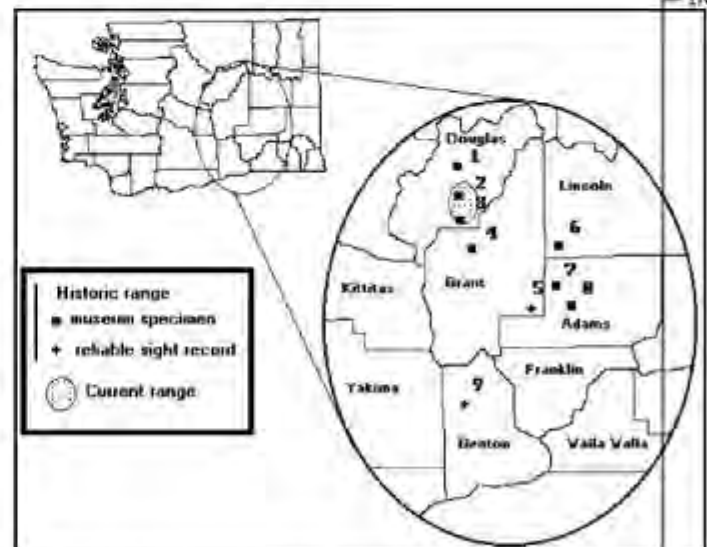
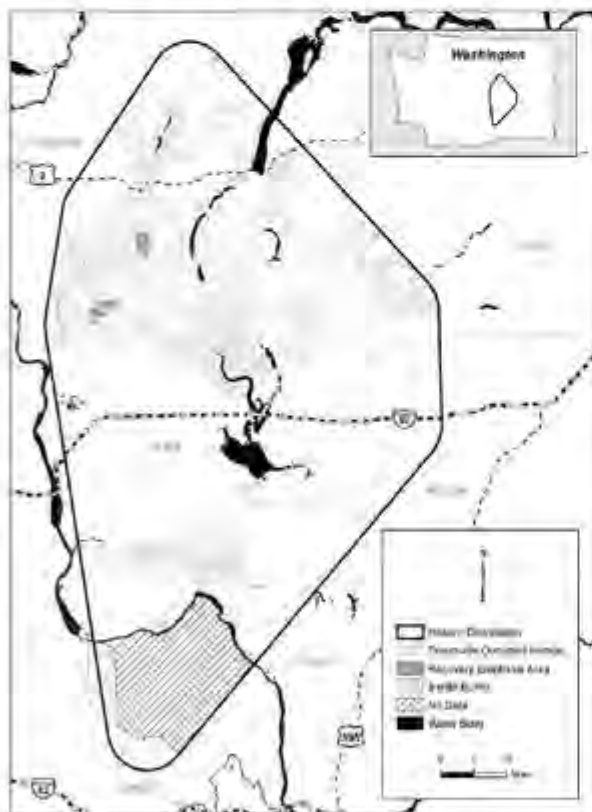
Ref 7, Fig 14: (Occupied CSTG Areas in Washington)



Ref 5a, Fig 3.16: (Sharp-tailed Grouse HCAs and Landscape Resistance)

● **Columbia Basin Pygmy Rabbit**—Status of the Columbia Pygmy Rabbit is dire. It was listed as endangered by Washington State in 1993 and by the USFWS in 2001. After existing in the Columbia Basin for 100,000 years or more, it was thought to be extirpated in Washington in the mid-1900s. Significant populations were later discovered in 1979-1988 but, after continuing declines, it was again thought to be extirpated in the wild by 2004. Major efforts to ensure its survival and recovery in Washington, including monitoring, protection of selected habitat, captive breeding, and reintroduction have been ongoing since 1995-2000. Major threats include destruction and fragmentation of shrub-steppe habitat, along with disease, predation, and lack of genetic diversity common to species reduced to low population numbers (Refs 8a,b,c,d). Due to increased persistence in the wild, recent focus on recovery has been limited to the shaded areas in Douglas and Western Grant Counties shown on the maps below (Refs 8a, pp 8-9; 8b, pp 2-4, 14-15, 17-18).




As shown by the following map on the right, however, a number of reported Pygmy Rabbit sightings in past years have been in/near the mid-Crab Creek/OSSS area (locations 5-8). Significant existing blocks of shrub-steppe habitat suitable for Pygmy Rabbits are shown by the map on the left. These are located north of the Potholes Reservoir, in the vicinity of Billy Clapp Lake, and in the upper Crab Creek complex threading through the proposed OSSS project area.



Ref 8a, Fig 2(Pygmy Rabbit Habitat & Distribution) Ref 8b, Fig 2(Distribution of the pygmy rabbit in Washington)

**The WDFW wildlife surveys, which did not detect Pygmy Rabbits in the OSSS area, were inadequate because of adverse weather conditions (Ref 2, page 16, 18). It was determined, however, that a 593-acre block of high quality shrub-steppe habitat suitable**



for Pygmy Rabbits exists there, as is shown by the map excerpt below from its Appendix C. The map excerpt to the right shows that this area (see ) is connected to much larger blocks of undeveloped habitat that extend north to the still larger Crab Creek complex on both west and east sides (see  and ) . These areas include both Black Rock Coulee and Lake, as well as the proposed Black Rock Coulee Regulating Reservoir. As is shown by the complex of blue lines delineating the EHC, the proposed OSSS developments would result in extreme fragmentation of these areas (as well as complete destruction of habitat flooded by the regulating reservoir), and would present high likelihood of direct mortality for any terrestrial species of wildlife occupying them.



Ref 2, Appendix C: Excerpt of Pygmy Rabbit Habitat

(Red  and )



Ref 2, Appendix A: Excerpt of Larger Potential Habitat Areas

(Green  and )

- **Northern Leopard Frog**—The Status of the Northern Leopard Frog in Washington is also dire, being listed as a State endangered species and a Federal species of concern. Once widespread in eight Washington Counties (Ref 9, pp 1-2), since 1960 it has been found in the wild only near the proposed OSSS project (see Figure 1 and Table 2 below from Ref 9).

Known as the “meadow frog,” the Leopard Frog ranges widely from lakes/streams through fields and woodlands, thus being especially vulnerable to vehicle kill, or possibly from being swept to unsuitable habitat by canal flows (Ref 9 at 5 and Ref 2 at 22). Although not found in the OSSS-surveys, weather conditions prevented adequate surveys. **Potential habitats, all of which would be fragmented or otherwise adversely impacted by proposed OSSS development, are the wetlands near Billy Clapp Lake and Black Rock Coulee, including the Artesian-**

**Black Lake area. (Ref 2, pp 15, 23). The proposed OSSS project will clearly introduce potential threats to survival and recovery of the Northern Leopard Frog in Washington.**

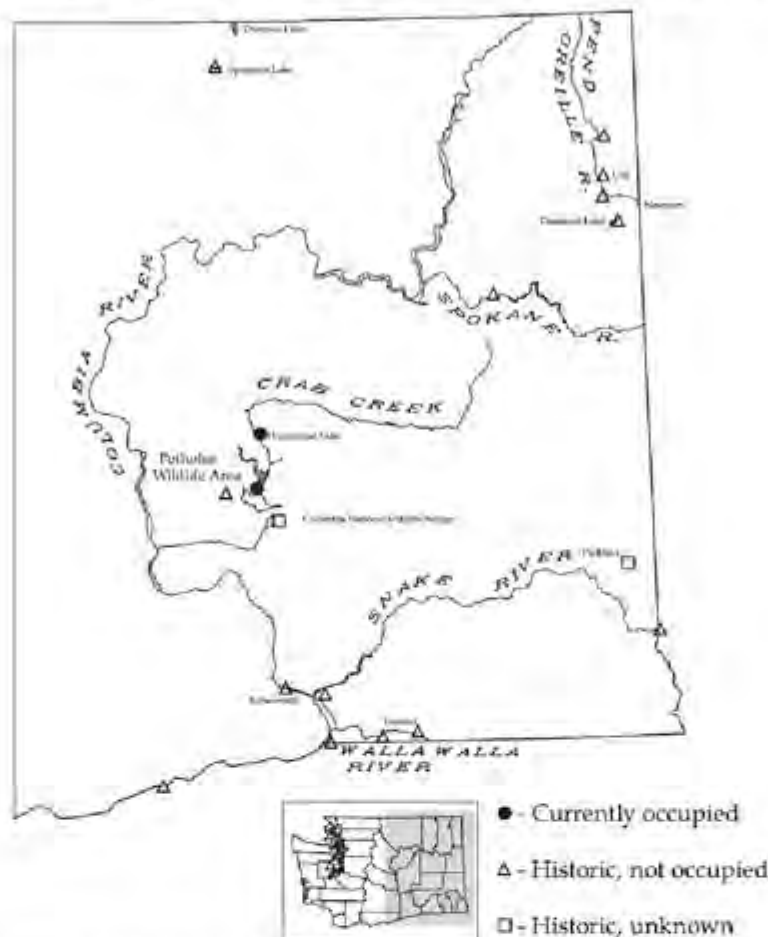


Figure 1. Historic and current distribution of leopard frogs in Washington.

Table 2. Northern leopard frog (*Rana pipiens*) sight records for Washington

County	Date	Observer	Location
Grant	9/16/80	R. Friesz	North Potholes, isolated ponds (T18N R28E S7)
Grant	10/8/88	W. Radke	North Potholes (T18N R27E)
Grant	8/10/89	W. Radke	North Potholes (T18N R27E)
Grant	8/17/89	W. Radke	North Potholes (T18N R27E)
Grant	8/2/93	C. Thomas	Crab Creek channel, Potholes Reservoir
		C. Corkran	
Grant	4/10/94	C. Corkran	Crab Creek channel, Potholes Reservoir
Grant	9/94	G. Lavoy	Potholes Wildlife Area, S of Mae Valley exit off I-90
Grant	5/12/95	P. Bartels	Potholes Reservoir dike (T18N R27E S15)
Grant	5/18/95	P. Bartels	Potholes Reservoir West Arm (T18N R27E S8)
Grant	1962	G. Orions	Columbia N.W.R.
Grant	1972	D. Paulson	Columbia N.W.R.
Grant	1985	L. Beletsky	Columbia N.W.R.
Grant	5/78	M. Brady	Small ponds below dike of Soda Lk. (T17N R29E S19)
Grant	5/21/75	P. Cheney	Dodson Road Rest Area (T18N R26E S15)
Grant	4/95	M. Monda	Homestead Lake
Pend Oreille	7/17/70	D. Paulson	Diamond Lake
Whitman	1985	P. Bartels	Lake DePuddle near Washington St Univ. Campus



● **Other Species of Concern Adversely Affected by Proposed OSSS Development**

● **Washington Ground Squirrel (WGS)**—The WGS is designated as a Species of Greatest Conservation Need (SGCN) and is a candidate for Washington-State listing as threatened or endangered (Ref 5a, Table 2.2 and Ref 4). Results of pilot surveys in Douglas and Grant Counties show that of 185 successful WGS detections, 85 were in Black Rock Coulee (Ref 10; page 6 and Fig 2 below). This population is thought to be the largest WGS colony in Washington State and **would be completely inundated by flooding of Black Rock Coulee, resulting in expected mortality and possible extirpation of the colony (Ref 2, pp 18, 19, 21, 24). Other proposed OSSS developments; Black Rock Coulee Regulating Reservoir, East High Canal (including Black Rock Branch, EHC South, Farrier Wasteway, Moody Siphon), and Rocky Coulee Reservoir would adversely impact other nearby WGS colonies, resulting in habitat fragmentation and expected mortality (Ref 2, pp 19, 20, 21).**

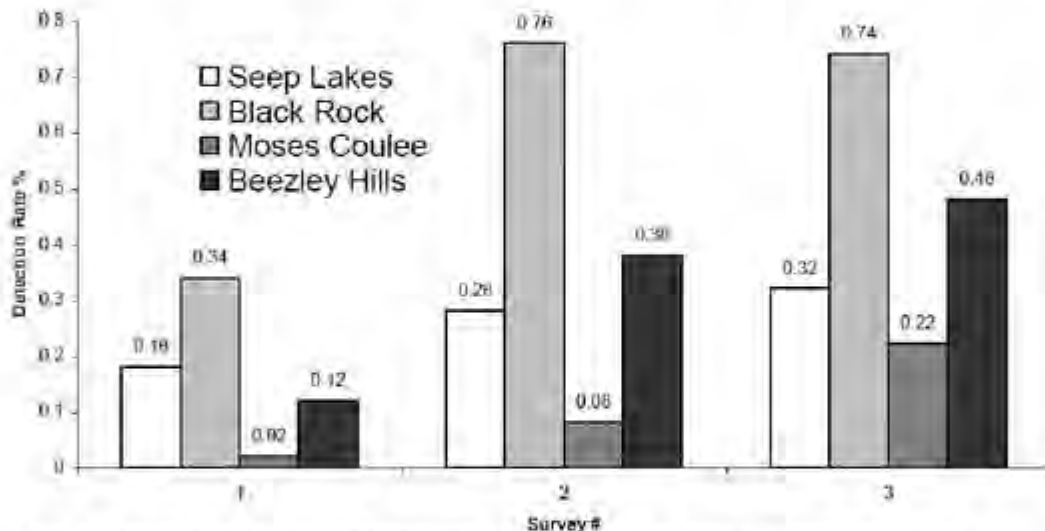


Fig. 2. Raw detection scores (detections/survey) for Washington Ground Squirrels among four study areas in eastern Washington, 2008. Two-hundred surveys were conducted in each of the three survey periods. 50 in each study area.

● **Black-tailed and White-tailed Jackrabbit**—Both Black-tailed and White-tailed Jackrabbits are designated as Species of Greatest Conservation Need (SGCN) and as candidates for Washington State listing as threatened or endangered (Ref 5a, Table 2.2 and Ref 4). The following excerpts from Figures 3.30 and 3.34, Ref 5a, illustrate that both species are associated with major areas of shrub-steppe habitat in Lincoln, Grant, and Douglas Counties (habitat concentration areas shown in green, highest-value linkages in yellow; where  $\square$  again designates the Grant-Lincoln-Adams tri-county intersection). **These maps clearly show that the proposed OSSS developments would increase habitat fragmentation and completely sever the major East-West movement corridor for both species, as well as resulting in increased direct mortality. Furthermore, the North-South corridor that traverses the SE corner of Grant County would expose both species to direct mortality from the East Low Canal Expansion and Extension.**

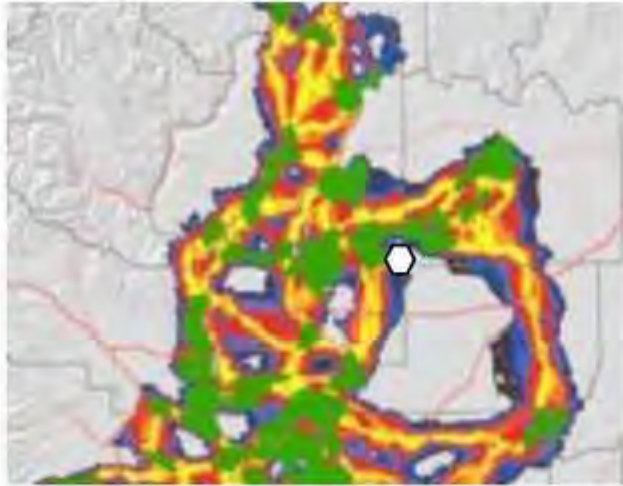


Fig 3.30 Black-tailed Jackrabbit Linkages (excerpt)

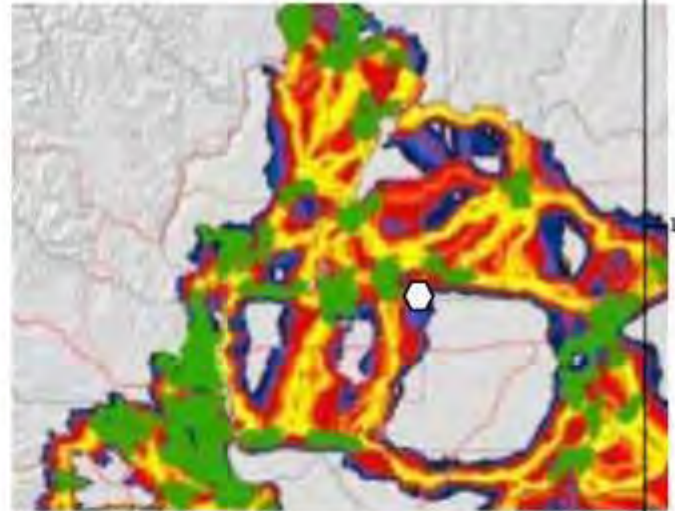


Fig 3.34 White-tailed Jackrabbit Linkages (excerpt)

IND25-38

- **Mule Deer**—As noted on page 6 above, the OSSS infrastructure would be expected to disrupt and cause direct mortality in the large population of Mule Deer that winter in the area adjacent to Billy Clapp Lake (Ref 2, page 21). **The following excerpt from Figure 3.38, Ref 5a, shows that the OSSS developments would also sever the only significant East-West pathway for Mule Deer south of the Columbia River.**

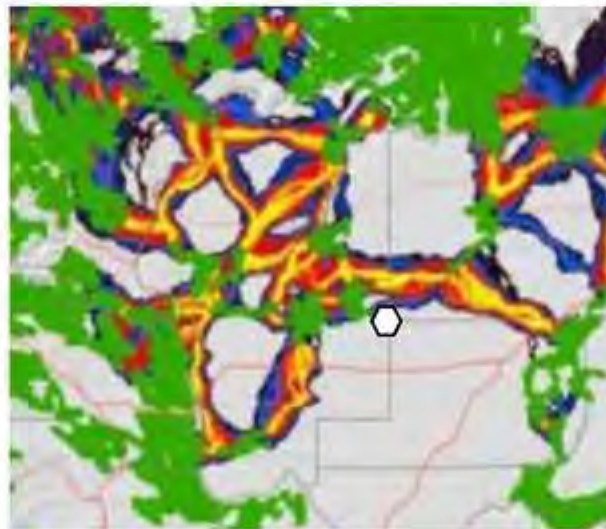


Figure 3.38 Mule Deer Linkages (excerpt)

IND25-39

## REFERENCES

1. Draft Fish and Wildlife Coordination Act Report (CAR) For the Odessa Subarea Special Study; USFWS (2010)
2. Odessa Subarea Special Study Wildlife Survey Final Report: WDFW (2010)
3. Draft Economics Technical Report: Odessa Subarea Special Study; BOR (2010)
4. Species of Concern in Washington State (species relevant to Odessa Subarea); WDFW (2010)
- 5a Draft Washington Connected Landscapes Project: Statewide Analysis; WDFW (2010)
- 5b Shrub-steppe Distribution in Washington State; WDFW (2010-from webpage)
- 5c Comparison of OSSS Northern Area to Current Shrub-Steppe Areas in Central Washington (excerpts from DEIS Map 3 and Ref 5b)
- 5d Columbia Basin Wildlife Area Management Plan; WDFW (2006)
6. Washington State Recovery Plan for the Greater Sage-Grouse; WDFW (2004)
7. Draft Washington State Recovery Plan for the Columbian Sharp-tailed Grouse; WDFW (2010)
- 8a Draft Recovery Plan for the Columbia Basin Distinct Population Segment of the Pygmy Rabbit; USFWS (2007)
- 8b Washington State Recovery Plan for the Pygmy Rabbit; WDFW (1995)
- 8c Washington Pygmy Rabbit 2003 Recovery Plan Update; WDFW (2005)
- 8d Endangered pygmy rabbits return home; WDFW News Release (2007)
9. Washington State Status Report for the Northern Leopard Frog; WDFW (1999)
10. Occupancy Modeling and Detection of Washington Ground Squirrels; WDFW (2009)
11. Priority Habitat and Species List; WDFW (2008)
12. Odessa Subarea Well Conditions; CBGWMA (2010)



## Comment Letter IND26

Control #: 11006267

P.O. Box 32  
Wilson Creek, WA 98860  
January 24, 2011

Mr. Charles A. Carnohan, Study Manager  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Re: Odessa Subarea DEIS

Are the farmers who would take this water aware of what the Repayment Costs are going to be? No where have I seen any figures. Twenty years ago the continuation of the project was not feasible at the prices then so it is even less economically feasible in our country's economic atmosphere of today. IND26-1

There is no shortage of the products raised on this land.

Most of this area was never true reclamation land in the first place. The farms were productive. People can turn off their pumps and farm like they used to and like a lot of their neighbors have always done without irrigation.

It isn't a majority that want this and it will have an impact on the people that don't desire it. Many will be impacted by the handful that made the decision to drill these wells and now want a bail-out. I feel it is a complete waste of tax-payers' money to pursue this.

No Action is the choice that should be made. The enormous amount of dollars saved can be better used elsewhere.

I am a landowner whose land is in the continued development area and our family unequivocally does not want irrigation development on our land.

Sincerely,

*Phyllis E. Brown*

Phyllis E. Brown

MAIL	DATE	TIME	STATUS
1000	X		
1062	X		
1100	X		
1600			
1700	X		
1800			
1120	X		
1125	X		
ACTION			



Neil Fink  
3790 Fink Rd. E  
Odessa, WA 99159



Control #: 11006905

DATE	TIME	BY	REMARKS
1000	X		
1002	X		
1100	X		
1100			
1100	X		
1100			
1120	X		
1120	X		

January 26, 2011

Charles A. Carnohan  
Bureau of Reclamation Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima WA 98901-2058

Re: Draft EIS

Dear Mr. Carnohan,

My comments after reviewing the draft EIS and the options for the second half of the Columbia Basin project. From the studies and personal observations we are in the final stages of ground water irrigation in the Odessa Sub area. I farm in the area of southwest Lincoln County which has seen a significant drawdown in the water table. The water has little or no recharge so our days of using this resource for the agricultural production are coming to an end.

The surface water is available with timing adjustments, yet I feel that if any progress be it full replacement or partial ultimately will be made on the benefits to costs ratio. In the current draft none of the options are positive; unless changes are made there will no expansion of surface water in our future.

I have some questions as to how the draft was formed.

Why were only the acres that are currently using ground water for irrigation used in the study, your study shows 102,000 acres in the full replacement yet the original plan called for supplying water to 1.029 million acres of which about 671,000 have been developed? I would like to know which agency pulled the plug on the additional acres and what would the economics look like if those acres would have been included in the draft? What would the BCR look like if the lost hydro power benefits were left out of the figures? Who really holds the water right to this water? I think it is the CBP, yet now the BCR draft shows this as a cost. The hydro system has been using the more than 3-million acre feet of water for free, yet now that the water right holder wants to use it, it is considered a cost?

IND27-1

IND27-2

The next comment I have is with the actual benefits to the four county regions of the current 102,000 acres irrigated by ground water. The study as I understand it says if those acres revert back to dry land we will only see a 1% decline in the economy of the area. Did the economists really take a good look at the full impact of this not only from an angle of the loss in gross sales but also from the fact that the irrigated lands have so much more inputs. These extra inputs

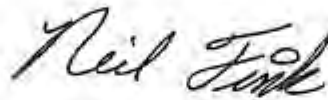
IND27-3

keep many companies in our area going, what form of multiplier was used to reflect that impact or did the draft just figure it was insignificant to measure?

My hope is that you can come up with a realistic plan for surface water for our area, with full replacement as the goal. I feel if only a partial replacement option is picked those who are not included will never see any surface water.

To those who say let's just let those acres go back to dry land. Look to a study done by Aiguo Dai of the National Center for Atmospheric Research. "Most of the western two-thirds of the U.S. will be significantly drier by the 2030s," he says. The world can ill afford such a development as food demand grows. Will we let this opportunity yet again come to a halt or will it finally move forward, I hope for the later.

Thank you,

A handwritten signature in cursive script that reads "Neil Fink".

1-26-11

Dear Mr. Carnahan,

I included a news clip from back in 1959,  
thought you might find it interesting.

Neil Fink



# Oasis

## Washington Farmer Proves Irrigation Profitable in Dry Wheat Land Country

It is not difficult to imagine that there is a difference between a dry land wheat field and one that is irrigated. The interesting aspect is how much it costs to install a sprinkler system where there is a well to dig and how much greater a yield can reasonably be expected as a result of irrigation. The average farmer would naturally want to know about how long it would take to pay off the investment.

Marvin Fink, who lives 13 miles southwest of Odessa, Wash., has taken the bold step. He has dug a well and installed a sprinkler system on his wheat farm. His experience may answer some of the questions on this subject. He has grown up with wheat. His grandfather, Conrad Fink, started farming here in the fall of 1903. His father, Reuben Fink, was born on the place. Marvin now has 800 acres from the old place. His brother, Alvin, farms 1280 acres just three miles away.

Marvin began thinking about irrigation in 1952 while in the U.S. Army. He couldn't get off his mind how nice the green wheat fields looked in the spring and how deadly dry they became during the hot days



Age 3 Marvin Fink, daughters Mary Beth and Joanne, wife Marilyn and son Alvin. Marvin Fink, 31, located 13 miles southwest of Odessa, Wash.

of summer. By the time he was released from the service in March 1954, he had decided he would like to know just what water would do for the crops. It was not until the beginning of 1958 that he got the go ahead from his dad and the moral support of his brother. The family farms together. Consequently they try to work out their plans with unanimous consent.

It cost \$25,000 to get the sprinkler irrigation into operation. This included digging a 485 foot well, installation of the main line with a pump house, 100 h.p. electric motor to operate the pump and one mile of portable aluminum pipe with 192 heads.



The Marvin Fink residence is like an oasis in the desert. The green lawn and the irrigated alfalfa field are a real contrast to the miles and miles of dry wheat land. Fink also irrigates 265 acres of wheat and 95 acres of beans with sprinkler system installed last year. In the photo are girls Mary Beth and Diane.

The pump will send 750 gallons of water per minute through the sprinklers and the well holds constant at 1700 gallons.

With this system, Fink irrigates 265 acres of wheat, 95 acres of pinto beans and 40 acres of alfalfa. The sprinklers for the wheat have to be set once in the fall and once again in the spring, leaving them 24 hours for each setting. It takes six weeks to sprinkle all of the irrigated land this way. Two and one half hours are re-

quired for each move of this one mile of pipe. Fink has an attachment on the tractor to aid in the moves from one area to another and the connections or hook ups are made by hand.

The soil conservation agents estimate that the sprinklers add what would be equal to a good six inch rainfall. The average rainfall in the area is about nine inches. However, much of this is lost because it comes in the winter and runs off because of the frozen ground in the spring. Four days after a setting of 24 hours, a test was made by a soil conservation agent and mud balls could be made from soil taken three feet deep. The ground on the farm has been found to be excellent for holding moisture. However, in order to realize the full benefit from irrigation, 75 pounds of nitrogen are added each year per acre.

Asked how long it would take to pay off the \$25,000 initial investment in this sprinkler system, Alvin



Domestic anyone even slightly versed with figures to arrive at some very close estimates.

For example, the average yield for dry land wheat has been 30 bushels per acre over a ten year period. The irrigated acres gave forth this year  $76\frac{1}{2}$  bushels average over the 265 acres. Before the irrigation, he could not grow any beans on the land. Last season the 38 acres produced 22 sacks of dry beans per acre. At that time it was strictly an experiment. He thinks he can increase the yield as he learns more about the crop. The beans are harvested with the combine using a special windrow attachment for threshing. For best results, he rotates the bean acreage each year. The beans add nitrogen to the soil so that, by this method, he is building the productivity of the ground each year.

In addition to the increase in bushels of wheat and the beans, the 40 acres of alfalfa is an extra dividend resulting from the water. Fink figures he will get at least three cuttings yearly and at least four tons to the acre. He also plans to run cattle on this pasture next year, another impossibility without the sprinklers.

It is enjoyable to stop out at the Marvin Fink home. The Finks have a modern two bedroom house with full basement, double garage, domestic water system, TV, deep freeze, electric fans for summer air conditioning, electric kitchen and many handy electrical gadgets and appliances. They have a fine barn and a well equipped machine shed. Electric motors operate the band saw, steel cutter, grinders, drills, welding equipment and other power tools. This shop is not just a hobby, Fink repairs most of the farm machinery including the truck and D-4 Cat. He says he is not at all unhappy with his electric bill from Lincoln Electric cooperative in Daviess county.

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G B A O

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Comment Letter IND28

Ken Tolonen  
12307 Marble Rd  
Yakima WA 98908  
509 965 4580  
1-26-11

Dear Sir,

Have gone to 2 meetings at Old Town Hall in Odessa concerning Rehydration of dryland esp. Lake-creek. I'm in favor - start it ASAP! Also heard you el. at C. Moses Lake months ago @ Colman Res. - Western Leugen presentation of Odessa Sabana. I'm also in favor of that - i.e. expanding & extending existing canals.

It's especially important in Lincoln Co - My family has dryland wheat & deep well irrigation potatoes to the south & east within 1/2 m. li. Our well(s) (and neighbor) is affected seasonally but apparently recharges new water. It's about 1/2 m. li. from GUM A. Reader comments the deep well irrigation won't last much longer (10-15 yrs) at current rate. However small cities and family rural farms are certainly @ risk!

Our survival depends on it - i.e. go for it!

I grew up on our land (SW corner of Lincoln Co) - I went to School, graduated - about to be drafted - joined Navy (to visit Mom) & stayed in Calif. 31 yrs but came back - retired in Yakima. But want to use hometown as example of sustainable living albeit energy - restore heratog basin - land d. u. there - need water.

Sincerely

John K. Tolonen 'Ken'  
I do attend both North Yakima & Lincoln Co Conservation & Rehydration as well (GUM)

as master gardener, Grange, ~~4-H~~ ~~abiu~~ Audubon, nature center -  
spent about  $\frac{1}{2}$  FTE as volunteer even though I'm old.



January 26, 2011



Control #: 11066910

Charles A. Carnohan

Bureau of Reclamation Columbia-Cascades Area Office

1917 Marsh Road

Yakima, WA 98901-2058

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To Whom It May Concern:

The time has come for truth, honesty and nothing less.

In the 1930's, President Roosevelt and Congress had the foresight to lay out a great plan for the construction of Grand Coulee Dam and The Columbia Basin Project. The Dam Project has given many luxuries, conveniences and jobs for the great Northwest. The water for the irrigation project known as the East Low Canal Project brought life to many acres that could otherwise scarcely sustain a jackrabbit. This lifeline of water has brought the finest food raised in the world. Great recreation opportunities were created, water sports of all kinds, hunting, hiking, bird watching, the list goes on and on.

As we all know, only part of the irrigation project has been completed. Many of us growing up in family farms made the choice to stay and continue farming, knowing that water was coming. We are still waiting. Now, my children are older than I was when I made that choice 35 years ago. My children are wondering if water will ever come.

Much of the area has deep well irrigation wells, which were to be a temporary solution until the East High Project was finished. Now, we are at the point that we are losing our deep well water, but even worse, we are losing our domestic water supply. How many of us can afford to drill new, deeper wells at a cost of fifty to eighty thousand dollars? This is not affordable. Are we to give up our homes and move to town? What will happen to the farms and the farm raised livestock?

— IND29-1

As adults, it is time to finish what is long overdue, complete the Dam Project. We all know the water is still there for the East High Project. It is time to save our domestic water supply and provide more food for a growing world, not just for today, but tomorrow as well. The cost may be great, but as we all know, the East Low Project was set up as a payback program, a fifty year payback on the tax roll. This is not welfare, but one of the few government projects that actually pays for itself.

This is about our future generations, but they cannot do this for themselves, it is **our** responsibility.

It is time for truth, honesty and doing what is long overdue. Start with the completion of the East High Project, and move forward as fast as we can. We are way behind. We should not be just starting; we should be in the finishing stage.



What a great idea; a project that will pay for itself, provide great food for a growing world, save our domestic water supply by ending deep well irrigation, increase wildlife and recreation activities and create endless job opportunities. What a win-win for our economy!

The time is here!

Bradley A. Greenwalt

2238 Kulm Road N

Odessa, WA 99159

A handwritten signature in dark ink, reading "Bradley A. Greenwalt". The signature is written in a cursive style with a long horizontal flourish extending to the right.

1/27/2011

Alan VOISE, Southwest of Odessa

2mi. South of Hwy 28 on Balam Road -

Cost benefit not good but I think we need to move forward. The repayment can be met by farmers & Federal Govt.

I can't imagine why we wouldn't develop the system as the population increases.

I support the development of the CBP in total.

I understand fish issues but it wouldn't take much water to complete the project. I support the Full Replacement Alternative. However, the partial would give me more time on my wells by reducing the aquifer drawdown.

IND30-1

Taken by telephone 1/27/11 7:45 AM



V3 inc could be deleted from mailing list (duplicate)

1501 Potomac Rd

From: [Brent Bair](#)  
To: [ROB NICA Odessa Study](#)  
Subject: Odessa  
Date: Thursday, January 27, 2011 10:23:03 AM

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To whom it may concern,

I farm in a portion of the ground water area. I think that it would be great if we could look into the future like our grandparents and see the benefits that have come to developing this area. The continued development to the full extent is what I would like to see, but at least one of the different } IND31-1  
feasibilities need to be done. I think the long term gain will make the investment seem very small in  
the future. They are not making any more new ground to farm, but we can do so much more with  
irrigated ground than dry land.

Sincerely, Brent Bair

— 97 —

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## Comment Letter IND34



Control # = 11007574

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June I. Zagelow  
16000 Zagelow Road East  
Odessa, Washington 99159

January 28, 2011

Chuck Carnoham  
USBR Columbia-Cascades Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

Dear Chuck:

I recently saw Deer Springs Lake with its very low water levels. I remember Pacific Lake when it had water. I am concerned about the lowering water level in our Odessa area. The estimation that our current use of water rate will cause us to completely run out of water in 15 to 20 years is frightening.

I am concerned that there are people who do not realize, for whatever the reasons, how serious this problem really is. Every single person in Odessa can be affected by Odessa's loss of water. Therefore, I believe everyone in Odessa and surrounding areas should be doing what they can to work toward a solution for this problem.

I hope you will do what you can to advance the plan to rehydrate Odessa and the surrounding areas by recharging the aquifers.

I believe the way to fix the problem of the lowering water tables in the Odessa area is to pump the water from Lake Roosevelt, letting the water flow to the South West through the dry creek beds of the Lake Creek Drainage. This would allow the water to flow to the Upper Twin Lake, the Lower Twin Lake, the Upper Coffee Pot Lake, the Lower Coffee Pot Lake, to Deer Springs Lake and then onto Pacific Lake. IND34-1

To further this plan, reservoirs could be added as needed.

Please do what you can to help stop the loss of water in the Odessa area.

Sincerely,

  
June I. Zagelow

## Comment Letter IND35

Control #: 11007547

Jeff S. Zagelow  
17010 Apache Pass Road  
Odessa, Washington 99159

January 28, 2011

Chuck Carnoham  
USBR Columbia-Cascades Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

Dear Chuck:

I believe that the best solution to fix the problem of the lowering water tables in our area is to pump the water from Lake Roosevelt, letting the water flow to the South West through the dry creek beds of the Lake Creek Drainage System. This would allow the water to flow to the Upper Twin Lake, the Lower Twin Lake, the Upper Coffee Pot Lake, the Lower Coffee Pot Lake, to Deer Springs Lake and then onto Pacific Lake. IND35-1

The cost of pumping the water for approximately seven miles until the gravity flow takes over should be minimal for what would be accomplished. Not only would it fill the lakes for recreation but would also raise the water table that would help the irrigation farmers and the cattle ranchers, both dependent on the availability of water. Most importantly, this project could save our domestics wells in the area.

I hope you will do what you can to advance the plan to recharge the aquifers.

Sincerely,



Jeffery S. Zagelow

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## Comment Letter IND36



Control #: 11 007558

Amber M. Zagelow  
17010 Apache Pass Road  
Odessa, Washington 99159

January 28, 2011

MAIL	DATE	TIME	STATUS
1000	X		
1002	X		
1100	X		
1500			
1700	X		
1800			
1120	X		
1123	X		
ACTION			

Chuck Carnoham  
USBR Columbia-Cascades Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

Dear Chuck:

I believe that the best solution to fix the problem of the lowering water tables in our area is to pump the water from Lake Roosevelt, letting the water flow to the South West through the dry creek beds of the Lake Creek Drainage System. This would allow the water to flow to the Upper Twin Lake, the Lower Twin Lake, the Upper Coffee Pot Lake, the Lower Coffee Pot Lake, to Deer Springs Lake and then onto Pacific Lake. ] IND36-1

I hope you will do what you can to advance the plan to recharge the aquifers.

Sincerely,

Amber M. Zagelow



From: [Adrea Bezdicek](#)  
To: [BOR LICA Odessa Study](#)  
Subject: Columbia Basin Project  
Date: Friday, January 28, 2011 8:53:22 AM  
Attachments: [image001.png](#)

---

Chuck Carnohan,

We need the The Columbia Basin Project. Which will bring surface water to my family in Odessa to use. So we can stop pumping out of the ground to let the groundwater replenish itself slowly over the years. We do not want to deplete a natural resource. ] IND37-1

Thank you for your time in this important matter

**Adrea Bezdicek**

Physical Education Dept.

Wahluke High School

PO Box 907

411 E. Saddle Mountain Drive

Mattawa WA 99349

509-932-4477

ext: 3564

School Cell:

509-831-7734



# FRIEHE FARMS

Control #: 2498 ROAD S NE  
 MOSES LAKE, WA 98837  
 (509) 765-4584  
 (509) 765-1059 SHOP  
 (509) 765-2100 FAX

January 28, 2011

U.S. Department of the Interior  
 Bureau of Reclamation  
 Mr. Charles A. Canohan  
 Columbia-Cascades Area Office  
 1917 Marsh Road  
 Yakima, WA 98901

Dear Mr. Canohan,

As a farmer and deep well irrigator east of the ELC and north of I-90, I was shocked to read (starting on page 4 of the DEIS and then throughout the summary) an almost complete exclusion of future water availability under the partial replacement action alternatives. As is well known, ground water and pumping level problems are severe on both sides of the freeway, so why such a discriminating proposal?

IND38-1

The argument, that a partial development out of the existing ELC north and/or south of I-90 would preclude future full development is absolutely false. The all or nothing argument is a rather stagnant statement without tangible reasons and very unhelpful for creating solutions for the urgent need in the near future.

IND38-2

I fully support complete development. If at some point, the requirement for higher sustained level of production for food and fiber became apparent the full phase CBI will be completed without the struggle for political and financial support. In today's world however, with severe financial limitation on the state and federal level for large projects, the political support or the lack thereof, it is very doubtful that even the lowest cost alternatives (2A,2B), which shows less than 1.0 BCR, will receive the needed funding.

IND38-3

Therefore, it is very important to realize in order not to jeopardize progress through incremental development soon, that there is now a rapid and combined effort by the B. o R. and Washington State DOE, as well as all other stake holders that will produce alternatives for partial development that:

- 1) will show a BCR greater than 1.0 by creating a serious, competitive business approach. Which will result in lower cost, better efficiencies and increased benefits. The BCR should be designed and tracked through every incremental phase of the development.
- 2) start immediately without years of study the permit process of pumping water from the ELC through private and public partnerships

3) finishing the Potholes/Crab Creek supplemental feed route and Weber siphon as to guarantee water requirement to the south basin and greater pumping capacities out of the ELC


4) enlarging the ELC south of the I-90

The DELS in its present form endangers the incrementally and economic feasible partial development of the ECP. the risk of getting nothing is not an option.

As a farmer who is pumping very deep water and paying steep power bills even a partial supply of a partial development would be big progress. Anything between 30-60% of replacement water would take a "HUGE" amount of pressure from the existing ground water system. IND38-4

The stakes are high, not just for individual farmers, but very much so for the local, regional, even the state economy. the project must move forward.

Sincerely,



Berend Friehe



1/29/11 ①

Bureau of Reclamation  
Odessa Subarea EIS Comments

Retention Code: ENV-6 00  
Folder #: 1148003  
Control #: 11007866

Thank you Reclamation and to the State of WA. for conducting this study on a complex issue.

Mr. Carrohan's presentation at the Annual CBDL meeting had a huge slant of South vs. North. Just by the tone of the presentation South was going to see water and North, well tough.

Looking at the study maps the Area of decline is larger in the North. Why not more focus here.

The idea of partial or your so called full replacement just does not make good sense. If Reclamation wants to really do this project, do it right and finish the whole 300,000 plus Acres.

If my numbers are sound it would take 8 inches off of L.R. At full pool to do the 102,600 acres. So if this is right then it

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IND39-4

would take less than 2ft. at full pool. Evaporation in this area is at 36" plus or minus. Any way you look at this from partial to full the river is not being drained.

IND39-5

If the dams along the Columbia have a problem with this project using more water which the water right was for this project, then money should be due since they have been turning their turbines with this water right.

IND39-6

Use Bank's Lake or as it was called when built Bank's Reservoir, to its full use as a reservoir and let it go up and down.

IND39-7

The economics and the B/C ratio is a huge question. Numbers can be changed to make it work or not work.

IND39-8

The U.S. paid to help complete the first half. Some of the blocks in the first half are being paid off now. How many government projects get paid back vs. just throwing money at a project. Is this called investment in America?



IND39-9

Is the most modern technology being used for the build out or is it still ideas that are decades old.

IND39-10

Sat down Syrs. Ago with a group of farmers and a irrigation company. There was a design to get water to everyone in the north half for a cost of \$50 million dollars. It's a far cry from \$2 billion.

IND39-11

My final comment is more of a thought. Our fore fathers built this country on a vision. Today I think we lost a lot of that vision. If the people that started this project could come back I'm sure they would say is what the hell ~~are~~<sup>have</sup> you guys been doing. Question is what would we say. This project effects a lot of the people that are the salt of the earth. Generations have tolled this ground with the vision. Do they want it for nothing. No! Reclamation's mission statement says a lot but, Dept. of Interior letter head that says "Take Pride in America." Question is, is the pride still there!

Thank you  
Jeff Schibel  
Odessa, WA.



## Comments on Draft Environmental Impact Statement, Odessa Subarea Special Study

January 29, 2011

Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Comments by: Jake Wollman Jr

The No Action Alternative can be expected to have MORE than minimal adverse impacts. The study implies an incomplete understanding of the intricacies of the region's agricultural economics. The No Action Alternative does not appear to take into consideration the risk of failure of deep wells to a farm's ability to meet its obligations toward the financing of its existing irrigation investments, and the domino effect toward the effected creditors thereof.

IND40-1

The study claims a less than 3% decrease in gross farm income under the no-action alternative. This shows a lack of appreciation of the region's importance to potato and other row crop production, and probably assumes that high value crops can be grown consistently in close rotations on older lands, or can be grown elsewhere. A longer rotation is needed in order to produce quality potatoes, which would be difficult if the expansions into the deep well irrigated lands were not available. The pressure from the loss of strategic agricultural chemicals also makes the availability of the deep well irrigated lands much more important.

IND40-2

The study shows a negative cost-benefit ratio for almost all alternatives. The analysis used proposes to replace well water with canal water on lands *that are already being irrigated*, so that the economics of irrigated land are being compared to like irrigated lands. No economic credit is being given to the value of the proposal as an *environmental mitigation effort to address the problem of a declining aquifer*.

The Odessa Subarea Special Study area is within the boundaries of the originally federally authorized area of the Columbia Basin Project. The irrigated lands within this area have been developed using private funding exclusively, and the benefits thereof have already been realized over time. The nation and respective governments are benefitting, and have already benefitted from, the tax revenues and jobs that this agricultural development produces. This benefit has occurred *with almost no expenditures via public funding, in spite of the development having occurred within a federal project area as authorized by Congress*. The *public* benefits of the *private* investments in a *public* project are already being enjoyed by the nation. The value of the economic benefits realized by those private investments

IND40-3

that have occurred in proxy to federal obligations should be credited in the study toward the benefits of the currently proposed alternatives, among them the increase in land values resulting from the conversion of dry lands to irrigated lands for the currently irrigated lands within the study area. We have, in effect, from a federal perspective, enjoyed the benefits of an irrigation development without having incurred toward Reclamation the traditional related costs and obligations within an authorized federal project, and due credit should be given toward those efforts.

IND40-3

The prior EIS of the 1980's which addressed continued development of the project using lands adjacent to the East Low Canal showed a positive cost-benefit ratio. The previous study logically proposed to *convert dry lands into irrigated lands*, thereby increasing the production of those lands by orders of magnitude. It follows that in order to increase the current proposal's cost-benefit ratio into the positive sector; some of the concepts used in the earlier study would be worth examining.

IND40-4

The study examines the effects of converting irrigated lands back to dry land as an alternative. This is a paradox, in that Reclamation's charge has historically been to develop the lands of the west. To assume that lands would be reverted back to dry land would represent gross failure of Reclamation's historic mission.

IND40-5

Construction costs are being calculated using inflated values to preclude a scenario of project cost overruns. This is in contrast to the benefit being calculated using present value of agricultural commodities, the availability of which is considered by some to be a human right. The farmers do not have the luxury of dictating their commodity prices, as the government does at its discretion in determining construction costs. This is not a fair comparison.

IND40-6

No credit is being given for the energy capacity recouped by deep wells being retired. This energy should be credited against the cost of energy to pump the proposed replacement canal waters.

IND40-7

No consideration is being given to the cost of reconfiguring a farm's water distribution system from the present dispersed-well configuration to a single-point water source system design. Obviously these costs will be included in the total cost of the project to the end user.

IND40-8

The analysis states that agriculture ranks second in total regional employment in the four-county region. One can observe that, were it not for the existence of the Columbia Basin Project, the other industries would be much smaller labor providers than they are at present.

IND40-9

No consideration is given for the food security and availability issue for our nation. This certainly has value to our nation, and should be considered. This is an issue which can be expected to take on urgency in the foreseeable future.

IND40-10

The timeline aspects of the feasibility of the development of the total project should be considered. One can postulate that the timing of the construction of Grand Coulee Dam was critical to the overall viability of the Columbia Basin Project. If the dam had not been built at the time that it was, we would most likely not be able to afford to build it in today's economic environment. This also applies for the construction of the Bacon Siphon infrastructure. It follows then that if we are not proactive in

IND40-11



maintaining the timeline in continuing the phased construction of the Columbia Basin Project as envisioned by its original planners, we will probably not be able to afford to construct in the future. And we, collectively, will have failed in our obligations toward our future generations.

Respectfully submitted,

A handwritten signature in blue ink, reading "Jake Wollman Jr." in a cursive script.

Jake Wollman Jr.

Warden, Washington

## Comment Letter IND41

**From:** Pat Gies [redgoose@odessaoffice.com]  
**Sent:** Saturday, January 29, 2011 3:23 PM  
**To:** BOR UCA OdessaStudy  
**Subject:** IES

Dear Mr. Carnohan, We wholeheartly support bringing water to the Odessa area. As farmers we have seen what the lack of recharge has done to our lakes and wells. ] IND41-1

Thank you,  
Patrick & Patrica Gies  
Odessa, WA

## Comment Letter IND42

503 W 8<sup>th</sup> Ave  
Ritzville, WA 99169

Control #: 11007861

January 29, 2011

Mr. Chuck Carnohan  
Study Manager  
Bureau of Reclamation  
1917 Marsh Road  
Yakima WA 98901-2058

Mr. Carnohan,

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## Odessa Sub Area Environmental Impact Statement

There is little need for the second siphon under construction at interstate 90 if the no action alternative is made on the Odessa Subarea Special Study. It will lay there just like another 'White Elephant'. President Obama, in the State of the Union address on January 26, 2011, emphasized the need to rebuild the Nation's infrastructure. Roads and bridges do need to be repaired and maintained but do little to permanently expand the labor force. Construction of the Odessa Sub Area irrigation development will provide a permanent long term increase in the labor force long after the major construction is completed in twenty five years. Irrigation farming and commodity processing and exporting are just a few of the needs for a larger permanent long term labor force.

IND42-3

Sincerely,

Rex T. Lyle



Farmer

Past director ECBID 1987-2005

509 659 1078

Also submitted by FAX  
To 1 509 454 5650



From: [Clark Kagele](#)  
 To: [BOR ICA OdessaStudy](#)  
 Subject: Odessa Study Comment  
 Date: Sunday, January 30, 2011 2:05:32 PM

---

Chuck Carnohan  
 Study Manager, Odessa Special Study  
 Bureau of Reclamation

These comments of the Odessa study will reflect a personal view of the study from the perspective of a deep well irrigator in the far north eastern part of the study area.

Any action that does not include development of both North and South of I-90 cannot be an option. The study leans heavily to development South of I-90 and abandoning the North half. We all realize that such an action would doom any further development in the North. Which dooms irrigated farming because the study itself shows the largest and quickest area of decline to be in the North. I have to assume that the Department of Ecology, upon learning of the abandonment of the North half will have to start enforcing the draw down laws and start shutting off offending wells immediately.

IND43-1

Cost estimates, judging from the Bureau's cost estimate of the Weber Coulee Siphon project and what the final bids came in at, the cost estimates for further development must be grossly overstated. North of I-90, designing the infrastructure that someday will complete the project and then only deliver water to presently irrigated lands puts economic justification off the map. You need to include some or all of the lands that are presently dry to help spread out the costs. I can't believe that any dryland operator would be pleased with a canal built right through his land and that land not having access to the water. Could money be saved by delivering water to reservoirs and having Local Improvement Districts come and get it?

IND43-2

The economic impact to the local area in lost jobs, tax base and revenue has not been realistically addressed. To dilute the economic loss across the entire country is economic suicide to any tax payer supported project. A high percentage of our commodities are exported. The economic advantage we have to the Pacific Rim cannot be replaced by another area of the country. Now is not the time to be eliminating jobs. Value needs to be added for the additional public works construction jobs that would be created over a number of years into the future.

IND43-3

How do you weigh the future? Who could have predicted what this area would have looked like 50 years ago? The Tri-Cities, the Slope, Connell, Othello, Moses Lake, Ephrata, and Quincy. Unlimited recreational and wildlife habitat opportunities. Who has the vision to see the future? Will we be the ones to deny this potential to the second half of the project? At the same time shutting down communities and an industry, running away with our hands in the air.

IND43-4

On a personal note, the fifth generation has returned to the farm. I have dreamed for years now they would not have to experience the frustrations of failing wells and huge investments that pour life savings into a failing aquifer. We are proud of what we do. Grocery stores are proof of how good we are at it. Let's get creative. Take a longer look if we have to. Think carefully before you pull the plug on a massive industry and it's community! Finish the Columbia Basin Project.

IND43-5

Thank you for the opportunity to comment,

Clark Kagele


## Comment Letter IND44

**From:** [Dennis Thompson](#)  
**To:** [ROS NCA OdessaStudy](#)  
**Subject:** Odessa water study  
**Date:** Sunday, January 30, 2011 6:23:24 PM

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Hello:

I have been trying to educate myself regarding the endangered water supply in the Odessa area. We are retired and live on the remaining 5 acres of an historic farmstead. We only draw family/residential supplies from our old, single well. Depth being less than 200 feet. We are concerned about deep wells for irrigation and their role in drawing down water supplies unable to regenerate themselves. While deep wells and shallow wells are said to draw from very different supplies, we are still very concerned.

Please help us develop plans to make our residential wells sustainable.  IND44-1

Thank you,  
Dennis & Nona Thompson  
1129 E Davis Road  
Fitzville, WA 99169

Bureau of Reclamation  
Attn: Mr. Chuck Carnohan  
Study Manager

These comments are submitted by Heath Gimmestad. I am a grower with a farming operation that operates east of Moses Lake, Washington in the Odessa subarea. I am also involved with the management of another farm in the Odessa subarea. These operations have deep wells and water from the east low canal. We also rent a large amount of acres that only have deep wells as their source of irrigation water.

Upon review of the DEIS I am disheartened to say the least about the findings of the study. The waters in the Odessa are failing at a rapid pace and this trend will continue until this aquifer resource is depleted. The No action alternative is not an option for the growers in the area or the economy of eastern Washington. The current DEIS pits the areas north of I-90 vs. south of I-90. This project needs to address the areas of greatest aquifer decline 1<sup>st</sup>. I believe those areas exist on both sides of I-90. The Odessa Aquifer is failing and we need to implement cost effect, efficient and 21<sup>st</sup> century technology to get project waters to the failing areas both north and south of the I-90 corridor. This will require out of the box thinking, technology and improved management and usage of the already existing east low canal system.

IND45-1

I find many faults in the study that severely limit the benefit cost ratio. In my analysis of the document I see little to no addressing of the trickle down economics that occur from the farm gate to the grocery store in town. The assumption was made in the analysis that irrigated wheat would be replaced with dry land wheat. This is a very shallow analysis because a great deal of long term russet storage potatoes are grown in the Odessa subarea and without this production the processing community has expressed that there is a strong likelihood that a potato processing plant would close in the Columbia basin. How much negative economic impact would that have is not conveyed in this study. This also applies to the range of crops that are currently produced in the Odessa aquifer area. With a long term reliable water source that the Columbia basin projects provides. Current deep well irrigators would be able to produce a wide variety of crops that they are currently unable to produce due to water limitations. These crops include but are not limited to the following corn both field and sweet, timothy hay, alfalfa hay, and many other crops that are grown but production is limited due to reduced water amounts and inferior water quality. Far to many dollars are allocated to drainage in this study. The area of study already has irrigation waters being applied and no drainage system exists to my knowledge because no water is lost from the current deep well circle applied irrigation systems. The portion of the study that evaluates the impact to hydro-power generation is flawed and requires a much more intense evaluation. Much of the immense cost of this proposal could be reduced by utilizing pump and pipe technology rather than large open canals. This would also reduce mitigation measures that are required to make open canals co-

IND45-2

IND45-3

IND45-4

IND45-5

exist with wildlife. Piping will be more efficient and will have far less impact on species habitat and the shrub-step ecosystem.

Promises were and have been made to growers in the East High Irrigation area. The time has come to fulfill these promises.

Sincerely,

Heath Gimmestad



## Comment Letter IND46

**From:** [marcella.knight](#)  
**To:** [BOR NCA OdessaStudy](#)  
**Subject:** Comments for the Draft EIS  
**Date:** Monday, January 31, 2011 1:28:56 PM

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To Whom It May Concern:

As an Odessa community member and local farmer, I must ask that you reevaluate the full and partial alternatives. The Draft EIS failed to include all benefits and it overexaggerated certain downfalls. ] IND46-1

I pray that you consider all of the comments you have recieved to reevaluate the EIS and continue to look into the full alternative.

Thank you for listening. It is incredibly appreciated.

Sincerely,  
Sally Kagele

# Comment Letter IND47

Received JAN 31 2011

United States Department of the Interior  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

Control #: 1100 7252

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Ray Jenkins  
P.O. Box 40  
Lind, Wash. 99341

Subject: Written comment on the Odessa Subarea Special Study EIS.

As a concerned citizen who farms and ranches in the Odessa Sub-area the loss of available water for irrigation and municipal use is disturbing. Over the last fifteen (15) years. I have first hand seen the decline in the water level. Out of three (3) wells only one (1) is still operating at sufficient volume to allow irrigation through a center pivot. Which ever alternative is decided on must be allowed to proceed to encourage the development of this part of Eastern Washington. Any decision on any of the alternatives is better than doing nothing because by doing nothing would be a death blow to Irrigated Agriculture and the rural communities of this area.

IND47-1

Sincerely yours,

Ray Jenkins

10/11/11  
Q 11/4/2011  
A  
G Yellow, C

## Comment Letter IND48

To whom it May Concert,

Control #: 11 00 7259


I am writing in regard to the Odessa Subarea Special Study Draft Environmental Impact Statement (Draft EIS), which was released in late 2010. As a member of the Odessa Community and a local farmer who currently farms in the Odessa Subarea I must urge you to reevaluate the Full and Partial Alternatives. I feel that the Draft EIS failed to look into some of the real benefits of this project.

First, what about the benefits to the local economy with the implementation of the Full Alternative? By taking No Action we would be missing out on an opportunity to create the potential for jobs. Moses Lake, for example, in 1950 had a population of 1679. Two years later canal water began to flow to 66,000 acres around Moses Lake. Today Moses Lake has over 20,000 people. This seems like too much of a benefit to overlook.

Next, I did not find anything to support the benefits of having this project start when Unemployment is close to an all time high across the nation. Would this not provide jobs to people who currently are receiving government payments for unemployment, thus reducing the amount our government would be spending? Somehow the construction of the project only ended up in the costs section, I feel we should look at all of the potential benefits.

I would hope that you would consider these benefits as well as others presented to you before coming up with a best Alternative.

Thank you,

  
Matthew Kagele  
Local Odessa Farmer

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1474	X		

## Comment Letter IND49

From: [Mark DeWulf](#)  
To: [BOE NCA Odessa Study](#)  
Subject: Public Comment RE: Odessa Subarea Special Study Draft EIS  
Date: Monday, January 31, 2011 6:16:37 PM

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Please accept this as my comment to the above referenced matter. My comments are as follows.

1. My name is Mark DeWulf. I reside in Odessa Wa. I am an attorney with the law firm of Brock Carpenter McGuire and DeWulf, P.S.. My firm represents the full range of clients covering areas all over the Odessa Subarea including hundreds if not thousands of farmers, including agricultural irrigators, agribusinesses, municipalities including the town of Odessa, Ritzville, Davenport, hospital districts, Public Development Authorities in Odessa, Ritzville, and Northwest Lincoln county. A large part of my personal practice involves water rights work. My comments are mine and are not on behalf of any client. I just wanted to give you an idea of that background for my comments.

2. In my experience, it is clear that the water table is dropping in the Odessa Subarea. I have seen this generally in working with my clients who see this with their wells. This includes both north of I-90 and south of I-90.

3. I am against any No Action Alternative because it does not address the dire situation presented in our area.

4. I prefer the Full Replacement Alternatives. We have an opportunity to address a serious problem of loss and decline of water. If you opt for something less than full replacement, you do not adequately address the problem and leave Towns, farmers, businesses to suffer continued loss of water.

5. I think your cost benefit economic analysis is flawed and an economic analysis of whether the constructions costs could be repaid should be used instead. In my mind the cost of construction of the full replacement alternative would be repaid over time by charging the water users. } IND49-1

6. I think your cost benefit analysis is flawed because it counts the loss of power production as a cost when the water rights for irrigation are senior. } IND49-2

7. Water was overappropriated in the Odessa subarea on the strength of the Columbia basin project coming. Now we have the opportunity to reverse the problems and finish what was started, through the Full Replacement Alternatives.

8. I am also in favor of the recreational benefits that would come from additional water in the full replacement alternatives in the form of hunting and fishing.

Mark DeWulf  
Brock, Carpenter, McGuire & DeWulf, P.S.  
P.O. Box 457  
Odessa, WA 99159  
ph. (509)982-2672  
fax (509)982-2808  
[mark@bcmilaw.com](mailto:mark@bcmilaw.com)

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## Comment Letter IND50

From: [Rodney Schlimmer](#)  
To: [BOR UCA OdessaStudy; rsgood@comcast.net](#)  
Date: Monday, January 31, 2011 1:10:44 PM

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As a Lincoln county land owner who's property includes part of Goetz and Sullivan Lakes in what is referred to as Marlin Hollow I want to be counted as one in favor of the rehydration plans currently being discussed. Count me in! ] IND50-1

*Rodney Schlimmer*  
*165 Schlimmer Lane*  
*McMinnville, TN. 37110*

Control #: 11008127

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1000	X	
1600	X	
1700	X	
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2200	X	
2900	X	
3300		
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ACTION

Odessa@usbr.gov

Dear Mr. Carnohan:

The No Action alternative is an option that will deal an economic, social, and ecological impact to the area that is not limited to the farming community but to the whole population throughout this region. This option should be avoided.

INDS1-1

The requirements for an economic return should not be utilized in this situation because this development is a partial completion of the Columbia Basin Irrigation Project.

Milton D. Johnston

476





UPPER COLUMBIA RIVER GROUP;

Control #: 11008316

I have cared about the Columbia River since I reached the age of reason, and I continue to care, and will until I draw my last breath.

This beautiful River, that my People have a special name for—Swah-netk-quah; or N-x<sup>n</sup>-tk'-itk—the 'big running water', has been in the hearts of my Ancestors for thousands of years. So it breaks all of our hearts to see, realize and experience the many insults inflicted on this great River.

Generations of my People and neighboring tribes have been sustained and fed by the flowing waters of the Columbia in drawing all kinds of fish from the Ocean to journey up and spawn, time and time again to the north into Canada.

As a seventy-four year old Native American woman now, I can still remember my mother telling me of the Kettle Falls fishing camps, that were very important and big events occurring seasonally year after year.

Then the devastating changes began—Grand Coulee Dam, Castlegar, Chief Joseph, Wells, Rocky Reach, Hanford Plant, etc., etc., etc. ad nauseam—All in the name of PROGRESS...this all would not be so bad, except along the way to now, the reason for all the uses have ignored respect for Nature, and run rampant over ecological and aesthetic importance.

Now days, we are discussing the taking out of more water from the Columbia to provide more irrigation to the Basin for more crops. This is bad enough for depleting the River of its water—but think of this—this water is polluted..!

When I was a child, I could recall when this big river ran clear, a beautiful clear green—clear! You could see different colored rocks on the bottom near the banks. On the gentle country side that rolled to the edges of the river, grew lush sarvas berry, willow, wild rose shrubs and bushes; juniper, a hardy miniature tree, grew profusely. Now, you're lucky if you can find one or two junipers in the immediate area. Now you look at the River, especially below Coulee Dam, it's dirty. At low-water drawdown, upper and lower Coulee Dam, the banks are dark, black from whatever oil or scum clings to the sides. During warm weather, clots of algae float or swirl near the banks.

IND53-1

This day, with Castlegar, communities and other small streams pouring their offal into the Columbia with various pollutants of plant pulp, cess pools, farming and orchard sprays and fertilizers, can you envision this being sucked up the tubes to irrigate the Great Basin?

IND53-2

Then we humans wonder WHY so many of us are getting cancers and dying of it. It's not only we old people, it's the very young, too. As Native Americans, we should be hale and living a longer time. Are we getting this way because we love our fish out of the Columbia?

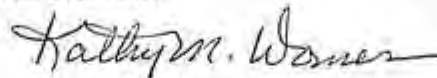
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Is it the River? Is it because it's not being allowed to flush itself out every year due to all the Dams being put in? Is it because big entities like the Castlegar Pulp Mill are being allowed to pour their deadly wastes into the Columbia, thereby polluting us all because we eat the fish, swim in the water?

Yes, I care about the Columbia River and the lives that depend on this Great River. Not only for the Salmon, Birds, other wildlife that depend on the habitat affected by the proposed drawdowns BUT most importantly, I care about my PEOPLE, who carry on the dream that this River is our very LIFE. ] IND53-3

We need to get to the source of these great waters, clean them up thoroughly, before we do anything more to exacerbate this critical situation!



Kathy M Womer  
Sierra Club Member  
Colville Tribal Member  
Nespelem, WA. 99155

PS

Please **WITHDRAW** the draft EIS  
for the Odessa Subarea Special  
Study!



Comments on the Odessa Subarea Special Study  
Draft Environmental Impact Statement in relation to  
Economic and Environmental Principles and Guidelines  
for Water and Related Land Resources Implementation Studies  
Walter R. Butcher and Norman K. Whittlesey  
January 31, 2011

A. It is very clearly established that planning and evaluation of U.S. Bureau of Reclamation water resources projects must be consistent with the 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (P&G).

The P&G Section on Purpose and Scope states that pre- or post-authorization project formulation or evaluation studies undertaken by Federal agencies, including the Bureau of Reclamation, are covered by these principles (P&G, p. iv). The Reclamation Manual section on Feasibility Studies, CMP 05-02, confirms that Reclamation's "Feasibility studies will be conducted consistent with the P&G. Reclamation acknowledged that planning and evaluation of continued development of the Columbia Basin Project (CBP) must adhere to the P&G in response to a 1986 US General Accounting Office report to Congress on Reclamation's 1984 study of continued development of the CBP.

Also, Reclamation has acknowledged that the Odessa Subarea Special Study must follow the P&G. A September 2008 release from the Study stated:

"Reclamation is authorized to continue development of the Columbia Basin Project as long as the development is economically and financially feasible. Reclamation traditionally determines economic feasibility through benefit-cost analysis and financial feasibility through payment capacity analyses. In other words, the benefits must exceed the costs and the beneficiaries must be willing and able to repay reimbursable construction costs and annual operations and maintenance costs. In the Odessa Subarea Special Study, Reclamation will use Principles and Guidelines (P&Gs) established for Federal water resources planning studies to conduct the benefit-cost analysis." (U.S. Department of the Interior, Bureau of Reclamation, ODESSA SUBAREA SPECIAL STUDY, Economic and Environmental Principles and Guidelines for Water and Related Resources Implementation Studies (P&Gs), September 2008)

B. Despite these clearly established requirements, Reclamation has departed from the Principles and Guidelines in its conduct of the Odessa Subarea Special Study in the following ways:

1. Reclamation failed to adhere to the federal objective of maximizing National Economic Benefits

} IND54-1

The P&G state clearly that "The Federal objective of water and related land resources planning is to contribute to national economic development consistent with protecting the Nation's environment, pursuant to national environmental statutes,

applicable executive orders, and other Federal planning requirements. Contributions to national economic development (NED) are increases in the net value of the national output of goods and services, expressed in monetary units. Contributions to NED are the direct net benefits that accrue in the planning area and the rest of the nation.”

The P&G continues, specifying that: “Water and related land resources project plans shall be formulated to alleviate problems and take advantage of opportunities in ways that contribute to this objective.” (P&G,p. iv)

Reclamation’s perspective on water and related land resources studies is very different from the economics-focused perspective of P&G. Reclamation’s Odessa Subarea Special Study Objectives Team elevated what, in the P&G, would be called problems and opportunities, to the status of objectives and then used those objectives to guide the Technical Team in developing Alternatives.

The first three of the Team’s nine objectives were: replacing current groundwater withdrawals, maximizing use of existing infrastructure, and retaining the possibility of full CBP development in the future. Maximizing net national economic development benefits, the sole objective of planning in the P&G, was not one of the nine objectives for the Odessa Study.

Reclamation has, however, taken “objectives” status to mean that the Alternative project plans must be devoted solely to replacement of groundwater use, require expansion of the existing infrastructure, and provide for construction of a substantial part of the infrastructure needed for full development of the CBP.

Devotion to achieving these “objectives” has taken the Alternatives selected for full feasibility and environmental impact study far from the P&G sole objective of increasing the net value of the national output of goods and services. The Full Development Alternative is reported in the DEIS to cost \$33,000 per acre in construction alone. When the annual costs of O&M are added, the costs far exceed the benefits and the proposed development would substantially decrease the net value of the national output of goods and services. Put another way, the nation as a whole could realize much more from the funds proposed to be spent on this project if the funds were simply left in the private sector.

2. Reclamation failed to present a plan for continued development of the CBP in the Odessa Subarea that maximizes economic benefits,

IND54-2

The P&G specifies that: “A plan that reasonably maximizes net national economic development benefits, consistent with the Federal objective, is to be formulated. This plan is to be identified as the national economic development plan.”(P&G, Section II, p.7)

Reclamation has not developed or presented a plan that maximizes net economic benefits for the Odessa Subarea groundwater replacement project. The Partial and

IND54-3

Full Replacement Alternatives both include components that will contribute little or nothing to delivery of surface water to 102,000 acres identified as currently irrigated with groundwater. However, costly construction of the East High Canal and the oversized network of piped laterals with associated pumping plants that are included in the plans does add substantially to the costs.

This costly overbuilding apparently is justified by its expected contribution to the eventual full development of the CBP. However, for the Odessa project, these components add costs without benefits. There is nothing to indicate that the extra investment will ever be justified by the benefits from possible future completion of the CBP. Neither the Partial nor Full Replacement Alternatives can be considered a plan that maximizes net national economic development.

IND54-3

IND54-4

The P&G (p. 7) allows for the presentation of plans, such as the Full and Partial Replacement alternatives, that make an enhanced contribution to other objectives such as ultimate full development of the CBP. However, these are to be presented as alternatives to the net NED maximizing plan, not as a substitute for it. The NED plan needs to be formulated and presented so that judgment can be made about the incremental costs in comparison to the added benefits and advantages of the plan that enhances the chance of CBP ultimate completion.

3. Reclamation has failed to consider non-structural measures and measures that could be undertaken by State and local entities to help deal with the problem of aquifer decline.

IND54-5

The P&G, Section VI—Alternative Plans states in paragraph 1.6.1 (f) that “Nonstructural measures should be considered as means for addressing problems and opportunities.” The P&G and Reclamation’s own policies both encourage improvements to water conservation and management that either complement structures or in some cases, replace them.

In the Odessa Subarea, the limitations to withdrawal from the aquifers and the inevitable problem of depletion were well known before groundwater pumping rights were issued to irrigators. So, the pumping rights were made contingent on static water levels not declining more than 10 feet per year nor more than 300 feet in total below the 1967 static water level. There is also provision in the Odessa Subarea Groundwater Management Plan for pumping to be curtailed if holders of senior rights, such as the municipalities in the area, are experiencing interference with their water supplies.

The problem of aquifer decline could be handled at relatively little cost to federal and state taxpayers or to regional electricity ratepayers by enforcing the existing groundwater management program. Management of groundwater is a state responsibility; however, Section VI—paragraph 1.6.1 (c & d) that federal water resources planning should consider including elements that could be implemented by other Federal, State and local entities and non-government entities.

IND54-6



A major advantage of the nonstructural approach is that it can be applied to all 170,000 acres currently irrigated with groundwater whereas Reclamation's Replacement alternative is a feasible solution for at most only less than 57,000 acres. Management of the groundwater decline in the area is going to be necessary whether Reclamation's proposed Alternative is constructed or not.

4. Reclamation has failed to acknowledge that the proposed Partial Replacement alternative would have a relatively insignificant effect on the regional economy.

IND54-7

The DEIS and earlier Odessa Study documents point to need for the project to avoid economic loss to the regional economy from the loss of potato production on lands irrigated with groundwater. The Odessa Subarea Special Study's Regional Economic Development Analysis report indicates that an exaggerated estimate is that the Partial Replacement Alternative would save 360 jobs as compared to the No Action Alternative. The RED analysis does not support the assertion that construction of the Replacement project would have a significant impact on employment and income in the region.

If loss of irrigated agriculture production due to decline in groundwater threatens to impact the economy of the area, 50,000 acres or more of irrigation could be developed along the East Low Canal at a small fraction of the costs of constructing components included in the Full or Partial Replacement Alternatives.

Another variant on managing the aquifer for maximum agricultural production and farm incomes would be to limit use of groundwater for only production of potatoes and other high value, high income crops. Much of the irrigated land and water is now being used for producing irrigated wheat and other general crops that provide little if any net return to the scarce water that remains. Limiting irrigation use of this water would make it possible to sustain potato production for many more years and greatly increase the income earned from the limited supply of remaining water.

5. The calculation of benefits reported in the Draft Economics Technical Report (DETR) of the National Economic Development Benefit-Cost Analysis fails at several points to follow the principles and procedures specified in the P&G.

IND54-8

We have reported previously the errors in the economic including several points where it departs significantly from specific instruction in the P&G. Briefly, three errors account for more than one-half of the agricultural benefits. First, it is claimed that, expansion of the CBP is the only way to rescue farmers currently irrigating with groundwater from the endless huge negative net farm incomes that will result from being forced back to dryland wheat production. No notice is taken of the fact that those now irrigating with groundwater used to make modest incomes from dryland wheat production and that a majority of the farms in the area remain economically viable by dryland wheat production. Also not noted is that the continuing loss of \$290,000 per year for a typical 1470 acre farm could be avoided at worst by just

walking away, long before 2125. Correcting this error would reduce agricultural benefits by about one-fourth.

Second, most of the NFI with the project comes from potato production which, according to the DETR, will increase to three times its current level. However, it is not feasible to produce potatoes on nearly one-half of the total acreage supplied with Columbia River water, for the next 100 years. Reducing potato acreage to about its current level of 15% of the irrigated area would reduce NFI with Replacement by approximately one-third.

Third, the Principles and Guidelines are clear that National Economic Benefits can include income from only "basic crops." Crops such as potatoes may contribute greatly to income of local farmers; however, from a national perspective, making it profitable for farmers to produce these crops is considered to be a gain balanced by losses to farmers in competing areas. The project area farmers or local governments and the state may decide to pay the costs of the project in order to gain the local economic and income growth. However, spending federal funds to provide this local and private advantage is not permissible by either the P&G or federal statutes.

We estimate that correcting only these three errors will reduce the BCR to about 0.1 for the proposed expansion of the Columbia Basin Project into the Odessa Subarea.

The DETR concludes: "Therefore, all of the alternatives result in negative net benefits (-\$106.5 to -\$555.9 million for partial replacement and \$2,328.1 to -\$2,777.4 million for full replacement) and benefit cost ratios less than one (0.917 to 0.678 for partial replacement and 0.439 to 0.396 for full replacement). As a result, none of these alternatives would be considered economically justified." (Economics Technical Report, Odessa Subarea Special Study, p. 4)

6. The NED benefits have been incorrectly reported as present values as of the completion of the last Phase of the project rather than as average annual equivalent values with the period of analysis beginning at the completion of installation of the first Phase of the project.

IND54-9

The P&G, section 2.1.3, p. 19 specifies that: "Net NED benefits of the plan are calculated in average annual equivalent terms."

It is not clear whether improper procedures for placing benefits of both alternatives at the same period of time or some other error has caused the reported benefits per acre of the Partial Replacement Alternative to be 40% larger than benefits per acre for the 45,500 acres added north of I-90 to make up the Full Replacement Alternative.

From: [Titus Bowser](#)  
To: [BOR NCA Odessa Study](#)  
Subject: Odessa sub area  
Date: Tuesday, February 01, 2011 10:04:52 AM

---

To Whom It May Concern:

Questions and comments regarding Odessa Sub area project:

Will all current and active ground water right holders, be serviced with water that are within the established boundaries of the proposed area? ] IND55-1

I currently have an active ground water right of 175acre ft. (verifiable with Dept. of Ecology) for irrigation that is not being used because of the low water table. The proposed pipeline route would be within 200 yards of my property line.

On the current draft my property is not marked to get water. Will there be an enrollment period for property owners who have active ground water rights but are currently not using them? ] IND55-2

Owners of ground water rights should not be penalized or excluded from receiving water, just because they have not always been able to use the water. All active ground water rights should be treated equal. ] IND55-3

If some water right holders are not serviced with water can they deepen their wells and use them indefinitely? This option would seem to defeat the purpose of the project. ] IND55-4

I currently own and live on 705 W Cunningham Rd, Othello, WA One mile East of Johnson Rd. on the South. I would be in favor of receiving water on my property and for the whole sub area as proposed, thereby saving the aquifer.

I would also like to receive any updates by mail: Titus Bowser 705 W Cunningham Rd. Othello, WA 99344 cell Ph. 509-859-4820 Thank You.

Sincerely, Titus Bowser

## Comment Letter IND56

**From:** [mashorn@liber.tv](mailto:mashorn@liber.tv)  
**To:** [BOB NICA OdessaStudy](#)  
**Subject:** shared aquifer  
**Date:** Monday, February 07, 2011 8:57:15 AM

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As homeowners dependent on our wellwater we feel threatened by the ever deeper drawdowns to fuel speculative agribusiness. Our survival is more important than their bottom line.

} IND56-1



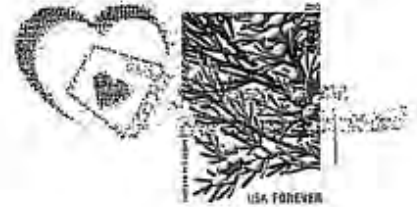


Received in Mailroom  
FEB 01 2011  
Yakima, Washington

Your address:

**M** Dina Monaghan  
32303 Water Gulch Rd.  
Coarsegold, CA 93614

FRESNO CA 936  
25 JAN 2011 PM 3 T



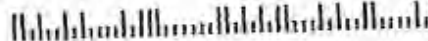
**Center for Environmental Law & Policy**  
25 W. Main, Ste 234  
Spokane, WA 99201

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Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

33201+2030



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

The Columbia should be  
guarded not exploited. It  
is an American treasure.

Thank you,

IND58-1  
*Dina Monaghan*  
(signed) (CELP member)

in Mailroom  
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A  
O  
FEB 02 2011  
Yakima, Washington

Your address:

Cabrian  
7321 34th NW  
Seattle, Wa 98117

**Upper Columbia River Group – Sierra Club**  
**P.O. Box 413**  
**Spokane, WA 99210**

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**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*How can one even consider compounding an existing problem with reduced flow by diverting more water?*

Thank you,

Kathy Cabrian  
(signed)

IND59-1

Received in Mail

Comment Letter IND60

C  
G  
A  
O

FEB 02 201

Yakima, Washing

Your address:

Scott Strumatt  
2312 Egan Pl W  
Seattle, WA  
98199

Upper Columbia River Group - Sierra Club  
P.O. Box 413  
Spokane, WA 99210

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Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Sustainable water flows are crucial!

Thank you,

IND60-1

Scott Strumatt  
(signed)



Received in Division  
C  
C  
A  
O  
FEB 01 2011  
Yakima, Washington

Comment Letter IND61

Your address:

*Barber*  
WILLIAM AND CAROL BARBER  
2115 EAST 34TH AVENUE • SPOKANE, WA 99203

SPOKANE WA 992

18 DEC 2010 PM 3 4



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



*Merry Christmas!*

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: *We ask that you work to keep the resources of our beautiful region healthy and intact. Thank you.*

Thank you,

IND61-1

*Carol S. Barber*  
(signed)

Recd  
C  
Q  
A  
D  
FEB 01 20  
Yakima

Comment Letter IND62

Your address:



Ann Davis  
3311 E Elder Rd  
Valleyford, WA 99036-9781

SPOKANE WA 992

20 DEC 2010 PM 11



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Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*I am very concerned that diverting more water will aggravate the problems on the salmon runs. Pledge look at helping the farmers convert back to dryland farming.*

Thank you,

*Ann Davis*  
(signed)

IND62-1

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D

FEB 01 2011

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BALDI

440 RIVER BOTTOM RD

ELIZENBURG WA 98926



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**Spokane, WA 99201**

9320195090 C026



**Dear U.S. Bureau of Reclamation,**



I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: WHY ARE WE TAKING WATER FROM THE COLUMBIA FOR AN EXPENSIVE IRRIGATION SYSTEM WHEN IT WILL THREATEN SALMON AND SAGE STEPPE HABITAT? SUCH DESTRUCTION FOR SO LITTLE BENEFIT.

J. E. Balli  
(Signed) (CELP member)

IND 63-1

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Large water users should be paying the full cost of their water diversions and use, instead of relying on federal subsidies to grow low-value crops. Do a scenario analysis of Columbia R. that accounts for reduced snow pack due to climate change.

Tim R. Gould  
(signed) (CELP member)

-IND64-2



FEB 01 2011

Comment Letter IND65

Your address:

SEATTLE WA 98101

21 JAN 2011 PM 2 L

*Janet Nazy*  
Partnership for Water  
Conservation  
P.O. Box 3621  
Seattle, WA 98124-3621

Center for Environmental Law & Policy

25 W. Main, Ste 234

Spokane, WA 99201



Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9920135090



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*I lived in the Tri Cities for two years & enjoyed the Columbia. The river & its environment needs protection. Don't allow the Bureau to ruin the river!*

Thank you,

*Janet Nazy*  
(signed) (CEL P member)  
Exec. Dir. Partnership for Water Conservation

IND65-1

Your address:

12527 SE 72<sup>nd</sup> ST  
NEWCASTLE WA  
98056-1307

Received in Mailroom

FEB 01 2011

SEATTLE WA 98101

21 JAN 2011 PM 3:1

Control # 8



Center for Environmental Law & Policy

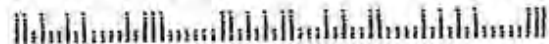
25 W. Main, Ste 234

Spokane, WA 99201

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Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9920135090



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

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Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

As an avid fisherman of the Columbia, I have a personal interest in the river. Increased efficiency of existing uses & sharing that with instream flows is the way to meet new needs.

Thank you,

*Steph Hunsch*  
(signed) (CELP member)

1-20-11  
IND66-1



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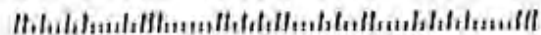
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**Center for Environmental Law & Policy**  
25 W. Main, Ste 234  
Spokane, WA 99201

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

The Shewan is finding the system thoroughly the  
best of the Columbia and the AND SO of the  
Heavy engine. It has not improved now  
society of the man in one - striking them with  
some of the best.

Margaret M. Zierlein  
(signed) (CELP member)

-IND68-1



FEB 01 2011

Your address:



Mr Scott J Collin  
PO Box 3157  
Pasco WA 99302-3157

PASCO WA 993

24 JAN 2011 PM 1 1



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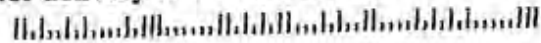
Center for Environmental Law & Policy

25 W. Main, Ste 234

Spokane, WA 99201

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99201\$5090



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Dears Sirs,  
I'm a local Franklin County Farmer. My neighbors + I feel extra diversion profits only a handful of wealthy potato farmers. Benefit for Salmon River benefit all Citizens

Thank you,

(signed) (CELP member)

IND69-1

FEB 01 2011

PW

3263 Shady Ct  
N. Raleigh, NC 27604  
9918

SPRINGFIELD, MA 01102

72-101-2030-904-1-1

Spokane, WA 99210

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Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: I believe as a concerned citizen that preservation of a healthy natural environment and a healthy economy are closely linked. Sincerely, Earl Williams

Thank you,

-IND70-3

(signed)

FEB 01 2011

Your address:

Judy Fitzpatrick  
 PO Box 462  
 Ust, WA 99180

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Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

39210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

\* Help reduce the deficit! It does not make sense to spend taxpayer and ratepayer dollars to subsidize french fry potato farmers!

Thank you,

Judy K Fitzpatrick  
 (signed)

IND71-1

Received in  
FEB 01 2011  
10:00

Comment Letter IND72

Your address:

Mrs. Nelson Jalufka  
2307 S Forest Estates Dr  
Spokane WA 99223

SPOKANE WA 992  
12 DEC 2010 PM 1:11



Upper Columbia River Group - Sierra Club  
P.O. Box 413  
Spokane, WA 99210

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11/25	Y		

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
99210+0413



Dear U.S. Bureau of Reclamation,

I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*This river is important for our children & their future - conservation, education, and changes in our lifestyle. Plenty of water is needed.*

Thank you,

*Jean T Jalufka*  
(signed) IND72-1



Received in Mailroom

Comment Letter IND73

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FEB 01 2011  
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Your address:

SPOKANE WA 992

18 DEC 2010 PM 1 7



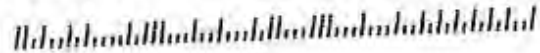
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ACTING			

**M** Melanie Mildrew  
2418 W. 2nd Ave., Apt. D  
Spokane, WA 99201

Upper Columbia River Group – Sierra Club  
P.O. Box 413  
Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

33202+2707



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*The health of the river will maintain  
the health of the valley. They go hand  
in hand.*

Thank you,

*Melanie Mildrew*  
(signed) IND73-1

FEB 01 2011

4210 S. Myrtle  
Spokane, WA. 99223

Spokane, WA 99210



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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

The Bureau continues to take the easy way out and use more water from the Columbia River. You need to protect the level of the Columbia by keeping it high so it remains clean and healthy for wildlife.

Thank you,

Christine Laro IND74-1  
(signed)

-IND74-1

you it's too late!

FEB 01 2011

Comment Letter IND75

Ms. Rita Kinney  
7004 E Tower Mountain Ln  
Spokane, WA 99223-1803

SPOKANE WA 992

Date Stamp (Postmark) 02-01-11



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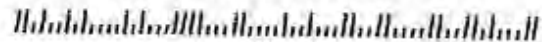
Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon and ~~other~~ ~~birds~~ and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, ~~degrade~~ and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Please Think about our  
responsibility to future  
generations.*

Thank you,

*Rita Kinney*  
(signed) IND75-1

Yüklenen dosyalar: 1 dosya

## Comment Letter IND76

**Your address:**

Bonnie Thompson  
10820 W. Cough St.  
Pasco, WA - 99301

PASCO WA 993

23 DEC 2008 PM 11 3

Upper Columbia River Group – Sierra Club

**P.O. Box 413**

**Spokane, WA 99210**

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**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

9921080412

Abolish the 10% cap on the number of people who can be employed by a business in the state of New York.

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Additional comments: I love watching the wild life on the river - the eagles & ospreys hunting - even the seagulls getting food.

Thank you,

Barrie Thompson  
(signed)

IND76-1



FEB 01 2011

Spokane, Washington

Comment Letter IND77

Your address:

*Karen Johnson, Plum Crazy Organics*  
*2601 Hannah Road*  
*Ellensburg, WA 98926*



1000



99210

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Upper Columbia River Group - Sierra Club

P.O. Box 413

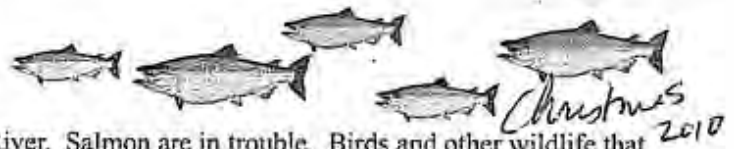
Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

59210\$0413 B025



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Proposals such as this current Columbia River "diversion" are particularly frightening to all of us who depend on policy makers to make decisions preventing climate catastrophe, but instead make decisions promoting it.*

Thank you,

(signed)

IND77-1

Received in Mailroom

FEB 01 2011

Spokane, Washington

Comment Letter IND78

Your address:

Nancy +



Dr. & Mrs. Richard Rust  
18747 Ridgefield Rd. NW  
Seattle, WA 98177

SEATTLE WA 980

17 JAN 2011 PM 8 L



Center for Environmental Law & Policy

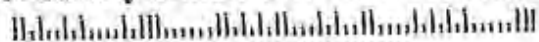
25 W. Main, Ste 234

Spokane, WA 99201

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Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9920135090



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Follow the recommendations  
of the National Academies of  
Science and cease to divert  
more water to the Columbia

Thank you,

Nancy L. Rust  
(signed) (CELP member)

IND78-1

FEB 01 2011

SPOKANE WA 990

SPELDNER

129. 12.64 2001.5 6000 3.7

8031 W RIVERSIDE AV, STEZZO

SPOKANE WA 99201

Center for Environmental Law &amp; Policy

25 W. Main, Ste 234

Spokane, WA 99201



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Section of Reclamation

**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

99201+5090



**Dear U.S. Bureau of Reclamation,**



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Additional comments: When salmon & other wildlife are in trouble, trouble for the human community will follow. Short-term solutions for short-sighted development like this water diversion proposal simply multiplies problems for the human community & the natural world.

Thank you.

(signed) (CELFP member)

4IND79-1

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15 MILLION SALMON INHABITED THE COLUMBIA  
SYSTEM FOR 8 THOUSAND YEARS THROUGH FLOODS,  
VOLCANOES, EARTHQUAKES ETC. NOW WE GET 270  
RETURNS AND MAKE HEADLINES? WAKE UP... ITS  
SIMPLE MATH... LETS RESTORE THE SALMON &

Neil O'Leary  
(signed)

-IND80-1



FEB 01 2011

Your address:

*Jenny Hayes*  
*P.O. Box 578*  
*Spokane, WA 99210*



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921030413 B025



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Please preserve this area in its God-given form. The planet is being unnaturally altered at an alarming rate. The U.S. already over-produces agricultural product. I say this as coming from a farm family.*

Thank you,

*Jenny Hayes*  
 (signed)

IND81-1

## Comment Letter IND82

FEB 01 2011

**B**

Richard V & Patricia C Badalamenti  
3904 S Irby St  
Kennewick, WA 99337

DATE	TIME	NAME	INITIALS
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PAID FOR THE FBI



**P.O. Box 413**

**Spokane, WA 99210**

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
9921030413

Dear U.S. Bureau of Reclamation,



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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Additional comments: Please take the long view. We cannot keep withdrawing H<sub>2</sub>O from the river. Thank you, JMB Adelman (signed) Kenn., WA

Republic, WA 99166

DAILY PRICE	SOL.	Nº & DATE	PAY
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9800			
1700	✓		25
7000			
1120	✓		
1123	✓		

Received 2010.03.05, in final form 2010.04.27



**Spokane, WA 99210**

*HdabhbabhbollHollmmbhbHdhdhdhllhdoll*

Additional comments:  
Such diversions are not cost-effective  
Ag products produced with relocated water  
can't possibly pay for cost of production.  
Ireland farming is economically viable.

(signed)

IND83-1

FEB 01 2011

Comment Letter IND84

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1300			
1400	X		

Yndf

1120 X  
1123 X

SPokane, WA 99210

27 DEC 2010 PM 3:1

Kim Marie Thorburn  
8121 W. Rutter Pkwy.  
Spokane, WA 99208-9244



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

3921030413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Thank you,

The shrub-steppe is an abused & important ecosystem. It is time to stop trying to green the desert. Grow crops appropriate to the ecosystem. The West MUST support water conservation.

Kim Marie Thorburn  
(signed)

IND84-1



Your address:



Jack A. Hall  
PO Box 501  
Kettle Falls, WA 99141

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SPOKANE WA 992

27 DEC 2000 PM 3 T



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413

|||||

Dear U.S. Bureau of Reclamation,



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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*going further  
withdrawal from the river  
will have too many  
negative results.*

Thank you,

*Jack B. Hall*  
(signed) IND85-1

FEB 01 2011

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1700	X		
1800	X		



Your address:

*Deborah Ogilburn*  
 641 Lombard St. Rd  
 Wenatchee, WA 98951

Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921030413 B025



Dear U.S. Bureau of Reclamation,



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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Please conserve in areas of water, ice, animals - Do not fish in anticipation of water - fish only when water is already in existence and then use sparingly! (Conserve)!*

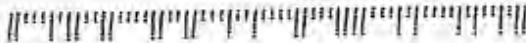
Thank you,

*Deborah Ogilburn*  
 (signed)

IND86-1

FEB 01 2011

Your address:



Ms. Jane Beaven *& Dan Finn*  
 30211 N Regal Rd  
 Chantaway, WA 99003

DATE	TIME	DATE	TIME
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1002	X		
1100	X		
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E140801255



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*I urge you to reconsider this plan & withdraw the draft statement. At a time when every dollar has so many demands upon it we should be finally working with nature instead of fighting it.*

Thank you

*Jane Beaven*  
 (signed) *Dan Finn*

IND87-1

FEB 01 20

Your address:



Ms. Laura Takken  
20412 N Day Mt Spokane Rd  
Mead, WA 99021

SPOKANE WA 992

24 DEC 2004 PM 3 F



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

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FEB 01 20

Your address:



**Mr. Herbert Gamber**  
166 Orchard Way  
Richland, WA 99352-7621

[illegible]

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## Upper Columbia River Group – Sierra Club

**P.O. Box 413**

Spokane, WA 99210

**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

9921080413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Additional comments:  
It's not a wise venture,  
particularly reference the  
benefit/damage ratio

Thank you,

(signed) H. H. Tucker  
Richland.

-IND89-1

FEB 01 2011

Your address:



SPOKANE WA 992

21 DEC 2009 PM 3 7



Upper Columbia River Group - Sierra Club

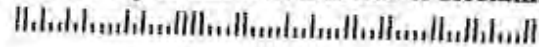
P.O. Box 413

Spokane, WA 99210

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Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



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The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Don't destroy clean water for the humans & animals of WA. We just moved here to appreciate & live in a clean environment. Please don't use water & contaminate it for agriculture.

Thank you,

*Sheryl Krohne* IND90-1  
(signed) Sheryl & Dave Krohne

FEB 01 2011

Your address:

**Ms. Janet Marx**  
112 Lockerbie Pl  
Port Angeles, WA 98362

NOV 11 1962

22.1 *Study of the 1970s*



**Upper Columbia River Group – Sierra Club**

**P.O. Box 413**

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
99210+0413

Dear U.S. Bureau of Reclamation,



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Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Additional comments:  
This is bad science and  
a waste of taxpayer  
money.

Thank you,

*Janet Marx*  
(signed)

IND91-1

**Your address:**

DICK & NANCY WATTS  
4215 KING DR.  
WEST RICHLAND, WA.  
99353

**Upper Columbia River Group – Sierra Club**  
**P.O. Box 413**  
**Spokane, WA 99210**



**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

**Dear U.S. Bureau of Reclamation,**



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: Worked to protect the Hanford Reach of the Columbia River. You need water to have a river

Thank you,

(signed) DICK WATTS

IND92-1



RECEIVED BY MAIL  
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FEB 04 2011  
YAKIMA (907-1111)

Comment Letter IND93

Connie Estep  
850 Aaron Drive, Apt. 100  
Richland, WA 99352-4664

SPokane WA 99201

SPokane WA 99201



MAIL	NO.	DATE	POST
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1002	X		
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1123	X		

Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
99210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

The river is finite in water supply - we don't need more spuds!! The Columbia is important to a huge # of people + animals + plants

Thank you,

(signed)

Richland resident

IND93-1

Yasmina Is

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Additional comments:  
Not a good idea!  
Cost/Benefit is negligible

Roger B. Butts  
(signed)

IND94-1

C  
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A  
O Yakima, Washington

**Mr. Michael Barrett**  
2614 Willowbrook Ave.  
Richland, WA 99352-8721

PLATE 10

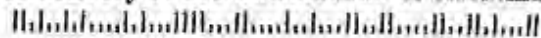
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Spokane, WA 99210

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9921080413



Additional comments:

Additional comments:  
Wader is finite the birds + animals  
can't change but we can -  
lets do so - ! and now!

Thank you.

(signed) Sanjay M. Banerjee

~~IN~~095-1

Received at Mailroom  
FEB 01 2011  
www.usps.com

Your address:



Mr. & Mrs. R. K. Smith  
813 S 38th Ave  
Yakima, WA 98902



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Anything we can do to  
save our wildlife &  
especially salmon should  
be done.*

IND96-1

Thank you,

*R.K. And Kay Smith*  
(signed)



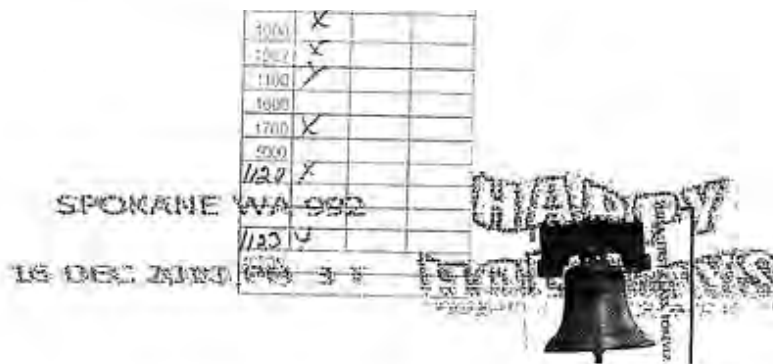
Received in Mailbox

FEB 01 2011

Comment Letter IND97

Your address:

VWear  
808 W. 25<sup>th</sup>  
Spokane WA  
99203



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413

|||||

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Please be an advocate  
for our environment!

Thank you,

IND97-1

Julia Wear  
(signed)

FEB 01 2011

Comment Letter IND98

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SPOKANE APR 1992

15 DEC 23/10 PM 4 T



Your address:

Rachel Griffith  
8411 N Palm Pl  
Spokane, WA 99208

Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

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Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

We need to put the  
environment first! Please  
help!

Thank you,

Rachel Griffith  
(signed)

IND98-1

Received in Mailroom  
FEB 01 2011  
Yakima, Washington

Your address:



Edward J. Agnew  
PO Box 2007  
Leavenworth, WA 98826



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

MAIL CODE	SCAN	DATE	COPIES
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Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921030413 B025



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Please - no more water out of the Columbia  
dedicated to Corporate farming. Time to  
change our priorities!*

Thank you

*E. J. Agnew*  
(signed)

IND99-1

FEB 01

Your address:

Hingst  
9709 E 3rd St.  
Benton City, WA 99320

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RASCO WA 993

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Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
99210\$0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: Once again it appears as though resource utilization above the border has impacted the ecosystem in the USA. Deer populations near the Kellogg, ID lead smelter had no teeth, imperiling their survival.

Thank you,

IND100-1

(signed)

*[Handwritten signature]*





Received in Mail  
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FEB 01 2011  
Volunteer (mailing)

Your address:

P.A. BAIRD  
7515 MERCER TERR DR  
MERCER IS. WA 98040

SEATTLE WA 980  
17 JAN 2011 PM 7T



Center for Environmental Law & Policy  
25 W. Main, Ste 234  
Spokane, WA 99201

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Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9920135090

|||||

Dear U.S. Bureau of Reclamation,



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The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

PLEASE LISTEN TO AND ACT UPON  
THE RECOMMENDATIONS OF THE  
NATIONAL ACADEMIES OF SCIENCE!

Thank you,

IND102-1

*Peter A. Baird*  
(signed) (CELP member)

FEB 01 2011

Comment Letter IND103

Your address:

Jack Corbin  
 3406 N. Market St.  
 Spokane, WA 99207

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Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

The Science does not support  
 this project in every way.  
 I strongly oppose it!

Thank you,

IND103

(signed)

*Jack Corbin* (Spokane)

Receivability Administration  
FEB 01 2011

Your address:



Joan Bartz  
2902 S Vancouver St.  
Kennewick, WA 99337

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FEB 01 2011

Yakun &amp; Smirnov

Your address:



Thelma Quay  
7820 W 6th Ave Rm 113  
Kennewick, WA 99336

BRISCO VAN DUSE

12 DEC 2010 PM 1:11



**Upper Columbia River Group – Sierra Club**

**P.O. Box 413**

**Spokane, WA 99210**

**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

9921030413

[illegible]

**Dear U.S. Bureau of Reclamation,**



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Additional comments:  
Please don't take more water from  
The Columbia River. Why destroy habitats  
that the birds & wildlife need for survival?

Thank you,

-IND106-1

(signed)

Received in Mail

FEB 01 2011

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1/30/11	X		
1/31/11	X		

Your address:



Mr. Donald A. Bolstad  
303 Hilltop Pl  
Wenatchee, WA 98801-5919



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210\$0413 8026



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

I would like to see a BRIEF  
WRITE-UP ON PRO'S & CONS TO  
THE PROJECT. 509-663-0672

Thank you,

DA Bolstad

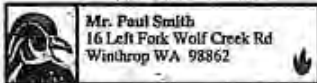
(signed)

IND107-1

Received in March

FEB 01 2017

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## Upper Columbia River Group – Sierra Club

P.O. Box 413

**Spokane, WA 99210**

**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

9921080413 E023



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

This proposal is a Bad idea  
for the environment, the salmon,  
the birds & other wildlife &  
for us humans too - Please withdraw  
your proposal

Thank you,

Jacques Smith  
(signed)

IND108-1



Received in advance

FEB 01 2011  
Yakima, Washington

Your address:

Michael N Sarratt  
775 Monroe St  
Wenatchee WA 98801-2811

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**Upper Columbia River Group – Sierra Club**

**P.O. Box 413**

**Spokane, WA 99210**

**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

9921030413 B025



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

No more Agri-business water  
at the expense of wildlife -

Thank you,

*Michael Smith*  
(signed)

Received in Mailroom

FEB 01 2011

Comment Letter IND110

Your address:

Heidi + Louise CLARE

3507 NE 9TH Ave.  
VANCOUVER, WA 98662



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921030413 B025

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Back in the 50's I was at UW  
Fisker's Dept studying diseases in salmon.  
We must not drain these waters  
from the Columbia River.

Thank you,

*Heidi Clare*  
(signed)

IND110-1



Received in Mail  
FEB 01 2000

Comment Letter IND112

Your address:

PO Box 373

Zyle, Wa. 98635

MAIL CODE	DATE	INT. DATE	CONF.
1050	X		
1072	X		
1150	X		
1500			
1200	X		
1700			
1120	X		
1125	X		



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210-0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

We are willing to use less  
water for the future good for all!

Thank you,

(signed) ] IND112-1



MAILED  
FEB 01 2011

Comment Letter IND113

Your address:

Katley Sabbrook  
1906 E Street  
Vancouver WA 98663

MAIL	DATE	TIME	DATE	TIME
1001	+			
1002	+			
1003	+			
1004	+			
1005	+			
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1012	+			
1013	+			

PORTLAND OR 970

11 DEC 2010 PM 2 L



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



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Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

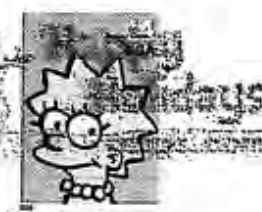
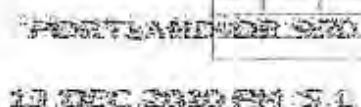
I live in this area because I love  
the CR. I can't wait, swim, hike  
birdwatch and have raised my kids  
here. It's time to stop habitat not degrade  
further. K.S.

Thank you,

Katley Sabbrook  
(signed) IND113-1

RECEIVED  
FEB 01 2011

1001	X		
1002	X		
1100	X		
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**Spokane, WA 99210**

Ռեզոլյուցիայի մեկնումը իրականացվելու է:

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

This is 2010, not 1910.  
Science has advanced.  
Why hasn't the Bureau?

(signed) \_\_\_\_\_

RECEIVED  
FEB 01 2011  
MAIL ROOM

DATE	TIME	DATE	TIME
11/20	X		
11/21	X		
11/22	X		
11/23	X		
11/24	X		
11/25	X		
11/26	X		



Your address:

RD. 55211 Jim  
P.O. Box 561  
White Swan, WA 98952

Upper Columbia River Group – Sierra Club  
P.O. Box 413  
Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921030413 B025

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: *The salmon are part of my DNA.*

Thank you,

*Randy*  
(signed)

IND115-1

FEB 01 2011

Comment Letter IND116

DATE	TIME	NAME	UNIT
1000	X		
1002	X		
1100	X		
1500			
1700	X		
5000			
1127	X		
1127	X		

Your address:

Catherine Isabel  
P.O. Box 18708  
Spokane, WA 99228

SPOKANE WA 992

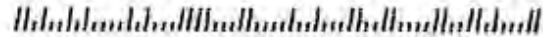
16 DEC 2010 PM 1 T



Upper Columbia River Group - Sierra Club  
P.O. Box 413  
Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Please Listen to the people  
who are the voters & the  
taxpayers.

IND116-1

Thank you,

Catherine Isabel  
(signed)

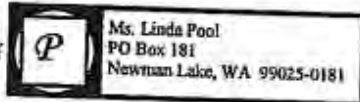


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FEB 01 2011

Comment Letter IND117

MAIL DATE	SCAN	INT. DATE	COPY
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1097	X		
1103	X		
1100			
1103	X		
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1120	X		
1123	X		

Your address:



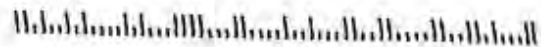
Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210\$0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Water conservation in  
Central Washington would  
be far more effective & cheaper  
than diverting more Columbia River water.*

Thank you,

*Linda E. Pool*  
(signed)

IND117-1

Postage and Fees Paid

FEB 01 2011

Spokane, Washington

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1001	X		
1100	X		
1600			
1700	X		
1900			
1120	X		
1123	X		

SPokane WA 99210

Your address:

*Doug & Lynn Ben*  
*3023 W. Weile Ave*  
*Spokane Wa*  
*99208*

Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921060413

|||||

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*The Columbia River is an asset for all to enjoy — further water withdrawals for the benefit of the few will be detrimental for the many!*

Thank you,

*Douglas F Ben*  
 (signed)

IND118-1

Received in Mail

FEB 01 2011

Comment Letter IND119

NO.	DATE	TIME	STATUS
1000	X		
1050	X		
1100	X		
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1250	X		
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Your address:



SPOKANE WA 99201

10 DEC 2010 PM 1 T



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
9921030413



Dear U.S. Bureau of Reclamation,

I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Thank you for your consideration of these issues - stated above.*

Thank you,

*Cheryl J. Roberts*  
(signed)

IND119-1

Received at Mailroom  
C  
FEB 01 2011  
A  
Yakima, Washington

Comment Letter IND120

DATE	TIME	DATE	TIME
10/01	X		
10/02	X		
10/03	X		
10/04			
10/05	X		
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10/29	X		
10/30	X		
10/31	X		

Your address:

JOHN DOUGLAS  
4711 So. MAGNOLIA  
SPOKANE, WA 99533

Upper Columbia River Group – Sierra Club  
P.O. Box 413  
Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
9921030413

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*This is important to me,  
Please give these concerns  
careful consideration  
JD*

Thank you,

(signed)

*John Douglas*  
IND120-1



RECEIVED BY MAIL  
FEB 01 2011  
C  
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Control #:

SPOKANE WA 992

16 DEC 2010 9M 1 T

Your address:



John A Funaro  
PO Box 48012  
Spokane WA 99228

Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

MAIL CODE	ZONE	DATE	44 USA
1000	X		
1002	X		
1100	X		
1600			
1700	X		
5000			
1120	X		
1122	X		
SECTION			

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
99210+0413

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*I think the Bureau's proposal will just exacerbate the already dwindling water flows to the Columbia River due to dam, water withdrawals and climate change (global warming). DUH!!*

Thank you,

*John A. Funaro*  
(signed)

IND121-1

FEB 01 2011

## Comment Letter IND122

Your address:



**Marian E. Frobe**  
5312 N Howard St.  
Spokane, WA 99205-5214

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**Upper Columbia River Group – Sierra Club**

**P.O. Box 413**

Spokane, WA 99210

**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

201040412



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Additional comments:  
We should be looking for ways to conserve water, not withdraw more from the Columbia River system.

Thank you,

Marian E. Burke  
(signed)

IND122-1

Received in ( )  
C  
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U  
FEB 01 2017  
Yakima, Washington

Comment Letter IND123

Your address:



DATE	TIME	DATE	TIME
0000	X		
0001	X		
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Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
99210-0413

Dear U.S. Bureau of Reclamation,



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The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: *Dear U.S. Bureaucrats of Reclamation:  
If the above message is not clear to you, contact  
me and I will explain it in plain English.*

Thank you,

*Michael J. Sullivan*  
(signed)

IND123-1

FEB 01 2011

Comment Letter IND124

Your address:

W.T. SOELDNER801 W RIVERSIDE, STE 220SPOKANE, WA 99201

MAIL DATE	TIME	DATE	TIME
1050	X		
1052	X		
1055			
1100	X		
1105	X		
1110	X		
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Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
 5521060413



Dear U.S. Bureau of Reclamation,

I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Having lived in the "Odessa Subarea" as well as in 2 other parts of the state touched by the Columbia, there is no doubt in my mind of the harm your proposal will do.

Thank you,

IND124-1

(signed)



C  
A  
O  
FEB 01 2011  
Yakima, Washington

Your address:

22821 E. Clewiston Ln.

Pilenti, Lake, WA

99019

SPOKANE WA 992

14 JAN 2011 PM 1 T



MAIL CODE	SCAN	DATE	COPY
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1002	X		
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ACTION			

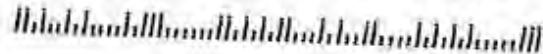
Center for Environmental Law & Policy

25 W. Main, Ste 234

Spokane, WA 99201

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

39201+5090



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Contaminated Water = dead fish

Contaminated Water = Toxic Soil

Thank you,

IND125-1

Margaret Keene  
(signed) (CELP member)

RECEIVED  
FEB 01 2011  
Yakima, Washington

Your address:

Plastina  
1922 E. Dalton  
Spokane, WA 99201

SPokane WA 99201  
15 JAN 2011 PM 4 T



MAIL CODE	SCAN	PG & DATE	POST
1000	X		
1002	X		
1100	Y		
1800			
1700	Y		
5000			
1130	X		
1123	Y		
ACTION			

Center for Environmental Law & Policy  
25 W. Main, Ste 234  
Spokane, WA 99201

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99201+5030



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: Sirs,

Please review & rewrite as necessary the EIS. I would point out growth is by definition ultimately unsustainable - and I would ask that you err on the part of sustainability. RP

Thank you,

(signed) (CELP member)

IND126-1

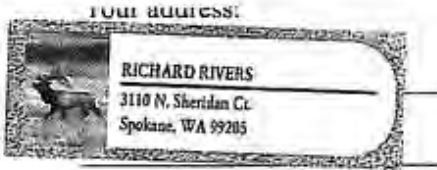
Received in Mailroom

FEB 01 2011

U.S. Department of the Interior

BUREAU OF RECLAMATION  
SPECIAL DELIVERY

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1123	X		
ACTIVE			



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Pay attention to the NAs -  
Keep water in the river and sage  
Grouse in the sages*

Thank you,

*Richard J. Rivers* IND127-1  
(signed)  
Richard J. Rivers  
3110 N. Sheridan Ct  
Spokane WA 99205  
Spokane WA 99205

RC  
C  
C  
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FEB 11 2011  
Yakima, Washington

Your address:

*Carl Ellis*  
*2015 E. 3<sup>rd</sup>*  
*Spokane WA 99203*

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First Class  
Stamp here  
44 cents

Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

Dear U.S. Bureau of Reclamation,



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Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*The Columbia needs to be managed wisely for humans & nature. Conservation needs to be first. We've worked orchards on the Columbia. It's important to see the big picture. Soil currently irrigated needs to be conserved.*

Thank you,

*Carl Ellis*  
(signed)

IND128-1

*Not just add more area*



Received in Mailroom  
C  
C  
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O  
FEB 01 2011  
Yakima, Washington

Comment Letter IND129

Your address:



Prof. P. Dee Boersma  
3111 S King St  
Seattle, WA 98144-2544

SEATTLE WA 98101

24 JAN 2011 12:47 EST



Center for Environmental Law & Policy

25 W. Main, Ste 234

Spokane, WA 99201

DATE	TIME	FILE	COMP
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1600			
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1725	Y		
ACTION			

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9920135090



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

IND129-1

Thank you,

*Dee Boersma*

(signed) (CELP member)

*we have  
to move toward  
sustainable  
practices!*

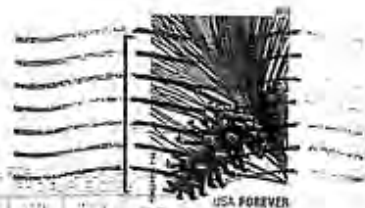
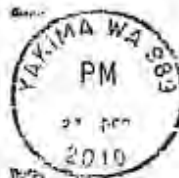
CLAO

FEB 01 2011

Yakima, Washington



Moser  
141 Green Acres Lane  
Yakima, WA 98901-8047



**P.O. Box 413**

**Spokane, WA 99210**

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09-080413 NORX



Additional comments:

Why can't you just leave things alone? You never make anything better. The more you mess with Mother Nature, the worse it becomes for everything.

Thank you,

(signed) Quila) Rosen

-IND130-1



FEB 01 2001  
 Volume 1

FRANCIS W. [unclear]

DATE	TIME	NAME	TIME
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10/03	X		
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12/30	X		
12/31	X		



**Spokane, WA 99210**

9921080413



Additional comments: Why encourage more from lands opening up when they are already over-producing?  
Cutting more water from the river to aid farm development is a losing proposition.  
Please do not do it!!

V. Goodenow Rawlings  
(signed)

IND132-1



Received in Mail  
D  
D FEB 01 2011  
A  
C Making a Difference

Comment Letter IND133



Lisi Ott  
15966 Chumstick Hwy  
Leavenworth, WA 98826

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1123	✓		



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921050413 B025



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: We can not continue to withdraw from our natural resources when we know they are declining. Even THAT does not make good business sense. It is time to act carefully. Set new guidelines, act sensibly. We need our environment functioning for us to live!

Thank you,

*Lisi S. Ott*  
(signed)

IND133-1





## Comment Letter IND136

DATE	TIME	NAME	ROOM
10/10	X		
10/11	X		
10/12	X		
10/13	X		
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10/29	X		
10/30	X		
10/31	X		

 Ms. Karen Averitt  
131 Viewpoint Rd  
Newport, WA 99156-8319

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
99210+0413

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Save the sage grouse and the salmon → Thank you,

IND136-1

Karen W Averitt  
(signed) Karen W Averitt  
509-447-0934



C  
E  
A  
C

## Comment Letter IND137

Yakima, Washington

Marlet K Smith  
4103 W 18th Ave  
Kennewick, WA 99338-2224

PHOTOGRAPH

24 DEC 2000 FRI 1 17

**P.O. Box 413**

**Spokane, WA 99210**

[illegible]

9921030413

**Biblical Foundations**

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Times have changed and farming needs to adjust to the earth's capacity for long term sustainable usage. No more expansion of irrigation can be sustained. Drop the plan to extend irrigation and with depleted aquifer - farmers need to convert to

Thank you,

Marlett K Smith

IND137-1

(signed)

(509) 75-7737



FEB 01 2011

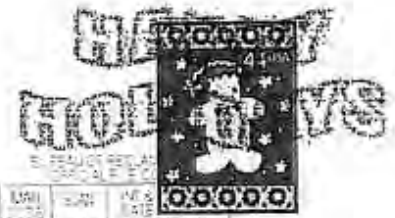
Spokane, WA

Your address:

Carol & Carl "Bud" Smith  
 15016 N Little Spokane Dr.  
 Spokane, WA 99208

SPOKANE WA 992

20 DEC 2010 PM 4 T



DATE	NAME	NO. OF
1000	X	
1002	X	
1100	X	
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1700	X	
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Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921030413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*Lets get back to Nature!  
 The Natural! People will  
 Survive!*

Thank you,

*Carol Smith*  
 (signed)

IND139-1

Received in Mailroom  
C  
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A  
O  
FEB 01 2011  
Vancouver, Washington

Comment Letter IND140

Your address:



Elinor F. McCloskey  
335 SW Skyline Dr.  
Pullman, WA 99163-2765

Upper Columbia River Group - Sierra Club  
P.O. Box 413  
Spokane, WA 99210



DATE	TIME	DATE	TIME
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ACTION			

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

Dear U.S. Bureau of Reclamation,



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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: Too much has been done to the river's habitat already. Please look at positive projects not more down grading.

Thank you,

Elinor McCloskey  
(signed)

IND140-1



Received in Mailbox

C  
O  
A  
O

FEB 01 2011

Yakima, Washington

Comment Letter IND141

Your address:

Brenda Wright  
8612 N. Aubrey L. White Pkwy  
Nine Mile Falls, WA 99026

SPOKANE WA 992

31 DEC 2010 PM 3 T



MAIL	DATE	USA FOREVER
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1133	X	

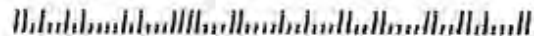
Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

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Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Please reconsider and re-study the impact this will have before its too late.

Thank you,

Brenda Wright  
(signed)

IND141-1

Received at Mail

C  
E  
A  
Q  
FEB 03 2011  
Yakima, Washington

Comment Letter IND142

Your address:



Ms. Ramona Martin  
43166 Martin Cyn Rd N  
Wilbur, WA 99185

SPOKANE WA 992

16 DEC 2010 PM 1:17

MAIL	DATE	TIME	DATE	TIME
1050	X			
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1100	X			
1600				
1700	X			
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1120	X			
1120	X			
ACTION				



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*already the water tables  
lowering from wells for  
irrigating have dried up the  
pot hole lakes for habitat to us.*

Thank you,

IND142-1

(signed)

*Ramona Martin*  
*I live 3 miles south of L.R. River.*



Yakima, Washington

## Comment Letter IND143

**Your address:**



Ms. Jeff Prater  
PO Box 509  
Kittitas WA 98934-0509

MAIL DATE	SW	W/4 DATE	W/4
10/20	X		
10/21	X		
11/01	X		
11/04			
11/09	X		
11/10			
11/20	X		
11/23	X		
ACTION			



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

3321000410 0025



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Take care of our  
diminishing wildlife

Thank you,

Jeri Proter  
(signed)

-IND143-1

Received in Mailroom

C  
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FEB 01 2011  
Yakima, Washington

Comment Letter IND144

Your address:



Mr. Kurt H. Erlanson  
PO Box 873  
Chelan, WA 98816

MAIL CODE	POSTAGE	DATE	TIME
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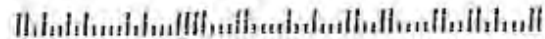
Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921090413 8025



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*This water diversion plan is  
unsustainable!*

Thank you,

IND144-1

(signed)

*Kurt Erlanson*



FEB 01 2011

Spokane, Washington

Your address:

3411 E. 26<sup>th</sup> Ave.Spokane, WA99223First Class  
Stamp here  
44 cents

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Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: *Enough damage has been done to the Columbia River with dams, withdrawal of water and using it as a sewer. It's time to leave it alone.*

Thank you,

*Donna + Buck Hollister*  
(signed)

IND145-1

Received in Mail  
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FEB 01 2011  
RECEIVED

Comment Letter IND146

Your address:

Donald Bihl  
761 Snyder St  
Richland, WA 99354

RECEIVED WEA 0002  
23 DEC 2010 PM 1 L

MAIL CODE	SCAN	DATE	COUNT
1000	X		
1002	X		
1100	X		
1700	✓		
5000			
1120	X		
1123	X		



Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation  
9921030413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

30.9 million U.S. population and always increasing. Meanwhile native wildlife always suffer - decline. It's time to make them a priority.

Thank you,

Donald Bihl  
(signed)

IND146-1

Received in Mailroom

FEB 01 2011

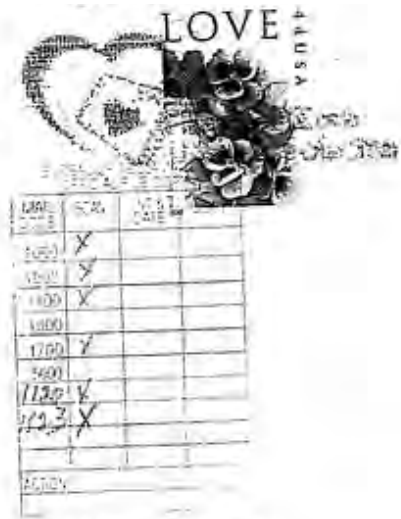
Comment Letter IND147

Your address:

Sue Danver  
7106 Foothill Loop SW  
Olympia, WA 98512

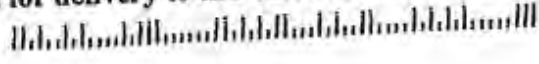
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OLYMPIA WA  
22 JAN 2011 PM 3 T

Center for Environmental Law & Policy  
25 W. Main, Ste 234  
Spokane, WA 99201



Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99201+5090



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*I am a birder and a person who believes in the protection of wildlife habitat. Please do not divert water to the SubArea of Odessa. We need to start working with the resources as they exist... not as we can convert them.*

Thank you,

Susan Danver  
(signed) (CELP member)

IND147-1

## Comment Letter IND148

**Liz De Niro & Paul Swetik**  
16226 North Sands Road  
Mead, WA  
99021-7831

MAIL NO.	DATE	TIME	REMARKS
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1100	X		
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1700	X		
1000			
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1123	X		



**Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation**

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The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: We love the wildlife along the Colorado, including all of the  
Thank you,

IND 148

Thank you,

IND148-1

request that you withdraw the Draft Environmental Impacts Statement for the Odesa Subarea. I have  
 additional comments: We love the wildlife along the Columbia, including all of the  
 birds. Please help save the few remaining  
 salmon also!

Thank you,

*Emileth P. Adelle*  
 (signed) (CELP member)

310 Sunfile

Paul G. Suter  
(signed) (CELP member)  
Paul G. Suter



FEB 01 2011

Comment Letter IND149

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SPokane WA 99210

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Your address:

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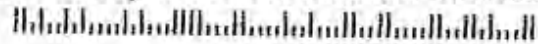
Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

bad for fish/water quality/  
desert habitat / is irrigation  
aq is not sustainable - so it  
won't take it.

Thank you,

IND149-1

(signed)

FEB 01 2011

Comment Letter IND150

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| 1300 | X   |          |         |
| 1350 | X   |          |         |

Your address:

*Ester Larsen*  
*P.O. Box 18971*  
*Spokane, WA*  
*99228-0971*

Upper Columbia River Group – Sierra Club  
 P.O. Box 413  
 Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413

|||||

Dear U.S. Bureau of Reclamation,

*December 17, 2010*



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*As a teenager I lived in New Mexico and learned how precious water is to life - not just human life. 45 years later I am shocked at the lack of science involved in federal environmental studies. I request on behalf of people, habitat and wildlife*

Thank you,

IND150-1

*Ester Larsen*  
 (signed)

*Most importantly I have 5 grandchildren. I want them to see wildlife and have water!*

*that you withdraw the draft EIS noted above.*

FEB 01 7

Comment Letter IND151

Your address:



Mr. Raymond L. Torretta  
812 SW Davis Ave  
College Place, WA 99324

| MAIL | DATE | DATE | COPY |
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PASCO WA 99324

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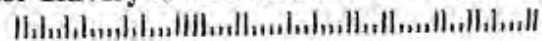
Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921030413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: Stop subsidising big Agribusiness at the expense of the public and our wildlife resources. It is time to say no to this Federal boondoggle!

Thank you,

Raymond L. Torretta  
(signed)

IND151-1

Received in Mailroom

FEB 01 2011

Comment Letter IND152

Your address:

Denee Scribner

1113 E 2nd Ave

Ellensburg, WA 98926

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Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921090413 8025



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: The Columbia River cannot spare any further water diversions. Please put the health of the river, the salmon, and other wildlife first. Humans will benefit more when the water stays in the river where it belongs! Health before wealth!!!

Thank you,

Denee S. Scribner

(signed)

IND152-1



FEB 01 2011

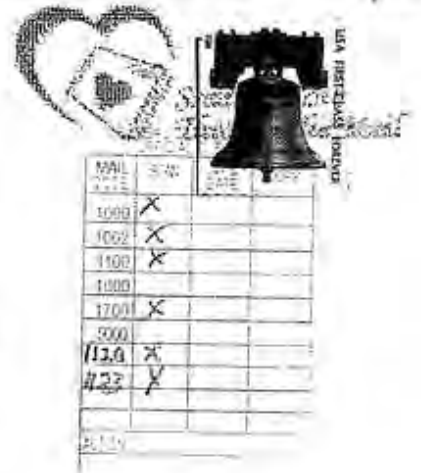
Comment Letter IND153

Your address:

2540 NE 90<sup>th</sup> St  
 Seattle, WA 98115

SEATTLE WA 98115

19 JAN 2011 PM 5 T



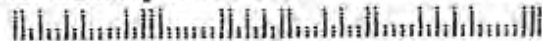
Center for Environmental Law &amp; Policy

25 W. Main, Ste 234

Spokane, WA 99201

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9920135090



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

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Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: We live in Seattle and support the protection of the protection of the Columbia River as part of our State's heritage & future. Thank you, *IND153-1*  
 Stewardship. Withdrawal of Columbia River impacts the habitat for birds, fish  
 and we oppose the U.S. BOR program.

*Virginia and George Gentry*  
 (signed) (CELP member)

Received in Mailroom

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FEB 01 2011

Comment Letter IND154

Your address:



Mr. Charles Hill  
1208 W Lake Sammamish Pkwy SE  
Bellevue, WA 98008-5216



SEATTLE WA 98101

19 JAN 2011 PM 5 T



Center for Environmental Law & Policy  
25 W. Main, Ste 234  
Spokane, WA 99201

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99201 95090



Dear U.S. Bureau of Reclamation,

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

THIS IS TO REPLY GOV GROWING FOR HELP FROM  
GRAPES GROWERS AND CORN FARMERS NEAR ODESSA.  
Thank you,

ROYAL CITY  
FARMER

Charles Hill  
(signed) (CELP member)

Received in Mail  
FEB 07 2010

Comment Letter IND155

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SPokane, WA 99210

22 DEC 2010 PM 1:17



Upper Columbia River Group – Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

9921030413



Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments: Reclamation projects on the Columbia has already decimated wildlife, esp. Salmon & destroyed traditional native lifeways. More tax payer \$ for cheap water for wheat farmers is a crime.

Thank you,

IND155-1

(signed)

Beth Prinz, Pullman WA

Received in Mail  
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FEB 01 2011  
Yakima, Washington

Comment Letter IND156

Your address:

RM NUSS  
2025 E. 10TH  
SPOKANE, WA 99202

Upper Columbia River Group – Sierra Club  
P.O. Box 413  
Spokane, WA 99210

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Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

99210+0413



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Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

*YOU MUST SERVE PEOPLES'  
LONG TERM INTERESTS,  
NOT CORPORATE SPECIAL INTERESTS.*

Thank you,

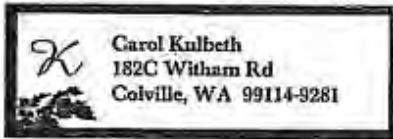
*RM Nuss* } IND156-1  
(signed)



FEB 01 2011

## Comment Letter IND157

100% SUCCESS:



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**Upper Columbia River Group – Sierra Club**  
**P.O. Box 413**  
**Spokane, WA 99210**

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

95210+0413



**Dear U.S. Bureau of Reclamation,**



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

WE NEED TO BECOME GOOD STEWARDS  
OF THIS COUNTRY... RECLAIMING AND  
RESTORING THAT WHICH WAS ONCE  
BEAUTIFUL AND SUSTAINING LAND  
AND STOP BEING OVER-CONSUMERS  
DESTROYING ANYTHING IN THE WAY OF THE  
ALMIGHTY DOLLAR.

Thank you,

Carol Kuskoff IND157-1  
(signed)

Your address:



Ms Carmen Jackson  
1779 N Winrock St  
Liberty Lake, WA 99019



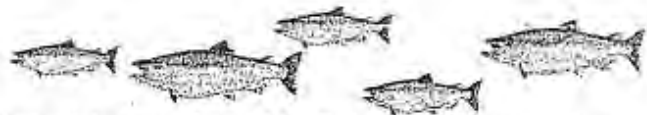
Upper Columbia River Group - Sierra Club

P.O. Box 413

Spokane, WA 99210

Send a conservation and fiscal responsibility message for delivery to the U.S. Bureau of Reclamation

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

Instead, the Bureau needs to look at water conservation, water markets, and helping farmers convert back to dryland farming. The Bureau needs to end the continued expansion of water withdrawals from the Columbia River.

I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

I am very concerned about the increased exposure to toxins that will result in drawing down Lake Roosevelt. As a nation, we need to be more aware of the environmental impacts on future generations!

Thank you,

*Carmen L Jackson*  
(signed)

IND158-1

**Bureau of Reclamation and  
Washington Department of Ecology  
COMMENT FORM**

Folder #:

Control =

**Odessa Subarea Special Study, Columbia Basin Project  
Draft Environmental Impact Statement**

**Public Hearing, Coulee Dam, WA  
November 17, 2010**

| DATE   | TIME | TYPE | COPY |
|--------|------|------|------|
| 10/20  | Y    |      |      |
| 10/22  | Y    |      |      |
| 11/01  | Y    |      |      |
| 10/24  |      |      |      |
| 11/01  | Y    |      |      |
| 11/20  | X    |      |      |
| 11/25  | X    |      |      |
| ACTION |      |      |      |

|                                                   |  |                                    |
|---------------------------------------------------|--|------------------------------------|
| Name (please print legibly): Aulin Smith          |  | 11/20/2011<br>11/25/2011<br>ACTION |
| Organization: Grant County Resident               |  |                                    |
| Mailing Address: PO Box 720                       |  |                                    |
| City, State, and Zip Code: Electric City WA 99123 |  |                                    |
| Telephone: 509 633 8054                           |  | E-mail:                            |

**Requests to be placed on the mailing list and/or receive a copy of the Draft EIS:**

- ☒ I would like to receive a copy of the Draft Environmental Impact Statement: ☒ printed or ☐ CD-ROM.  
☐ I want my name put on the mailing list to receive information on the Final Environmental Impact Statement.  
☐ I want my name removed from this mailing list.

**Please note:** Our practice is to make comments, including names, home addresses, home phone numbers and email addresses of respondents, available for public review. Individual respondents may request that we withhold their names and/or home addresses, etc., but if you wish us to consider withholding this information you must state this prominently at the beginning of your comments. In addition, you must present a rationale for withholding this information. This rationale must demonstrate that disclosure would constitute a clearly unwarranted invasion of privacy. Unsupported assertions will not meet this burden. In the absence of exceptional, documentable circumstances, this information will be released. We will always make submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public disclosure in their entirety.

**My comments on the Odessa Subarea Special Study Draft EIS are:**

I am in support of options : 2c  
3 3B  
3 3D

IND159-1

I am concerned about impacts  
to water quality, habitat, and  
fishing & hunting, on & around Banks Lake  
Thank you for your time.

(Use back of sheet or additional sheets as necessary)

You may leave your comment in the box provided or mail, fax, email, or call in your comments before December 31, 2010, to: Chuck Carnohan, Study Manager, Bureau of Reclamation, 1917 Marsh Road, Yakima WA 98901-2058; fax (509) 454-5650; email [odessa@usbr.gov](mailto:odessa@usbr.gov); phone 509-575-5848, ext. 603. [http://www.usbr.gov/pn/programs/ucao\\_misc/odessa/index.html](http://www.usbr.gov/pn/programs/ucao_misc/odessa/index.html)

U.S. Department of the Interior  
Bureau of Reclamation

Dear U.S. Bureau of Reclamation,



I care about the Columbia River and the life that depends on the River. Salmon are in trouble. Birds and other wildlife that depend on shrub steppe habitat are also in trouble.

The Bureau's proposals to divert more water from the Columbia River for delivery to the Odessa Subarea will harm the River, degrade and destroy shrub-steppe habitat, expose toxins in Lake Roosevelt, and cost taxpayers and ratepayers billions of dollars.

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I request that you withdraw the Draft Environmental Impacts Statement for the Odessa Subarea Special Study.

Additional comments:

Thank you,

*B. Keith Salzer*  
(signed)



## Odessa Subarea Special Study

Draft Environmental Impact statement

Executive Summary

### Coulee Playland Review and Response

(509-633-2671)

Nov. 11, 2010

Upon review of the fore mentioned study, we were left with far more questions than answers regarding the impacts that may be imposed on Banks Lake. The environmental, social, recreation, economic, and esthetic effects we will be left to deal with have not been effectively researched and explained. The below listed discussion points should clearly define our areas of major concern.

1. There is no clear alternative that stands out as your predetermined selection. That leaves us no option but to take our best guess as to the effects on water level that we will encounter. Considering that, the only time frame available to us to modify our assets to be effective under the new operating policies is the 2011/2012 drawdown, we have to assume worst case and adjust to that level. Funding, permits, and actual construction time all require action sooner than later to meet the drawdown window of opportunity. There are several changes that we feel need to be addressed at this time, they are: boat launch operations, fueling operations, moorage and environment.
2. Boat Launches: (page ES-38) talks to "high capacity boat launches" and the need to mitigate them. Further investigation told us that Coulee Playlands ramp did not meet the use criteria to be designated as high capacity. It was indicated that that designation was based on available parking for trailers and not actual use. Our research, using 2009 and 2010 WSDF creel and lake utilization data, gave us a very different prospective on ramp use. The data below was collected 5 days a week, 234 sample checks per year; only one

BUS1-1

of those days each week would be a weekend day. Data was based on actual empty trailers at each counted site. Time of day varied at each site each day. Days when fishing tournaments launched from the sites, the count was not conducted by WSDW, that data was collected by tournament directors. Below are the numbers for Coulee City and Coulee Playland for the last two seasons.

|              | <u>2009</u>             |              | <u>2010</u>             |        |
|--------------|-------------------------|--------------|-------------------------|--------|
| Playland:    | 874 regular             | Playland:    | 608 regular             |        |
|              | <u>1,235 tournament</u> |              | <u>1,107 tournament</u> | BUS1-1 |
|              | 2,129 total             |              | 1,715 total             |        |
| Coulee City: | 869 regular             | Coulee City: | 769 regular             |        |
|              | <u>300 tournament</u>   |              | <u>300 tournament</u>   |        |
|              | 1,169 total             |              | 1,069 total             |        |

This clearly reflects that Coulee Playland launches far more boats on average than Coulee City, or any other ramp on the lake. Add in the fact that these numbers do not include those individuals that came to our launch from local motels and other resorts to launch and then took their trailers back to those locations to store them. If mitigation for the ramps is based on use, we believe that Playland qualifies for some of those resources.

3. Fueling availability: Based on average summer draw downs of 8 to 13 feet, the need to relocate our fueling dock is apparent. Being the only fuel available on the water, we developed a plan several years ago that ensures our ability to continue to deliver to the needs of recreational boaters. Current plans under development will address moving and consolidating resources over deeper water. The single limiting factor to completing those modifications is the cost of piling work to hold our docks under increased wave height and current regimes. Moving and constructing docks further off shore exposes them to much harsher environments. The need for more robust attachment systems is apparent, and significantly more expensive. Mitigation to offset those expenses should be considered.

4. Moorage: As with fueling, reconfiguring and moving our moorage and rental fleet docks offshore will encounter the same environmental challenges and require the same level of improved anchoring. The same requirement for mitigation assistance to accomplish these tasks is apparent.
5. The focus of this document revolves around the lowering of the various supply reservoirs to supply water to Odessa farmers. The fact that these actions will negatively impact fish and wildlife resources on those supply reservoirs is undeniable. However, not a single word addresses the refill regimes that will be employed. We suspect that refilling as soon as possible to ensure the ability to generate that minuscule reserve power out flow at north dam will be desired by the operators of this program. All good science would indicate that a delayed refill, keeping more in cycle with natural lake, would in time, help to offset the negative effects brought about by the summer draw downs. Potholes reservoir and previous operations at Banks Lake prove that delayed refills encourage the growth of riparian vegetation that in time can offset the loss of submergent assets in those critical nursery areas. It should be unthinkable that Washington Dept. of Ecology and Washington State Department of Fish and Wildlife would not include that which is obvious to even a common outdoorsman. Refilling in late Feb. to early March, combined with an aggressive mitigation effort planting willows on exposed shorelines would expedite the recovery and environmental productivity in those areas. The future productivity at Banks Lake is dependent on the careful and detailed concerns we invest in planning now. Every effort should be made to look at every possible means to minimize the environmental losses inflicted as a result of this plan.

In summary, the information provided in this draft leave us with many unknowns. We believe it is unfair to conclude that the effects on the recreation industry of north Grant County will be "offset" by the gains in the farming industry of the 4 county area that will benefit from Banks water. What % of the local job force will be affected if Banks is no longer a viable recreation resource? What Banks lake provides to the population of Washington State may not generate anywhere near the revenue of Odessa potatoes. But to put it in perspective, One day on the water, sun shining, fish biting, no phone, no hassles, PRICELESS!



**Lake Roosevelt Vacations, Inc**

Kettle Falls Marina  
P.O. Box 340 – W. 1390 Williams St.  
Kettle Falls, WA 99141

January 20, 2011

Re: Edward L. Wimberly comments  
Odessa Subarea Special Study

Charles Carnohan  
Bureau of Reclamation  
Pacific Northwest Region  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

History:

Edward L. and Carol Wimberly purchased the Kettle Falls Marina and its contract with the National Park Service in the Spring of 1988, at that time the Marina was composed of a Fuel Pump, small store, 6 12' fishing boats, and a buoy field. The total asset value was \$11,241. (The Upper Columbia Boat Club owned 12 boat slips south of the Store).

The Wimberly's formed "Lake Roosevelt Vacations, Inc that same year adding Three Luxury Houseboats, and a larger fuel dock.

Since 1988 Lake Roosevelt Vacations, Inc. has grown to a full service Marina with 16 Luxury Houseboats, 62 annual Boat slips, a complete floating service building and Fuel Barge, Office, remodeled store.. The total asset Value of Lake Roosevelt Vacations is in excess of \$4,000,000 with 20 Seasonal and 6 permanent Employees. Washington Gross Receipts Tax is in excess of \$65,000 annually. Stevens County Property Taxes approximately \$5,000 annually. Holds a long term contract with the National Park Service which expires in 2016.

In developing my comments on the drawdown impact on the Kettle Falls Marina and the Lake Roosevelt Recreation Community as a whole, I have used the Drawdown Impact Study of July 17, 2008 Prepared by:

KPFF Consulting Engineers  
1601 Fifth Avenue, Suite 1600  
Seattle, WA 98101  
Being KPFF Project No. 108268

And prepared for The National Park Service – Lake Roosevelt National Recreation Area



And located at:

[http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/lkroos\\_ShorMgtRpt.pdf](http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/lkroos_ShorMgtRpt.pdf)[http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/lkroos\\_ShorMgtRpt.pdf](http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/lkroos_ShorMgtRpt.pdf)

#### **Evaluation Process (From Page 3)**

**"The goal of the evaluation process was to determine what additional modifications or additions may be required to maintain the same level of service or functionality at the proposed water level drawdown elevations."**

For example, if a given Facility has 40 feet of usable dock length at the current water level elevation of 1,278.0 feet, the goal is to provide the same amount of usable dock length at the lower proposed Lake Drawdown Elevation of 1,276.2 feet and shifting docks to slightly deeper water where possible is Recommended. " (Emphasis added)

Lake Roosevelt Vacations, Inc. applied for approval from the NPS to move the Marina into deeper water throughout the 1990's to no avail

See Figures 3-5 and 3-6 for photos of marina facilities. This photo of the Kettle Falls Marina was taken at approximately 1273' Lake Level. Note: The Main dock section is high and dry and the Service Building and Gas Barge are relocated to the Skid Dock on the launch ramp as is the configuration for the spring drawdown.

**"The resulting drawdown impact was evaluated by comparing site investigation field notes and photos Taken last year by the NPS with photos taken this year when the lake elevation was at approximately 1,276.3 feet. For NPS-attended site visits, the average expected facility functionality was discussed. This functionality was then compared with the resulting expected loss of functionality at the August 31st drought year elevation."** (Emphasis added) "

Note: Lake Roosevelt Vacations, Inc. was not a party to these discussions.

From Page 6

#### **4. Findings**

##### **AVERAGE OR WET YEAR**

***"The drawdown amount expected for an average or wet year results in a lake elevation of 1,278.9 feet. This elevation is approximately 1-foot less than the current elevation seen at that time of year. However, 1,278.9 feet is still above the elevations typically seen at that time of the year during a dry or Drought year. This drawdown elevation remains within the current normal range of summer elevations When considering dry or drought years. Because this elevation is within the normal facility operating Range, the facilities are not newly impacted by the drawdown."*** (Emphasis added)

**Table 2-1: Reservoir Elevations on August 31st**

| <b>Rainfall Year</b>      | <b>Current Elevation (MSL)</b> | <b>Proposed Elevation (MSL)</b> |
|---------------------------|--------------------------------|---------------------------------|
| <b>Average / Wet Year</b> | <b>1,280.0 feet</b>            | <b>1,278.9 feet</b>             |
| <b>Dry Year</b>           | <b>1,278.0 feet</b>            | <b>1,276.9 feet</b>             |
| <b>Drought Year</b>       | <b>1,278.0 feet</b>            | <b>1,276.2 feet</b>             |

The facilities at The Kettle Falls Marina are not impacted down to Lake Level 1276; however any level below this becomes a problem.

At 1279' the bridge to the fuel barge separates (not a major problem)

At 1275' the buoy field must be vacated.

At 1272' the main dock must be vacated.

At 1272' the Service Building and Fuel Barge must be relocated to the Launch Ramp, reducing its capacity by 50%

In August 1994, for whatever reason, the Lake level was dropped to approximately 1265' and required the Marina to vacate its main dock section. In order to induce the moorage customers to remain seasonal customers the Marina offered them an "op out" if the level dropped below 1275' this rule is included in their moorage contract.

**And herein lies the drawdown problem!!**

The Drought year drawdown level at 1,276.2' is acceptable but given the fact that "Bonneville Power" has the right to use any additional 1.5' in any 24 hour period for power generation. This additional power generation would occur if (as an example) the "wind did not blow" at the "Wind Farm" on the lower Columbia. (As stated in the June, 2010 meeting at the BOR headquarters at Grand Coulee, WA and attended by all concerned parties.)

In 2009 this option occurred and the lake level dropped an additional 1.5' from the August 31<sup>st</sup> low and by necessity the buoy field at the Kettle Falls marina was evacuated

This brings the entire EIS in to question as why this 1.5' drawdown was not considered by the Parties involved.

BUS2-1

In addition to the impact on the Kettle Falls Marina the effect would be the same on the other Recreational facilities on Lake Roosevelt.

BUS2-2

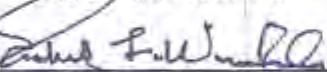
The other areas and groups that must be considered are:

Two Rivers Marina  
Seven Bays Marina  
Keller Ferry Marina  
Merchants in gateway communities surrounding the Lake.  
Fishing Boat dealers in the Area. Including Spokane and Colville, Wa.

I would ask that the entire EIS be reopened and the above considered and included in the findings.

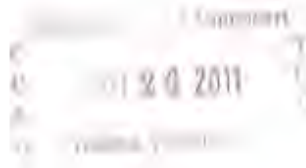
BUS2-3

*Lake Roosevelt Vacations, Inc.  
Dba Kettle Falls Marina*

By:   
Edward L. Wimberly, President



## Comment Letter BUS3



Folder #

11006261

Control  
U.S. TRUST

Bank of America Private Wealth Management

Specialty Asset Management  
Farm and Ranch Services  
Bank of America, N.A.

| AMT  | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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January 24, 2010

Charles A Carnohan  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Rd.  
Yakima, WA 98901-2058  
509.575.5848 ext. 603

Charles,

I am writing in support of the Adams County Commissioners draft environmental impact statement, Odessa Subarea special study. As a property manager for US Trust Bank of America Farm and Ranch services I recognize the value of agriculture to our local and state economy. The value of agriculture production is one of the bright areas of our economy, and is directly impacted by the water available to grow crops.

The farms in the Odessa Subarea with irrigation wells have believed the declining aquifer would eventually have Columbia River water delivered to them as the deep well water becomes depleted. Many of these farms will need to receive Columbia River water in order to continue to irrigate. The entire area is subject to economic upheaval if irrigation water is not delivered.

BUS3-1

The world is witnessing rapidly increasing agricultural commodity prices due to very tight global supplies of many of the major crops. With corn and soybeans projected to have less than a 10 day supply from harvest to harvest it appears the importance of delivering water to the Odessa Subarea is becoming more important on a daily basis.

We need to develop short and long term plans to irrigate as many additional acres as possible in the future. It should become our responsibility as members of society to do our part to see the Odessa Subarea project is completed.

Please feel free to contact me at 509.227.0048 or at [kevin.j.paulson@ustrust.com](mailto:kevin.j.paulson@ustrust.com) with any questions you may have.

Sincerely,

Kevin J. Paulson, SVP  
US Trust Bank of America  
Farm and Ranch Services  
601 W Riverside Ave, Suite 410  
Spokane, WA 99201-0647  
509.227.0048

Tel: 509.227.0048 • Fax: 509.227.0103

Bank of America, WA2-441-04-55  
601 W. Riverside, Fourth Floor, Spokane, WA 99201-0647



**From:** [The Odessa Record](#)  
**To:** [BOR UCA OdessaStudy](#)  
**Subject:** Rehydration project  
**Date:** Tuesday, January 25, 2011 10:27:29 PM  
**Attachments:** [Terrie Schmidt-Crosby.vcf](#)

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Mr. Chuck Carnoham,

As editor and publisher of The Odessa Record, a weekly newspaper, we have been made aware of the studies that have been done recently on the declining water levels in eastern Washington aquifers. Our communities within this area are threatened with extinction. Our municipal water wells are also declining. Promises made in the 1940s were not kept. Water that should have been delivered to this region via the East High Canal of the Columbia Basin Reclamation Project never made it this far. For more than 100 years, area farmers and ranchers have worked to make this semi-arid region as productive as possible. They have succeeded, despite the broken promises of the Columbia Basin Project. But the writing is on the wall. The water is disappearing. Unless something is done to rehydrate the aquifers, nature will reclaim the desert and the tax base of Lincoln County and surrounding counties will move elsewhere -- a no-win situation for us all.

BUS4-1

Terrie Schmidt-Crosby  
The Odessa Record  
1 W First Avenue/P.O. Box 458  
509-982-2632  
[therecord@odessaoffice.com](mailto:therecord@odessaoffice.com)

RECLAMATION AND ECOLOGY TO RELEASE ODESSA SUBAREA  
SPECIAL STUDY DRAFT ENVIRONMENTAL IMPACT STATEMENT

NOVEMBER 17, 2010

PUBLIC HEARING

"PUBLIC COMMENTS"

Location: Coulee Dam Town Hall  
300 Lincoln Avenue  
Coulee Dam, Washington

ORIGINAL

Reported By: Ms. Charlene M. Beck, RPR, CCR # 2543

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I N D E X

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1 COMMENT NUMBER 1: BY:  
2 MR. LOU NEVSIMAL  
3 Coulee Playland  
4 Washington State B.A.S.S.  
5 F.L.W. Northwest B.A.S.S.  
6 Organization  
7 P.O. Box 6  
8 Wilbur, WA 99185  
9 (Home): 509.647.5527  
10 (Work): 509.633.2671  
11  
12 MR. JERRY SANDS  
13 Mayor of Electric City, WA  
14 P.O. Box 673  
15 Electric City, WA  
16 509.631.1222  
17  
18 MR. CARL RUSSELL  
19 P.O.W.E.R.  
20 Box 101  
21 Grand Coulee, WA  
22 509.633.0618  
23  
24 MR. ROBERT SMITH  
25 Landowner  
19950 Coulee View  
Electric City, WA  
509.633.6594  
16 MR. NEVSIMAL: You know I wear a couple of  
17 different hats, right?  
18 MS. UTTER: Absolutely.  
19 MR. NEVSIMAL: So the first one is for Coulee  
20 Playland.  
21 MS. UTTER: Okay.  
22 MR. NEVSIMAL: In the Ecology study they used a  
23 formula to compute what they considered to be priority boat  
24 launches.  
25 MS. UTTER: Okay.



1 MR. NEVSIMAL: Coulee City and the Northrup boat  
2 launches were dedicated as priority launches.

3 MS. UTTER: Right.

4 MR. NEVSIMAL: The formula that they used was  
5 based on the number of parking spots that were at those boat  
6 launches. It was not based on actual utilization of those  
7 launches. Okay?

8 Now, okay, minor issue except that financial mitigation  
9 is attached only to the priority boat launches, which means  
10 if you weren't qualified as a priority launch you're ~~not~~ in  
11 line for mitigation.

12 Now, I sat down with Fish & Wildlife's information on  
13 the creel studies that they have done on Banks Lake for the  
14 last few years.

15 MS. UTTER: Uh-huh.

16 MR. NEVSIMAL: We far surpass any other launch on  
17 the lake for utilization based on their studies. But we are  
18 not assigned priority and we are not assigned mitigation. So  
19 they need to re-assess how they're doing that. To send a  
20 college student up to drive around and count parking spots in  
21 parking lots is not the way to find out how many people use a  
22 boat launch. You know, we don't have many parking spots, but  
23 we've got a lot of campsites. And we launch boats for all  
24 the hotels. We have more tournaments, which are not counted.

25 MS. UTTER: Well, don't you provide visitor use

1 data? (Inaudible due to background noise.) As part of the  
2 agreement or the contract that we have don't you provide  
3 visitor use date?

4 MR. NEVSIMAL: We -- we do. But we don't -- I  
5 don't think we break out boat -- the number of boats we  
6 launch in a year as part of that data.

7 MS. UTTER: I can't remember. I think it's  
8 basically on visitor days is the way they --

9 MR. NEVSIMAL: Okay.

10 MS. UTTER: Is what it is.

11 I'm Stephanie Utter, S-T-E-P-H-A-N-I-E U-T-T-E-R.

12 MR. NEVSIMAL: So, anyway, on that one issue, the  
13 only time we could do any repairs to our boat launches or  
14 extensions of our boat launches --

15 Because we don't know what alternatives come in.

16 MS. UTTER: Right.

17 MR. NEVSIMAL: We don't know how deep we need to  
18 be.

19 MS. UTTER: Right.

20 MR. NEVSIMAL: The only time we could do those  
21 repairs is next year during drawdown.

22 MS. UTTER: Right.

23 MR. NEVSIMAL: Right. But if we're not on line  
24 for mitigation and we don't have priority assignment we're  
25 not going to be (inaudible due to background noise) --

1 THE COURT REPORTER: You know what, boy, it's  
2 really hard to hear.

3 (Discussion had off record and court reporter moved to a  
4 different location due to background noise.)

5 MS. UTTER: I just want to go back to this thing  
6 you were talking about about the priorities for mitigation.

7 MR. NEVSIMAL: Right.

8 MS. UTTER: During the drawdown --

9 MR. NEVSIMAL: Right.

10 MS. UTTER: -- okay, the maintenance drawdown --  
11 This has nothing to do with Odessa.

12 MR. NEVSIMAL: Right.

13 MS. UTTER: We're having that meeting next  
14 Tuesday.

15 MR. NEVSIMAL: Good to know.

16 MS. UTTER: So we start --

17 MR. NEVSIMAL: You are? Or. Or -- it's an open  
18 meeting?

19 MS. UTTER: It's open. It's an open meeting.

20 MR. NEVSIMAL: All right.

21 MS. UTTER: Next Tuesday, the 23rd at 10:00  
22 o'clock. I think it's in Coulee City.

23 But I thought we sent a letter to Coulee Playland.

24 MR. NEVSIMAL: Tuesday.

25 Hal's out of town again.

1           Tuesday the what?

2           MS. UTTER: Tuesday, the 23rd.

3           MR. NEVSIMAL: 23rd. Oh, boy. Okay.

4           MS. UTTER: If it's not -- if you can't be there

5 that day, I'll -- we'll set up a time when we can talk about

6 it.

7           MR. NEVSIMAL: Coulee City?

8           MS. UTTER: I think it's at Coulee City.

9           MR. SANDS: Yes, it is.

10          MS. UTTER: Yeah. And we're going to talk

11 specifically about the drawdown because I -- I might have

12 funding to do some of these boat launch projects that you're

13 talking about totally aside from the Odessa.

14          MR. NEVSIMAL: Okay.

15          MS. UTTER: So all of the things that you're

16 talking about right now may be immaterial for the Odessa

17 because we may be able to address some of them during the

18 drawdown.

19          MR. NEVSIMAL: Okay. Well, that would save me

20 some writing afterwards then.

21          MS. UTTER: Absolutely. So -- so you might want

22 to save those comments until after we meet on the 23rd so we

23 can talk about what beneficial stuff we can do during the

24 maintenance drawdown.

25          MR. NEVSIMAL: Okay.



1 MS. UTTER: Because we're going to do a couple of  
2 different things. We're going to do some cultural resource  
3 review. We're going to go out and have the area surveyed.  
4 I've got plans to do some monitoring of the shorelines.  
5 We've got a few different things planned. So when we start  
6 drawing down the reservoir in August of next year, you know,  
7 we've got some -- some work tasks ahead of us.

8 MR. NEVSIMAL: Okay.

9 MS. UTTER: There's stuff that's going on at  
10 Coulee --

11 MR. NEVSIMAL: City?

12 MS. UTTER: The Port of Coulee.

13 MR. NEVSIMAL: Right.

14 MS. UTTER: The Port District there. They're  
15 wanting to do some more mooring. They've been saving some  
16 money up to do those kind of things. It's a great time to  
17 possibly do the bank stabilization at Coulee Playland. I  
18 mean, there's just lots of different things that we want to  
19 talk about to see if we can actually get work lined out for  
20 the drawdown season.

21 MR. SANDS: And that can all be brought up on the  
22 23rd?

23 MS. UTTER: That's what -- that's why we're  
24 meeting. It's going to be just sitting around doing like  
25 we're doing right now.

1 MR. NEVSIMAL: Perfect.

2 MS. UTTER: Just talk about projects. Because we

3 still have time to get the cultural resources done that we've

4 got to get done. So when August hits next year, this time

5 next year, we're out doing work. That's what our plan is to

6 do on Tuesday. So that that --

7 MR. NEVSIMAL: Exactly. So is that --

8 MS. UTTER: -- really helps --

9 MR. NEVSIMAL: -- 2:00 o'clock? Is that --

10 MS. UTTER: I think it's at 10:00. It's at 10:00.

11 MR. NEVSIMAL: Daytime 10:00?

12 MS. UTTER: I'll call Lou and let him know --

13 MR. SANDS: Okay.

14 MS. UTTER: -- for sure what time.

15 We'll give you a call.

16 MR. NEVSIMAL: All right.

17 MR. SANDS: I just talked with Jack and we talked

18 about that meeting that was at 10:00 on the 23rd.

19 MS. UTTER: Yes. And so that -- that actually

20 might answer a whole pile of your questions when you're

21 talking about priorities and boat launches and things like

22 that. We can talk about those things at that time, because

23 we may be able to do some stuff ahead of -- ahead of schedule

24 that has nothing to do with Odessa.

25 MR. NEVSIMAL: Okay.

1 MS. UTTER: That's kind of what I'm...  
2 MR. NEVSIMAL: All right. Still Coulee Playland  
3 hat.  
4 MS. UTTER: Okay.  
5 MR. NEVSIMAL: Going into the Ecology's financial  
6 reports. When they --  
7 MS. UTTER: The cost benefit ratios?  
8 MR. NEVSIMAL: The cost benefit ratios and that  
9 kind of thing.  
10 MS. UTTER: Okay.  
11 MR. NEVSIMAL: Yeah, I'm -- I'm a little surprised  
12 that none of this project, even by their standards, works out  
13 to be economically feasible.  
14 MS. UTTER: Those --  
15 MR. NEVSIMAL: You know, that's -- that's kind of  
16 shocking to me that they're going to spend this kind of money  
17 for basically no net gain. If you look at the agricultural  
18 reports for the start of this project through the end of this  
19 project, the -- the output of the areas that are going to be  
20 irrigated virtually doesn't increase by the year 2025. It --  
21 it barely gets back to where it is now.  
22 MS. UTTER: Right.  
23 MR. NEVSIMAL: So basically we're spending  
24 billions of dollars to irrigate the same fields that are  
25 being irrigated now and with no net gain, no net gain to the

1 economy, no net gain in production. And for that we're  
2 really having a lot of negative impacts on the environment  
3 throughout this entire delivery system.

4 MS. UTTER: You know, one -- one thing on --  
5 that's kind of maybe unique about this Odessa Project is the  
6 No Action has detrimental affects.

7 MR. NEVSIMAL: Correct.

8 MS. UTTER: Because right now --

9 And last night they did a -- they -- the GWMA, the  
10 Ground Water Management Area group, Paul Stoker's group, did  
11 a whole presentation on how the aquifers are declining and  
12 the need for replacing those groundwater wells with surface  
13 water, which is the purpose of this.

14 MR. NEVSIMAL: Right.

15 MS. UTTER: So to say that there is no net benefit  
16 is actually incorrect, because if those farmlands all go out  
17 of production because they're no longer able to farm them  
18 then that's going to have a direct impact on our community.  
19 And that's what the No Action is in this.

20 MR. NEVSIMAL: Right. They wouldn't be able to  
21 farm them with high water use crops like they are now, but  
22 they could go back to doing dry-land farming or whatever.  
23 But that's --

24 MS. UTTER: But they --

25 MR. NEVSIMAL: That's a separate --



1 MS. UTTER: But they --

2 MR. NEVSIMAL: -- issue.

3 MS. UTTER: They could. But the -- the markets,  
4 the -- the processing plants, the implement places, all of  
5 those other economic, you know, benefits would then have to  
6 go away because we couldn't sustain to have a -- a Nestle or  
7 a French fry factory or those type of things because we  
8 couldn't grow potatoes out there. I mean, that's kind of --

9 MR. NEVSIMAL: I guess what surprised me was when  
10 they broke it down into percentages they said under the No  
11 Action alternative the net losses would be 1 percent of that  
12 economic output of the four-county area in the study. And if  
13 they did everything they planned on doing the net gains would  
14 be less than 1 percent in that four-county area, the study  
15 area. And it's like that's -- that's huge. The investments  
16 are -- are mind boggling to basically come out with an even  
17 break. And I guess --

18 MS. UTTER: Well, and that also depends on which  
19 planning rate you use.

20 MR. NEVSIMAL: (Indicating.)

21 MS. UTTER: No. Because there -- we have an  
22 authorized planning rate --

23 MR. NEVSIMAL: Right.

24 MS. UTTER: -- of 3 percent. So when the Columbia  
25 Basin Project was authorized we had an authorized planning

1 rate of 3 percent. And if you use the current CPI -- which  
2 could change in January, it could change in February -- at  
3 the 4.375 percent, that's when you don't get the 1 to 1 cost  
4 benefit ratio.

5 MR. NEVSIMAL: So it's a numbers crunch?

6 MS. UTTER: Well, it -- it kind of is. If you use  
7 the 3 percent -- you know, we got to use all of our -- our  
8 benefits in how we calculate costs. In the Columbia Basin  
9 Project we did it at a 3 percent planning rate. The 4.35  
10 percent is based upon some type of CPI index for the nation.  
11 And so if you go with the current planning rate versus the  
12 authorized planning rate that congress gave us, then you get  
13 two different type of cost benefit ratios.

14 And so exactly what you're saying. If you use today's  
15 CPI you don't get a 1 to 1, and it doesn't make sense,  
16 because for the ultimate development, the full replacement of  
17 all 102,000 acres you get, what, a .396 --

18 MR. NEVSIMAL: Right.

19 MS. UTTER: -- versus a .917 using --

20 THE COURT REPORTER: Okay. Say those numbers  
21 again. That gets a little bit hard to --

22 How many acres? Two --

23 MS. UTTER: The full 102,000 acres versus a  
24 partial replacement you get different cost benefits ratios.

25 That's good enough.

1 MR. NEVSIMAL: That's -- that's plenty.

2 Okay. What it doesn't -- yeah. What isn't drawn out  
3 in the Ecology financial reports, when they talk about net  
4 gain 1 percent, net loss 1 percent economic benefits, they're  
5 wrapping those -- that percentage around a four-county area.

6 MS. UTTER: Absolutely.

7 MR. NEVSIMAL: And 90 percent, or 95 percent  
8 maybe, of all the monies involved in that are tied up in the  
9 agriculture industry. Granted, we're a very small percentage  
10 when you talk about the recreation industry up and down the  
11 Columbia Basin District. However, I really strongly feel  
12 that that should have been broken out separately.

HRG1-2

13 MS. UTTER: I think that's a great comment to  
14 make.

15 MR. NEVSIMAL: The -- the impacts on recreation  
16 and the impacts on the fisheries and wildlife that support  
17 those recreation bases are pretty dramatic under all these  
18 alternatives. And every report that I've read basically  
19 says: Okay, recreation's going to suffer, Fish & Wildlife's  
20 going to suffer, habitat is going to suffer. And all of  
21 those things directly impact the recreation base in -- in  
22 ways that, you know, are going to affect a lot of jobs.

23 Now, granted, our -- our financial contributions in  
24 comparison to agricultural are minimal. But these are  
25 important jobs for the people that have them. And right now,

1 you know, there's a lot of worries about endangered species.  
2 But guess what? Are the resorts in Eastern Washington the  
3 next thing to be endangered? Are these lakes going to become  
4 a secondary concern when it comes to recreation?

5 And the Bureau of Reclamation has always encouraged  
6 recreation development on these resources. And we've worked  
7 hand in hand with you on that, and it's been a great  
8 partnership. So, you know, we were -- we were asked to  
9 expand our resources and to take advantage of those  
10 resources. And now a lot of those resources, it seems to me,  
11 are -- are kind of second place.

HRG1-3

12 And I have some specifics that I would like to address  
13 in that.

14 MS. UTTER: Okay. This is a -- this a good  
15 comment. This is the kind of things that they're looking  
16 for.

17 MR. NEVSIMAL: Okay. First off, under the 2001  
18 Resource Management Plan that was done on Banks Lake there  
19 were very specific goals that were set forth as far as  
20 management of the shorelines, riparian areas, controls of  
21 grazing. There were erosion issues that were addressed in  
22 the 2001 plan. And there were issues about habitat  
23 enhancement for fisheries that were addressed in the 2001  
24 Management Plan.

25 To the best of my knowledge, unless I've been closed



1 eyes for the last ten years, I don't think any of those goals  
2 have been met to this point.

3 MS. UTTER: Not completely.

4 MR. NEVSIMAL: Okay. That said, there is an  
5 opportunity under any of these alternatives to do the right  
6 thing as far as Banks Lake is concerned. And -- and I'm not  
7 even going to get into addressing the high east and the  
8 impacts on that -- on that area. That's totally separate  
9 from my background.

10 But everybody talks about how much water is going to be  
11 taken out. I hate to say it, but that's almost irrelevant.  
12 We can adapt to the water going down. It costs money to  
13 mitigate that, whether we have to move launches or move ramps  
14 out in deeper water or construct jetties or whatever. That  
15 can be mitigated. What really impacts the reservoirs' health  
16 more than anything else is not when the water is taken out,  
17 but when it's put back in.

18 Okay. If you use Potholes as a good example, and you  
19 look at the productivity of Potholes Reservoir where your  
20 riparian growth has expanded and taken root in those exposed  
21 shoreline areas and is self-renewing, the reason that happens  
22 there is because Potholes is not refilled till the spring.

23 MS. UTTER: Right.

24 MR. NEVSIMAL: Okay. That allows for the  
25 expansion and the growth of riparian covers that replace the

1 lost aquatic vegetation that's impacted by the drawdowns.

2 My fear is that everything I've read shows that they  
3 want to refill the reservoir in November. And I know why  
4 they want to do that. It's so they can have that minuscule,  
5 little power generation cushion that they get at the north  
6 dam outflow. Okay. And I know that's tied to the wind  
7 turbines and everything else. So it's a big chess game with  
8 power grids. Okay.

9 But delaying refilling the reservoir until the end of  
10 February or March in the long-term would have phenomenal  
11 positive impacts for the health of that reservoir.

12 And if Fish & Wildlife was supplied with the ability to  
13 get out there and aggressively plant Willows on the exposed  
14 shorelines, okay, that would not only help control the  
15 erosion issues that everybody's worried about, it would off--  
16 it would offset the turbidity issues of wave action on  
17 exposed shorelines. It would help stabilize pH. It would  
18 provide nursery cover for young fish. It would provide  
19 spawning habitat for fish, nesting habitat for birds, insects  
20 for food in the food chain, leaf litter to restore nutrients  
21 that we're going to lose through entrainment. So the  
22 benefits of just planting those trees and allowing them to  
23 establish are -- are multifold.

24 MS. UTTER: Right.

25 MR. NEVSIMAL: And if you look at Fish &

HRG1-4

HRG1-5

Purge-617

1 Wildlife's reports of the negative impacts, almost every  
2 single negative impact on Banks Lake that they are projecting  
3 would happen could be offset just by changing the time when  
4 you refill that lake.

5 MS. UTTER: Okay.

6 MR. NEVSIMAL: And I'm -- I'm -- I was absolutely  
7 shocked that Fish & Wildlife didn't bring that up in their  
8 reports, and I was appalled that Ecology didn't, because they  
9 both know better. Shame on 'em.

10 MS. UTTER: Well, you know, there's -- there's  
11 also issues with the -- the Bi-Op. And we have certain  
12 target level flows that we have to hit at the reservoirs  
13 because of the FCRPS. So there are -- you're kind of  
14 weighing different types of wildlife benefits also.

15 MR. NEVSIMAL: True.

16 MS. UTTER: So I think it's a great comment. I  
17 think it's something that they need to hear.

18 And I think you got it. Lou and I could debate this  
19 all night, and you don't want to take all that down.

20 MR. RUSSELL: I'd like to make a comment.

21 THE COURT REPORTER: Okay. Hold on just a second.

22 (Discussion had off record; court reporter getting  
23 information.)

24 MR. RUSSELL: My relation is P.O.W.E.R., Promoters  
25 of Wildlife & Environmental Resources A/K/A P.O.W.E.R.

1           We have the free-floating fish pens in Banks Lake.  
2       Right now we have 178,000 fish we're feeding. This is our  
3       23rd year of running a net-pen operation.

4           We agree with Lou that if Banks Lake was treated more  
5       like a natural lake it would -- it would benefit our fish  
6       production that -- that we do to enhance Banks Lake fishery.  
7       The problem is -- is when they draw the lake down our fish  
8       pens are in not deep enough water in order to accommodate the  
9       drawdown of the fish.

10          This year we got our fish on October 6th. We got  
11       178,000 fish, a hundred and -- we got 50,000 rainbow and  
12       128,000 kokanee. Kokanee are a very delicate fish.

13               MS. UTTER: Right.

14               MR. RUSSELL: We lost over 7,000 fish due to low  
15       water and high temperature, because when they're not pumping  
16       water in that keeps Banks Lake warmer.

17               MS. UTTER: Right.

18               MR. RUSSELL: But the other problem is -- is we  
19       can't let our nets down all the way to get the full  
20       utilization of our 15-foot deep nets; therefore, our cubic  
21       foot displacement of water inside the net-pen is less and so  
22       it crowds the fish more.

23               We have proposed --

24               And -- and Lou sent that in --

25               MR. NEVSIMAL: Two years ago.



1 MR. RUSSELL: -- two years ago in '08.

2 -- a jetty --

3 MS. UTTER: To me? I thought you were talking  
4 about something different. Okay, a jetty, yes.

5 MR. RUSSELL: -- a jetty in Banks Lake and for us  
6 to put our fish pens behind that jetty and we'd have 30 --  
7 where he proposed it with -- with the depth finders we'd have  
8 30 feet of water underneath our pens.

9 MS. UTTER: Right. I remember that.

10 MR. RUSSELL: We still think that is the best  
11 option for the net-pen operation.

12 MS. UTTER: It's expensive.

13 MR. RUSSELL: Yeah, I know. Environmental impact  
14 and dollars is -- is very important.

15 But with the fluctuation of Banks Lake and what you're  
16 talking, are our net pens going to become obsolete to where  
17 we won't be able to use them anymore? We know we won't have  
18 fish next year -- there's no way -- with the drawdown of the  
19 30 feet.

20 MS. UTTER: Yes.

21 MR. RUSSELL: But if you draw down eight feet we  
22 will be in worse shape then than we are now.

23 MS. UTTER: Okay. You know, you made one comment  
24 that it was -- operate Banks as if it was a --

25 MR. RUSSELL: Natural lake.

1 MS. UTTER: -- natural lake.  
2 MR. RUSSELL: Natural lake.  
3 MS. UTTER: It's not a natural lake.  
4 MR. RUSSELL: I know. But --  
5 MS. UTTER: And that's -- I mean, this is, you  
6 know, from the heart of my agency. It's -- it's not. It is  
7 an equalizing reservoir. So it -- it's really hard to  
8 operate it as a natural lake when it never was a natural  
9 lake.  
10 MR. RUSSELL: Well, what I'm talking about is you  
11 draw it down and you leave it down until like it would be in  
12 the spring, just like Lou said earlier. And that's what I'm  
13 talking about as far as a "natural lake", that you draw it  
14 down and you leave it down, you let the vegetation and the --  
15 and, you know, the natural ecosystem along the shoreline,  
16 which therefore will help with the erosion and so on. And  
17 that's what I'm talking about as a natural lake.  
18 MS. UTTER: Okay.  
19 MR. RUSSELL: Not necessarily, you know, "a  
20 natural lake", but --  
21 MS. UTTER: Yeah, you get me all excited about  
22 that.  
23 MR. RUSSELL: Okay.  
24 MR. NEVSIMAL: To help Carl out a little bit,  
25 the -- the logical answer is to move the net pens into deeper

1 water --

2 MS. UTTER: Right.

3 MR. NEVSIMAL: -- at the north end of the lake.

4 And that sounds easy enough to do until you consider that  
5 along with the changes in delivery come increased current  
6 flows.

7 MS. UTTER: Right. In a nonproductive bay.

8 MR. NEVSIMAL: Right. So the further offshore you  
9 move those net pens the more subject they are to high current  
10 flows. And that was the reason for the jetty with diversion  
11 through flows --

12 MS. UTTER: Right.

13 MR. NEVSIMAL: -- to allow for some mixing behind  
14 the jetty but to get the net pens out of the direct current  
15 flow that --

16 MS. UTTER: Right.

17 MR. NEVSIMAL: -- will be in existence during the  
18 future, so...

19 MR. RUSSELL: Yeah. Right now we're -- we're  
20 extended 180 feet out in the lake.

21 MS. UTTER: You know, it might not hurt to  
22 re-submit that plan.

23 MR. NEVSIMAL: We kind of thought about that.

24 MS. UTTER: Yeah.

25 MR. NEVSIMAL: And, you know, neither one of us

1 can find it at the moment.

2 MS. UTTER: Oh, I probably -- I probably have it.  
3 I'll dig because I think I have it.

4 MR. RUSSELL: I looked through my files, and I  
5 can't find it.

6 MS. UTTER: I have a "Lou" file. And I'll let you  
7 know.

8 MR. NEVSIMAL: I'm going to have to give you some  
9 information that doesn't go on public record afterwards --

10 MS. UTTER: Oh, great.

11 MR. NEVSIMAL: -- that will help explain all of  
12 that.

13 MS. UTTER: I can only imagine.

14 MR. NEVSIMAL: Yeah. Okay. And, you know, we --  
15 we talked about the possibility of delaying the refill on the  
16 lake and planting shoreline Willows and all the benefits that  
17 may come from that. This goes along with next year's  
18 maintenance drawdown. Oh, my God, what a time to do large  
19 structural enhancement in Banks Lake. Okay.

20 MS. UTTER: Manpower. How are we going to do  
21 that? Okay.

22 MR. NEVSIMAL: Okay. Give me one large flatbed  
23 semitruck and a big four-wheel drive.

24 MS. UTTER: Don't record that.

25 MR. NEVSIMAL: And we'll make it happen.



1 MS. UTTER: Let's talk about that next Tuesday.  
2 That's a good next Tuesday topic.  
3 MR. NEVSIMAL: It is.  
4 MS. UTTER: Because I think the maintenance  
5 drawdown, total separate issue.  
6 MR. NEVSIMAL: Totally separate issue.  
7 MS. UTTER: Because that is --  
8 MR. NEVSIMAL: However --  
9 MS. UTTER: -- going to happen for sure next year.  
10 MR. NEVSIMAL: The only reason I'm tying the two  
11 together is anything that would really be beneficial for  
12 Odessa in the future, this is going to be our best  
13 opportunity to get it done before that starts.  
14 MS. UTTER: Absolutely.  
15 MR. NEVSIMAL: Right. So that's why the two are  
16 tied together.  
17 MS. UTTER: I totally agree.  
18 MR. NEVSIMAL: All right.  
19 MS. UTTER: I totally agree there.  
20 MR. NEVSIMAL: So we got that, we got that, we got  
21 that. I'm good.  
22 MS. UTTER: That's great, Lou.  
23 MR. NEVSIMAL: I will write a more complex and  
24 complete report on everything we just submitted.  
25 MS. UTTER: I bet you will.

1 MR. NEVSIMAL: I submitted Playland's report  
2 already.

3 MS. UTTER: Okay. So that's Playland's.

4 And now do we have to go Lou?

5 MR. NEVSIMAL: Yeah. The Lou report will come  
6 later.

7 (Discussion had off record.)

8 MR. SANDS: And this is -- it kind of goes -- Lou  
9 and I talked about this. And I brought this up about with  
10 the amount of extra water that's going to be coming out of  
11 the -- from Lake Roosevelt it creates that eddy going on in  
12 there.

13 Do we need to talk about trying to redesign where the  
14 water dumps out into Banks Lake there to divert that to try  
15 to get a negative --

16 MS. UTTER: The feeder canal?

17 MR. SANDS: Feeder canal, yes.

18 MS. UTTER: Well, that's a good -- that's a really  
19 good comment to make.

20 MR. SANDS: Because right now you're saying when  
21 they're really flowing water you can't even get boats off the  
22 dock just because of the currents. HRG17

23 MS. UTTER: We -- we've talked about wave  
24 dissipation and different things like that.

25 MR. SANDS: Yeah. Well, that --

1 MS. UTTER: And the jetty. But that's a really  
2 good thing to bring up because I think they've been talking  
3 about that on -- on how the water is going to be coming  
4 into --

5 MR. SANDS: Yeah.

6 MS. UTTER: -- Banks Lake.

7 MR. SANDS: Yeah. I mean, if you split it so HRG1-7  
8 maybe some --

9 MS. UTTER: The modifications that --

10 MR. SANDS: -- of it gets directed to the north  
11 dam it might do a negative deal there where you don't have a  
12 large volume.

13 MS. UTTER: Some modifications to the feeder  
14 canal.

15 No. I think that's a great comment. I'm glad she got  
16 that one. That's good.

17 MR. RUSSELL: Yeah. Because right now we -- we've  
18 got 80-pound weights on each corner of our net to hold 'em  
19 down.

20 MS. UTTER: Yeah.

21 MR. RUSSELL: Otherwise, they're up like this  
22 spinning, you know.

23 MR. NEVSIMAL: I think it was three or four  
24 years --

25 MS. UTTER: Turbulence, yeah.

1 MR. NEVSIMAL: Three or four years ago they did a  
2 -- this is when the -- they flooded up Crab Creek.

3 MS. UTTER: Yeah.

4 MR. NEVSIMAL: They were doing some hydraulic  
5 studies on flow rates and such there.

6 MS. UTTER: What we did is we ran 150 CFS on Crab  
7 Creek.

8 MR. NEVSIMAL: Right. While you were doing that  
9 you were pumping water to the max into Banks and literally  
10 along the --

11 MS. UTTER: I --

12 MR. NEVSIMAL: -- along the shoreline of Coulee  
13 Playland at that time.

14 MS. UTTER: I don't know if they were inter-  
15 related, though.

16 MR. NEVSIMAL: They may not have been inter-  
17 related.

18 MS. UTTER: Right.

19 MR. NEVSIMAL: But it was the same basic time  
20 frame.

21 MS. UTTER: Okay. Because that's going to start  
22 up again in 2012.

23 MR. NEVSIMAL: Really? Okay.

24 We couldn't let our rental boats out.

25 MS. UTTER: Because of the turbulence.



1 MR. NEVSIMAL: They would be sucked up against the  
2 log boom. And we actually had -- one paddle boat was being  
3 pulled under the log boom --

4 MS. UTTER: Oh.

5 MR. NEVSIMAL: -- by the current. I took my  
6 B.A.S.S. boat out there. I had a 107 thrust power electric  
7 36 volt on the front of my boat.

8 THE COURT REPORTER: Say that again.

9 MS. UTTER: It's big.

10 THE COURT REPORTER: A B.A.S.S. boat out there.

11 MR. NEVSIMAL: I took my --

12 MS. UTTER: It's big.

13 MR. NEVSIMAL: I took my boat out, and I could not  
14 maintain a stationary position. I couldn't. And that --  
15 that's saying something.

16 MS. UTTER: It wasn't operator error?

17 MR. NEVSIMAL: It might have been. You never can  
18 tell with me, you know, but...

19 That jetty concept that we put out to you initially two  
20 years ago would help break up that circular rotational  
21 current that comes into the north basin when they're pumping.

22 MS. UTTER: I'm wondering if I gave that to Mitch  
23 now that you say that. I'll write that down.

24 MR. NEVSIMAL: If you look at the north basin kind  
25 of like a toilet bowl, which is when the water comes in in

1     that one corner it just circulates in there. And if you  
2     could come up with a deflector. And that hotel point is  
3     already a natural deflector. Extending that would help break  
4     that up.

5             MS. UTTER: Okay. Let me look into that. I think  
6     I might have copies of that.

7             Do you have anything else?

8             MR. SMITH: Nope.

9             MS. UTTER: Thank you guys.

10            MR. NEVSIMAL: Thank you, Stephanie.

11            (Discussion had off record.)

12            MR. RUSSELL: One other comment. It would really  
13     help as far as the fishery is concerned if they would put the  
14     nets in at the bottom, you know, the south end of the lake,  
15     when they start releasing the water instead of waiting until,  
16     what, June.

17            MS. UTTER: Fish & Wildlife?

18            MR. RUSSELL: Huh?

19            MS. UTTER: The Fish & Wildlife?

20            MR. RUSSELL: Well, I understand the Bureau has  
21     done it, put those nets --

22            MS. UTTER: (Indicating.)

23            MR. RUSSELL: No?

24            MS. UTTER: The Fish & Wild-- to do the fish  
25     study?

1 MR. RUSSELL: No, no, no.  
2 MR. NEVSIMAL: No, no, no. The -- we're talking  
3 about the entrainment prevention nets.  
4 MR. RUSSELL: Yeah.  
5 MS. UTTER: No. That's Fish & Wildlife.  
6 MR. NEVSIMAL: You guys don't do the --  
7 MS. UTTER: No.  
8 MR. NEVSIMAL: Okay.  
9 MS. UTTER: It's Department of Fish & Wildlife is  
10 doing --  
11 MR. NEVSIMAL: I think they subcontract somebody  
12 down --  
13 MS. UTTER: -- is doing a --  
14 MR. NEVSIMAL: -- there with (inaudible).  
15 MS. UTTER: -- is doing a study.  
16 MR. RUSSELL: Because they don't put those --  
17 MR. NEVSIMAL: Well, that study's over, yeah.  
18 MS. UTTER: I know. But they're the ones that are  
19 putting in the nets, not us.  
20 MR. NEVSIMAL: The entrainment nets that have  
21 always been out there, the big nets all the way around --  
22 MS. UTTER: No.  
23 MR. NEVSIMAL: -- the canal?  
24 MS. UTTER: I don't know. I'll have to find out  
25 on that.

1 MR. NEVSIMAL: Okay.

2 MR. RUSSELL: I've always been told that's the

3 Bureau.

4 MS. UTTER: I'll ask (inaudible) --

5 MR. RUSSELL: You know, they start releasing water

6 in March, but they don't put the nets in until June.<sup>HRGA-8</sup> So all

7 the fish are released.

8 MS. UTTER: They go down the drain.

9 MR. RUSSELL: Well --

10 MR. NEVSIMAL: Billy Clapp.

11 MR. RUSSELL: -- Billy Clapp Reservoir. There's

12 never been a fish planted in Billy Clapp Reservoir, and

13 that's the best kokanee fishing in the state.

14 MS. UTTER: All right. Thank you guys.

15 MR. RUSSELL: Okay. Thank you.

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1 COMMENT NUMBER 2: BY:  
2 MR. BERNARD "BERNIE" ERICKSON  
3 ECBID  
4 Landowner  
5 679-B-W. Rosenoff  
6 Ritzville, WA 99169

7 MR. ERICKSON: I guess the comments that I would  
8 make is that I would prefer to see the full 107,000 acres to  
9 be developed to serve those lands that are irrigating from  
10 the groundwater. And hopefully in the very far future, or  
11 whatever it takes it, the whole project out there would be  
12 served, designated lands. But understanding the politics  
13 and -- and economics of things, I would prefer the maximum  
14 amount of acreage to be expanded.

15 Looking at the cost benefit ratio not being as good for  
16 the full 107,000 acres, I think that the Reclamation should  
17 consider that studying releases of water to both north and  
18 south of -- of I-90, which is additional acres above the  
19 57,000 acres, and hopefully without building the east high  
20 and taking water out of the east low it would make the  
21 benefit cost ratio better having as many acres served under  
22 the existing facilities.

23 Let's see. Okay.

24 The existing irrigated lands, it appears to me, are  
25 short of what actually is certificated in the Odessa Subarea.  
Not to a great deal. But that there should -- what I would

HRG-9

HRG-10

1 like to see is the contracts that are -- are released out in  
2 that area that they need to be flexible. And I would like to  
3 see them comply with Washington State water regulations  
4 rather than federal regulations, if that could be done.

HRGL-10

5 I would ultimately hope for full replacement out there.

6 And, again, there are inconsistencies in the contracts  
7 that you have versus -- or the contracts that we have signed  
8 and are using today. I don't believe they allow Reclamation  
9 to -- to be flexible. And the flexibility that we have with  
10 Washington State law under the groundwater permits allow us  
11 to do seasonal changes, to expand acreages, to do --

12 Huh. Yeah, I guess that's what I need to say is it  
13 just needs to be -- that they need to be in agreement with  
14 Washington State law.

15 And that should be it.  
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1 COMMENT NUMBER 3:

BY:

2 MS. GERALDINE M. FRIEDLANDER-  
3 GABRIEL  
4 Elmer City, WA

5 MS. FRIEDLANDER-GABRIEL: For 60 years ranchers,  
6 hay growers, orchardists, vegetable growers, vineyards,  
7 recreation people, fishermen, bird hunters, resorts have been  
8 using enormous amounts of water 24 hours per day from Grand  
9 Coulee Dam.

10 When the Colville Tribe established the ownership of  
11 half the river to win the Grand Coulee Dam claim from the  
12 Third Powerhouse in which we receive payments from revenue  
13 from the Third Powerhouse, which it was a 50-year-old -- a  
14 54-year-old claim, the Colville Tribe agreed to the previous  
15 drawdown in which we received 3.2 million dollars a year.

HRG1-11

16 Many tribal members do not agree to the drawdown of  
17 water from Lake Roosevelt as it affects our fish,  
18 recreational pursuits for now and the future. Many believe  
19 the dollar amounts are not enough -- merely chump change --  
20 compared to the 600 million made annually for the past 60  
21 years.

22 I am a direct descendant of Chief Moses whose homeland  
23 was primarily the Moses-Columbia area. Cattlemen and miners  
24 moved in, so we were moved to the City of Wenatchee. Again,  
25 the cattlemen and miners moved in, so we were moved to the

1 Methow where the town of Ruby is. Again the cattlemen and  
2 miners moved in, and we were put where we are now at our  
3 present reservation.

4 As a tribal member I feel we, the people, have prior  
5 aboriginal water rights and need to be compensated for any  
6 and all water as we have already established this right onto  
7 the Grand Coulee Dam claim. ]

HRG-12

8 Incidentally, when we were encroached upon the first  
9 time in the Columbia Basin and had to move we were  
10 compensated at a dollar per acre.

11 We still own hunting, fishing and gathering rights in  
12 usual and accustomed places.

13 In the former north half of our reservation, as well as  
14 in the Wenatchee Fisheries at the Icicle as well the Columbia  
15 Basin Headwaters of the Columbia River, Arrow Lakes is part  
16 of our tribe.

17 For over 60 years the farmers, hay growers,  
18 orchardists, vegetable growers, vineyards, vegetable  
19 growers --

20 I said that twice.

21 -- recreational people and resorts have made an average  
22 of 600 million dollars a year using our water. I would like  
23 to know when these business people are going to pay us back  
24 payments for the past 60 years. That any and all water taken  
25 be paid in advance a fair market value comparable to the



1 State of California and Arizona which pays for the use of the  
2 Colorado River water. Our water for 60 years has provided a  
3 livelihood, a home for, and compensation from the use of our  
4 water for 60 years without a dime. We have been unjustly  
5 treated in respect to our water rights.

6 If every Native American was to be compensated for the  
7 big land steal of all the United States we would all be very  
8 well off. Yet, today we are all -- we all struggle to get  
9 adequate healthcare, housing, jobs to provide for our  
10 families. Our forests are being depleted. Timber prices are  
11 low. Gaming is down.

12 About the waste of water: Why -- why do they run water  
13 24 hours a day? The enormous amount of water used by hay  
14 growers, the orchardists, vineyards, vegetable growers, I see  
15 so much waste. By the time it reaches the ground it's nearly  
16 lost. Their sprinklers which are -- there are sprinklers  
17 which are lower to the ground that puts out a mist.

18 I have seen the color plates for the Columbia Basin in  
19 which the huge aquifer was 2,800 feet deep.

20 The people in this region have been so greedy. Water  
21 use more than is necessary have depleted this aquifer and now  
22 want more. When will this ever stop? Water conservation  
23 should be a top priority as the Colville Tribe has not even  
24 tapped into their own potential of irrigated agricultural  
25 crops, which we need to save for ourselves.

HRG-13

1           What water we do sell needs to be adequate and  
2           comparable to the Colorado River water to Arizona and  
3           California.

4           Please read Half-Sun of the Columbia (stated  
5           incorrectly) to see that all I have commented on is true and  
6           accurate.

7           I have two sons on the Tribal Council, Andrew Joseph,  
8           Jr. and Richard Jay Gabriel, who are in agreement to my  
9           comments.

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1 COMMENT NUMBER 4:

BY:

2 MR. LYLE Parker  
3 Seven Bays Marina  
4 Keller Ferry Marina

5 MR. PARKER: All right. So my name is Lyle  
6 Parker, and I manage the concessions for the National Park  
7 Service at the Seven Bays Marina and the Keller Ferry Marina  
8 on the Lake Roosevelt National Recreation Area.

9 In reference to the proposed additional drawdown of  
10 water from Lake Roosevelt for the Odessa Subarea, we want to  
11 go on record as being opposed to extracting more water from  
12 Lake Roosevelt in July, August and September to a level below 1,278 feet. Any further extraction of water will make the  
13 operation of boat marinas economically unfeasible and will  
14 put us out of business.  
15

16 Thank you.  
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1 COMMENT NUMBER 5:

BY:

2 MR. ERNEST BROOKS  
3 Nespelem, WA

4 (Mr. Brooks made his statement in the Moses-Columbia language  
5 on the record before he made it in English, which the court  
6 reporter was unable to capture in written form.)

7 MR. BROOKS: I came here tonight to speak on  
8 behalf of myself mostly. And I'm concerned about the land  
9 and what is being taken away from it. And I realize that all  
10 people need to eat and need to have food and that's what  
11 they're -- what is being produced out of this Odessa area.  
12 But on the Colville Reservation where the water will be taken  
13 out of Lake Roosevelt is going to be affected also. And I  
14 don't feel that the study that was done is going to be  
15 looking at what effects it will have on our reservation.

16 Since I was a young boy up to now I've seen a lot of  
17 changes in our land. And the water quality that we have on  
18 the reservation has dropped considerably and the amount of --  
19 the quantity of water has also dropped. And I feel that it's  
20 because of what is happening within this area that we're  
21 taking from someplace and replacing -- putting it someplace  
22 else. And by doing that we're going -- we've been kind of  
23 fighting nature in its natural course of time.

24 Our native people were -- have been here since the time  
25 immemorial, and through our Creator we have been directed to  
take care of the land and the water. We don't exactly claim

HRG1-15



1 it as ours but just caretakers of it so that it will always  
2 be able to produce the things that we need for all people.  
3 And without being able to do that, we are not living up to  
4 our obligation to the Creator and to our Mother Earth.

5 And I heard it said not to be speaking from the  
6 emotion. But that is how our people are. We do not speak  
7 just for ourselves, but for our ancestors and what they have  
8 learned about taking care of the earth and the water and what  
9 they have passed on to us and what we are passing on to our  
10 future generations.

11 And if we continue to take away from the land and the  
12 water there will be nothing left for our future generations.  
13 And that's what we have to protect, not just for our Indian  
14 people, our native people, but for all people.

15 That's all.

16 (Final statement completed at 7:10 p.m.)  
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REPORTER'S CERTIFICATE

"NOVEMBER 17, 2010 PUBLIC HEARING COMMENTS RE: ODESSA SUBAREA"

STATE OF WASHINGTON)

County of Chelan )

I, CHARLENE M. BECK, a duly qualified and certified court reporter, hereby certify that I reported the foregoing proceedings at the time and place first herein mentioned, and that the foregoing transcript is a true and accurate record of the proceedings had therein to the best of my ability.

DATED this 23rd day of November, 2010.



*Charlene M. Beck*

CHARLENE M. BECK, CCR, RPR  
CCR # 2543  
Court Reporter

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5 RECLAMATION AND ECOLOGY TO RELEASE ODESSA SUBAREA  
6 SPECIAL STUDY DRAFT ENVIRONMENTAL IMPACT STATEMENT  
7

8 -----  
9 NOVEMBER 18, 2010

10 PUBLIC HEARING  
11 -----  
12

13  
14 "PUBLIC COMMENTS"  
15  
16  
17

18 Location: Grant county Advanced Technologies Center  
19 Building 1800  
20 Big Bend Community College  
21 7611 Bolling Street, NE  
22 Moses Lake, WA 98837

23 REPORTED BY: MS. ALISON HOWZE, CCR # 2576  
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ORIGINAL

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I N D E X

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I N D E X O F E X H I B I T S

MARKED

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| Number 2                 |   |
| Kevin Lyle's materials   | 9 |



1 COMMENT NUMBER 1:

BY:

2 John Glassco,

3 Soap Lake Conservancy

4 PO BOX 65

5 Soap Lake, WA 98851

6 509-246-0566

7 MR. GLASSCO: I prepared a letter that I'd like  
8 to read into the minutes. It is dated November 18th, 2010,  
9 and it's written to Mr. Karl Wirkus, W-I-R-K-U-S, Regional  
10 Director, US Department of the Interior, Bureau of  
11 Reclamation, Pacific Northwest Regional Office, 1150 North  
12 Curtis Road, Suite 100, Boise, Idaho, 3 -- sorry --  
13 83706-1234.

14 "Regarding: Public Comment to Odessa Subarea  
15 Special Study.

16 "Dear Mr. Wirkus, The Soap Lake Conservancy  
17 incorporated in March 2000 has as its mission to protect and  
18 preserve Soap Lake, Grant County, Washington, as a natural  
19 mineral lake.

20 "As you may know, fresh irrigation water from  
21 irrigated farming is diluting the lake. This problem has  
22 been ongoing particularly since the Columbia Basin Irrigation  
23 Project became operational in 1951. Most recently from  
24 November 2008 through July 2009, roughly 20,976 acre feet or  
25 7 billion gallons of mineral water were pumped from the

1 surface of the lake by direct pumping (figures verified by  
2 engineers employed by Reclamation at the time). This action  
3 jointly authorized by the Bureau of Reclamation and the  
4 Washington State Department of Ecology was done to protect  
5 two lakeside buildings from rising lake levels. This action  
6 forever diluted the lake of roughly 21,000 tons of minerals.  
7 These minerals were mixed into the irrigation water of the  
8 West Canal and used to irrigate the farmland of the Quincy  
9 Basin.

10 "As spokesman" -- oh, I'm sorry. "As  
11 spokesperson for this ad hoc committee of the Soap Lake  
12 Conservancy, we are authorized by resolution of our board of  
13 trustees during our regular November meeting to comment on  
14 this proposed expansion of the project. Our comments should  
15 remind those potentially affected by such large-scale  
16 projects of consequences unanticipated by the developers who  
17 may be caught up in the excitement of the pending  
18 construction.

19 "At least two studies back then by the Department  
20 of the Interior" -- and I'm going to quote the studies now,  
21 the titles -- "'Investigation of the Rise in Level of Soap  
22 Lake, 1954,' and 'The Soap Lake Problem, 1956,' spoke to the  
23 pending disaster awaiting the lake. These studies assured  
24 the public that protecting the ecosystem of Soap Lake was far  
25 too expensive to include in their activities. Further, the

1 Department explained that the eventual freshening of the lake  
2 and loss of potential tourist revenue based on the mineral  
3 water would be offset by new 'farm service related'  
4 businesses within the town site.

5 "Since 2000 the Conservancy has been requesting  
6 that the Bureau update their 1950 studies to include both  
7 technical lessons learned and potential shifts in values for  
8 the pending loss of our treasure, this tiny, special lake.  
9 We feel that this proposed action by the Bureau and the  
10 Department expanding an integrated irrigation project that  
11 includes Soap Lake within the original boundary triggers the  
12 National Environmental Policy Act to update the effects of  
13 the project on Soap Lake since 1954.

14 "The original studies tended to dismiss the value  
15 of Soap Lake and the Department and Ecology may well  
16 determine that nothing has changed and that Soap Lake is,  
17 indeed, expendable in the face of the vast economic value of  
18 the irrigation to the region. I would remind the Department  
19 and Ecology that the original studies for the dams on the  
20 Columbia anticipated the extinction of several fish species.  
21 Lately it is impossible to find a spokesperson from the  
22 Bureau or the Department who will dismiss the value of these  
23 now important fish species. When the value of fish in the  
24 Columbia have come full circle in a single person's lifetime,  
25 will anyone associated with the important work of providing

1     irrigation water to our area stand behind the eternal  
2     destruction of the ecosystem of Soap Lake without at least a  
3     second look?

4             "Sincerely, John Glassco, Chair, Soap Lake  
5     Conservancy."

6             And our contact information is at the bottom of  
7     the letter.

8             What I'd like to do is I just received a phone  
9     call from one of the committee who didn't get a chance to  
10    comment before the letter was actually written. And I'd like  
11    to step outside and get some comments if they are available  
12    from one of our other members.

13            (Exhibit No. 1 marked.)

14            (Returned later and indicated no further comment.)

15    COMMENT NUMBER 2:

BY:

Kevin Lyle

902 South Johnson Road

Othello, WA 99344

19            MR. LYLE: I'm Kevin Lyle, a fourth generation  
20    farmer from Othello, Washington. The first time that I gave  
21    testimony for the Draft EIS for the continued development of  
22    the Columbia Basin Irrigation Project was in the fall of  
23    1989. Then the second time was in the fall of 1993 for the  
24    supplement to the Draft EIS for the continued development of  
25    the Columbia Basin Project. Now it's the fall of 2010 and we



1 have the draft EIS for the Odessa Subarea Special Study. We  
2 have been studying -- so we've been studying continued  
3 development for over the past 21 years with these three Draft  
4 EIS's. And we needed the water in the past because of  
5 declining water tables and we still need it now.

6 The cost of development is always a main fact in  
7 an irrigation project. The easiest way to help the  
8 cost/benefit ratio is to have more land irrigated. That  
9 would mean bringing in the dryland into the project. You  
10 could easily add another 100,000 acres of dryland to our  
11 Alternative 3 to bring it up to 202,600 acres. That would  
12 greatly help the cost/benefit ratio.

HRG2-1

13 I also had a question on how the sale of electric  
14 power from the Grand Coulee Dam is used to help repay the  
15 cost of some of the irrigation development. Grand Coulee Dam  
16 was built for electric power, flood control, and irrigation.  
17 It's a multi-purpose project.

18 And then on the Bureau of Reclamation's website  
19 they have project details. And I printed off some papers  
20 from the website under the headline on, well, page 10. It's  
21 Power. And under the Power I was going to read a part of  
22 this and ask a question about it at the end here.

23 "The average annual net generation for Grand  
24 Coulee power plant from 1994 through 2005 was about 21.2  
25 billion kilowatt hours. This compares to an average of 11 to

1 15 billion kilowatt hours prior to the third power plant.  
2 Hydroelectric power generated at Grand Coulee Dam furnishes a  
3 large share of the power requirements to the Pacific  
4 Northwest. Energy produced by the third power plant alone is  
5 sufficient to furnish the power needs of the cities of  
6 Seattle and Portland.

7 As required by law, the revenue derived from this  
8 power not only will repay the power investment, but also will  
9 repay a large portion of the irrigation investment on the  
10 Columbia Basin Project."

11 So my question is: How is that money from Grand  
12 Coulee Dam being used to pay for the construction of the  
13 project? And how -- what part of that money is being used -- HRG2-2  
14 for this Odessa Study to finish -- to continue the  
15 development for the project?

16 And the law that I believe they are referring is  
17 the Haydon O'Mahoney Amendment enacted in 1938.

18 And another question I have is that there is also  
19 a Columbia Basin Land Development account. And this was  
20 created in March 10 of 1493. And is that account still  
21 active and how is it used? What happened to that account? -- HRG2-3

22 Oh, I had a demonstration. I don't know how a  
23 demonstration goes with a court reporter, but I'll go ahead  
24 and do it anyway. To demonstrate I got a liter bottle, 1  
25 liter. It's a -- so it's 1,000 milliliters, and this equals

1 what Grand Coulee Dam -- the flow of Grand Coulee Dam. And  
2 the flow -- average flow -- okay. The 70 year average flow  
3 of Grand Coulee Dam is 78 million acre feet. And Alternative  
4 3 that we're looking at is -- the full groundwater irrigation  
5 replacement is 347,137 acre feet. So this 1 liter equals the  
6 78 million acre feet. So the amount of water that's needed  
7 for the -- for Alternative 3 is -- is -- for the 347 is --  
8 would equal 4.45 milliliters. If you take 4.45 milliliters  
9 and get it in a syringe and you -- that's how much water you  
10 take out. So that's how much water it takes to save our  
11 Odessa aquifer. That little drop in the bucket there.

12 So I'm in favor of Alternative 3 and we need to  
13 continue the development and finish the project also. That's  
14 all. I'm finished.

15 (Exhibit No. 2 marked.)  
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REPORTER'S CERTIFICATE

"NOVEMBER 18, 2010, PUBLIC HEARING COMMENTS RE: ODESSA SUBAREA"

STATE OF WASHINGTON )

COUNTY OF CHELAN )

I, ALISON J. HOWZE, a duly qualified and certified court reporter, hereby certify that I reported the foregoing proceedings at the time and place first herein mentioned, and that the foregoing transcript is a true and accurate record of the proceedings had therein to the best of my ability.

DATED this 18th day of November, 2010.



*Alison J. Howze*  
ALISON J. HOWZE, CCR  
CCR # 2575  
Notary Public in and for the  
State of Washington, residing  
at Wenatchee.

My commission expires on October 31, 2012.





11-18-2010 Odessa special study

Hello I'm Kevin Lyle from Othello Washington a 4<sup>th</sup> generation farmer.

The First time that I gave testimony for the Draft EIS for the Continued Development of the Columbia Basin Irrigation Project was in the Fall of 1989.

Then the Second time was in the Fall of 1993. For the Supplement to the Draft EIS for the Continued Development of the Columbia Basin Project.

Now in the Fall of 2010 we have the Draft EIS for the Odessa Subarea Special Study. We have been studying continued development for over 21 years now with these Draft EIS's and we needed water in the past because of declining water tables and we still need it now.

The cost of Development is always the main factor in an irrigation project. The easiest way to help the cost benefit ratio is to have more land irrigated. That would mean bringing in the Dryland into the project. You could easily add another 100,000. acres of dryland to Alternative 3 to bring it up to 202,600 acres. That would greatly help the cost benefit ratio

Also a question I have had is how is the sale of electric power from Grand Coulee Dam used to help repay the cost of some of the irrigation development? Grand Coulee Dam was built for electric power, flood control, and irrigation. A multi purpose project.

read form the Bureau of Rec web site Project Details Columbia basin project POWER

EXH 2 DATE 11-18-10  
WITNESS Kevin Lyle  
ATLSON TIDWIZE

The Law that I believe they are referring to is the Hayden O' Mahoney Amendment enacted in 1938.  
There is also a Columbia Basin Land Development Account of March 10 1943 is that account still active for use?

## Columbia Basin Project



John W Keyes III Pump-Generating Plant

1 2

## Project Links

[Project History](#)[Project Data](#)[Contact Information](#)

## Related Facilities

[Dams](#)[Powerplants](#)

## Related Documents

[Columbia Basin Project History \(165 KB\) \(pdf\)](#)[General Description](#) | [Plan](#) | [Development](#) | [Benefits](#)

## General Description

The Columbia Basin Project (CBP) is located in east central Washington and currently serves about 671,000 acres, or approximately 65 percent of the 1,029,000 acres originally authorized by Congress, in portions of Grant, Lincoln, Adams, and Franklin Counties, with some northern facilities located in Douglas County. These first half of project lands were developed primarily in the 1950's and 1960's, with some acreages being added sporadically until 1985. The 1945 feasibility report anticipated a 70-year period of incremental development to complete the CBP. It was anticipated that further incremental development of the CBP would depend on future needs and any irrigation of additional lands would utilize water from the Columbia River already reserved for the CBP.

Principal project features include Grand Coulee Dam, Franklin D. Roosevelt Lake, Grand Coulee Powerplant Complex, switchyards, and a pump-generating plant. Primary irrigation facilities are the Feeder Canal, Banks Lake, the Main, West, East High, and East Low Canals, O'Sullivan Dam, Potholes Reservoir, and Potholes Canal. There is over 300 miles of main canals, about 2,000 miles of laterals, and 3,500 miles of drains and wasteways on the project.

All of the principal features have been constructed, except the East High Canal and the extension of the East Low Canal, on which construction has been indefinitely deferred.

The Odessa Subarea is a region of deep ground water as designated by the Washington



The soil and climatic conditions are favorable to the growth of grain, alfalfa hay, ensilage crops, dry beans, fruit, sugar beets, potatoes, sweet corn, and seed and other specialty crops. Dairy farming and beef production are significant in the area.

### Recreation

Stretching from as far north as the Canadian border and south to Pasco, Washington, the Columbia Basin Project offers a vast recreation resource base characterized by long summers, mild winters, and an abundance of year-round sunshine. There are 350,000 acres of land and water available for recreation. Prior to development of the project, there were 35 lakes; there are now over 140 lakes, ponds, and reservoirs.

Franklin D. Roosevelt Lake is the largest reservoir on the project; it stretches for 151 miles with about 600 miles of shoreline. A portion of the lake area has been designated a National Recreation Area and is administered by the National Park Service. Portions of the lake area within the Colville Confederated Tribes Reservation and the Spokane Tribe Reservation are managed by the respective tribes through a management agreement with Reclamation, NPS, and BIA.

Reclamation's visitor center at Grand Coulee Dam is also the starting point for guided tours of the dam and powerplant complex. Recreation facilities have been constructed at many of the project reservoirs. There are State parks at Banks Lake, Billy Clapp Lake, and Potholes Reservoir, and a county park at Scooteney Reservoir.

The Columbia Basin is on the Pacific Flyway, a major waterfowl migration route, and the many acres of wetlands within the project area are used by numerous species. There is excellent hunting, and pheasant, a favorite upland game bird, has been stocked throughout the project. A portion of the Potholes Reservoir area has been included in the Columbia National Wildlife Refuge which is administered by the Fish and Wildlife Service.

The Bureau of Reclamation and the Washington State Department of Fish and Wildlife have cooperated in stocking most bodies of water in the project area with a variety of fish which provide year-round fishing.

### Power

The average annual net generation for the Grand Coulee Powerplant from 1994 through 2005 was about 21.2 billion kilowatt-hours; this compares to an average of 11 to 15 billion kilowatt-hours prior to the Third Powerplant. Hydroelectric power generated at Grand Coulee Dam furnishes a large share of the power requirements in the Pacific Northwest. Energy produced by the Third Powerplant alone is sufficient to furnish the power needs for the cities of Seattle and Portland. As required by law, the revenue derived from this power not only will repay the power investment but also will repay a large portion of the irrigation investment on the Columbia Basin Project.

The power operation at Grand Coulee is for both base load and peaking power.

### Flood Control



## Responses to Common Issues

Several commenters identified themes or issues that were repeated in numerous comments. The most commonly raised issues are summarized below, with an accompanying response.

### Master Response #1 – Columbia River Treaty

**ISSUE:** Numerous comments stated that the DEIS analysis did not contain enough detail and explanation of the Columbia River Treaty (CRT). Also, a few comments stated that the CRT was not considered in the Cumulative Impacts analysis of the DEIS and asked for more information regarding the CRT.

**RESPONSE:** Since 1964, the Columbia River Treaty (CRT) has provided valuable benefits to the United States and Canada through coordinated river management by the two countries. When the CRT was negotiated, its goals were to provide significant flood control and power generation benefits to both countries. Within the terms of the CRT, the United States purchased 60 years of dedicated flood control space in Canadian reservoirs. This purchased flood control space expires September 16, 2024, although the other provisions of the CRT can remain in effect. Unless the provisions related to flood control are continued beyond 2024 through renegotiation, the existing coordinated plan that regulates both Canadian and U.S. projects for flood control would be replaced by operations under which the U.S. would have to call upon Canada if flood control assistance was needed. The U.S. could request this "called upon" assistance as necessary, but only to the extent needed to meet forecasted flood control needs in the U.S. that cannot be adequately met by U.S. projects. When called upon storage is requested, the U.S. would then be required to pay Canada for its operational costs and any economic losses resulting from the called upon flood control operation.

While the remainder of the CRT has no specified termination date, both Canada and the U.S. have the option to terminate most of its provisions on or after September 16, 2024, with a minimum of 10 years advance notice. Thus, the earliest potential notice of termination would be September 16, 2014, with September 16, 2024, being the earliest termination could take effect. Unless the CRT is terminated or the Federal governments agree to modify the CRT, its provisions continue indefinitely except for the changes in flood control discussed above.

Implementation of called upon flood control appears likely to cause changes to Canadian and U.S. reservoir operations that might have substantial effects on other operating objectives. With termination of the CRT, British Columbia could operate its Mica, Arrow, and Duncan reservoirs as it desires, except that provisions for called upon flood control storage continue, the Boundary Waters Treaty applies, and the provisions for Libby coordination and Kootenay River diversion options continue. Absent new agreements, Mica and Duncan reservoirs likely would continue to be operated for power and flood control generally similar to today's operation. Arrow's operation is expected to be quite different with higher reservoir elevations and a more constant level of outflows, although called upon flood control could occasionally require significant draft of Arrow in the winter. U.S. reservoirs within the Columbia River system including Lake Roosevelt, among others, could experience much deeper drafts in the winter to provide flood storage capacity that previously had been provided primarily by the Canadian projects. The U.S. would be relieved of the Canadian Energy Entitlement obligation, but the expected changes in

storage operations, and the uncertainty in that operation, could cause the U.S. to compensate by acquiring additional generation or storage resources and operate U.S. projects differently. Nevertheless, the expected operation of Canadian storage for power, flood control, and other purposes would continue to produce substantial U.S. power and flood control benefits.

The flood storage and termination provisions, and changing needs and desires for hydropower, fish, recreation, and other water uses, make the future of the CRT uncertain. The U.S. Army Corps of Engineers and the Bonneville Power Administration—the agencies that assist the U.S. Entity that implements the CRT in the U.S.—have begun a multiyear effort to review the Treaty process to better understand the implications for post-2024 Treaty planning and Columbia River operations. This effort is called the 2014/2024 Columbia River Treaty Review. Phase 1 joint technical studies published in July and September 2010 provided fundamental information on potential post-2024 conditions related to power and flood control. Early results of recent Phase 2 studies indicate that called upon flood control needs are less than indicated in the Phase 1 study. However, all studies to date are preliminary and, as indicated by the current status of the CRT review process, any attempt to make further assessments of potential cumulative impacts related to renegotiation or termination of the CRT is premature and would be highly speculative.

## **Master Response #2 – Tiered Review Process**

**ISSUE:** Numerous comments stated that the DEIS analysis did not contain enough detail regarding specific policy, design, location, and other particulars associated with the alternatives.

**RESPONSE:** Reclamation and Ecology have clarified that the Final EIS is the initial environmental analysis within a tiered review process under NEPA and SEPA. “Tiering” refers to the process of addressing a broad, general, program, policy, or proposal in an initial analyses followed by analyses of a more precisely defined site-specific proposal related to the initial program, policy, or proposal when that proposal is ready to be carried forward (see 40 CFR §§ 1502.20 and 1508.28). Tiering may also be used when an EIS is prepared on a specific action, such as the Proposed Action here, but at an early stage to consider broad issues such as general location, scope and site selection (40 CFR § 1508.28[b]). In such cases, subsequent NEPA at a later stage in the action may be necessary. The use of tiering is encouraged in large and complex projects such as this, and allows the agencies to focus on the issues ripe for decision.

Reclamation and Ecology expect that some actions advanced out of this first-tier EIS may be subject to subsequent second-tier, project-level, environmental analysis under NEPA and SEPA before being approved for implementation. Any subsequent NEPA project-level analysis could include a combination of EIS(s), supplemental EIS(s), environmental assessments(s), and/or categorical exclusion(s) along with corresponding SEPA reviews, as appropriate, depending on the proposed action, phasing of implementation, and potential for adverse impacts. Actions described in this FEIS that are analyzed in full will not undergo a second-tier NEPA/SEPA review. Decisions relative to the general scope of the action alternative which include acreage, water supply and general site locations would also not be subject to additional review.

The East Low Canal widening project is an example of how the tiering process may work. This project feature is analyzed under this Final EIS; thus, it would not undergo additional



NEPA/SEPA review. Locations of pumping plants are an example of projects that may require subsequent NEPA project-level reviews due to the uncertainty associated with the location of the pumping plants at this time.

### **Master Response #3 – Climate Change**

**ISSUE:** A number of comments on the DEIS requested that the EIS contain a more robust analysis of climate change and the resulting impacts associated with the action alternatives. Reclamation and Ecology have provided additional analyses in the FEIS.

**RESPONSE:** The climate section of the document has been rewritten (see Section 4.26, Climate Change). The results from the December 2010, study entitled, "Climate Hydrology Datasets for Use in the RMJOC Agencies' Longer Term Planning Studies: Part 1 - Future Climate and Hydrology Datasets" (Bonneville Power Administration [BPA], Corps of Engineers [Corps] and Bureau of Reclamation) was used to assess the effects of climate change on the Columbia River and the effects on meeting flow objectives.

### **Master Response #4 – Columbia River Downstream**

**ISSUE:** Several comments on the DEIS expressed an interest in the impacts associated with the action alternatives and potential impacts to the Columbia River downstream of the Grand Coulee Dam to fisheries and activities associated with flows and water quality.

**RESPONSE:** The action alternatives were developed allowing a maximum of 2,700 cfs of diversions from the Columbia River in October. Additional diversions with a maximum amount of 350 cfs were allowed each month in November through March when needed to refill Banks Lake or Lake Roosevelt. This amount would have a minimum effect on the total flow of the Columbia River during this period. In the six action alternatives, April-through-June diversions would occur only when water is available in excess of anadromous fish flow objectives on the Columbia River (Priest Rapids-135,000 cfs; and McNary-260,000 cfs). If water is not available from the river under these constraints, it would be obtained from storage in Banks Lake and, in three of the alternatives, Banks Lake plus Lake Roosevelt. In addition to the springtime (April-to-June) flow constraints, development of the action alternatives also assumed that no water would be taken from the Columbia River in July through September. In July and August, the alternatives would not exacerbate water temperature issues in the Columbia River or alter the ability to meet downstream flow objectives (at McNary Dam) established for the ESA-listed Snake River fall Chinook.

In addition, the six alternatives were analyzed with a second diversion scenario. With this diversion scenario, the same amount of withdrawals was allowed during October (2,700 cfs) and November through March (up to 350 cfs each month) and no diversions occurred in July through September. During April through June diversions from the Columbia River were only allowed when flows below Grand Coulee Dam exceeded 200,000 cfs and Lake Roosevelt elevations were high enough to allow pumping to Banks Lake. This additional diversion in April through June was expected to occur in less than 10 percent of the years.

**Master Response #5 – Economic Analysis Guidance**

**ISSUE:** Numerous comments to the DEIS expressed concern regarding the methodologies used to determine the cost-benefit ratios. There is considerable concern about the breadth of benefits to be included and the extent of the cost of development.

**RESPONSE:** The Office of Management & Budget (OMB) requires a “Principles and Guidelines”-based benefit-cost analysis using the current Federal water project planning rate to evaluate economic justification for possible Federal funding decisions. It should be noted that while economic justification (benefits exceeding costs) is emphasized, it is not the sole criteria used within the decisionmaking process. In certain cases, where there are overriding reasons, an exception from the Secretary of the Interior may be granted for selecting an action other than that which generates the greatest net economic benefit. The economic analysis is further described in the Economics Technical Report (Reclamation 2012 Economics).

**Table 3 – Responses to individual comments.**

| <b>Indian Tribes</b>                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <b>Comment Letter TRB1 - Confederated Tribes of the Colville Reservation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TRB1-1                                                                       | See Master Response #1, “Columbia River Treaty.” In addition, a description of the Columbia River Treaty and its contribution to potential cumulative impacts related to flood control, power generation, and operation of Grand Coulee Project has been included in the Section 4.27, Cumulative Impacts, of the Final Environmental Impact Statement (FEIS).<br><br>Also, see Master Response #2, “Tiered Review Process.”                                            |
| TRB1-2                                                                       | Cultural resource surveys were funded and conducted for the Banks Lake drawdown in 2011-12. This was a maintenance drawdown and is not connected to the Odessa Subarea Special Study (Study). As provided in the Environmental Commitments section (4.31) in the FEIS, cultural resource surveys have, and will be, conducted in areas subject to potential impact by the Odessa Subarea Special Study after a decision is made to proceed with a selected alternative. |
| TRB1-3                                                                       | The analyses conducted for this Study are adequate to address the potential for significant adverse effects related to the Tribe’s concerns. This does not preclude additional studies as appropriate.                                                                                                                                                                                                                                                                  |
| TRB1-4                                                                       | Consultation with the Tribe has been initiated and is ongoing. See Section 5.2.3 in the FEIS for a list of meetings that have occurred between the Tribe and Reclamation.                                                                                                                                                                                                                                                                                               |
| TRB1-5                                                                       | See Master Response #1, “Columbia River Treaty.”                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRB1-6                                                                       | See Master Response #1, “Columbia River Treaty.”                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRB1-7                                                                       | See Master Response #1, “Columbia River Treaty.”                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRB1-8                                                                       | See Master Response #1, “Columbia River Treaty.”                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRB1-9                                                                       | See Master Response #1, “Columbia River Treaty.”                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRB1-10                                                                      | See response to comment TRB1-2.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TRB1-11                                                                      | Reclamation fully acknowledges the potential for Traditional Cultural Properties (TCPs) and sacred sites in the Study Area. Areas potentially impacted by the selected alternative will be identified in consultation with Indian Tribes. Appropriate measures will be taken to prevent and/or minimize impacts. This has been updated in the FEIS; see Sections 4.22, Cultural and Historic Resources, and 4.31, Environmental Commitments.                            |
| TRB1-12                                                                      | As part of the Section 106 process of National Historic Preservation Act (NHPA), Reclamation will continue to coordinate and consult with the affected Tribes upon issuance of a Record of Decision and                                                                                                                                                                                                                                                                 |

**Table 3 – Responses to individual comments.**

| <b>Indian Tribes</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                      | prior to any construction activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TRB1-13              | See response to comment TRB1-11.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TRB1-14              | Potential impacts at Banks Lake are included in Section 4.22, Cultural and Historic Resources, in the FEIS. Further, Reclamation will define an Area of Potential Effect (APE) in consultation with Indian Tribes and the State Historic Preservation Officer as provided in Section 4.22.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TRB1-15              | Reclamation will define an APE in consultation with Indian Tribes and the State Historic Preservation Officer as provided in Section 4.22, Cultural and Historic Resources, in the FEIS. Impacts to historic resources would be considered wherever the project may directly or indirectly have impacts and these would be addressed as features of the project are defined.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| TRB1-16              | Reclamation accommodates access to and ceremonial use of Indian sacred sites and traditional places for gathering resources on Reclamation land by Indian religious practitioners under Executive Order 13007 and Reclamation resource management planning. Reclamation has been in contact with representatives from both the Confederated Tribes of the Colville Reservation (Colville Tribe) and the Confederated Tribes and Bands of the Yakama Nation about access to Reclamation land for Tribal activities and Reclamation does not foresee negative impacts to the ability of Tribes to conduct ceremonies or gather resources on Reclamation lands.                                                                                                                                                                                                                                     |
| TRB1-17              | As part of the Section 106 process of NHPA, Reclamation will conduct an intensive cultural resources survey of the APE to identify any cultural resources that may be affected by this action. See Section 4.31, Environmental Commitments, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TRB1-18              | The baseline for the modeling performed for the DEIS was based on an earlier data set shared between BPA and Reclamation. BPA has shared an updated baseline with the Tribe. The current analysis uses this updated baseline which corrects this discrepancy. See Section 4.2, Surface Water Quantity, in the FEIS, for modeling results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRB1-19              | Reclamation and Ecology have updated reservoir pool levels based on current modeling for Banks Lake for wet, average, dry, and drought conditions. Impacts to resident fish have been analyzed and revised to reflect the current modeling. See Section 4.10, Fisheries and Aquatic Resources, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TRB1-20              | See response to comment TRB1-18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TRB1-21              | If an alternative is selected that involves drawdown in Lake Roosevelt, a formal procedure will be developed to separate releases made pursuant to the Lake Roosevelt incremental storage release MOU and diversions for the Odessa Subarea Special Study selected alternative.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TRB1-22              | See response to comment TRB1-21. Lake Roosevelt has to be drawn down to elevation 1,280 in about 50 percent of water years, or to elevation 1,278 for flow augmentation (2010 BiOp), depending on the water supply forecast. For the Lake Roosevelt incremental storage release MOU, an additional 1 foot in most years (to elevation 1,279 or 1,277) or an additional 1.8 feet in drought years (driest 4 percent of water years) is drafted (to elevation 1,276.2). The draft for Odessa would be any draft below elevation 1,279 in roughly 50 percent of water years and below 1,277 in the drier 50 percent of water years.                                                                                                                                                                                                                                                                 |
| TRB1-23              | <p>See Section 1.6.1.1, in the FEIS.</p> <p>The statutory provision contained in Revised Code of Washington (RCW) 90.90 for a two-thirds out-of-stream and one-third instream allocation of water pertains only to:</p> <p style="padding-left: 40px;"><i>Water supplies secured through the development of <b>new storage facilities</b> made possible with funding from the Columbia river basin water supply development account [emphasis added].</i></p> <p>While new storage facilities were contemplated at one point in the Odessa Subarea Special Study, the action alternatives identified in the FEIS for the project rely upon the existing reservoirs for water storage. Since the action alternatives do not involve development of a new storage facility or facilities, the statutory allocation of two-thirds out-of-stream and one-third instream is not applicable to the</p> |

**Table 3 – Responses to individual comments.**

| <b>Indian Tribes</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                      | Odessa Subarea Special Study. However, the State's Office of Columbia River is continuing to develop and implement numerous other projects that are intended to benefit instream flows in the Columbia River and its tributaries.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| TRB1-24              | The State of Washington has committed through agreements with the Colville Tribe and the Spokane Tribe to not seek further drawdown of Lake Roosevelt. Therefore, the State does not support alternatives that require additional drawdown of Lake Roosevelt, including Alternatives 2B, 3B, and 4B. See Section 2.2.2, River and Reservoir Hydrologic Operational Changes Under the Alternatives, in the FEIS.                                                                                                                                                                                                                                                                |
| TRB1-25              | The ultimate source of water for the proposed action is the Columbia River. The different water supply alternatives as described in Section 2.2.1.2 for Banks Lake only (Alternatives 2A, 3A, and 4A) do not result in any additional drawdown of Lake Roosevelt. See also Section 4.2, Surface Water Quantity, for drawdowns of reservoirs associated with each alternative.                                                                                                                                                                                                                                                                                                  |
| TRB1-26              | Only two water supply options are reflected in the FEIS—Banks Lake and Banks Lake plus Lake Roosevelt. In all alternatives, the water supply comes from the Columbia River. What differs is where the effects of the withdrawal would alter existing operations. For the Banks Lake alternatives, the withdrawal affects flows in the Columbia River below Grand Coulee Dam and Banks Lake storage. When Lake Roosevelt would be used in combination with Banks Lake, the withdrawal affects flows in the Columbia River below Grand Coulee Dam and storage in Lake Roosevelt and Banks Lake (see Section 4.2, Surface Water Quantity).                                        |
| TRB1-27              | Lake Roosevelt refilled in 2010, just not on June 30. Lake Roosevelt refilled early (June 20) then drafted and refilled again July 12, 13 and 18. This is where in-season management differs from modeled output. In the models we can only make assumptions on what the in-season decision might be, i.e. real time coordination. In actual operations, there is a human factor that cannot be captured in a monthly model.                                                                                                                                                                                                                                                   |
| TRB1-28              | See Section 4.10, Fisheries and Aquatic Resources, in the FEIS for fisheries impact analysis. Additional withdrawals from the Columbia River will not occur with the action alternatives during the months of July, August, or September.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TRB1-29              | Reclamation's Technical Services Center has completed a bathymetric survey of Lake Roosevelt. Reclamation will share this information with the Tribe, and additional analysis would be conducted with input from the Tribes and other interested parties in an effort to better understand the linkages between modeled drawdowns of Alternatives 2B, 3B, or 4B and spawning and recreation, if one of these alternatives is selected for implementation.                                                                                                                                                                                                                      |
| TRB1-30              | See response to comment TRB1-29.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TRB1-31              | See response to comment TRB1-29.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TRB1-32              | See response to comment TRB1-29. Also, see Master Response #1, "Columbia River Treaty."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRB1-33              | If an action alternative is selected that involves additional drawdowns of Lake Roosevelt (Alternatives 2B, 3B, and 4B), boat ramps would be extended to supply reasonable access throughout the reservoir. However, inaccessible ramps will not be extended that are in close proximity to useable ones. See Section 4.14, Recreation Resources.                                                                                                                                                                                                                                                                                                                              |
| TRB1-34              | See response to comment TRB1-29.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| TRB1-35              | Additional withdrawals affecting Columbia River flows would occur mainly during cooler months. Lake Roosevelt develops little stratification near the outlet works, as water passes through Lake Roosevelt relatively quickly. During average runoff years, the retention time is about 45 days, but it can be as low as 12 days during high-runoff periods (Underwood et al. 2004; Pavlik-Kunkel, et al. 2008). This short retention time limits the amount of temperature stratification during summer between warmer surface water and cooler bottom water. In fact, there is very little temperature stratification in most years. See Section 4.4, Surface Water Quality. |
| TRB1-36              | Information regarding the Settlement Agreement has been added to Section 4.17, Energy, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TRB1-37              | The 171,000 and 307,800 acre-feet refer to the amount of water delivered to the land. The diversion of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



**Table 3 – Responses to individual comments.**

| <b>Indian Tribes</b>                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                                                       | <p>the water from the Columbia River or reduction in releases will not match the delivered water because of the reuse of water within the Columbia Basin Project. The amount of additional water required from the Columbia River to deliver 171,000 and 307,800 acre-feet was calculated from the CBP RiverWare model, which calculates the reuse and storage of diverted water on the Project.</p> <p>The updated baseline information mentioned in response to comment TRB1-18 should also help resolve differences between Colville Tribe and Reclamation calculations of amount of additional water withdrawn from the Columbia River.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TRB1-38                                               | <p>See Master Response #3, "Climate Change."</p> <p>Also, see response to comment TRB1-35.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| TRB1-39                                               | <p>Entrainment of fish from Lake Roosevelt into the north end of Banks Lake and the entrainment loss from Banks Lake via the north-end pump generating units and at the south-end Dry Falls Dam were studied by Stober et al. (1979) from 1974 to 1976. Relatively few fish (mostly kokanee, sculpin, and large-scale sucker) were pumped into Banks Lake compared to the numbers of fish entrained out of the lake at Dry Falls Dam. Also, entrainment of fish back to Lake Roosevelt via the pump-generating units was found to be relatively minor.</p> <p>Resident fish populations in both Lake Roosevelt and Banks Lake have remained stable over many years with the current average 2.65 million acre-foot withdrawal. Therefore, fish screens for the Banks Lake pumping intake are not being considered as a part of the Odessa Special Study.</p>                                                                                                                                                                                                                                                              |
| TRB1-40                                               | <p>Maps in the FEIS identify the Colville Reservation where the Reservation or its boundary is important to understanding the information contained in the map or the effects of the proposed action and alternatives.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TRB1-41                                               | <p>Reclamation will continue consulting with the Tribes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Comment Letter TRB2 – Spokane Tribe of Indians</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TRB2-1                                                | <p>Federal, Tribal, and State Water Quality Standards are not met during certain times of the year for the Spokane River, Lake Roosevelt, and the Columbia River under current conditions. Reclamation acknowledges the omission of the Spokane Indian Tribe's Water Quality Standards. Tribal standards have been included in the FEIS; however, the numerical standards used in the document are either the same as the Tribal standards or more stringent, so no changes were made except to include the Tribe's water quality standards in the FEIS. Under the action alternatives, no additional water will be diverted from the Columbia River during the months of July, August, and September.</p>                                                                                                                                                                                                                                                                                                                                                                                                                |
| TRB2-2                                                | <p>Water quality conditions are not expected to be further impaired by the action alternatives, as additional diversions from the Columbia River will not occur during the months of July, August, and September. It should be noted that the DEIS assumed no additional pumping from the Columbia River in July and August only. The FEIS proposes no additional diversions from the Columbia River during the month of September.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TRB2-3                                                | <p>Reclamation acknowledges the Tribe's concerns and addresses anoxic conditions in Section 4.4, Water Quality, in the FEIS.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TRB2-4                                                | <p>Reclamation acknowledges that the DEIS does not fully consider the Blue Creek Delta and the environmental impacts that could occur with additional drawdowns and increased bank exposure. Under current reservoir operations, exposure of contaminated sediments in the Blue Creek Delta occurs during the spring when Lake Roosevelt is drawn down for flood control. In the U.S. Geological Survey (USGS) Scientific Investigation Report 2007-5262 referenced in your comment letter, the elevation in Lake Roosevelt was lowered to 1234.9 feet. In April of 2006, sediment samples were collected from Blue Creek Delta at elevations ranging from 1252.5 feet to 1291.4 feet, along the thalweg (deepest portion of the stream), from the mouth of the creek, to approximately 500 meters downstream of the confluence. Reclamation will not be reducing elevations to these levels with any of the action alternatives. Deep drawdowns as noted in the USGS Report reflect flood control operations that only occur in the spring. It should be noted that Reclamation operates Lake Roosevelt for multiple</p> |

**Table 3 – Responses to individual comments.**

| <b>Indian Tribes</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                      | purposes including fisheries, instream flows, recreation, power generation, and other necessary river and reservoir management operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TRB2-5               | <p>Lake Roosevelt is a functioning storage reservoir constructed for power generation, irrigation, and flood control. Recreation and resident fish are an important component of the constructed facility and provide exceptional secondary use of the reservoir. Pool fluctuation will continue to occur on the reservoir with or without any implementation of one of the actions proposed under this Study. In an effort to minimize impacts, no additional withdrawal from Columbia River flows will occur with any action alternative presented in the FEIS during the months of July through September.</p> <p>Also, see response to comment TRB1-35.</p> |
| TRB2-6               | Impacts to cultural resources are addressed in Section 4.22, Cultural and Historic Resources in the FEIS. The Preferred Alternative included in the FEIS would not result in any additional drawdown of Lake Roosevelt beyond the No Action Alternative. In an effort to minimize impacts, no additional withdrawal from Columbia River flows will occur with any action alternative presented in the FEIS during the months of July through September.                                                                                                                                                                                                         |
| TRB2-7               | See response to comment TRB2-6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TRB2-8               | See response to comment TRB2-5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TRB2-9               | Subsequent Cultural Resource reports will note the information provided by the Tribes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| TRB2-10              | See response to comment TRB1-36.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TRB2-11              | Analysis of the effects of Alternatives 2B, 3B and 4B on the Hawk Creek fish trap has been added to the Section 4.4.10, Fish and Aquatic Resources, in the FEIS. Also, see Section 4.4.2, Surface Water Quantity, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TRB2-12              | Fish passage at Grand Coulee Dam, a goal of the Intermountain Subbasin Plan, is beyond the scope of this Study.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TRB2-13              | Reclamation is consulting with the Spokane Tribe and has met with the Tribe on two separate occasions to discuss comments/concerns on the DEIS (see Section 5.2.3 in the FEIS). Consultation will continue in the future.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TRB2-14              | The analysis of Cumulative Impacts has been revised in the FEIS to more fully reflect the sum of all effects that have occurred, are occurring, and are likely to occur as a result of any foreseeable action or influence regardless of what public agency or private party undertakes such other actions. See Section 4.27, Cumulative Impacts, in the FEIS.                                                                                                                                                                                                                                                                                                  |
| TRB2-15              | The Lincoln County Passive Rehydration Project is disclosed, but not evaluated in detail, in Section 4.27, Cumulative Impacts, in the FEIS, because it is still early in the investigation process, with several phases of evaluation, assessment, and design remaining to be funded and conducted over the next several years before a final decision would be made regarding potential full implementation. For this reason, it is not considered to be a reasonably foreseeable project or action.                                                                                                                                                           |
| TRB2-16              | See Master Response #1, "Columbia River Treaty." Also, see response to comment TRB2-14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TRB2-17              | See response to comment TRB2-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TRB2-18              | Reclamation acknowledges Ecology's CEQUAL-W2 Model for modeling water quality in Lake Roosevelt; see Section 4.10 in the FEIS. Additional analysis has been provided in Section 4.4, Water Quality, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| TRB2-19              | The FEIS has been revised and updated to be consistent with the 2010 Biological Opinion (BiOp) decisions and recommendations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TRB2-20              | See Master Response #3, "Climate Change."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TRB2-21              | Reclamation acknowledges the Tribe's concerns; additional analysis is presented in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Table 3 – Responses to individual comments.**

| <b>Indian Tribes</b>                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| TRB2-22                                                                         | These concerns have been addressed during consultation with the Spokane Tribe; see Section 5.2.3 in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TRB2-23                                                                         | See response to comment TRB2-10.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TRB2-24                                                                         | An accurate evaluation of current and historic river flows and Lake Roosevelt levels captures the cumulative impacts of past development on the Columbia River.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TRB2-25                                                                         | See Master Response #1, Columbia River Treaty and response to comments TRB2-14 and TRB2-15.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| TRB2-26                                                                         | It was not feasible to conduct field surveys because of the scale and complexity of the range of alternatives being considered. As provided in Section 4.31, Environmental Commitments, in the FEIS, cultural resource surveys will be conducted in areas subject to potential impact by the Odessa Subarea Special Study after a decision is made to proceed with a selected alternative.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| TRB2-27                                                                         | See response to comment TRB2-26.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TRB2-28                                                                         | See response to comment TRB1-12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TRB2-29                                                                         | See response to TRB2-14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TRB2-30                                                                         | <p>The Hawk Creek fish trap issues and the water quantity and water quality issues that affect the Lake Roosevelt cold water fishery are addressed in Section 4.4.10, Fish and Aquatic Resources; Section 4.4.2, Water Quantity; and Section 4.4., Water Quality in the FEIS.</p> <p>Although the operation of Grand Coulee Dam has affected the water quality in Franklin D. Roosevelt Lake (FDR) and its tributaries, the proposed project should not contribute to water quality degradation during the critical summer months of July, August, and September, when the temperatures are at their highest and DOs are at their lowest. These conditions make it difficult, but not impossible, to maintain a cold water fishery (aquatic organisms survive by adapting to their environment).</p> <p>Also, please see response to comment TRB2-12 concerning impacts to potential fish passage at Grand Coulee Dam.</p>                                                                                                                                                         |
| TRB2-31                                                                         | See response to TRB2-14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| TRB2-32                                                                         | See response to comment TRB2-22.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TRB2-33                                                                         | See response to comment TRB2-22.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| TRB2-34                                                                         | See response to comment TRB2-22.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Comment Letter TRB3 - Confederated Tribes and Bands of the Yakama Nation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TRB3-1                                                                          | See Master Response #4, "Columbia River Downstream." Since the listing of several species of anadromous fish in the Columbia River system—and in recognition that anadromous fish have specific flow needs for reproductive success—withdrawals from the Columbia River have been highly regulated under the Endangered Species Act (ESA). Under current BiOps, additional water withdrawal from the Columbia River is carefully scrutinized. Exhaustive analysis has been conducted including literature research and field analysis to determine potential impacts to anadromous fish with the action alternatives. A biological opinion will be prepared for the Preferred Alternative, including consultation with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (Service) to further illuminate and quantify any potential effects to listed species. The FEIS has been revised to more fully and accurately explain the relationship between streamflows and fish survival. See Section 4.10, Fish and Aquatic Resources, in the FEIS. |
| TRB3-2                                                                          | See response to comment TRB3-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TRB3-3                                                                          | See response to comment TRB3-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| TRB3-4                                                                          | Grant County PUD's ability to meet flow targets is included in the modeling performed for the FEIS to determine potential impacts associated with the action alternatives. The Priest Rapids flow objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Table 3 – Responses to individual comments.**

| <b>Indian Tribes</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                      | were considered in modeling (see Sections 4.1 and 4.26), and none of the action alternatives impede Grant County PUD in meeting flow commitments.                                                                                                                                                                                                                                                                               |
| TRB3-5               | The potential for displacement of piscivores occurring in the CBP to the mainstem of the Columbia River will not change with any of the action alternatives. Additional withdrawals from Lake Roosevelt to Banks Lake will not increase spills to Crab Creek or its tributaries. There is little likelihood of piscivores entrainment and survival through the Columbia Basin Irrigation system and back to the Columbia River. |
| TRB3-6               | The State of Washington has no plan to expand or spread water within the CBP.                                                                                                                                                                                                                                                                                                                                                   |
| TRB3-7               | See response to comment TRB1-23.                                                                                                                                                                                                                                                                                                                                                                                                |
| TRB3-8               | The economic analysis for the EIS does not assume all potato production and processing is lost from the region. Section 1.3.2.2 in the FEIS states in the second paragraph that “additional economic studies have been conducted. . .”                                                                                                                                                                                          |
| TRB3-9               | Water for the Study Area would come from Reclamation's reservoir certificate for Lake Roosevelt that allows for "store and use" of the water for "irrigation and hydropower." Also, see response to comment TRB2-10.                                                                                                                                                                                                            |
| TRB3-10              | Comment noted                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Table 3 – Responses to individual comments.**

| <b>Federal Government</b>                                                               |                                                                                                                                                                                                                                                                                                                                        |
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| <b>Comment Letter FED1 – U.S. Department of the Interior, Fish and Wildlife Service</b> |                                                                                                                                                                                                                                                                                                                                        |
| FED1-1                                                                                  | The action alternatives will not change the movement of water in and around the refuge. The FEIS analyzes impacts to species using shrub-steppe habitat that also occur on the refuge.                                                                                                                                                 |
| FED1-2                                                                                  | See response to comment TRB2-4.                                                                                                                                                                                                                                                                                                        |
| FED1-3                                                                                  | Appropriate monitoring and adaptive management will address specific potential impacts as additional analysis occurs under the tiered NEPA approach. BMPs would provide protections, impact avoidance, and mitigations under all circumstances.                                                                                        |
| FED1-4                                                                                  | Comment noted.                                                                                                                                                                                                                                                                                                                         |
| FED1-5                                                                                  | Comment noted.                                                                                                                                                                                                                                                                                                                         |
| <b>Comment Letter FED2 – U.S. Department of the Interior, National Park Service</b>     |                                                                                                                                                                                                                                                                                                                                        |
| FED2-1                                                                                  | Pool fluctuation will continue to occur on the Lake with or without implementation of any one of the actions proposed under this Study. In an effort to minimize impacts, no additional withdrawal from Columbia River Flows will occur with any action alternative presented in the FEIS during the months of July through September. |
| FED2-2                                                                                  | See response to comment FED2-1.                                                                                                                                                                                                                                                                                                        |
| FED2-3                                                                                  | Comment noted.                                                                                                                                                                                                                                                                                                                         |
| FED2-4                                                                                  | The FEIS identifies impacts at NPS facilities on Lake Roosevelt and evaluates their significance.                                                                                                                                                                                                                                      |
| FED2-5                                                                                  | See Master Response #3, “Climate Change.”                                                                                                                                                                                                                                                                                              |
| FED2-6                                                                                  | See Master Response #1, “Columbia River Treaty.” Please also refer to Section 4.27, Cumulative Impacts.                                                                                                                                                                                                                                |



**Comment Letter FED3 – U.S. Environmental Protection Agency**

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| FED3-1 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| FED3-2 | Reclamation has been a member of the EPA working group looking at the ecological health of the Columbia River and will continue to do so in the future.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| FED3-3 | <p>It should be noted that the Purpose and Need for the Study does not involve groundwater recharge and is described in Chapter 1 in the FEIS. With respect to the success of the project, the actions proposed are consistent with construction and development of an irrigation project/facilities and Reclamation has not identified any substantial uncertainties that would prevent the action from being implemented successfully. Reclamation and Ecology continue to work collaboratively with agencies and stakeholders on a regular basis in addition to quarterly Columbia River Policy Advisory Group (Tribes, Federal, State, counties, cities, irrigation districts, and environmental groups) meetings. These meetings ensure water efficiency and conservation as part of, but not limited to, the Columbia River Initiative MOU and RCW 90.90.</p> <p>Additional water quality analyses conducted for the FEIS, primarily at Banks Lake, indicate that none of the proposed alternatives would have more than minimal impacts on water quality.</p>                                                                                   |
| FED3-4 | In relation to the Study purpose, it is important to note that Reclamation's partner in this Study, Ecology, has been directed by the Washington State legislature to aggressively pursue development of new water supplies. One of its efforts, the Coordinated Conservation Program, is an ongoing effort intended to promote a balanced portfolio of irrigation district efficiency improvements north and south of Potholes Reservoir. Thus far, several thousand acre-feet of water have been made available for groundwater replacement in the Odessa Subarea and that amount is expected to rise to as much as 10,000 acre-feet within the next few years. BPA and Grant County PUD are also funding conservation efforts in the CBP. However, water conservation can serve only a fraction of the water needed to achieve the Purpose and Need for the Study. Ecology's Office of Columbia River will continue to promote active conservation efforts in the CBP, including identifying mechanisms for generating water through on-farm, irrigation water management practices that can be transferred to the Odessa in lieu of surface water. |
| FED3-5 | In response to comments on the DEIS received from the public and agencies, and in an effort to better achieve the Study Purpose and Need, two new action alternatives have been developed that reduce adverse effects and demonstrate improved performance, cost-effectiveness, and overall feasibility. Reclamation and Ecology will continue to investigate opportunities for a more robust mitigation program during subsequent project-level environmental review and project implementation if one of the action alternatives is selected for implementation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FED3-6 | The \$630 million loss (DEIS, page ES-7) reflects a regional impact from another analysis (Bhattacharjee & Holland, 2005) which did not analyze the same alternatives as in the DEIS (see Section 4.15, Irrigated Agriculture and Socioeconomics, in the FEIS). The only benefit categories evaluated and quantified within the benefit-cost analysis were agriculture, municipal water, industrial water, hydropower, and recreation. Environmental impacts/benefits are discussed elsewhere in the DEIS, but not in economic terms. The results of the economic analysis, as well as all other analyses, are considered in the decisionmaking process. See Section 2.10, Benefit-Cost Analysis. The purpose of the FEIS is to identify the impacts of the various alternatives, including the preferred alternative and the environmentally preferred alternative. The basis for any subsequent decision will be detailed in the Record of Decision. See also response to comment TRB3-8.                                                                                                                                                            |
| FED3-7 | The objective of the Odessa Subarea Special Study is to develop an alternative to using a diminishing aquifer while allowing existing groundwater-irrigated acreage to be irrigated. This is an acre-for-acre groundwater replacement proposal. No additional lands will be irrigated under any action alternative. On a year-to-year basis, cropping patterns in the Study Area change, and specific crops may be planted or discontinued in response to market conditions. However, relative numbers of acres planted to any given crop will likely remain similar to what has been planted over the past 40 years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FED3-8 | The effects of the action alternatives and the No Action Alternative are discussed in Chapter 4 in the FEIS and summarized in Table 2-15. Economic impact analyses of the action alternatives are reflected in Section 4.15, Irrigated Agriculture and Socioeconomics. The process for selecting alternatives is described in Section 1.4, Background Information, in the FEIS, which explains Reclamation's Plan of Study for the Odessa Subarea. Section 1.4 also details the Project Alternative Solutions Study (PASS) process, which developed the <i>Initial Alternative Identification and Evaluation</i> report. This report describes the pre-appraisal-level investigation of water delivery and supply options. This section also                                                                                                                                                                                                                                                                                                                                                                                                           |

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|                                                                                         | describes the appraisal-level study. Section 1.13, Changes from the Draft EIS to the Final EIS, discusses development of a preferred alternative, and Section 2.7, Modified Partial Groundwater Irrigation Replacement Alternatives, discusses its selection as the preferred alternative.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FED3-9                                                                                  | The Preferred Alternative is based on a water delivery of 3 acre-feet of water per acre, which is in line with current uses both in the Study Area and somewhat lower than adjacent CBP lands. The CBP irrigation districts have worked on conservation measures for many years and, in conjunction with individual farmers, have consistently increased the efficiency of the overall project and onfarm use. Efficient methods of water delivery are incorporated into the design of the proposed system. Efficiency measures will be a requirement of all farmers choosing to acquire CBP water in place of groundwater.                                                                                                                                |
| FED3-10                                                                                 | The use of gravity in supplying surface water to the Odessa Subarea is not feasible from an engineering or financial perspective, depending on the alternative considered. Analysis of potential power generation loss is discussed in Section 4.17, Energy. On-farm hydropower is beyond the scope of this project but may be pursued in the future.                                                                                                                                                                                                                                                                                                                                                                                                      |
| FED3-11                                                                                 | Alternatives involving Rocky Coulee are not deemed feasible for this Study and the proposed Rocky Coulee reservoir has been eliminated from this Study. Water demands between the alternatives vary in direct proportion to numbers of acres served. Generally, evaporative losses are also proportionate to number of acres irrigated as on-farm evaporation accounts for the largest portion of evaporative loss. Fluctuations in Banks Lake relate to when and to what extent water can be pumped from the Columbia River for all action alternatives. The availability of stored water in FDR affects Banks Lake fluctuations in those action alternatives that utilize Lake Roosevelt. Please refer to the FEIS, Section 4.2, Surface Water Quantity. |
| FED3-12                                                                                 | Effects upon the aquifer are recognized in the FEIS. This Study is not an aquifer recharge study nor is the purpose of the proposed action and alternatives to recharge the aquifer. As a secondary benefit, some aquifer stabilization may occur. The conservation of groundwater in the Subarea does not constitute recharge of the declining aquifer.                                                                                                                                                                                                                                                                                                                                                                                                   |
| FED3-13                                                                                 | Comment noted. Groundwater quality is discussed in Section 3.4.5, Study Area Irrigation Network.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| FED3-14                                                                                 | A comparison of groundwater and surface water quality is provided in Section 3.4.5, Study Area Irrigation Network, and 4.4.3.2, Long-Term Impacts for Alternative 2A. A map of the source water wells located in the Odessa Study Area has been included in Section 3.3.6 in the FEIS (see Figure 3-6). Operation and maintenance of the facilities, once completed, will be an ongoing activity that will not contribute to groundwater contamination. It is not anticipated that the proposed project will result in additional contaminants to the source water wells, and proper BMPs described in Section 4.31, Environmental Commitments, will be utilized to minimize or prevent possible impacts to ground and surface water.                      |
| FED3-15                                                                                 | Reclamation has been involved for some time with the Columbia River Toxics Reduction Working Group, which EPA is the lead agency. Reclamation plans to continue involvement with this group, and work closely with EPA and other regulatory agencies to resolve water quality issues in FDR and the Columbia River.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| FED3-16                                                                                 | Alternative 2C is not being carried through to the FEIS. Modeling was conducted on Banks Lake for water quality parameters that may be impacted by the proposed Project by Portland State University on behalf of Ecology. Modeling results indicate that water temperature and dissolved oxygen (DO) would experience little change under the management scenario as compared with the No Action Alternative. Section 4.4, Surface Water Quality, more fully explains the findings. Appropriate mitigation measures through BMPs are included. Adaptive management with agencies and stakeholders will be pursued with project implementation.                                                                                                            |
| FED3-17                                                                                 | The FEIS further explains ongoing and anticipated conservation efforts in the CBP through the Coordinated Conservation Program and the East Columbia Basin Irrigation District (ECBID) Conservation Plan. On-farm efficiencies are also realized in the Study Area through various Federal, State, and local initiatives beyond the scope of this project. Also, see responses to comments FED3-4 and FED3-5.                                                                                                                                                                                                                                                                                                                                              |
| <b>Comment Letter FED4 – U.S. Department of Energy, Bonneville Power Administration</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FED4-1                                                                                  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| FED4-2                                                                                  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| FED4-3  | Sections 3.17, Energy, and 4.17, Energy, in the FEIS have been updated per comment.                                                                                                                                                                                                                                                                                                                                                                          |
| FED4-4  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FED4-5  | The additional surface water pumping costs were estimated by cost engineers in the Denver Technical Service Center and are included in the operation, maintenance, replacement, and power (OMR&P) costs in Section 4.15, Irrigated Agriculture and Socioeconomics. The savings from reduced groundwater pumping are included in Section 4.15, Irrigated Agriculture and Socioeconomics. These costs are included in Table 2-13 in the agricultural benefits. |
| FED4-6  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FED4-7  | We have corrected the error in the FEIS; see Table 3-45 in Section 3.18 in the FEIS.                                                                                                                                                                                                                                                                                                                                                                         |
| FED4-8  | The organization of Table 3-46 has been revised and is now labeled Table 3-45 in the FEIS.                                                                                                                                                                                                                                                                                                                                                                   |
| FED4-9  | Per your recommendation and based upon further consideration of the Federal and private power system, the reference to the need for an additional indirect power source has been removed in the FEIS.                                                                                                                                                                                                                                                        |
| FED4-10 | The FEIS has been rewritten in response to your suggestion.                                                                                                                                                                                                                                                                                                                                                                                                  |
| FED4-11 | The FEIS has been written to reflect your suggestion.                                                                                                                                                                                                                                                                                                                                                                                                        |
| FED4-12 | Reclamation and Ecology concur with your conclusion and have addressed your comment in the FEIS.                                                                                                                                                                                                                                                                                                                                                             |
| FED4-13 | Comment noted and section has been rewritten. See Section 3.17.2, Energy Resources in the Pacific Northwest, in the FEIS.                                                                                                                                                                                                                                                                                                                                    |
| FED4-14 | Comment noted and addressed in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| FED4-15 | See response to comment FED4-9.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FED4-16 | Based upon additional analyses conducted in response to comments on the DEIS, a new generation facility is no longer considered a need with any of the action alternatives.                                                                                                                                                                                                                                                                                  |
| FED4-17 | Your observation is noted and the FEIS has been written to accurately reflect this concept.                                                                                                                                                                                                                                                                                                                                                                  |
| FED4-18 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FED4-19 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FED4-20 | See response to comment TRB3-7.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| FED4-21 | Comment noted. Your suggestion is reflected in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                     |
| FED4-22 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FED4-23 | See response to comment TRB1-36.                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Table 3 – Responses to individual comments.**

| <b>State of Washington</b>                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <b>Comment Letter WAS1 – Washington State Department of Fish and Wildlife</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAS1-1                                                                        | Potholes Reservoir would remain within historic operational levels for all of the action alternatives. Implementation of the Full Replacement Alternative will not cause Potholes Reservoir elevations to deviate from the historic operational range. If implementation of the Full Replacement Alternative occurs and results in increased return flows to Potholes Reservoir, feed water to the reservoir will be managed in such a manner as to operate the reservoir within its required and historic operational range. Therefore, there would be no impacts to the northern leopard frog. The FEIS has been updated to reflect this information. |

**Table 3 – Responses to individual comments.**

| <b>State of Washington</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| WAS1-2                     | Washington ground squirrels are reflected in Table 3-20 and Table 4-32 and text has been added to Sections 3.9.2.3 and 4.9.5.2 to address your concern. It should be noted that the Preferred Alternative would have no effect on Black Rock Coulee and poses the least potential impact to high-value wildlife habitat as it maximizes the use of existing infrastructure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| WAS1-3                     | It is recognized in the DEIS (section 3.9.3.2) that impacts to grebe nesting sites are likely to occur. Additional mitigation commitments toward potential impacts to nesting grebe populations at Banks Lake have been included in the FEIS (Sections 4.9.9, Wildlife and Wildlife Habitat, and 4.31, Environmental Commitments). Reclamation would collaborate with Washington Department of Fish and Wildlife (WDFW) and the U.S. Fish and Wildlife Service (Service) to define appropriate mitigation measures during the second-tier, project-level environmental review under NEPA and SEPA prior to project implementation.                                                                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-4                     | The following has been added to Section 4.9.1.3 in the FEIS:<br><br><i>“WDFW and Ecology have entered into a mitigation agreement intended to address situations where Office of Columbia River projects would result in loss of shrub–steppe habitat. This agreement applies to the Odessa Project; however, since that project is a groundwater replacement project and would not expand irrigated acreage over current levels, any potential loss of shrub–steppe habitat would be limited to relatively small areas associated with construction of pumping plants and pipelines. Reclamation is not a party to the agreement nor is it bound by it.”</i>                                                                                                                                                                                                                                                                                                                                                                                    |
| WAS1-5                     | Reclamation and Ecology have reviewed the significance criteria and believe they clearly describe how significance will be measured—numerically where practicable and qualitatively otherwise. We believe that the significance criteria are appropriate to this level of a first-tier NEPA analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| WAS1-6                     | In cooperation with the Service and WDFW, mitigations via best management practices (BMPs) commitments are included in the FEIS. Site-specific impacts will undergo additional and appropriate NEPA/SEPA analysis during the phased development of the proposed project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAS1-7                     | The FEIS has been revised to more fully and accurately explain the relationship between streamflows and fish survival. Please see Chapter 4, Section 4.10.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| WAS1-8                     | Extensive HYDSIM modeling was conducted in the analysis of the alternatives presented in this Study. RiverWare software was used to develop a simulation model of the CBP. The output data have been provided in digital format to WDFW for the DEIS model runs which included all data analyzed and applied to the analyses. The CBP is a dynamic system with fluctuations on a continual basis during all operational periods. Operational changes would be limited to Banks Lake and FDR under all action alternatives. General climatic conditions, crop selections, seasonal climatic variation, precipitation, and other factors impact water volume requirements in the Project. Current operations of the CBP divert an average of 2.65 million acre-feet per year. The Preferred Alternative (4A) would increase the flow of water through Banks Lake reservoir by approximately 164,000 acre-feet during the irrigation season. Additional analysis is contained in the FEIS based upon updated and most recent available information. |
| WAS1-9                     | Reclamation and Ecology have focused on the identification of impacts associated with the action alternatives displayed in the FEIS. Reclamation would collaborate with WDFW and the Service to define appropriate mitigation measures during the second-tier, project-level environmental review under NEPA and SEPA prior to project implementation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| WAS1-10                    | Fisheries in Billy Clapp, Moses Lake, Potholes, and Scooteney Reservoirs are not impacted by the Study alternatives.<br><br>Reclamation has conducted an analysis of potential economic impacts to the recreational fishery at Banks Lake in respect to boat launch availability. Ecology and WDFW, in coordination with Reclamation, will develop and implement a monitoring program to evaluate species' response to operational changes related to the Odessa Program (see Appendix C, MOU No. R12MA13718).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| WAS1-11                    | See latter part of response to comment WAS1-10.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |



**Table 3 – Responses to individual comments.**

| <b>State of Washington</b> |                                                                                                                                                                                                                                                                                                                                                                                                |
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| WAS1-12                    | In the past, Reclamation and WDFW have successfully collaborated on fish and wildlife enhancements. As a result, Reclamation and Ecology anticipate continued collaboration in the future as a critical element of any further Project development.                                                                                                                                            |
| WAS1-13                    | See response to comment WAS1-12                                                                                                                                                                                                                                                                                                                                                                |
| WAS1-14                    | See response to comment WAS1-12.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-15                    | See response to comment WAS1-12.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-16                    | See response to comment WAS1-12.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-17                    | The final Fish & Wildlife Coordination Act Report is included in the FEIS as Appendix D along with Reclamation's responses to the recommendations included therein. Also, see response to comment WAS1-12.                                                                                                                                                                                     |
| WAS1-18                    | See response to comment WAS1-17.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-19                    | See response to comment WAS1-17.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-20                    | See response to comment WAS1-17.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-21                    | See response to comment WAS1-17.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-22                    | See response to comment WAS1-17.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-23                    | See response to comment WAS1-17.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-24                    | See response to comment WAS1-17.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-25                    | See response to comment WAS1-17.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-26                    | See Section 1.6.1.2 in the FEIS. Also, see response to comment FED3-4.                                                                                                                                                                                                                                                                                                                         |
| WAS1-27                    | These studies were used to perform the environmental consequences analyses in the FEIS and are referenced in the Bibliography.                                                                                                                                                                                                                                                                 |
| WAS1-28                    | Commenter does not indicate how the requested additional information would improve or affect the impact analysis. Reclamation believes that this request is beyond the scope of this Study; therefore, the requested modification has not been made.                                                                                                                                           |
| WAS1-29                    | Reclamation and Ecology believe the MOU is adequately described by the existing text. The commenter is correct that the Coordinated Conservation Plan is not considered a water supply source of irrigation water for the Subarea. Also, see response to comment FED3-4.                                                                                                                       |
| WAS1-30                    | See response to comment WAS1-28.                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-31                    | Such oversight is discussed in the FEIS in Section 4.5. Alternative 4A addresses this issue.                                                                                                                                                                                                                                                                                                   |
| WAS1-32                    | The Partial Replacement Alternative would not deliver water north of I-90. The Modified Partial Replacement Alternatives, 4A and 4B, would deliver water both north and south of I-90. The Preferred Alternative (Alternative 4A) would deliver water to approximately 25,000 acres north of I-90 and 45,000 acres south of I-90. Volume of water delivered is dependent on irrigation demand. |
| WAS1-33                    | See response to comment WAS1-8. Also, see Section 4.2 for tables and figures. "Practicable" is used to denote "capable of being done" or "put into practice with the available means; feasible."                                                                                                                                                                                               |
| WAS1-34                    | Text has been modified in Section 2.5.1.2 to address your concern.                                                                                                                                                                                                                                                                                                                             |
| WAS1-35                    | Reclamation and Ecology acknowledge that the crossing designs included in the FEIS deviate from those recommended by WDFW. Clarification regarding the frequency of the escape ramps has been added; see Section 4.9.5 in the FEIS.                                                                                                                                                            |

**Table 3 – Responses to individual comments.**

| <b>State of Washington</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| WAS1-36                    | The statement in the DEIS is accurate. The facilities to be constructed are generally contiguous and cross existing roads in many locations. Few, if any, isolated structures are proposed. Access to the easements or acquired lands would be from adjacent roads. Construction actions would proceed on the easements or acquired lands which could stretch for many miles in the case of canal or pipeline rights-of-way.                                                                                                                                                                                                           |
| WAS1-37                    | Reclamation and Ecology believe the objective laid out in the PASS process has been met. Also, see response to comment WAS1-12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAS1-38                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAS1-39                    | The fishery and recreation analyses have been updated in the FEIS based on the most recent information available. There would be no impact to minimal impact to fisheries and recreation (see Sections 4.10, Fisheries and Aquatic Resources, and 4.14, Recreation, in the FEIS). Also, see response to comment WAS1-10.                                                                                                                                                                                                                                                                                                               |
| WAS1-40                    | All alternatives involving Rocky Coulee Reservoir have been eliminated from this Study.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAS1-41                    | Reclamation and Ecology do not agree that the statement is misleading since the analysis referenced assumed that regulatory requirements and BMPs would be met; it was not based on the precise manner by which that would occur. With input from the Service, detailed and specific BMPs have been incorporated in the FEIS. Please see Section 4.31, Environmental Commitments. Detailed review and discussions will take place in the future as a result of the tiered review process that Reclamation and Ecology have adopted for the Odessa Subarea Special Study.<br><br>Also, see Master Response #2, "Tiered Review Process." |
| WAS1-42                    | Table 2-15 has been revised to incorporate the effects of mitigation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAS1-43                    | The fisheries analyses for the remaining alternatives have been updated based on more recent data. Those data continue to indicate that impacts from the partial-replacement alternatives, including the Preferred Alternative, to fisheries at Banks Lake would be minimal. Water quality impacts to Banks Lake would be minimal under all action alternatives.                                                                                                                                                                                                                                                                       |
| WAS1-44                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAS1-45                    | Although this comment does not specifically pertain to the scope of the EIS, additional permitted allocation of water is not anticipated due to precipitation. Current CBP water rights are for surface water.                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAS1-46                    | This section details the geologic and hydrogeologic setting at specific features proposed as part of the project. Features were chosen based upon the potential to effect or be affected by the action alternatives. All water that is in the springs and seeps that are attributed to waste seepage and return flow from the Project are claimed as Project waters pursuant to Washington State Supreme Court case law in Ecology v. Bureau of Reclamation, 118 Wn.2d 761, 827 P.2d 275 (1992) and the repayment contracts between Reclamation and the three Columbia Basin irrigation districts.                                     |
| WAS1-47                    | The water quality data available only encompasses about 10 years, which is considered sparse by comparison with other data sets available in the Subarea.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAS1-48                    | Reclamation and Ecology think that the discussion of Water Rights in Section 3.5 in the FEIS is clear. See response to comment WAS1-28.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAS1-49                    | Undocumented acreage is attributed to seasonal changes and rate of application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAS1-50                    | Only acreage that is currently irrigated with groundwater will be eligible to receive surface water allocated and delivered via the proposed Study alternatives. Up to 15 percent of the lands currently using groundwater are anticipated to transfer these existing groundwater rights to lands that are not currently served by Project water or groundwater to obtain available Project water within the delivery zones; therefore, the original points of use would no longer be viable and groundwater pumping would cease for those lands.                                                                                      |
| WAS1-51                    | The source of the data for Table 3-10 is "Dobler and Dixon, 1996" (see complete reference in the Bibliography section of FEIS Volume 1).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**Table 3 – Responses to individual comments.**

| <b>State of Washington</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                            | Table 3-11 has been revised to address this concern.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAS1-52                    | See response to comment WAS1-40.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAS1-53                    | Site-specific impacts will undergo additional NEPA/SEPA analyses during the phased development of the proposed project as appropriate.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-54                    | See response to comment WAS1-40.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAS1-55                    | The FEIS has been corrected to reflect WDFW's study of wildlife crossing locations near the proposed East High Canal, not the East Low Canal.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAS1-56                    | The existing discussion concerning Crab Creek in the action area is accurate and modification is not necessary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| WAS1-57                    | Potholes Reservoir Supplemental Feed Route is contained in the No Action Alternative; however, its operations were modeled and determined to be within the scope of historic operations. Operations at Potholes and Moses Lake would not change substantially with the project; upper and lower Crab Creek would not be influenced; nor would Billy Clapp Lake.                                                                                                                                                                                                                      |
| WAS1-58                    | Through ongoing and planned CBP efficiency improvements, the amount of diversion from the Columbia River serving the CBP has diminished on a per-irrigated-acre basis and will continue to see further reduction.                                                                                                                                                                                                                                                                                                                                                                    |
| WAS1-59                    | Flow objectives for chum salmon at Bonneville Dam are no longer used per the 2010 BiOp. Instead, tailwater elevation ranges, as affected by several factors, are used to help protect chum salmon below Bonneville Dam. These protection measures are outlined in Action 17 of the Reasonable and Prudent Alternative contained in the 2010 BiOp. This change is discussed in Section 4.10, Fisheries and Aquatic Resources, of the Odessa FEIS. In addition, the Odessa ESA consultation with NMFS will ensure that the chum tailwater elevation ranges are not adversely impacted. |
| WAS1-60                    | The fishery analysis with respect to Banks Lake has been updated and that statement has been modified in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| WAS1-61                    | Comment noted. The fishery analysis with respect to Banks Lake has been updated based on recent analyses. See Section 4.10, Fisheries and Aquatic Resources, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                            |
| WAS1-62                    | See response to comment WAS1-57.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAS1-63                    | Your comment is reflected in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-64                    | Banks Lake is designated as significant for recreation. The impacts to recreation are addressed in Section 4.14, Recreation.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAS1-65                    | See response to comment WAS1-28.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAS1-66                    | The focus of the statement is upland hunting; Reclamation and Ecology think this is a reasonable claim that does not require greater substantiation.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAS1-67                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| WAS1-68                    | The DEIS did acknowledge and describe the six water access areas maintained by WDFW.<br><br>Table 3-31 and Figures 3-14 and 3-15 in Section 3.14, Recreation, in the FEIS describe the attributes of each of these sites.                                                                                                                                                                                                                                                                                                                                                            |
| WAS1-69                    | We agree that there is use of the reservoir that takes place at locations other than Steamboat Rock State Park but we have no reasonable method of quantifying that use. Visitor counts at these sites were only collected once during the Resource Management Plan process. The FEIS acknowledges that the visitor counts may be underestimated at Banks Lake.                                                                                                                                                                                                                      |
| WAS1-70                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| WAS1-71                    | Operations of Potholes Reservoir were modeled and it was determined that implementation of any                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Table 3 – Responses to individual comments.**

| <b>State of Washington</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                            | action alternatives in the Subarea would not cause Potholes Reservoir elevations to deviate from the historic operational range. If implementation occurs and results in increased return flows to Potholes Reservoir, feed water to the reservoir will be managed to operate the reservoir within its required and historic operational range. The FEIS has been updated to reflect this determination in Section 4.2.1.2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| WAS1-72                    | Project impacts to Columbia River flows are discussed in Chapter 4. The action alternatives would not decrease return flows from the Columbia Basin Project. However, some potential conservation projects in the existing CBP irrigated areas may decrease return flow. The objective of water conservation projects is to more fully utilize water within an irrigation system. As a result of improved efficiencies through conservation, a reduction in water loss by leakage or excessive application of water to farmland could reduce return flows. Reclamation's analysis of impacts to return flows developed for the ECBID Amendment to Supplement #2 of the MWSC indicates the conservation of 5,509.6 acre-feet of Project water there would be an approximate 3.9-percent reduction in return flow. As the CBP is designed to recycle water within the project, much of the operational excess is already being utilized internal to the system. |
| WAS1-73                    | See responses to comments WAS1-6 and WAS1-12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAS1-74                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAS1-75                    | The FEIS further analyzes and explains the flow regime for the CBP irrigation system including Banks Lake.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAS1-76                    | See response to comment WAS1-40.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAS1-77                    | See response to comment WAS1-40.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAS1-78                    | No. The majority of pumping will occur in October. Reclamation would not expect to pump additional water if it were to alter the ability to meet instream flow objectives.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAS1-79                    | The water would remain under the control of Reclamation until it left the Project boundaries and was not useable for Project purposes. While in Reclamation's control it could be used for any authorized Project purpose.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAS1-80                    | Significance criteria are based upon groundwater becoming too deep or expensive to pump or groundwater quality degrading to the point it becomes unusable for crops. Cost of pumping is managed by the farmer in his business plan. This is anticipated to be directly related to the value of the crops that can be raised.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| WAS1-81                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAS1-82                    | This analysis has been updated in the FEIS and few impacts to temperature are anticipated; see Section 4.4, Water Quality, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| WAS1-83                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAS1-84                    | Please refer to Section 5.5, Other Regulatory Compliance Requirements, in the FEIS for additional details regarding required permitting for project facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-85                    | Reclamation is currently involved in a coordinated effort with State and local agencies to control noxious weeds. Reclamation will continue to work with WDFW in the determination of wetland mitigation ratios.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| WAS1-86                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAS1-87                    | This project is to be constructed in phases. As phases occur, Reclamation and Ecology will comply with State and Federal noxious weed statutes during and after construction activities, which will be tracked through environmental compliance requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| WAS1-88                    | WDFW's guidelines may be considered during project implementation stages should implementation of an alternative occur.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| WAS1-89                    | Precise plans for coordination have not been developed. With input from the Service, detailed and specific BMPs have been incorporated in Section 4.31, Environmental Commitments, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



**Table 3 – Responses to individual comments.**

| <b>State of Washington</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                            | Detailed review and discussions will be afforded in the future as a result of the tiered environmental review process that Reclamation and Ecology have adopted for the Odessa Subarea Special Study.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| WAS1-90                    | The suggested text changes have not been made. We believe the commitment to coordinate mitigation with WDFW is sufficient.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| WAS1-91                    | The FEIS commits Reclamation and Ecology to comply with all applicable regulatory requirements. The statement quoted indicates that wetlands associated with canal leaks are not regulated under Section 404 of the Clean Water Act.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WAS1-92                    | <p>This topic is addressed in the FEIS, Section 4.8., which states:</p> <p><i>“Weed inventory and weed control of all disturbed lands would be implemented in accordance with county requirements and State and Federal laws, as appropriate”.</i></p> <p>In addition, a statement has been added to Section 4.8 stating that, “noxious weed monitoring and control, if necessary will be implemented,” and BMPs for weed inventory and control are listed in Section 4.31, Environmental Commitments.”</p>                                                                                                                                                                                                                                                                                                                                                         |
| WAS1-93                    | <p>The language concerning burrowing owls is already included (see Section 4.9.9, Mitigation, in the FEIS). Installing and maintaining nest platforms at offsite locations would likely have only minor impacts, but we have added that action to the document, pending identification of a site and securing any other necessary approvals. Also, your suggested language regarding mitigation for grebes has been added to Section 4.9.9.</p> <p>Managing watercraft is not a viable option, as it is beyond Reclamation's and Ecology's authority. Bridge designs that incorporate wildlife benefits will be explored during Project implementation.</p>                                                                                                                                                                                                         |
| WAS1-94                    | This alternative is not considered feasible in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| WAS1-95                    | The context of this comment is unclear. The text referenced by commenter does identify significant impacts to grebe populations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| WAS1-96                    | Language describing the frequency of the escape ramps has been added to a new “Ramps” section in Section 4.9.5.2 in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| WAS1-97                    | See response to comment WAS1-6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAS1-98                    | Burrowing owl structures and grebe mitigation have been included. Channeling a portion of the DE220 would not reduce shrub-steppe losses by much since most occur as a result of impoundment near the lower end of the coulee. Water control structures could be built but, given the infrequent nature of floods in the area, they would not be particularly effective since they would rarely impound water.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| WAS1-99                    | We believe the significance criteria in the FEIS for pygmy rabbits are appropriate and we have not modified the criteria. Should the Full Replacement Alternative be selected, pygmy rabbit surveys would be necessary. Greater sage-grouse and sharp-tailed grouse are not included in Table 4-40 (Table 4-57 in the FEIS), because that table only includes threatened and endangered species currently listed under the ESA.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAS1-100                   | This chapter deals with species currently listed under the ESA and neither greater sage-grouse nor sharp-tailed grouse are currently listed. With respect to Greater sage-grouse connectivity in the Wilson Creek and Crab Creek areas, it is not clear that the addition of the East High Canal in this area would significantly affect connectivity. As the commenter notes, the viability of the Greater sage-grouse populations introduced into Lincoln County depends upon connectivity to the Douglas County population. The connectivity would have to occur across a corridor that includes Banks Lake, the Main Canal, several small lakes, State Route 17, and other smaller county roads. It is not clear that the addition of the East High Canal would significantly alter the connectivity between the Lincoln County and Douglas County populations. |
| WAS1-101                   | The use of exclusionary fencing is not recommended in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAS1-102                   | See response to comment WAS1-6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WAS1-103                   | No assertion regarding state wetland regulations is made.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**Table 3 – Responses to individual comments.**

| <b>State of Washington</b>                                                                               |                                                                                                                                                                                                                                                                                                                              |
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| WAS1-104                                                                                                 | See response to comment WAS1-92.                                                                                                                                                                                                                                                                                             |
| WAS1-105                                                                                                 | See Master Response #2, “Tiered Review Process.”                                                                                                                                                                                                                                                                             |
| WAS1-106                                                                                                 | See response to comment WAS1-35.                                                                                                                                                                                                                                                                                             |
| WAS1-107                                                                                                 | See response to comment WAS1-6.                                                                                                                                                                                                                                                                                              |
| WAS1-108                                                                                                 | See response to comment WAS1-98.                                                                                                                                                                                                                                                                                             |
| WAS1-109                                                                                                 | See response to comment WAS1-99.                                                                                                                                                                                                                                                                                             |
| WAS1-110                                                                                                 | Comment noted.                                                                                                                                                                                                                                                                                                               |
| WAS1-111                                                                                                 | There is no identified regulatory mechanism that would be used to identify regulatory requirements. The responsible party would review applicable requirements with the regulatory bodies for each action and determine which apply and how compliance would be done.                                                        |
| WAS1-112                                                                                                 | Reclamation and Ecology will work directly with WDFW to update the CBWA plan for the Billy Clapp Lake unit.                                                                                                                                                                                                                  |
| WAS1-113                                                                                                 | Comment noted.                                                                                                                                                                                                                                                                                                               |
| WAS1-114                                                                                                 | This section identifies those impacts previously discussed that are unavoidable, significant, and adverse. No reasonably practicable mitigation measures exist to eliminate the impacts. The section does not eliminate the possibility of mitigation measures, only that the impacts would not be eliminated by mitigation. |
| WAS1-115                                                                                                 | Comment noted.                                                                                                                                                                                                                                                                                                               |
| WAS1-116                                                                                                 | See response to comment WAS1-6.                                                                                                                                                                                                                                                                                              |
| WAS1-117                                                                                                 | Section 4.31, Environmental Commitments, has been updated to reflect your suggestions.                                                                                                                                                                                                                                       |
| WAS1-118                                                                                                 | Level of effort will be commensurate with noxious weed infestations occurring on a site-specific basis.                                                                                                                                                                                                                      |
| WAS1-119                                                                                                 | Under the Clean Water Act, not all wetlands are waters of the United States that are regulated by the Clean Water Act.                                                                                                                                                                                                       |
| WAS1-120                                                                                                 | The listed plans are not included as part of the proposed action and are therefore not included in the FEIS.                                                                                                                                                                                                                 |
| WAS1-121                                                                                                 | Comment noted.                                                                                                                                                                                                                                                                                                               |
| <b>Comment Letter WAS2 – Washington State Department of Natural Resources, National Heritage Program</b> |                                                                                                                                                                                                                                                                                                                              |
| WAS2-1                                                                                                   | Comment noted.                                                                                                                                                                                                                                                                                                               |
| WAS2-2                                                                                                   | Comment noted.                                                                                                                                                                                                                                                                                                               |
| WAS2-3                                                                                                   | Sections 3.8.1.2 and 3.8.2 in Vegetation and Wetlands, and 3.9, Wildlife and Wildlife Habitat, have been revised to correct the identified confusion.                                                                                                                                                                        |
| WAS2-4                                                                                                   | Your suggestion has validity and would provide an additional variable for both input and evaluation in future phases of this project.                                                                                                                                                                                        |
| WAS2-5                                                                                                   | Comment noted.                                                                                                                                                                                                                                                                                                               |
| WAS2-6                                                                                                   | Upon final determination and validation, rare plant findings and locations will be shared.                                                                                                                                                                                                                                   |
| <b>Comment Letter WAS3 – Washington State Parks and Recreation Commission</b>                            |                                                                                                                                                                                                                                                                                                                              |
| WAS3-1                                                                                                   | Comment noted. Also, please see Master Response #2, “Tiered Review Process.”                                                                                                                                                                                                                                                 |

**Table 3 – Responses to individual comments.**

| <b>State of Washington</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WAS3-2                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| WAS3-3                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| WAS3-4                     | We appreciate the additional data you have provided on potential costs associated with extending boat ramps.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| WAS3-5                     | Potential impacts from increased mosquito activity are addressed in Section 4.20.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| WAS3-6                     | See response to comment WAS1-10.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| WAS3-7                     | Reclamation and Ecology have identified a new, preferred alternative (Alternative 4A, Modified Partial – Banks) in the FEIS. The maximum anticipated drawdown of Banks Lake under the preferred alternative would be as little as 0.1 foot greater to as much as 3.0 foot greater than under Alternative 2B (as referenced in your comment), depending on the representative water year and the diversion scenario. Under the diversion scenarios examined in the FEIS, Banks Lake is expected to be refilled every year; that was not always the case under the DEIS modeling assumptions. Reclamation and Ecology welcome the continued opportunity to work with State Parks to define appropriate mitigation measures during the second-tier, project-level environmental review under NEPA and SEPA prior to project implementation. |

**Table 3 – Responses to individual comments.**

| <b>Legislative</b>                                        |                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Comment Letter LEG1 – Washington State Legislature</b> |                                                                                                                                                                                                                                                                                                         |
| LEG1-1                                                    | The Office of Management & Budget (OMB) requires a “Principles and Guidelines”-based benefit-cost analysis.<br><br>The Modified Partial Replacement Alternative 4A (preferred alternative) may substantially address your concern. Also, see Section 1.13, Changes from the Draft EIS to the Final EIS. |
| LEG1-2                                                    | Alternative 4A (preferred alternative) addresses this comment.                                                                                                                                                                                                                                          |
| LEG1-3                                                    | Alternative 4A provides replacement water both north and south of I-90 while including conservation measures to best utilize existing irrigation infrastructure.                                                                                                                                        |
| LEG1-4                                                    | Alternative 4A (preferred alternative) takes into consideration Project water delivery north of I-90 and also recognizes the likelihood of public/private partnerships as the most likely route to phased construction.                                                                                 |
| LEG1-5                                                    | Additional information and analysis is included in the FEIS to better reflect the impact of water conservation and water savings.                                                                                                                                                                       |
| LEG1-6                                                    | The FEIS has been published with cost estimates for review by public and private sector experts.                                                                                                                                                                                                        |
| LEG1-7                                                    | See response to comment LEG1-2.                                                                                                                                                                                                                                                                         |

**Table 3 – Responses to individual comments.**

| <b>Local Government Agencies</b>                       |                                                           |
|--------------------------------------------------------|-----------------------------------------------------------|
| <b>Comment Letter LOC1 – Adams County Commissioner</b> |                                                           |
| LOC1-1                                                 | The corrections have been made to Table 3-46 in the FEIS. |

**Table 3 – Responses to individual comments.**

| <b>Local Government Agencies</b>                                       |                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Comment Letter LOC2 – Adams County Commissioner</b>                 |                                                                                                                                                                                                                                                                                                            |
| LOC2-1                                                                 | The environmental impacts associated with operation and maintenance facilities were included in this FEIS, anticipating future development.                                                                                                                                                                |
| <b>Comment Letter LOC3 – Adams County Commissioner</b>                 |                                                                                                                                                                                                                                                                                                            |
| LOC3-1                                                                 | Comment noted.                                                                                                                                                                                                                                                                                             |
| <b>Comment Letter LOC4 – Grant County Economic Development Council</b> |                                                                                                                                                                                                                                                                                                            |
| LOC4-1                                                                 | Comment noted.                                                                                                                                                                                                                                                                                             |
| LOC4-2                                                                 | Comment noted.                                                                                                                                                                                                                                                                                             |
| <b>Comment Letter LOC5 – Adams County Commissioners</b>                |                                                                                                                                                                                                                                                                                                            |
| LOC5-1                                                                 | See Master Response #3, “Climate Change.”                                                                                                                                                                                                                                                                  |
| LOC5-2                                                                 | See Master Response #3, “Climate Change.”                                                                                                                                                                                                                                                                  |
| LOC5-3                                                                 | Comment noted.                                                                                                                                                                                                                                                                                             |
| LOC5-4                                                                 | Comment noted.                                                                                                                                                                                                                                                                                             |
| LOC5-5                                                                 | Comment noted.                                                                                                                                                                                                                                                                                             |
| LOC5-6                                                                 | The most current Census data do not suggest the likely presence of disproportionately high and adverse impacts under Environmental Justice.                                                                                                                                                                |
| LOC5-7                                                                 | See response to comment LOC5-6.                                                                                                                                                                                                                                                                            |
| LOC5-8                                                                 | The evaluation of Environmental Justice did not indicate that deteriorating groundwater supply would have a disproportionately high and adverse socioeconomic effect on ethnic populations. Under the Preferred Alternative, adverse socioeconomic effects would be reduced similarly for all populations. |
| LOC5-9                                                                 | See response to comment LOC5-6.                                                                                                                                                                                                                                                                            |
| LOC5-10                                                                | See response to comment LOC5-8.                                                                                                                                                                                                                                                                            |
| LOC5-11                                                                | See response to comment LOC5-8.                                                                                                                                                                                                                                                                            |
| LOC5-12                                                                | A land value analysis is one of the procedures available; it is not required by the Principles and Guidelines (P&Gs). A farm budget methodology was used.                                                                                                                                                  |
| LOC5-13                                                                | Comment noted.                                                                                                                                                                                                                                                                                             |
| LOC5-14                                                                | See response to comment LOC5-12.                                                                                                                                                                                                                                                                           |
| LOC5-15                                                                | Comment noted.                                                                                                                                                                                                                                                                                             |
| LOC5-16                                                                | Comment noted.                                                                                                                                                                                                                                                                                             |
| LOC5-17                                                                | A fiscal impact analysis was not completed for this Study.                                                                                                                                                                                                                                                 |
| LOC5-18                                                                | Each phase of project development must be found financially feasible and economically justified by the Secretary of the U.S. Department of the Interior.                                                                                                                                                   |
| LOC5-19                                                                | See response to comment LOC5-18.                                                                                                                                                                                                                                                                           |
| LOC5-20                                                                | See Master Response #5, “Economic Analysis Guidance.”                                                                                                                                                                                                                                                      |
| LOC5-21                                                                | Comment noted.                                                                                                                                                                                                                                                                                             |



**Table 3 – Responses to individual comments.**

| <b>Local Government Agencies</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| LOC5-22                          | Determining the net effects on cropping patterns from enactment of the Energy Policy Act of 2005 would not be possible given the data available. The OMB requires a “Principles and Guidelines”-based benefit-cost analysis using the current Federal water project planning rate to evaluate economic justification for possible Federal funding decisions. The 3-percent rate reflects the rate at the time the Columbia Basin Project was first authorized and is presented purely for informational purposes. The time horizon for the benefit-cost analysis extends from 2019 to 2125 (construction period from 2019-2025 and period of analysis from 2026-2125). All benefits were measured through the end of the period of analysis in year 2125. As a result, it is true that for construction phases ending before year 2025, benefits were actually estimated for slightly longer than 100 years (e.g. 2019-2125). However, due to the effect of discounting, adding a few more than 100 years of benefit at the end of the period of analysis would have very little impact on the benefit-cost results. |
| LOC5-23                          | The authorized rate and the current planning rate are reflected in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LOC5-24                          | The rate of aquifer decline used by the DEIS was developed by Ground Water Management Area (GWMA) and reflects the best available data and information. Reclamation does not recognize a conflict between the EIS analysis and data supporting that analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LOC5-25                          | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LOC5-26                          | See Master Response #5, “Economic Analysis Guidance.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOC5-27                          | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LOC5-28                          | Section C.4 of your comments highlight economic impacts from the DEIS and characterizes them as “economic losses avoided.” It is Reclamation’s position that the economic impact results presented within the regional economic development (RED) analysis are indeed only regional in nature and should not be included in the national economic development (NED) benefit-cost analysis (see Section 4.15, Irrigated Agriculture and Socioeconomics).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LOC5-29                          | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LOC5-30                          | Ag Census data is published at the county level every 5 years. National Agricultural Statistic Service (NASS) data is at the county level and is published every year. Data specific to the Study Area is preferable and was obtained from GWMA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LOC5-31                          | The cropping pattern data obtained from GWMA was the most recent available. Examination of NASS county-level data (post-2005) did not reveal a structural shift or strong upward trends in cropping patterns when compared to the pre-2005 data relative to corn acreage. Agricultural prices for the impact analysis all showed a pronounced upward trend over the 2004-2008 period for all crops. Determining the net effects on cropping patterns from enactment of the Energy Policy Act of 2005 would not be possible given the data available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LOC5-32                          | Section 1.4.10 of the P&Gs states: “(a) The prices of goods and services used for evaluation should reflect the real exchange values expected to prevail over the period of analysis. For this purpose, relative price relationships of outputs and inputs prevailing during, or immediately preceding, the period of planning generally represent the real price relationships expected over the life of the plan, unless specific considerations indicate real exchange values are expected to change. (b) The general level of prices for outputs and inputs prevailing during or immediately preceding the period of planning is to be used for the entire period of analysis. In the case of agricultural planning, normalized prices prepared by the Department of Agriculture should be used.”                                                                                                                                                                                                                                                                                                                |
| LOC5-33                          | This was an error in the analysis and has been corrected in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOC5-34                          | The description for calculating agricultural benefits under with- and without-project conditions was clarified in the FEIS; see Section 4.15, Irrigated Agriculture and Socioeconomics, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LOC5-35                          | See response to comment LOC5-34.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| LOC5-36                          | The FEIS considers benefits and costs under both action and no action scenarios. Additional modeling and analysis by the USGS and the GWMA may continue to better reflect future groundwater conditions in the Columbia Plateau Regional Aquifer System. Reclamation and Ecology have utilized the best                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Table 3 – Responses to individual comments.**

| <b>Local Government Agencies</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | available information in the development of this FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| LOC5-37                          | The economic analysis of municipal benefits estimated the municipal pumping cost savings associated with moving groundwater-irrigated agriculture to surface water. This analysis actually overstated the pumping cost savings since the No Action Alternative groundwater level projection did not take into account the movement of irrigated agriculture to dryland production as groundwater levels continue to decline. While it is possible that individual wells might fail, a full failure scenario was not estimated because it did not seem likely. Based on existing groundwater information and current pumping depths to the deepest wells in each area, it appears that the most significant problem for municipalities relates to dealing with the costs of extending wells and pumping.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| LOC5-38                          | The municipal benefits analysis focuses on those wells tapping into the deep aquifer (assumed to be greater than 400 feet deep). The analysis assumed that the deep water wells would continue tapping into the deep aquifer across the 100-year period of analysis. The groundwater team projected groundwater levels for each phase area through year 2125. The groundwater team also estimated lower bound pumping depths for each area based on the deepest wells currently found in the area. In no instance did the projected groundwater depth fall below the lower bound pumping depth in an area in year 2125 under the No Action Alternative. This suggests that the projected groundwater level under the No Action Alternative would not completely drain the deep aquifer in any of the areas, implying that agriculture would not exhaust the groundwater supply by the end of the period of analysis. Given the groundwater team's projection for the No Action Alternative was based on historical trends in groundwater decline and did not take into consideration irrigators moving to dryland farming, the groundwater level projection is likely to be an overestimate of the groundwater level decline. |
| LOC5-39                          | While no direct calculation was made as to the remaining groundwater supply in each area (due to data limitations), it was assumed that as more irrigated acreage switched to dryland farming under the No Action Alternative, the remaining groundwater supply could be used by municipalities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LOC5-40                          | Due to data limitations, the municipal benefit analysis does not include the costs of well deepening.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LOC5-41                          | The intent of the current Study is to evaluate moving current irrigators off of groundwater and onto surface water. Municipal and industrial (M&I) water supply benefits are included in the economic analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LOC5-42                          | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOC5-43                          | Reclamation and Ecology have communicated directly with many of the referenced businesses in the Subarea (see Table 5-1). Input and information gained from these discussions have been integrated in the analyses in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LOC5-44                          | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOC5-45                          | An average delivery of 3 acre-feet of water per year per acre was agreed upon with input from the ECBID. It is likely that some of the groundwater systems have better efficiency than 3 acre-feet/year/acre. However, this delivery amount allows the district to deliver surface water in a variety of water-year types (average, wet, dry, and drought).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LOC5-46                          | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LOC5-47                          | The segments of the proposed Study infrastructure are identified as components of a larger whole for ease of understanding. As presented in the EIS, these components and segments function together as a whole in order to satisfy the purpose and need for the Study. A segmented, piecemeal approach to implementation as suggested would not adequately ensure that the purpose and need for the Odessa Subarea Special Study could or would be achieved. If it is determined that an alternative is viable and feasible as a system solution, then specifics of funding and implementation could be addressed subsequently outside of the current EIS. In addition, all costs associated with the project must be included in the benefit-cost ratio analysis, regardless of who pays for that portion.<br><br>Also, see Master Response #5, Economic Analysis Guidance.                                                                                                                                                                                                                                                                                                                                                 |
| LOC5-48                          | See response to comment LOC5-47.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Table 3 – Responses to individual comments.**

| <b>Local Government Agencies</b>                         |                                                                                                                                                                                                                                               |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOC5-49                                                  | Easement widths and other land acquisition needs, such as pumping plants, have been revised in the FEIS (see Sections 2.5, 2.6, and 2.7, Alternatives, in the FEIS).                                                                          |
| LOC5-50                                                  | See response to comment LOC5-49.                                                                                                                                                                                                              |
| LOC5-51                                                  | See response to comment LOC5-49.                                                                                                                                                                                                              |
| LOC5-52                                                  | The environmental impacts associated with operation and maintenance facilities were included in this FEIS, anticipating future development.                                                                                                   |
| LOC5-53                                                  | Revisions to these assumptions are reflected in the Final Feasibility-Level Engineering Report for the Odessa Subarea Special Study.                                                                                                          |
| LOC5-54                                                  | See response to comment LOC5-53.                                                                                                                                                                                                              |
| LOC5-55                                                  | See response to comment LOC5-53.                                                                                                                                                                                                              |
| LOC5-56                                                  | See response to comment LOC5-53.                                                                                                                                                                                                              |
| LOC5-57                                                  | See response to comment LOC5-53.                                                                                                                                                                                                              |
| LOC5-58                                                  | Comment noted.                                                                                                                                                                                                                                |
| LOC5-59                                                  | See Master Response #5, "Economic Analysis Guidelines."                                                                                                                                                                                       |
| LOC5-60                                                  | Drainage considerations have been revised in the FEIS; see Section 2.9, Estimated Cost of Alternatives, in the FEIS.                                                                                                                          |
| LOC5-61                                                  | See response to comment LOC5-53.                                                                                                                                                                                                              |
| LOC5-62                                                  | See Section 4.17, Energy.                                                                                                                                                                                                                     |
| LOC5-63                                                  | See Section 4.17, Energy.                                                                                                                                                                                                                     |
| LOC5-64                                                  | Comment noted.                                                                                                                                                                                                                                |
| LOC5-65                                                  | See Section 4.17, Energy.                                                                                                                                                                                                                     |
| LOC5-66                                                  | See Section 4.17, Energy.                                                                                                                                                                                                                     |
| LOC5-67                                                  | See Section 4.17, Energy.                                                                                                                                                                                                                     |
| LOC5-68                                                  | Comment noted.                                                                                                                                                                                                                                |
| LOC5-69                                                  | Comment noted.                                                                                                                                                                                                                                |
| LOC5-70                                                  | Comment noted.                                                                                                                                                                                                                                |
| LOC5-71                                                  | Comment noted.                                                                                                                                                                                                                                |
| LOC5-72                                                  | Meetings with above-referenced agencies have been ongoing (see Section 5.3, Agency Coordination and Consultation, in the FEIS) and appropriate analyses and mitigations are included in Section 4.31, Environmental Commitments, in the FEIS. |
| LOC5-73                                                  | Comment noted.                                                                                                                                                                                                                                |
| <b>Comment Letter LOC6 –Lincoln County Commissioners</b> |                                                                                                                                                                                                                                               |
| LOC6-1                                                   | Comment noted.                                                                                                                                                                                                                                |
| LOC6-2                                                   | Most areas described in your comment are beyond the geographic scope of this Study and beyond the boundaries of the CBP. See Section 1.1, Introduction, in the FEIS.                                                                          |

**Table 3 – Responses to individual comments.**

| <b>Local Government Agencies</b>                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| LOC6-3                                                     | The area referred to is outside the geographic area addressed in the FEIS and is beyond the scope of the Study. The proposed Lincoln County Passive Rehydration Study (LCPRS) addresses your concerns. However, the LCPRS is early in the investigation process, with several phases of evaluation, assessment and design remaining to be funded and conducted over the next several years before a final decision would be made regarding implementation. |
| <b>Comment Letter LOC7 – Town of Odessa</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOC7-1                                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Comment Letter LOC8 – Franklin County Commissioners</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOC8-1                                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Comment Letter LOC9 – Odessa Chamber of Commerce</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOC9-1                                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Comment Letter LOC10 – Town of Lind</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LOC10-1                                                    | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**Table 3 – Responses to individual comments.**

| <b>Organizations</b>                                                           |                                                                                                                                                                                                                                                                  |
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| <b>Comment Letter ORG1 – Soap Lake Conservancy</b>                             |                                                                                                                                                                                                                                                                  |
| ORG1-1                                                                         | Comment noted.                                                                                                                                                                                                                                                   |
| ORG1-2                                                                         | The proposed Project will have no effect on Soap Lake. Reclamation believes that the current dewatering system in place that minimizes freshwater infiltration continues to be an effective safeguard protecting the mineral water qualities found in Soap Lake. |
| ORG1-3                                                                         | See response to comment ORG1-2.                                                                                                                                                                                                                                  |
| ORG1-4                                                                         | All ESA-listed species and State sensitive species have been considered in the development of the FEIS.                                                                                                                                                          |
| <b>Comment Letter ORG2 – Promoters of Wildlife and Environmental Resources</b> |                                                                                                                                                                                                                                                                  |
| ORG2-1                                                                         | Comment noted.                                                                                                                                                                                                                                                   |
| ORG2-2                                                                         | Comment noted.                                                                                                                                                                                                                                                   |
| ORG2-3                                                                         | Comment noted.                                                                                                                                                                                                                                                   |
| ORG2-4                                                                         | Comment noted.                                                                                                                                                                                                                                                   |
| ORG2-5                                                                         | Comment noted.                                                                                                                                                                                                                                                   |
| <b>Comment Letter ORG3 – Columbia Gorge Audubon Society</b>                    |                                                                                                                                                                                                                                                                  |
| ORG3-1                                                                         | Comment noted.                                                                                                                                                                                                                                                   |
| ORG3-2                                                                         | The pumped-storage projects referred to are not part of the Odessa Subarea Special Study EIS proposed action or alternatives.                                                                                                                                    |



**Comment Letter ORG4 – Big Bend Resource Conservation and Development Council**

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| ORG4-1 | Comment noted. |
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**Comment Letter ORG5 – Columbia Basin Environmental Council**

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| ORG5-1 | Comment noted. |
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| ORG5-2 | See Section 4.31, Environmental Commitments. |
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**Comment Letter ORG6 – Columbia Basin Ground Water Management Area**

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| ORG6-1 | Alternative 4, the Modified Partial Replacement Alternative (Preferred Alternative) analyzed in the FEIS, addresses this comment. |
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| ORG6-2 | Comment noted. |
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| ORG6-3 | Comment noted. |
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| ORG6-4 | Comment noted. |
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| ORG6-5 | See response to comment ORG6-1. |
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| ORG6-6 | See Section 2.7, Modified Partial Groundwater Irrigation Replacement Alternatives, in the FEIS |
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| ORG6-7 | Comment noted. |
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| ORG6-8 | <p>The facilities that were designed for the Odessa Subarea Special Study comply with accepted engineering practices and meet Federal and State requirements. Open canals were used instead of enclosed pipe to reduce costs. Several Reclamation facilities have air chambers (regulating towers) to offset the effects and lessen stresses on pipelines and pumping stations in the event of a plant shutdown.</p> <p>Tall regulating tanks help reduce the number of pumping plants that would be required to pump water to all farms included in the project, keeping the overall project cost to a minimum.</p> <p>See Section 2.5.1.2, Delivery System, in the FEIS.</p> |
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| ORG6-9 | Comment noted. |
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| ORG6-10 | Comment noted. |
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| ORG6-11 | Removal and replacement of existing delivery pipelines and pumping plants is not contemplated for any alternative. |
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| ORG6-12 | Comment noted. |
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| ORG6-13 | Utilization of existing infrastructure will continue as part of the ongoing operations of the CBP. |
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| ORG6-14 | Comment noted. |
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| ORG6-15 | The Study is not a groundwater recharge project, but a groundwater replacement project. |
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| ORG6-16 | See Section 2.2, Alternatives Overview and Water Management, in the FEIS. |
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| ORG6-17 | Comment noted. |
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| ORG6-18 | Comment noted. |
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| ORG6-19 | Comment noted. |
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| ORG6-20 | Comment noted. |
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| ORG6-21 | For projects planned with phased development, the OMB requires a separate benefit-cost analysis as each phase is proposed for construction to verify that each phase is economically justified and financially feasible. |
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| ORG6-22 | The analysis of potential effects under Section 4.25, Environmental Justice, in the FEIS has been reconsidered |
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|         | and revised.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ORG6-23 | The regional analysis measures the direct and secondary impacts to the four-county region and the significance of these effects.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ORG6-24 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ORG6-25 | See Master Response #5, "Economic Analysis Guidance."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ORG6-26 | The OMB requires a "Principles and Guidelines-" based benefit-cost analysis using the current Federal water project planning rate to evaluate economic justification for possible Federal funding decisions. The 3-percent rate reflects the rate at the time the Columbia Basin Project was first authorized and is presented for informational purposes only. The description for calculating agricultural benefits under with- and without-project conditions is further clarified in the FEIS. The avoided pumping costs for municipalities under the proposed alternatives were included as a benefit. |
| ORG6-27 | See response to comment ORG6-26.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ORG6-28 | Instead of costs for drainage, costs to acquire wetted areas have been included in the economic analysis. See Section 2.10, Benefit-Cost Analysis, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ORG6-29 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Comment Letter ORG8 – Northwest Food Processors Association**

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| ORG8-1 | Comment noted.                                                                                                                                                                                                                                                     |
| ORG8-2 | See Master Response #5, "Economic Analysis Guidance."                                                                                                                                                                                                              |
| ORG8-3 | Potato processing was addressed in the RED analysis; see Section 4.15.4, Socioeconomics, in the FEIS.                                                                                                                                                              |
| ORG8-4 | The economic analysis contained in the EIS does take into account the long-term storage of potatoes. Anecdotal information that cannot be fully supported by data or publication is difficult to capture in an economic analysis relying on accounting principles. |
| ORG8-5 | Comment noted.                                                                                                                                                                                                                                                     |
| ORG8-6 | Comment noted.                                                                                                                                                                                                                                                     |
| ORG8-7 | Comment noted.                                                                                                                                                                                                                                                     |
| ORG8-8 | Comment noted.                                                                                                                                                                                                                                                     |

**Comment Letter ORG9 – Kittitas Audubon Society**

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| ORG9-1 | Comment noted. |
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**Comment Letter ORG10 – Washington State Potato Commission**

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| ORG10-1 | Comment noted.                                                                                           |
| ORG10-2 | Comment noted.                                                                                           |
| ORG10-3 | Comment noted.                                                                                           |
| ORG10-4 | Comment noted.                                                                                           |
| ORG10-5 | See response to comment ORG6-1.                                                                          |
| ORG10-6 | Comment noted.                                                                                           |
| ORG10-7 | Comment noted.                                                                                           |
| ORG10-8 | Potato processing, including the Odessa potato storage qualities, is included in the RED analysis.       |
| ORG10-9 | The analysis in the EIS did not adjust the production functions in IMPLAN like the 2005 Washington State |

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|          | University (WSU) study; however, the objectives of the two analyses differ. The WSU report was a contribution analysis intended to measure how the potato industry in Washington State contributes to the economy. The analysis in the EIS is measuring the difference between the No Action and action alternatives. Therefore, adjusting the production function would have no effect on the answer. It should also be noted that the study areas in the WSU report are much larger than the analysis area used in the EIS, resulting in different values for irrigated potatoes.                                                                                                    |
| ORG10-10 | The aggregation of individual crops into representative crops is based on the predominance of individual crops and the availability of published data. Specialty crops typically only account for a small percentage of all crops grown in an area. Published data for the referenced specialty crops was not available.                                                                                                                                                                                                                                                                                                                                                               |
| ORG10-11 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG10-12 | The repayment of project costs will be determined if the project is built.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ORG10-13 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG10-14 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG10-15 | Consideration of recommendations and comments received on the DEIS have resulted in the development of a Preferred Alternative that would serve lands both north and south of I-90. These lands have been selected based upon their eligibility to receive Columbia Basin Project water and the efficiencies obtainable by design and engineering design. The selection process for eligible lands to receive Project water were not based solely upon lands with the greatest water table decline, as financial feasibility and economic justification must also be considered in an effort to develop a potential project that may be supported in these financially strained times. |
| ORG10-16 | Depending upon the alternative chosen, Reclamation would contract with the irrigation district for the delivery of the water within the Study Area. Water would be allocated to users in accordance with this contract and the selection process identified by the State, Reclamation, and the District. Place of use transfers for groundwater wells are addressed in State water law.                                                                                                                                                                                                                                                                                                |
| ORG10-17 | Assuming Federal funds are sought to aid in project development, obtaining a larger share of project costs from non-Federal sources has no impact on the benefit-cost calculation. Regardless of the portion of project costs obtained from Federal or non-Federal funds, all project benefits and costs must be included in the benefit-cost analysis.                                                                                                                                                                                                                                                                                                                                |
| ORG10-18 | Reclamation has a contractual commitment to not impact block and farm unit users with this project, so these contracts will remain interruptible. Many existing farmers in the Columbia Basin construct irrigation ponds on their private land to store their water delivery for further use.                                                                                                                                                                                                                                                                                                                                                                                          |
| ORG10-19 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG10-20 | All of Reclamation's current water supply obligations related to the CBP would continue to be met in all Study alternatives. Specific to the Study Area, CBP water would continue to be provided to 16,864 acres under existing water service contracts with ECBID. A cost savings is associated with those Study alternatives that encompass utilizing existing infrastructure.                                                                                                                                                                                                                                                                                                       |

**Comment Letter ORG11 – Lower Columbia Basin Audubon Society**

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| ORG11-1 | CEQ regulations do not require an agency to identify the preferred alternative in the DEIS if one has not been determined. Based on public and agency comments, as well as additional consideration of the action alternatives, Reclamation and Ecology have identified a preferred alternative for the FEIS. A detailed description of the agencies' preferred alternative has been included in Section 2.7, Modified Partial Groundwater Irrigation Replacement Alternatives, in the FEIS. |
| ORG11-2 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ORG11-3 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ORG11-4 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ORG11-5 | See response to comment WAS1-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ORG11-6 | Under the No Action Alternative, additional fragmentation of wildlife habitat would not likely occur nor would wildlife mobility be greatly affected if irrigated farmlands revert to dryland farms. Though the Conservation Reserve Program (CRP) is currently fully subscribed, currently enrolled farmlands would need to rotate out of the CRP in order for new lands to subscribe.                                                                                                      |

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| ORG11-7                                                               | See comment to response TRB3-4.                                                                                                                                                                                                                                                                                                                                |
| ORG11-8                                                               | See response to TRB2-4.                                                                                                                                                                                                                                                                                                                                        |
| ORG11-9                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG11-10                                                              | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| <b>Comment Letter ORG12 – Columbia Basin Development League</b>       |                                                                                                                                                                                                                                                                                                                                                                |
| ORG12-1                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG12-2                                                               | See Section 1.1, Introduction, discusses the 2004 MOU between Reclamation, Ecology, and the CBP irrigation districts to cooperatively conduct this Study as stated in the Columbia River Initiative MOU.                                                                                                                                                       |
| ORG12-3                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG12-4                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG12-5                                                               | The economic analyses developed for this Study did consider the effects upon recreation. Banks Lake was anticipated to be the recreation area with the most significant impacts as a result of water-level reductions compared to the No Action Alternative. However, losses in recreation activity at Banks Lake due to the water-level declines are minimal. |
| ORG12-6                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG12-7                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG12-8                                                               | This is a private and public partnership and costs will be paid as appropriate in accordance with Reclamation Law.                                                                                                                                                                                                                                             |
| ORG12-9                                                               | See response to comment LOC5-36.                                                                                                                                                                                                                                                                                                                               |
| ORG12-10                                                              | The State of Washington is outside the scope of this analysis. The analyses measure the national benefits and regional impacts from activities generated by the proposed Study Area.                                                                                                                                                                           |
| ORG12-11                                                              | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| <b>Comment Letter ORG13 – American Rivers</b>                         |                                                                                                                                                                                                                                                                                                                                                                |
| ORG13-1                                                               | The proposal to discontinue water delivery to currently irrigated acres does not meet the purpose and need of this Study.                                                                                                                                                                                                                                      |
| ORG13-2                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG13-3                                                               | In regard to Columbia River flows, see response to comment WAS1-7. Also, see Master Response #1, "Columbia River Treaty" and #3, "Climate Change."                                                                                                                                                                                                             |
| ORG13-4                                                               | See response to comment ORG13-3. In addition, Federal Columbia River Power System (FCRPS) BiOp flow objective provisions have been largely consistent over time.                                                                                                                                                                                               |
| ORG13-5                                                               | See response to comment TRB1-23.                                                                                                                                                                                                                                                                                                                               |
| ORG13-6                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG13-7                                                               | Flow modeling included consideration of migration needs for Snake River fall Chinook. The analysis concluded there would be no effect on anadromous fish in the Columbia River.                                                                                                                                                                                |
| ORG13-8                                                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                 |
| ORG13-9                                                               | The Bhattacharjee & Holland report was not used to conduct the regional analysis for this FEIS. It was referenced in the Notice of Intent simply to identify the potential economic impacts to potato production. This is explained further in Section 4.15 in the FEIS.                                                                                       |
| <b>Comment Letter ORG14 – Center for Environmental Law and Policy</b> |                                                                                                                                                                                                                                                                                                                                                                |
| ORG14-1                                                               | For the FEIS, U.S. Fish and Wildlife Service found the analysis adequate as a first-tier NEPA/SEPA document.                                                                                                                                                                                                                                                   |



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| ORG14-2  | Under SEPA, the decision whether to require mitigation for adverse effects that may result from the Odessa Subarea Special Study proposed action and alternatives is a discretionary one that resides with Ecology, the agency with SEPA jurisdiction over the proposal. In regard to water quality impacts at Banks Lake, see response to comment FED3-16. Please also refer to the latter portion of response to comment TRB1-1 as it discusses the consideration of mitigation strategies under a tiered NEPA environmental review.            |
| ORG14-3  | With Partial and Modified Partial Replacement Alternatives, no new storage is necessary. However, for the proposed Black Rock Coulee reservoir, if a triggering alternative were selected, mitigation for impacts would be developed during consultation with the public and agencies of jurisdictional authority. If the Columbia River Development Account were to make it possible to construct Black Rock Coulee reservoir, the provisions of RCW 90.90 pertaining to new storage facilities may apply. Also see response to comment TRB1-23. |
| ORG14-4  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORG14-5  | See response to comment TRB2-14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ORG14-6  | The No Action Alternative as presented in the FEIS captures the essence of a change to dryland farming. Also, see Master Response #5, Economic Analysis Guidance.                                                                                                                                                                                                                                                                                                                                                                                 |
| ORG14-7  | With the CBP Act of 1943, Congress anticipated a 75-year development of the project. That development was to be done in phases, each phase to be "economically feasible and financially justified." Unfortunately, appropriations to build the second half of the project have not been realized.                                                                                                                                                                                                                                                 |
| ORG14-8  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORG14-9  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORG14-10 | The description for calculating agricultural benefits under with- and without-project conditions was clarified in the FEIS. This will explain the different purposes of agricultural benefits budgets compared to financial analyses. See Section 4.15, Irrigated Agriculture and Socioeconomics, in the FEIS.                                                                                                                                                                                                                                    |
| ORG14-11 | Reasonable alternatives are limited to those that meet the Purpose and Need for the project, i.e., "to deliver surface water from the CBP to replace declining groundwater supply currently used for irrigation in the Odessa Subarea." Conversions to dryland farming are occurring and will continue to occur as a consequence of the No Action Alternative.                                                                                                                                                                                    |
| ORG14-12 | See response to comment ORG13-9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ORG14-13 | See response to comment ORG13-9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ORG14-14 | Section 2.3.5 of the P&Gs includes a procedure describing how and when nonbasic crops may be included in a benefits analysis. The Odessa Subarea Special Study satisfied the requirements whereby potatoes could be included in the analysis as a nonbasic crop.                                                                                                                                                                                                                                                                                  |
| ORG14-15 | Estimated pumping depths and groundwater decline is well documented in the Study and verified through jurisdictional agency consultation.                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG14-16 | The FEIS uses information from both sources. Data from the USGS report specific to the Study Area has been used to calculate the water levels and rates of decline.                                                                                                                                                                                                                                                                                                                                                                               |
| ORG14-17 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORG14-18 | The Study assumes that there would be some stabilization of the aquifer with decreased use.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ORG14-19 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORG14-20 | The majority of the mitigation costs are included in the noncontract costs of the economic analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ORG14-21 | Additional analysis of the current and future groundwater conditions and potential impacts to groundwater dependency is presented in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORG14-22 | The Federal water project planning rate is updated annually, so the longer a study takes (multiple years), the more apt it is to possibly warrant reevaluation using the most recent planning rate. The FEIS reflects reevaluation using the most recent planning rate.                                                                                                                                                                                                                                                                           |
| ORG14-23 | Comparing present valued costs and benefits or annualized costs and benefits would generate identical benefit-cost ratios.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ORG14-24 | The installation period referred to in the P&Gs, Section 2.1.2(a) relates to phased construction "... over an                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|          | extended period of time." In the case of the current Study, we are considering phased construction, but only over a 10-year time period. What the P&Gs are referring to is a long-term phased construction project. If a large project is anticipated to be completed in phases where construction of the phases might be 30, 40, or 50 years apart, then the intent is to evaluate the economic justification of each phase as it is proposed. For the initial phase (referred to in Section 2.1.2(a) of the P&Gs), one would only want to include the costs associated with the first phase. Ultimately, this issue involves converting costs and benefits to a common point in time (i.e., compounding/discounting). Choice of the comparison point makes no difference to the results. |
| ORG14-25 | Analyses of irrigated agriculture and socioeconomics have been revised in the FEIS (see Section 4.15). Since each phase was deemed to be dependent on Phase 1, an adjustment was made to cut the end point of the period of analysis to year 2018 for all phases (100 years after the end of construction of Phase 1). Had the phases been deemed independent, we could have considered varying end dates for each phase.                                                                                                                                                                                                                                                                                                                                                                  |
| ORG14-26 | See response to comment LOC5-20.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ORG14-27 | See Master Response #1, "Columbia River Treaty." In addition, a description of the Columbia River Treaty and its contribution to potential cumulative impacts related to flood control, power generation, and operation of Grand Coulee Project has been included in the FEIS.<br><br>Also, please see Master Response #2, "Tiered Review Process."                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ORG14-28 | Reclamation holds a reservoir certificate for FDR that allows for "store and use" of the water for "irrigation and hydropower." However, Reclamation has agreed to apply for secondary use permits for water delivery to the CBP. The Department of Ecology will follow its own regulatory processes when considering whether or not to issue a secondary use permit to Reclamation.                                                                                                                                                                                                                                                                                                                                                                                                       |
| ORG14-29 | See response to comment ORG14-28.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ORG14-30 | The analysis of Columbia River flows and diversions conducted for this Study included all out-of-stream uses. This modeling constitutes a critical portion of the overall cumulative impacts analysis (Section 4.27 in the FEIS).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ORG14-31 | See response to comment ORG14-30.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ORG14-32 | The National Oceanic and Atmospheric Administration (NOAA) has issued a 2010 Supplemental Biological Opinion. This is a final action that integrates the existing 2008 FCRPS BiOp and 2009 Adaptive Management Implementation Plan (AMIP) as amended, and supplements the science, actions, and conclusions of the 2008 BiOp. The proposed actions under the FEIS are in compliance with the BiOp as well as the Washington State Columbia River Program which is, in part, predicated in the 2004 NAS report.                                                                                                                                                                                                                                                                             |
| ORG14-33 | See response to comment ORG14-16.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ORG14-34 | The statements on pages 4-50 and 4-66 of the DEIS refer to well shutdown authority, not to well casing. The shutdown authority is in reference to permanent sealing of wells (decommissioning) to discontinue use after surface water replacement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG14-35 | Reclamation acknowledges your concern; however, your comment references the significant contaminant concentrations of heavy metals in the water column, not the sediments. The EPA is currently overseeing a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigation being carried out by Teck Cominco in the Upper Columbia River. The purpose of the investigation is to determine the nature and extent of contamination in the Upper Columbia River. Initial investigations have shown that metals tend to bind to sediments rather than remain in solution. The investigation will determine whether contaminants in the system pose any unacceptable risks to human health or the aquatic environment.                                          |
| ORG14-36 | Contaminants are present in and around FDR; the additional drawdowns under alternatives utilizing FDR as a water source does not expose additional sediments to wind erosion relative to periods of maximum drawdown for flood control. Also, see response to comment ORG 14-35.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ORG14-37 | The No Action Alternative would contribute beneficially to water quality, but only from the standpoint that with the loss of groundwater for irrigation, those lands currently irrigated by groundwater would revert to dryland farming or pasture land. This would reduce application rates for fertilizer and chemicals on those lands, thereby reducing the potential for water quality degradation to Crab Creek and the Columbia River. It should be noted that little runoff occurs under current groundwater irrigation practices and no increase in irrigated acreage would occur with any of the action alternatives.                                                                                                                                                             |
| ORG14-38 | It is true that no one action would resolve water quality impairment in the Upper Columbia River. As you recognize in your comment letter, the DEIS does address the potential water quality improvements associated with the No Action Alternative. Therefore, no change in the water quality analysis related to the No Action                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|          | Alternative is reflected in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ORG14-39 | Modeling was conducted on Banks Lake for water quality parameters that may be impacted by the proposed Odessa project by Portland State University on behalf of Ecology. Results of the temperature profile comparisons indicate water temperatures would experience little change under the management scenario as compared to the No Action Alternative. The reported average change in the temperature profile from the action alternatives to the No Action Alternative exceeded 1 °C. Although this may be significant in a cold water fishery, Banks Lake is a warm water fishery. Chapter 4, Section 4.4 more fully explains the findings. |
| ORG14-40 | See Master Response #3, Climate Change.” Also, see response to comment WAS1-7. Diversions from Lake Roosevelt for the Action Alternatives are proposed to occur during October, when temperatures in the basin are beginning to decline returning the aquatic environment to more stable conditions. Further impacts to water quality for Lake Roosevelt and the Columbia River are not anticipated with October diversions. The cumulative impacts are addressed in Section 4.27 in the FEIS.                                                                                                                                                    |
| ORG14-41 | See Master Response #3, Climate Change.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ORG14-42 | The Service is referring to noise impacts when referring to the analysis underestimating the area of impact. Reclamation disagrees with the Service on this point. The Service’s analysis was based upon highway noise impacts associated with road construction and operation. Noise impacts associated with the development of this project for the full replacement alternatives would be of a temporary nature during construction due to equipment operation. As such, noise impacts would be transitory and of little consequence to wildlife (see Section 4.19, Noise, in the FEIS).                                                       |
| ORG14-43 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORG14-44 | See Section 4.8, Vegetation and Wetlands, in the FEIS. Also, see Section 4.9, Wildlife and Wildlife Habitat.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ORG14-45 | The loss of shrub-steppe habitat has been acknowledged in the FEIS (see Section 4.9.1.3). In addition, mitigation measures and BMPs are described in Section 4.31, Environmental Commitments, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ORG14-46 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ORG14-47 | See Master Response #3, “Climate Change.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG14-48 | Flow rates would be consistent with instream flow objectives specified for the Columbia River. For each of the Odessa Special Study alternatives, the three time series data sets for water supply from the Columbia River were evaluated to predict changes in flow in the Columbia River. Results from these analyses have been used to predict and compare the impacts of climate change on flows under the action alternatives.                                                                                                                                                                                                               |
| ORG14-49 | See Master Response #3, “Climate Change.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG14-50 | See Master Response #3, “Climate Change.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG14-51 | See Master Response #3, “Climate Change.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG14-52 | See Master Response #3, “Climate Change.”                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG14-53 | See response to comment TRB3-1. Considering the relatively small volume of additional Columbia River flows needed for implementation of the action alternatives and the management constraints currently in effect, multiple objectives required by law for the operation of Grand Coulee Dam would not be impeded.                                                                                                                                                                                                                                                                                                                               |
| ORG14-54 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Comment Letter ORG15 – Columbia River Inter-Tribal Fish Commission**

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| ORG15-1 | See Master Response #4, “Columbia River Downstream.” The FCRPS 2010 BiOp prepared by NOAA, National Marine Fisheries Service (NMFS) incorporates seasonal planning-level flow objectives downstream from Priest Rapids, McNary, and Bonneville Dams as one aspect of the overall water management plan. Flow objectives help protect endangered species by facilitating spawning and downstream passage of juveniles and accommodate returning adult salmon and steelhead. Flow objectives to protect fall Chinook spawning, incubation, and rearing downstream from Priest Rapids Dam at Vernita Bar are also in place. In addition, the State of Washington, as part of its Columbia River Water Management Program (CRWMP), does not allow withdrawal of water from the Columbia River for out-of-stream uses in July and August. The Odessa action alternatives were developed recognizing that the Columbia River flow objectives could not be violated in our modeling exercises. The flow objectives on the Columbia River had to be met at each of the dams before any |
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|          | <p>additional water could be pumped from Lake Roosevelt into Banks Lake and to the Odessa subarea. Two diversion scenarios were analyzed as part of this FEIS; see Section 2.2.1.2. If additional water was not available in excess of the flow objectives in the Columbia River, storage water from Banks Lake, and/or Lake Roosevelt would be used to provide the additional irrigation water.</p> <p>Also, see responses to comments TRB3-1 and WAS1-7.</p>                                                                                                                                                                                                         |
| ORG15-2  | <p>In an effort to minimize impacts, no additional withdrawal from Columbia River flows will occur with any action alternative presented in the FEIS during the months of July through September.</p> <p>Variation in flows under the action alternatives would be well within the variation and managed flow regimes currently experienced by Tribal fishers.</p> <p>Also, see response to comment TRB3-1</p>                                                                                                                                                                                                                                                         |
| ORG15-3  | Hydrogeological modeling has been conducted for the Preferred Alternative. Consideration of concerns for flow reductions during these months is addressed in Chapter 4 Section 4.2 in the FEIS. Also see responses to comments TRB3-1 and WAS 1-7.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ORG15-4  | None of the six action alternatives would result in a significant change in Columbia River flows. Current water management strategies intended to protect resource values would continue to be met as a first priority in all hydrologic conditions.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ORG15-5  | See Master Response #4, "Columbia River Downstream." Efforts will continue, as reflected in the FEIS, to address the concerns of Tribes and other entities toward recovery of salmonids.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ORG15-6  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG15-7  | Additional modeling has been conducted as reflected in Section 4.2 in the FEIS that precludes additional diversion of water from the Columbia River during the month of September.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ORG15-8  | See Master Response #4, "Columbia River Downstream." The FEIS identifies and accurately characterizes the potential for adverse indirect and cumulative impacts on juvenile anadromous fish related to migration and predation. Please refer also to the responses to comments TRB3-1 and WAS1-7.                                                                                                                                                                                                                                                                                                                                                                      |
| ORG15-9  | Ecology and Reclamation have considered these recommendations in preparation of the FEIS. Please refer also to the responses to comments TRB3-1 and WAS1-7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ORG15-10 | The suggested report was considered in the development of the EIS. Vadas and Beecher (2007) analyzed the available survival-flow data for Snake River spring/summer Chinook salmon using quadratic and polynomial regression models. Their results suggest a more typical "humped" relationship whereby survival increases with flow, most notably under low-flow conditions, but then declines at higher flows. The ambiguity in the flow-survival relationship at higher flows may be due to other factors associated with high flows, such as elevated total dissolved gas concentrations or poorer performance of fish passage and protection systems at the dams. |
| ORG15-11 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG15-12 | See response to comment ORG15-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ORG15-13 | See Master Response #4, "Columbia River Downstream." This Study thoroughly analyzes the impacts to fish in the Columbia River and concludes there will be no measurable adverse effects to fish populations. In turn, variation in flows under the action alternatives will be within the flow regime currently experienced by Tribal fishers. We therefore believe that there will be no economic or cultural effects on Tribal activities related to fishing or other uses of the River by Tribal members.                                                                                                                                                           |
| ORG15-14 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ORG15-15 | Treaty reserved rights are not lost by nonuse or by the exercise of junior priority State-granted rights. Reclamation appropriated water rights from the State of Washington with a 1938 priority date pursuant to Section 8 of the Reclamation Act of 1902 (43 U.S.C. 383). Those rights would be junior or subordinate to any treaty reserved rights.                                                                                                                                                                                                                                                                                                                |
| ORG15-16 | The OMB requires a "Principles and Guidelines" based benefit-cost analysis using the current Federal water project planning rate to evaluate economic justification for possible Federal funding decisions. In an effort to provide a cost-effective alternative, Reclamation and Ecology have developed the Modified Partial Replacement Alternative with input from the Project irrigation districts.                                                                                                                                                                                                                                                                |
| ORG15-17 | See response to comment LOC5-32.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



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| ORG15-18 | See Master Response #3, "Climate Change."                                                                                                                                                                                                                                                      |
| ORG15-19 | See Master Response #3, "Climate Change."                                                                                                                                                                                                                                                      |
| ORG15-20 | See Master Response #3, "Climate Change."                                                                                                                                                                                                                                                      |
| ORG15-21 | The FEIS reflects no pumping of additional Columbia River flows in September in an effort to address flow reduction concerns expressed by several commenters. In addition, the Modified Partial Replacement Alternative- Banks Lake Only will not impact surface elevations on Lake Roosevelt. |
| ORG15-22 | See Master Response #2, "Tiered Review Process."                                                                                                                                                                                                                                               |

**Table 3 – Responses to individual comments.**

| <b>Public Services and Utilities</b>                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>Comment Letter PUB1 – Columbia-Snake River Irrigators Association</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB1-1                                                                   | Alternative 4, Modified Partial Replacement Alternative (Preferred Alternative) addresses this comment. This alternative is more equitable than Alternative D in the 2008 Appraisal Study, in that it covers lands both north and south of I-90 and removes more acres off groundwater irrigation than Alternative D. The Odessa Subarea Special Study is a public NEPA/SEPA process and the requested reports were outside the scope of the Special Study.                         |
| PUB1-2                                                                   | Please see latter portion of response to comment FED3-4.                                                                                                                                                                                                                                                                                                                                                                                                                            |
| PUB1-3                                                                   | Alternative 4, Modified Partial Replacement Alternative (Preferred Alternative) addresses this comment.                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Comment Letter PUB2 – Big Bend Electric Cooperative, Inc.</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB2-1                                                                   | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Comment Letter PUB3 – Black Sands Irrigation District</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB3-1                                                                   | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Comment Letter PUB4 – Grant County Public Utility District</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB4-1                                                                   | Reclamation and Ecology acknowledge the potential impacts to transmission lines with certain action alternatives. By maximizing the use of existing infrastructure, the Preferred Alternative minimizes potential to existing transmission facilities. The FEIS is a tiered document whereby, in coordination with Tribes and jurisdictional agencies, additional NEPA/SEPA analysis would be conducted as appropriate prior to construction of each phase of the proposed project. |
| PUB4-2                                                                   | Rocky Coulee reservoir and all alternatives associated with it have been eliminated from this Study; therefore, impacts associated with the proposed Rocky Coulee reservoir would not occur with this project.                                                                                                                                                                                                                                                                      |
| PUB4-3                                                                   | See response to comment PUB4-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB4-4                                                                   | See response to comment PUB4-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Comment Letter PUB5 – Odessa School District #105</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB5-1                                                                   | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Comment Letter PUB6 – East Columbia Basin Irrigation District</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB6-1                                                                   | See Section 1.3, Purpose and Need, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB6-2                                                                   | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| PUB6-3                                                                   | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**Table 3 – Responses to individual comments.**

| <b>Public Services and Utilities</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| PUB6-4                               | See response to comment ORG15-16. The Preferred Alternative would not deliver water to remaining eligible acreages within the Subarea, since the benefit-cost ratio is not improved by adding additional high-cost carriage and delivery systems and pumping plants.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| PUB6-5                               | See Section 2.2, Alternatives Overview and Water Management, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| PUB6-6                               | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB6-7                               | The benefit-cost analysis developed for this study compares economic effects under the No Action Alternative to those under the proposed action alternatives. Under the No Action Alternative, it was assumed that the water proposed for diversion under the action alternatives would not be diverted and therefore would flow downstream and be used to generate hydropower. As a result, the comparison of the action alternatives to the No Action Alternative results in lost downstream hydropower benefits.                                                                                                                                                                                                                                                                                                                                                |
| PUB6-8                               | The benefit-cost analysis developed for this study compares economic effects under the No Action Alternative to those under the proposed action alternatives. Under the No Action Alternative, it was assumed that the water proposed for diversion under the action alternatives would not be diverted and therefore would flow downstream and be used to generate hydropower. As a result, the comparison of the action alternatives to the No Action Alternative results in lost downstream hydropower benefits.                                                                                                                                                                                                                                                                                                                                                |
| PUB6-9                               | See response to comment ORG6-21.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PUB6-10                              | See responses to comments LOC5-22 and ORG6-26.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB6-11                              | See response to comment ORG6-26. In addition, note that comparing present valued costs and benefits or annualized costs and benefits would generate identical benefit-cost ratios.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| PUB6-12                              | Reclamation and GWMA representatives discussed the well loss percentages in March 2009. The percentage losses used in the analysis came from those discussions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PUB6-13                              | Definition of normalized prices: The Economic Research Service (ERS) annually calculates "normalized prices" which smooth out the effects of short-run seasonal or cyclical variation for key agricultural inputs and outputs. These normalized prices are used by the U.S. Army Corps of Engineers and other Federal agencies to evaluate the benefits of projects affecting agriculture. Since 1993, ERS has calculated these prices based on 5-year lagged averages of actual market prices (e.g., an average of 2004-2008 market prices is used to calculate 2010 normalized prices). State-level normalized prices for 2010 were calculated by multiplying the national-level normalized prices by the average ratios of the State-level market prices to the national market prices for 2006-2008. Normalized prices are typically lower than market prices. |
| PUB6-14                              | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB6-15                              | See responses to comments LOC5-37, LOC5-38, and LOC5-39.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PUB6-16                              | See responses to comments LOC5-37, LOC5-38, LOC5-39, and LOC5-40.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PUB6-17                              | See response to comment LOC5-41.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PUB6-18                              | This Study is not an aquifer recharge study nor is the purpose of the proposed action and alternatives to recharge the aquifer. As a secondary benefit, some aquifer stabilization would occur.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PUB6-19                              | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| PUB6-20                              | The benefit-cost analysis compares the benefits and costs associated with the No Action Alternative to those of the proposed action alternatives. The No Action Alternative is the baseline. If the incremental benefits of a particular proposed alternative exceed the incremental costs of that alternative, then that alternative would be considered economically justified. Furthermore, the regional economic impacts presented within the socioeconomic section do not reflect national benefits.                                                                                                                                                                                                                                                                                                                                                          |
| PUB6-21                              | See response to comment LOC5-45.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PUB6-22                              | The Preferred Alternative presented in the FEIS should address much of your concern. In addition, the widths of easements and rights-of-way for all of the action alternatives have generally been reduced by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**Table 3 – Responses to individual comments.**

| <b>Public Services and Utilities</b>                                  |                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                       | 50 percent in the FEIS (see Sections 2.5, 2.6, and 2.7, Alternatives, in the FEIS).                                                                                                                                                                                                                                                                                                                              |
| PUB6-23                                                               | The wider easements mentioned by the commenter refer to the Farrier Coulee Wasteway only. This natural coulee downstream from the constructed channel would be acquired for the purposes of project operation and maintenance as well as fish and wildlife purposes. Generally, overall rights of way and easements have been reduced by 50 percent in the FEIS (including pumping plants and re-lift stations). |
| PUB6-24                                                               | Reclamation determines contingencies based on the level of cost estimates that have been completed for the project. We note your remarks that the contingencies seem high; however, considering the risks and uncertainties associated with the design and costs of the project, Reclamation considers the contingencies used to be justified.                                                                   |
| PUB6-25                                                               | Please note that these costs will not agree with those described in the benefit-cost analysis or with those presented in the national economic development (NED) benefit-cost analysis presented in the Odessa Special Study Report, since they have not been adjusted (compounded or discounted) to the end of the canal construction period (year 2025).<br><br>Also, see response to comment ORG6-26.         |
| PUB6-26                                                               | The extensive need for subdrains for the action alternatives has been reconsidered in the FEIS; see Section 2.9, Estimated Cost of Alternatives, in the FEIS.                                                                                                                                                                                                                                                    |
| PUB6-27                                                               | The FEIS presents a Modified Partial Replacement Alternative 4A (Preferred Alternative) that may address the concerns expressed in your comment.                                                                                                                                                                                                                                                                 |
| <b>Comment Letter PUB7 – South Columbia Basin Irrigation District</b> |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PUB7-1                                                                | Your summation of the operations and infrastructure of the CBP is correct and they are a part of the baseline for the No Action Alternative. The proposed action alternatives all include delivery systems modifications at a substantial cost.                                                                                                                                                                  |
| PUB7-2                                                                | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                   |
| PUB7-3                                                                | Overall capacity of the CBP delivery systems is carefully considered in all action alternatives proposed in the FEIS.                                                                                                                                                                                                                                                                                            |
| PUB7-4                                                                | See response to comment PUB7-3.                                                                                                                                                                                                                                                                                                                                                                                  |
| PUB7-5                                                                | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                   |

**Table 3 – Responses to individual comments.**

| <b>Individuals</b>                                |                                                                                                                                                                                                                                          |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Comment Letter IND1 – Kathleen Russel</b>      |                                                                                                                                                                                                                                          |
| IND1-1                                            | Comment noted.                                                                                                                                                                                                                           |
| <b>Comment Letter IND2 – John Kenneth Tolonen</b> |                                                                                                                                                                                                                                          |
| IND2-1                                            | Areas outside of the Columbia Basin Project boundaries would not receive surface water to replace their groundwater use.                                                                                                                 |
| <b>Comment Letter IND3 – Geraldine Gabriel</b>    |                                                                                                                                                                                                                                          |
| IND3-1                                            | Comment noted.                                                                                                                                                                                                                           |
| IND3-2                                            | Reclamation appropriated water rights from the State of Washington with a 1938 priority date pursuant to Section 8 of the Reclamation Act of 1902 (43 U.S.C. 383). Those rights are junior or subordinate to any treaty reserved rights. |

**Table 3 – Responses to individual comments.**

| <b>Individuals</b>                          |                                                                                                                                                                                                                                          |
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| IND3-3                                      | Comment noted.                                                                                                                                                                                                                           |
| IND3-4                                      | See response to comment TRB1-36.                                                                                                                                                                                                         |
| IND3-5                                      | See response to comment IND3-4.                                                                                                                                                                                                          |
| IND3-6                                      | It often requires running water for 24 hours to get sufficient water to the crops.                                                                                                                                                       |
| IND3-7                                      | See response to comment FED3-17.                                                                                                                                                                                                         |
| <b>Comment Letter IND4 – Tom McPherson</b>  |                                                                                                                                                                                                                                          |
| IND4-1                                      | Comment noted.                                                                                                                                                                                                                           |
| IND4-2                                      | Comment noted.                                                                                                                                                                                                                           |
| IND4-3                                      | Comment noted.                                                                                                                                                                                                                           |
| <b>Comment Letter IND5 – Gaye Hunt</b>      |                                                                                                                                                                                                                                          |
| IND5-1                                      | The action alternatives proposed under this Study do not include such activities.                                                                                                                                                        |
| IND5-2                                      | See response to comment IND5-1.                                                                                                                                                                                                          |
| IND5-3                                      | Comment noted.                                                                                                                                                                                                                           |
| <b>Comment Letter IND6 – Walter Butcher</b> |                                                                                                                                                                                                                                          |
| IND6-1                                      | The description for calculating agricultural benefits under with-project and without-project conditions was clarified in the FEIS; see section 4.15, Irrigated Agriculture and Socioeconomics, in the FEIS.                              |
| IND6-2                                      | An error was made in the analysis and there are too many potato acres in the with-project condition. This was corrected in the FEIS (Section 4.15, Irrigated Agriculture and Socioeconomics).                                            |
| IND6-3                                      | See response to comment ORG14-14.                                                                                                                                                                                                        |
| IND6-4                                      | Comment noted.                                                                                                                                                                                                                           |
| IND6-5                                      | Comment noted.                                                                                                                                                                                                                           |
| IND6-6                                      | Economic justification will be based on the required Federal water planning rate and not the 3-percent rate originally authorized as required by the OMB.                                                                                |
| IND6-7                                      | See response to comment ORG6-26.                                                                                                                                                                                                         |
| IND6-8                                      | Comment noted.                                                                                                                                                                                                                           |
| IND6-9                                      | Comment noted.                                                                                                                                                                                                                           |
| IND6-10                                     | The description for calculating agricultural benefits under with-project and without-project conditions was clarified in the FEIS. The analysis was corrected; see section 4.15, Irrigated Agriculture and Socioeconomics, in the FEIS). |
| IND6-11                                     | It is assumed that these are short-term adverse economic impacts until the economy adjusts as labor and capital are reemployed. This was the position initially shown in the economic analysis.                                          |
| IND6-12                                     | See response to comment IND6-1.                                                                                                                                                                                                          |
| IND6-13                                     | See response to comment IND6-1.                                                                                                                                                                                                          |
| IND6-14                                     | See response to comment IND6-2.                                                                                                                                                                                                          |
| IND6-15                                     | Acres served in Well Level 2 are more agriculturally productive lands, so yields were higher, which                                                                                                                                      |



**Table 3 – Responses to individual comments.**

| <b>Individuals</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                    | contributed to higher profitability. This information was obtained from local farmers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IND6-16            | See response to comment IND6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND6-17            | See response to comment ORG14-16. See also Section 4.3.1.2, Impact Analysis Methods, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IND6-18            | See response to comment IND6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND6-19            | See response to comment IND6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND6-20            | As surface water was introduced to the project area, a single with-project farm for the with-project condition was assumed because all acres receiving surface water were placed into the Well Level 2 typical farm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IND6-21            | Fixed costs would remain the same between the two scenarios. An investment cost for the deep wells was not included in the without-project budgets because the deep-level wells already existed and their investment costs were sunk costs. This analysis was not done to compare costs between paying for surface water or drilling deeper wells to irrigate; it was a benefit analysis to determine if the opportunity cost of bringing surface water to the Project Area outweighed the costs of completing the project.                                                                                                                                                                                                                                                                               |
| IND6-22            | The increase in wheat yields was obtained from discussions with local farmers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-23            | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-24            | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-25            | See response to comment IND6-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND6-26            | See response to comment IND6-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND6-27            | Reclamation procedures specify that the farmstead, roads, and waste acres be included in calculating the per-acre net farm income.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| IND6-28            | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-29            | See responses to comments IND6-1 and ORG14-14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-30            | See response to comment IND6-17.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND6-31            | See response to comment IND6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND6-32            | See response to comment IND6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND6-33            | See response to comment IND6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND6-34            | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-35            | Part of this increase has to do with the phased nature of the development. In year 2019, only one phase would have been constructed; by year 2025, all phases will have been developed. Pumping costs increase by nearly 90 times from 2019 to 2025 by simply adding in the effects across all of the phases. After 2025, pumping costs under the No Action Alternative continue to grow because of the decline in groundwater levels (expanding lift) and the increases in population (increased demand).                                                                                                                                                                                                                                                                                                |
| IND6-36            | The GWMA reports emphasize their interpretation of no vertical hydraulic connection between the Wanapum and the underlying Grande Ronde basalt formations but they do acknowledge that the two are not completely separated. Previous USGS and Ecology studies are referenced in the GWMA report and indicate the decline of Wanapum Formation water levels in the past due to irrigation and municipal pumping. Following well deepening, these declines and water-level gradients varied regionally based on local influences. In addition, the artificial vertical connection (and downward drainage) created by uncased boreholes continues to impact water levels in the shallowest aquifers. We agree that reduced pumping from the lower aquifer will not raise water levels in the upper aquifer. |

**Table 3 – Responses to individual comments.**

| <b>Individuals</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                    | As a result of the action alternatives, water levels are expected to stabilize, but not rise.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IND6-37            | The groundwater-level analysis looked at irrigation wells within the construction stage zones of the Study Area and projected current water level trends into the future. It did not take into account municipal wells at Moses Lake or Othello that are outside the Study Area. However, those wells (and cities) will likely be affected by the decrease of future irrigation pumping.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| IND6-38            | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-39            | <p>In reference to responses from pumping wells south of Wilbur, the latest GWMA report (GWMA, 2009) describes the Odessa subarea basalts like this:</p> <p><i>"The rapid and aerially extensive nature of the observed responses of deep and shallow basalt groundwater zones to pumping is the type of drawdown response that would be expected for highly confined systems. This response indicates that the CRBG groundwater zones have very low storage coefficients and are confined in nature. In confined aquifers, a rapid outward propagation of pressure changes occurs in response to the drawdown of the groundwater level at a pumping well."</i></p> <p>Replacing irrigation withdrawals is not expected to stop declines but to reduce the rate of decline. The commenter is correct in stating that pumping from the irrigation wells located closer to the town would continue to have an impact on the municipal wells.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-40            | <p>Ch. 173-130A WAC does in fact specify that the rate of decline of the aquifer be controlled to 30 feet in 3 consecutive years (WAC 173-130A-060) and that the decline of the spring static water table be limited to 300 feet below the 1967 level (WAC 173-130A-070).</p> <p>In the first instance, upon receipt of a complaint from a water right holder that the water level in their well is being drawn down beyond 30 feet in 3 years by subsequent appropriators, the department will evaluate the complaint and take appropriate action to protect the prior appropriator [WAC 173-130A-080(1)]. As a practical matter, impacts by subsequent appropriators on senior rights are quite difficult to prove, and they do in fact require a complaint.</p> <p>In the second instance, when the department believes the spring static is "going to be" below the 1967 level, Ecology can regulate, based on prior appropriation, throughout the Subarea, using the process in WAC 173-130A-090. That process calls for notice to be mailed to the unspecified affected area before May 1 of the calendar year before regulation would occur, and for a public meeting to take place in 30 days of notice, followed by orders within 60 days.</p> <p>As a practical matter, this scheme makes actual curtailment highly unlikely, and highly resource intensive.</p> <p>Casing and sealing provisions of WAC 173-130A-170 are routinely implemented in Ecology decisions in the Odessa. These provisions apply only to new wells, and many wells exist which are not sealed. The department has sought funding for a program to seal these older wells, but has been unsuccessful to date.</p> <p>Thus, in effect, the assumption is correct. Few if any practical tools are available for the Department to protect early appropriators, be they irrigators or municipalities.</p> |
| IND6-41            | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND6-42            | Changes in the FEIS have been made to more accurately reflect costs. The BP-12 rate case was used in the calculation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IND6-43            | Reclamation and Ecology disagree with your comment. In a with-project (proposed action alternative) versus without-project (No Action Alternative) benefit-cost analysis, the objective is to focus on only the incremental costs and benefits of the proposed alternatives in excess of the No Action Alternative. If a particular cost or benefit is associated with both the action alternatives and the No Action Alternative, then that cost or benefit would be a wash and would not show up as an incremental cost or benefit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Table 3 – Responses to individual comments.**

| <b>Individuals</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IND6-44                                     | The reuse of water in the Columbia Basin Project is taken into consideration for the hydrogeologic modeling. This holistic approach accurately reflects the dynamics of this efficient irrigation project in determining additional water needed to serve the action alternatives.                                                                                                                                                                                                                                                      |
| IND6-45                                     | Reclamation and Ecology are confident that the Energy analyses (Section 4.17) displayed in the FEIS accurately reflect energy consumed under the action alternatives.                                                                                                                                                                                                                                                                                                                                                                   |
| IND6-46                                     | See response to comment IND6-45.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| IND6-47                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND6-48                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND6-49                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND6-50                                     | Discussion of the Bhattacharjee & Holland (2005) study has been revised in Section 1.3.2.2 in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IND6-51                                     | See response to comment IND6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IND6-52                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND6-53                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Comment Letter IND7 – Louis Nevsimal</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IND7-1                                      | Reclamation will work with Ecology and WDFW in developing an adaptive management program for project area fisheries; see Section 4.31, Environment Commitments.                                                                                                                                                                                                                                                                                                                                                                         |
| IND7-2                                      | The FEIS has been revised to distinguish wetland impacts between the alternatives (see Table 9 in the Executive Summary in the FEIS).                                                                                                                                                                                                                                                                                                                                                                                                   |
| IND7-3                                      | Wetland mitigation, if needed, will be addressed by each construction action that impacts wetlands (see Section 4.8.9).                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IND7-4                                      | The FEIS contains updated fisheries information regarding Banks Lake; see Section 4.10, Fisheries and Aquatic Resources, in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                   |
| IND7-5                                      | Recreation effects, including fishing, at Banks Lake were evaluated in terms of water access. Since commitments were made to insure continued access (i.e., extending boat ramps), recreation impacts were assumed to be mitigable.                                                                                                                                                                                                                                                                                                     |
| IND7-6                                      | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND7-7                                      | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND7-8                                      | Reclamation has met with P.O.W.E.R. (volunteer group managing the fish pens located near Electric City) on several occasions. At these meetings, the discussions focused on improvements which include: extending existing docks to deeper waters, relocating and/or rotating docks, installing additional net pens, anchoring systems for the docks, and other improvements. Reclamation believes these improvements would assist in the efficiency and viability of the net pens, creating an improved fishery and increased tourism. |
| IND7-9                                      | See response to comment IND7-5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IND7-10                                     | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Comment Letter IND8 – James Baird</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IND8-1                                      | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Comment Letter IND9 – Jeff Greenwalt</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IND9-1                                      | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**Table 3 – Responses to individual comments.**

| <b>Individuals</b>                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IND9-2                                        | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Comment Letter IND10 – Aaron Hintz</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND10-1                                       | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Comment Letter IND11 – Glenda Phillips</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND11-1                                       | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Comment Letter IND12 – Paul Scheller</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND12-1                                       | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Comment Letter IND13 –Larry Zagelow</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND13-1                                       | See response to comment ORG6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Comment Letter IND14 – Tom McPherson</b>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND14-1                                       | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND14-2                                       | Recreation impacts are minimal and were addressed in the economic analysis as appropriate.                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Comment Letter IND15 – Dean White</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND15-1                                       | Additional geologic and hydrogeologic information is being developed by GWMA and the USGS. As the understanding of the hydrogeology advances, additional analyses may be appropriate under this tiered FEIS.<br><br>Also, see Master Response #2, “Tiered Review Process.”                                                                                                                                                                                                |
| IND15-2                                       | High water temperatures and poor water quality from the deep Grande Ronde aquifer is a substantial concern and one of the main reasons for the proposed project to replace the current source of irrigation supply from groundwater to surface water.                                                                                                                                                                                                                     |
| IND15-3                                       | See response to comment IND15-1.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND15-4                                       | The analytical techniques suggested in your comment are of great interest to the farming community utilizing groundwater in the region. However, the EIS is focused on the replacement of groundwater with surface water and full characterization of soils on private lands within the Subarea is beyond the scope of this Study. Additional analysis and soils characterization with SAR and EC could very well become a focus of any additional studies in the future. |
| IND15-5                                       | Best management practices for soil erosion will be implemented as discussed in Section 4.31, Environmental Commitments, in the FEIS.                                                                                                                                                                                                                                                                                                                                      |
| IND15-6                                       | See response to IND15-5.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| IND15-7                                       | See response to comment IND15-4.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND15-8                                       | A GIS Shapefile has been provided per your request.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND15-9                                       | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Comment Letter IND16 – Jane Goodman</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND16-1                                       | The action alternatives propose to utilize existing surface water from the Columbia River to replace the use of groundwater for lands served in the Odessa Subarea.                                                                                                                                                                                                                                                                                                       |



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**Comment Letter IND17 – David Greenwalt**

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| IND17-1 | Comment noted. |
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**Comment Letter IND18 – Danna Dal Porto**

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| IND18-1 | The aquifers that supply the Quincy area are not part of the basalt aquifers that are in the Odessa Subarea Special Study. The Quincy area groundwater is also managed separately from the Odessa area. |
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**Comment Letter IND19 – Errol Kramer**

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| IND19-1 | Comment noted.                                                                                                                                                                                                                                                                                         |
| IND19-2 | It is recognized that groundwater contamination is a worldwide problem and is exacerbated by over-application of agricultural amendments that find their way into the groundwater systems. Growers, GWMA, and the U.S. Department of Agriculture are currently working on these issues in the Subarea. |
| IND19-3 | Comment noted.                                                                                                                                                                                                                                                                                         |
| IND19-4 | Comment noted.                                                                                                                                                                                                                                                                                         |

**Comment Letter IND20 – Alice Parker**

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| IND20-1 | The focus of this Study is not full development of the Columbia Basin Project but rather to provide a program to replace declining groundwater wells in the Odessa Subarea with surface water. However, this Study does not preclude future development of the Columbia Basin Project. |
| IND20-2 | The intent of the current Study is to evaluate moving current irrigators (on currently eligible groundwater-irrigated lands) off of groundwater and onto surface water. Expanding the alternatives to include full build-out of the CBP is beyond the scope of this Study.             |

**Comment Letter IND21 – Richard Erickson**

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| IND21-1  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-2  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-3  | See response to comment ORG6-1.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IND21-4  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-5  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-6  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-7  | See response to comment WAS1-40.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IND21-8  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-9  | The Study did not attempt to quantify damages to individuals. Many times, the highest level of detail available was at the county level. Since the Study Area encompasses portions of four counties, the scope of the analysis is also at the four-county level. However, the impacts to individuals in the Study Area are recognized in the box in Section 1.3.4, Study Authority for Ecology.                                                      |
| IND21-10 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-11 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-12 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND21-13 | Impacts from the declining aquifer to communities and industrial users, as well as the farming community in the Subarea, are being further studied by the USGS and GWMA. These studies are incomplete and specific predictions are difficult to make at this time. As more analyses are completed and the information verified, it could be of interest in future studies involving the Odessa Subarea and/or the Columbia Plateau Regional Aquifer. |

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| IND21-14 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IND21-15 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IND21-16 | The Partial Groundwater Replacement Alternatives pose little threat to shrub-steppe habitat. Photograph 6 on page ES-35 of the DEIS was not identified as typical of the lands currently farmed; it has been removed for the FEIS. Reclamation and Ecology acknowledge the existence of shrub-steppe and talus habitat in the Subarea. BMPs have been developed to avoid or mitigate unavoidable impacts to high-value wildlife habitat from an action alternative, if necessary. |
| IND21-17 | Your suggestion and observation are noted and have been considered for the FEIS. The photo you reference has been removed in the FEIS.                                                                                                                                                                                                                                                                                                                                            |
| IND21-18 | Reclamation, Ecology, and WDFW are actively involved in identifying locations for habitat enhancement.                                                                                                                                                                                                                                                                                                                                                                            |
| IND21-19 | See response to comment ORG6-1.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Comment Letter IND22 – Jena Gilman**

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| IND22-1 | We believe the FEIS does fully analyze both the No Action Alternative and the action alternatives. Corrections and expansion of analyses for numerous elements of the environment have been incorporated throughout much of the FEIS. In addition, we have responded to your comments and others similar to them in the FEIS with Alternative 4A, the Modified Partial Groundwater Replacement Alternative (Preferred Alternative) that embodies much of the spirit of your comment. Alternative 4A utilizes existing infrastructure as much as possible and addresses the East Columbia Basin Irrigation District conservation plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| IND22-2 | <p>"Study" refers to the Odessa Subarea Special Study. The purpose of the action alternatives that were developed through the Study is to deliver surface water from the Columbia Basin Project to replace declining groundwater supply that is currently used for irrigation in the Odessa Subarea. This is explained in greater detail in Section 1.3 in the FEIS.</p> <p>The need for the Study has two distinct yet interrelated parts. These are explained in detail in Section 1.3 in the FEIS.</p> <p>The Study is in partial response to the MOU; the No Action Alternative and proposed action alternatives are the primary focus of the EIS.</p> <p>Regarding groundwater, declining groundwater supplies can have serious adverse environmental consequences in addition to economic losses. Reclamation and Ecology think it is important to avoid characterizing aquifer depletion as an economic issue only. We have received the EPA's review comments on the DEIS and they are included in this Volume 2 of the FEIS (see comment letter FED3) along with our responses to those comments.</p> |
| IND22-3 | See Master Response #2, "Tiered Review Process."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IND22-4 | See Master Response #3, "Climate Change." Also, see Section 4.26, "Climate Change," in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IND22-5 | Although Map 2 (Figure 1-3 in the FEIS) focuses on the steepest water-level declines in the Odessa Subarea, the regional impact of those water-level declines extends beyond the Ground Water Management Area boundaries. The basalt aquifers are extensive throughout the Columbia Basin, including the Moses Lake, Othello, and Wheeler areas. Some of the shallower wells or wells that are located near surface water supplies (such as canals) may receive recharge from those sources and not experience the same water-level declines as the deeper basalt wells. But, in general, all of the basalt aquifers are experiencing water-level declines.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IND22-6 | Comment noted. Table 3-20 lists special status species and their status.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IND22-7 | See Master Response #3, "Climate Change." Also, see Section 4.26, "Climate Change," in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IND22-8 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IND22-9 | It is expected that if the No Action Alternative were selected, pumping groundwater for irrigation supplies would decrease substantially in the future and many acres would convert to dryland farming methods. The groundwater levels are not expected to recover due to the extremely slow rate of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|          | recharge to the deeper aquifers, but groundwater-level decline rates would decrease.                                                                                                                                                                                                                                                                                                                                     |
| IND22-10 | The FEIS succinctly identifies those governmental entities with jurisdiction and/or authority with plans and policies within the Subarea with which the project is consistent. See Sections 5.3, Agency Coordination and Consultation, and 5.5, Other Regulatory Compliance Requirements.                                                                                                                                |
| IND22-11 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND22-12 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND22-13 | The analysis followed the recommendations of local farmers, irrigation districts, and Extension agents with respect to the dryland wheat rotations.                                                                                                                                                                                                                                                                      |
| IND22-14 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND22-15 | The potential for Townsend's big-eared bats and the western burrowing owl to occur in the Study Area is acknowledged in section 3.9.                                                                                                                                                                                                                                                                                     |
| IND22-16 | This omission and have included additional information toward dust abatement in the FEIS. In accordance with State and Federal regulations, dust abatement is required to minimize fugitive dust emissions while performing construction activities. Please refer to the Section 4.31, Environmental Commitments, in the FEIS for more specific descriptions of BMPs that would be utilized during project construction. |
| IND22-17 | Drawdown of Lake Roosevelt would not exceed the current drawdown levels that occur with existing operations for flood control, irrigation, and power generation. Reclamation will continue consultation with the Colville Tribe to address concerns with the Project and its effects.                                                                                                                                    |
| IND22-18 | See response to comment ORG14-11.                                                                                                                                                                                                                                                                                                                                                                                        |

**Comment Letter IND24 – Rex Lyle**

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| IND24-1 | The "Principles & Guidelines" (P&Gs) are currently being reviewed. Until a revised version of the P&Gs is adopted, Federal water agencies must utilize the latest existing version (dated 1983).                                                                                                                              |
| IND24-2 | See response to comment ORG6-26.                                                                                                                                                                                                                                                                                              |
| IND24-3 | The Study Area is the Odessa Subarea only; it does not include the ECBID. Therefore, the cropping pattern was based on the crops that are currently grown in the Study Area.                                                                                                                                                  |
| IND24-4 | Comment noted.                                                                                                                                                                                                                                                                                                                |
| IND24-5 | This analysis examined the national benefit of completing this project. Farm subsidies are a transfer payment from the Federal Government to an individual and are therefore not relevant in a benefits study because transfer payments do not use or produce new outputs, so they do not increase or reduce national income. |

**Comment Letter IND25 – James McClure**

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|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IND25-1 | Comment noted.                                                                                                                                                                                                                                                                                                     |
| IND25-2 | Comment noted.                                                                                                                                                                                                                                                                                                     |
| IND25-3 | Comment noted.                                                                                                                                                                                                                                                                                                     |
| IND25-4 | See response to comment ORG14-20.                                                                                                                                                                                                                                                                                  |
| IND25-5 | Comment noted.                                                                                                                                                                                                                                                                                                     |
| IND25-6 | The lost recreation benefits at Banks Lake were presented in the Draft Economics Technical Report to illustrate what might happen if the boat ramps were not extended. Since the assumption was made that the boat ramps would be extended, these potential losses were not included in the benefit-cost analysis. |
| IND25-7 | Comment noted.                                                                                                                                                                                                                                                                                                     |
| IND25-8 | Comment noted.                                                                                                                                                                                                                                                                                                     |

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|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IND25-9  | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND25-10 | Impacts to transportation are addressed throughout the FEIS and specifically in Section 4.16, Transportation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND25-11 | State-listed wildlife species are included in Table 3-20 and impacts to species expected to be impacted are discussed under the heading, "Special Status Species," in various locations in Section 4.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IND25-12 | Impacts to wetlands are discussed under the heading, "Wetlands," in various locations in Section 4.8 and under the heading "Banks Lake" in various locations in Section 4.9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IND25-13 | Impacts to shrub-steppe are acknowledged and discussed in various parts of Section 4.8 under the heading, "Uplands." Potential issues associated with the mitigation of lost shrub-steppe are acknowledged in Section 4.8 and in Section 4.9. Mitigation is also discussed.                                                                                                                                                                                                                                                                                                                                                                                              |
| IND25-14 | Section 4.9.5.2, under the heading, "Wildlife Movement Barriers and Habitat Fragmentation," specifically discusses the issue raised with respect to species utilizing shrub-steppe habitats.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IND25-15 | The language cited comes from Section 4.11 which concerns impacts to species listed under the Endangered Species Act. For the proposed action, that includes the four species listed in Table 4-40. The other species lists referred to include many species not listed under the ESA and not addressed in Section 4.11.                                                                                                                                                                                                                                                                                                                                                 |
| IND25-16 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND25-17 | Section 4.9, under the heading, "Wildlife Movement Barriers and Habitat Fragmentation," specifically discusses the issue raised by the commenter with respect to species utilizing shrub-steppe habitats. The Project also incorporates wildlife crossing structures on the proposed East High Canal to improve some of the Project effects on wildlife movement. You are correct that not every species of concern has been individually described in the analysis. Those species of interest noted in the table you provided are represented by other federally protected indicator species, and are in some cases discussed in some detail in both the DEIS and FEIS. |
| IND25-18 | Please see response to comment IND7-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IND25-19 | Impacts to western grebes are expected to occur under some alternatives. See response to comment WAS1-3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IND25-20 | Table 4-28 in the DEIS (Table 4-46 in the FEIS) identified potential impacts from the Full Groundwater Replacement Alternatives. The quoted text from Chapter 3 identifies the state of the existing environment. Not all wetlands in the existing environment would be impacted by the proposed alternatives. The wetland area that would be affected by functional changes or drought-year losses cannot be quantified and can only be determined through monitoring following implementation of a particular alternative.                                                                                                                                             |
| IND25-21 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND25-22 | This has been revised in the Final Fish and Wildlife Coordination Act Report, which is included as Appendix D in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IND25-23 | The expected area of direct impact is shown in Table 4-45 in the FEIS for Alternatives 3A and 3B. These numbers do not include the facilities noted in the footnote to that table. It is estimated in Section 4.8.5.1 in the FEIS that transmission lines may affect an additional 2,557 acres of mostly previously disturbed lands.                                                                                                                                                                                                                                                                                                                                     |
| IND25-24 | Reclamation has reviewed figures in Table 4-30 in the DEIS and they are accurate at this level of analysis. (This table is not shown in the FEIS because Alternatives 3C and 3D were eliminated from consideration.)                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IND25-25 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND25-26 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND25-27 | Past impacts to shrub-steppe habitat and the wildlife that use it are discussed in Sections 3.8 and 3.9. Impacts on wildlife movement and habitat fragmentation are discussed in Section 4.9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| IND25-28 | Comment noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| IND25-29 | Rocky Coulee reservoir has been eliminated from this Study. The proposed East High Canal would                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | cross under the Crab Creek valley in a buried siphon. As the commenter has noted and cited in his comments, the DEIS discussed impacts of the proposed alternatives on shrub-steppe, wildlife movement, and habitat fragmentation. It is unclear what correlation the commenter is referring to between Crab Creek and Black Rock Coulee. Finally, it is unclear from the comment how expansion of the existing East Low Canal would bar east-west wildlife movements in a different manner than they currently experience with the existing canal.                                                                                                                                                     |
| IND25-30 | Please see the response to comment IND25-29 with respect to Rocky Coulee and Crab Creek. The facilities that are proposed as part of the Full Groundwater Replacement Alternatives, including East High Canal, would include buried siphons, tunnels, and wildlife crossings in the area loosely defined as the Crab Creek-Black Rock Coulee-Rocky Coulee complex by the commenter. All of these facilities would provide opportunities for terrestrial wildlife to move across the East High Canal. It should also be noted that in the No Action Alternative, existing canals, highways, and impoundments will continue to exist in the areas the commenter indicates currently provide connectivity. |
| IND25-31 | Please see response to comments IND25-29 and IND25-30. It should be noted on the map provided in your comment that the existing Main, West, Potholes, and East Low Canals, which are larger than the proposed East High Canal, run through the green areas shown in your comment but are not shown as severing wildlife corridors, fragmenting the existing habitat, or blocking landscape scale habitat linkages.                                                                                                                                                                                                                                                                                      |
| IND25-32 | See response to comment IND25-29, IND25-30 and IND25-31.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| IND25-33 | See response to comment WAS1-10.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| IND25-34 | See response to comment WAS1-100. As with Greater sage-grouse, the corridor by which connectivity is currently thought to be provided for Columbia sharp-tailed grouse has numerous facilities similar to those contemplated as part of this proposed project. The existing corridor through which connectivity is provided has canals, impoundments, highways, and transmission lines. The facilities proposed in the FEIS would generally be on a smaller scale than those that currently exist and would have tunnels, buried siphons, and wildlife crossing features to facilitate wildlife movement.                                                                                               |
| IND25-35 | As the commenter correctly notes, no pygmy rabbits were detected by WDFW during surveys conducted in 2009. The surveys were repeated in 2010 with the same results. These additional survey results have been added to Section 3.11 in the FEIS. If warranted, additional surveys could be conducted as part of the additional NEPA/SEPA compliance which will be conducted prior to construction of facilities. Most of the concerns with pygmy rabbits relate to the Full Groundwater Replacement Alternatives (3A and 3B). The Modified Partial Groundwater Replacement Alternative is the Preferred Alternative, with little potential effect to potential pygmy rabbit habitat.                    |
| IND25-36 | As the commenter notes, there are no known northern leopard frogs near any of the proposed facilities. All known populations are in and around Potholes Reservoir which would be within historic operating levels with all action alternatives. Also, see response to comment WAS1-1.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IND25-37 | See response to comment WAS1-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IND25-38 | See responses to comments IND25-29, IND25-30, IND25-31, and IND25-34.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IND25-39 | See responses to comments IND25-29, IND25-30, IND25-31, and IND25-34.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Comment Letter IND26 – Phyllis Brown**

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| IND26-1 | Comment noted. Cost allocation/repayment analyses have yet to be developed for this Study. |
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**Comment Letter IND27 – Neil Fink**

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| IND27-1 | See response to comment IND20-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| IND27-2 | The benefit-cost analysis developed for this study compares economic effects under the No Action Alternative to those under the proposed action alternatives. Under the No Action Alternative, it was assumed that the water proposed for diversion under the action alternatives would not be diverted and therefore would flow downstream and be used to generate hydropower. As a result, the comparison of the action alternatives to the No Action Alternative results in lost downstream hydropower benefits. |
| IND27-3 | The regional economic impact analysis developed for this Study addressed the direct, indirect, and induced multiplier effects upon the local economy. By reflecting the change in cropping patterns                                                                                                                                                                                                                                                                                                                 |

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|                                                    | between irrigated and dryland agriculture, the approach does take into consideration variations in inputs between crops.                  |
| <b>Comment Letter IND28 – John Kenneth Tolonen</b> |                                                                                                                                           |
| IND28-1                                            | Comment noted.                                                                                                                            |
| <b>Comment Letter IND29 – Bradley Greenwalt</b>    |                                                                                                                                           |
| IND29-1                                            | Comment noted.                                                                                                                            |
| <b>Comment Letter IND30 – Alan Voise</b>           |                                                                                                                                           |
| IND30-1                                            | Comment noted.                                                                                                                            |
| <b>Comment Letter IND31 – Brent Blair</b>          |                                                                                                                                           |
| IND31-1                                            | Comment noted.                                                                                                                            |
| <b>Comment Letter IND32 – Thomas Bjornberg</b>     |                                                                                                                                           |
| IND32-1                                            | See response to comment LOC6-3.                                                                                                           |
| <b>Comment Letter IND33 – Julie Bjornberg</b>      |                                                                                                                                           |
| IND33-1                                            | See response to comment LOC6-3.                                                                                                           |
| <b>Comment Letter IND34 – June Zagelow</b>         |                                                                                                                                           |
| IND34-1                                            | See response to comment LOC6-3.                                                                                                           |
| <b>Comment Letter IND35 – Jeff Zagelow</b>         |                                                                                                                                           |
| IND35-1                                            | See response to comment LOC6-3.                                                                                                           |
| <b>Comment Letter IND36 – Amber Zagelow</b>        |                                                                                                                                           |
| IND36-1                                            | See response to comment LOC6-3.                                                                                                           |
| <b>Comment Letter IND37 – Adrea Bezdicek</b>       |                                                                                                                                           |
| IND37-1                                            | Comment noted.                                                                                                                            |
| <b>Comment Letter IND38 – Berend Friehe</b>        |                                                                                                                                           |
| IND38-1                                            | See response to comment ORG6-1.                                                                                                           |
| IND38-2                                            | See response to comment ORG6-1.                                                                                                           |
| IND38-3                                            | Comment noted.                                                                                                                            |
| IND38-4                                            | Comment noted.                                                                                                                            |
| <b>Comment Letter IND39 – Jeff Schibel</b>         |                                                                                                                                           |
| IND39-1                                            | See response to comment ORG6-1.                                                                                                           |
| IND39-2                                            | See response to comment ORG6-1.                                                                                                           |
| IND39-3                                            | Comment noted.                                                                                                                            |
| IND39-4                                            | Impacts to Lake Roosevelt water surface elevations from Alternatives 2B, 3B, and 4B are described in Section 4.2, Surface Water Quantity. |
| IND39-5                                            | Comment noted.                                                                                                                            |

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| IND39-6  | Comment noted. |
| IND39-7  | Comment noted. |
| IND39-8  | Comment noted. |
| IND39-9  | Comment noted. |
| IND39-10 | Comment noted. |
| IND39-11 | Comment noted. |

**Comment Letter IND40 – Jake Wollman, Jr.**

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| IND40-1  | See response to comment IND21-9.                                                                                                                                                                                      |
| IND40-2  | Comment noted.                                                                                                                                                                                                        |
| IND40-3  | Comment noted.                                                                                                                                                                                                        |
| IND40-4  | Comment noted.                                                                                                                                                                                                        |
| IND40-5  | Comment noted.                                                                                                                                                                                                        |
| IND40-6  | Comment noted.                                                                                                                                                                                                        |
| IND40-7  | Agricultural pumping costs were included in the farm budgets for calculating agricultural benefits under with- and without-project conditions. Thus, reduced energy costs were accounted for in the benefit analysis. |
| IND40-8  | These costs were included in the farm budgets in the form of on-farm investment costs for irrigation systems.                                                                                                         |
| IND40-9  | Comment noted.                                                                                                                                                                                                        |
| IND40-10 | Comment noted.                                                                                                                                                                                                        |
| IND40-11 | Comment noted.                                                                                                                                                                                                        |

**Comment Letter IND41 – Pat Gies**

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| IND41-1 | Comment noted. |
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**Comment Letter IND42 – Rex Lyle**

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| IND42-1 | See Section 1.3, Purpose and Need, in the FEIS.                                                                                                                                                                                      |
| IND42-2 | The FEIS contains an “infill” option whereby some landowners may be able to take advantage of the proposed delivery of Project water to the Subarea. See Chapter 2, Modified Partial Groundwater Replacement Alternatives 4A and 4B. |
| IND42-3 | Comment noted.                                                                                                                                                                                                                       |

**Comment Letter IND43 – Clark Kagele**

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| IND43-1 | See response to comment ORG6-1.                                                                                                                                                                                         |
| IND43-2 | Comment noted.                                                                                                                                                                                                          |
| IND43-3 | The economic impacts related to income and jobs were measured exclusively within the four-county local area (Adams, Grant, Franklin, and Lincoln). Construction impacts were measured as part of the regional analysis. |
| IND43-4 | Comment noted.                                                                                                                                                                                                          |
| IND43-5 | Comment noted.                                                                                                                                                                                                          |

**Comment Letter IND44 – Dennis and Nona Thompson**

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| IND44-1 | The action alternatives may be beneficial to shallow residential wells by lessening pumping rates from shared aquifers. |
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**Comment Letter IND45 – Heath Gimmetad**

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| IND45-1 | See response to comment ORG6-1.                                                                                                                                                                                                                             |
| IND45-2 | Regional “trickle down” impacts are not included in the benefit-cost analysis. The “trickle down” or multiplier effects are presented within the RED Impact Analysis. The regional economic analysis takes into consideration impacts to potato processors. |
| IND45-3 | Reclamation and Ecology agree with your comment and have revised the approach to drainage in the FEIS; see Section 2.9, Estimated Cost of Alternatives, in the FEIS.                                                                                        |
| IND45-4 | Comment noted.                                                                                                                                                                                                                                              |
| IND45-5 | Constructing underground conveyance structures of adequate capacity to serve the Full Groundwater Replacement Alternative is not feasible. A good example of the magnitude of such an endeavor is the Weber Siphon Complex.                                 |

**Comment Letter IND46 – Sally Kagele/Marcella Knight**

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| IND46-1 | Comment noted. |
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**Comment Letter IND47 – Ray Jenkins**

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| IND47-1 | Comment noted. |
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**Comment Letter IND48 – Matthew Kagele**

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| IND48-1 | Impacts to the local economy related to implementing the proposed alternatives were estimated within the Regional Economic Development Impact Analysis. |
| IND48-2 | Comment noted.                                                                                                                                          |

**Comment Letter IND49 – Mark DeWulf**

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| IND49-1 | Benefit-cost analyses are used to evaluate whether or not a proposed project is economically justified (i.e., whether benefits exceed costs). Once a project has been deemed economically justified, a cost allocation/repayment analysis would be conducted to determine repayment by project beneficiaries.                                                                                                                                                                                                       |
| IND49-2 | The benefit-cost analysis developed for this study compares economic effects under the No Action Alternative to those under the proposed action alternatives. Under the No Action Alternative, it was assumed that the water proposed for diversion under the action alternatives would not be diverted and therefore would flow downstream and be used to generate hydropower. As a result, the comparison of the action alternatives to the No Action Alternative results in lost downstream hydropower benefits. |

**Comment Letter IND50 – Rodney Schlimmer**

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| IND50-1 | Comment noted. |
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**Comment Letter IND51 – Milton Johnston**

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| IND51-1 | See response to comment ORG6-21. |
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**Comment Letter IND52 – Landa Vierra**

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| IND52-1 | Comment noted.                            |
| IND52-2 | Comment noted.                            |
| IND52-3 | See Master Response #3, “Climate Change.” |



**Comment Letter IND53 –Kathy Womer**

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| IND53-1 | Comment noted. |
| IND53-2 | Comment noted. |
| IND53-3 | Comment noted. |

**Comment Letter IND54 – Walter R. Butcher and Norman K. Whittlesey**

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| IND54-1 | See response to comment LOC5-20.                                                                                                                                                                                                                                                                                                                                                                                                               |
| IND54-2 | Based upon comments on the DEIS and input from stakeholders, Reclamation and Ecology have developed the Modified Partial Groundwater Replacement Alternatives (4A and 4B) which do, in fact, maximize use of existing infrastructure.                                                                                                                                                                                                          |
| IND54-3 | See response to comment LEG1-1.                                                                                                                                                                                                                                                                                                                                                                                                                |
| IND54-4 | Maximizing use of existing infrastructure is incorporated in the Preferred Alternative.                                                                                                                                                                                                                                                                                                                                                        |
| IND54-5 | While the State of Washington is pursuing new sources of water and exploring ways by which to reduce demand and/or recharge the aquifer, the purpose and need of this Study is to replace currently groundwater-irrigated lands within the Odessa Subarea with surface water. Conservation efforts are ongoing in cooperation with the irrigation districts, Reclamation, and Ecology and are addressed in the FEIS in Chapter 1, Section 1.6. |
| IND54-6 | The Odessa Subarea Special Study is authorized and obligated to explore groundwater replacement with Project surface water. See response to comment IND54-5.                                                                                                                                                                                                                                                                                   |
| IND54-7 | See comment response FED3-6.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IND54-8 | See response to comment LOC5-34.                                                                                                                                                                                                                                                                                                                                                                                                               |
| IND54-9 | See response to Comment ORG14-23.                                                                                                                                                                                                                                                                                                                                                                                                              |

**Comment Letter IND55 – Titus Bowser**

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| IND55-1 | Under the Full Groundwater Replacement Alternatives, most of the eligible groundwater irrigators would have the opportunity to receive Project water. The Partial Groundwater Replacement and Modified Partial Groundwater Replacement Alternatives would make water available to a portion of the eligible groundwater irrigators. Reclamation would contract with the irrigation district for the delivery of the water within the Study Area. Water would be allocated to users according to this contract and the selection process identified by the State, Reclamation, and the District.<br><br>Also, see response to comment IND49-1. |
| IND55-2 | See response to comment IND55-1. Landowners with valid State water rights who have been identified as being eligible would receive CBP surface water dependent upon the alternative chosen.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IND55-3 | See response to comment IND55-2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| IND55-4 | The Department of Ecology would determine whether wells could be deepened and/or continue to be utilized. The continued decline of the aquifer will likely preclude the use of irrigation wells indefinitely as discussed in the FEIS.                                                                                                                                                                                                                                                                                                                                                                                                        |

**Comment Letter IND56 – M. Osborn**

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| IND56-1 | Comment noted. |
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**Comment Letter IND57 – Madge Blakey**

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| IND57-1 | Comment noted. |
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**Comment Letter IND58 – Dina Monaghan**

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| IND58-1 | Comment noted. |
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| <b>Comment Letter IND59 – Kathy Cabrian</b>            |                                           |
| IND59-1                                                | Comment noted.                            |
| <b>Comment Letter IND60 – Scott Stromatt</b>           |                                           |
| IND60-1                                                | Comment noted.                            |
| <b>Comment Letter IND61 – William and Carol Barber</b> |                                           |
| IND61-1                                                | Comment noted.                            |
| <b>Comment Letter IND62 – Ann Davis</b>                |                                           |
| IND62-1                                                | Comment noted.                            |
| <b>Comment Letter IND63 – Gloria and J.E. Baldi</b>    |                                           |
| IND63-1                                                | Comment noted.                            |
| <b>Comment Letter IND64 – Tim Gould</b>                |                                           |
| IND64-1                                                | Comment noted.                            |
| IND64-2                                                | See Master Response #3, “Climate Change.” |
| <b>Comment Letter IND65 – Janet Nazy</b>               |                                           |
| IND65-1                                                | Comment noted.                            |
| <b>Comment Letter IND66 – Stephen Hirschey</b>         |                                           |
| IND66-1                                                | Comment noted.                            |
| <b>Comment Letter IND67 – Stephen Schott</b>           |                                           |
| IND67-1                                                | Comment noted.                            |
| <b>Comment Letter IND68 – Margaret Yeoman</b>          |                                           |
| IND68-1                                                | Comment noted.                            |
| <b>Comment Letter IND69 – Scott Collin</b>             |                                           |
| IND69-1                                                | Comment noted.                            |
| <b>Comment Letter IND70 – Page Williams</b>            |                                           |
| IND70-1                                                | Comment noted.                            |
| <b>Comment Letter IND71 – Judy Fitzpatrick</b>         |                                           |
| IND71-1                                                | Comment noted.                            |
| <b>Comment Letter IND72 – Jean Jalufka</b>             |                                           |
| IND72-1                                                | Comment noted.                            |
| <b>Comment Letter IND73 – Melanie Mildrew</b>          |                                           |
| IND73-1                                                | Comment noted.                            |
| <b>Comment Letter IND74 – Christine Leva</b>           |                                           |
| IND74-1                                                | Comment noted.                            |

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| <b>Comment Letter IND75 – Rita Kinney</b>              |                                                                                                                   |
| IND75-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND76 – Bonnie Thompson</b>          |                                                                                                                   |
| IND76-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND77 – Karen Johnson</b>            |                                                                                                                   |
| IND77-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND78 – Nancy and Richard Rust</b>   |                                                                                                                   |
| IND78-1                                                | The NAS recommendations to the Department of Ecology were taken into consideration for Columbia River Management. |
| <b>Comment Letter IND79 – W.T. Soeldner</b>            |                                                                                                                   |
| IND79-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND80 – Neil Ofsthun</b>             |                                                                                                                   |
| IND80-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND81 – Jenny Hayes</b>              |                                                                                                                   |
| IND81-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND82 – Richard Badalamente</b>      |                                                                                                                   |
| IND82-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND83 – Tim Coleman</b>              |                                                                                                                   |
| IND83-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND84 – Kim Thorburn</b>             |                                                                                                                   |
| IND84-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND85 – Jack Hall</b>                |                                                                                                                   |
| IND85-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND86 – Beverly Ogburn</b>           |                                                                                                                   |
| IND86-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND87 – Jane Beaven and Dan Finn</b> |                                                                                                                   |
| IND87-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND88 – Laura Takken</b>             |                                                                                                                   |
| IND88-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND89 – Herbert Gamber</b>           |                                                                                                                   |
| IND89-1                                                | Comment noted.                                                                                                    |
| <b>Comment Letter IND90 – Sheryl Krohne</b>            |                                                                                                                   |
| IND90-1                                                | Comment noted.                                                                                                    |

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| <b>Comment Letter IND91 – Janet Marx</b>           |                                                                                      |
| IND91-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND92 – Dick and Nancy Watts</b> |                                                                                      |
| IND92-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND93 – Connie Estep</b>         |                                                                                      |
| IND93-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND94 – Roger Bertsch</b>        |                                                                                      |
| IND94-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND95 – Michael Barrett</b>      |                                                                                      |
| IND95-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND96 – R.K. and Kay Smith</b>   |                                                                                      |
| IND96-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND97 – Lola Wear</b>            |                                                                                      |
| IND97-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND98 – Rachel Griffith</b>      |                                                                                      |
| IND98-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND99 – Edward Agnew</b>         |                                                                                      |
| IND99-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND100 – L. Hingst</b>           |                                                                                      |
| IND100-1                                           | Comment noted.                                                                       |
| <b>Comment Letter IND101 – Roger Hull</b>          |                                                                                      |
| IND101-1                                           | Comment noted.                                                                       |
| <b>Comment Letter IND102 – Peter Baird</b>         |                                                                                      |
| IND102-1                                           | The NAS recommendations were taken into consideration for Columbia River Management. |
| <b>Comment Letter IND103 – Jack Corbin</b>         |                                                                                      |
| IND103-1                                           | Comment noted.                                                                       |
| <b>Comment Letter IND104 – Joan Bartz</b>          |                                                                                      |
| ND104-1                                            | Comment noted.                                                                       |
| <b>Comment Letter IND105 – Brian Miller</b>        |                                                                                      |
| IND105-1                                           | Comment noted.                                                                       |
| <b>Comment Letter IND106 – Thelma Quay</b>         |                                                                                      |
| IND106-1                                           | Comment noted.                                                                       |



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| <b>Comment Letter IND107 – Donald Bolstad</b>        |                                                                        |
| IND107-1                                             | See Section 2.12, Comparative Evaluation of Alternatives, in the FEIS. |
| <b>Comment Letter IND108 – Jacque Smith</b>          |                                                                        |
| IND108-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND109 – Michael Sarratt</b>       |                                                                        |
| IND109-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND110 – Paul and Louise Clare</b> |                                                                        |
| IND110-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND111 – Joseph LePla</b>          |                                                                        |
| IND111-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND112 – Julie Lee</b>             |                                                                        |
| IND112-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND113 – Joseph Kathy Seabrook</b> |                                                                        |
| IND113-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND114 – Den Mark Wichar</b>       |                                                                        |
| IND114-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND115 – Russell Jim</b>           |                                                                        |
| IND115-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND116 – Catherine Isabel</b>      |                                                                        |
| IND116-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND117 – Linda Pool</b>            |                                                                        |
| IND117-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND118 – Doug and Lynn Beu</b>     |                                                                        |
| IND118-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND119 – Cheryl Roberts</b>        |                                                                        |
| IND119-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND120 – John Douglas</b>          |                                                                        |
| IND120-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND121 – John Funaro</b>           |                                                                        |
| IND121-1                                             | Comment noted.                                                         |
| <b>Comment Letter IND122 – Marian Frobe</b>          |                                                                        |
| IND122-1                                             | Comment noted.                                                         |

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| <b>Comment Letter IND123 – Michael Sullivan</b>          |                                                                                      |
| IND123-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND124 – W.T. Soeldner</b>             |                                                                                      |
| IND124-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND125 – Margaret Keene</b>            |                                                                                      |
| IND125-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND126 – B. Plastino</b>               |                                                                                      |
| IND126-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND127 – Richard Rivers</b>            |                                                                                      |
| IND127-1                                                 | The NAS recommendations were taken into consideration for Columbia River Management. |
| <b>Comment Letter IND128 – Carol Ellis</b>               |                                                                                      |
| IND128-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND129 – Dee Boersma</b>               |                                                                                      |
| IND129-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND130 – Twila Moser</b>               |                                                                                      |
| IND130-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND131 – Sharon and Gerald Hickman</b> |                                                                                      |
| IND131-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND132 – Gwen Rawlings</b>             |                                                                                      |
| IND132-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND133 – Lisi Ott</b>                  |                                                                                      |
| IND133-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND134 – Julian Powers</b>             |                                                                                      |
| IND134-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND135 – George Cooper</b>             |                                                                                      |
| IND135-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND136 – Karen Averitt</b>             |                                                                                      |
| IND136-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND137 – Marlet Smith</b>              |                                                                                      |
| IND137-1                                                 | Comment noted.                                                                       |
| <b>Comment Letter IND138 – Nancy White</b>               |                                                                                      |
| IND138-1                                                 | Comment noted.                                                                       |

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|-----------------------------------------------------------|----------------|
| <b>Comment Letter IND139 – Carol and Carl Smith</b>       |                |
| IND139-1                                                  | Comment noted. |
| <b>Comment Letter IND140 – Elinor McCloskey</b>           |                |
| IND140-1                                                  | Comment noted. |
| <b>Comment Letter IND141 – Nancy White</b>                |                |
| IND141-1                                                  | Comment noted. |
| <b>Comment Letter IND142 – Ramona Martin</b>              |                |
| IND142-1                                                  | Comment noted. |
| <b>Comment Letter IND143 – Jeri Prater</b>                |                |
| IND143-1                                                  | Comment noted. |
| <b>Comment Letter IND144 – Kurt Erlanson</b>              |                |
| IND144-1                                                  | Comment noted. |
| <b>Comment Letter IND145 – Donna and Bill Hollister</b>   |                |
| IND145-1                                                  | Comment noted. |
| <b>Comment Letter IND146 – Donald Bihl</b>                |                |
| IND146-1                                                  | Comment noted. |
| <b>Comment Letter IND147 – Susan Danver</b>               |                |
| IND147-1                                                  | Comment noted. |
| <b>Comment Letter IND148 – Liz DeNiro and Paul Swetik</b> |                |
| IND148-1                                                  | Comment noted. |
| <b>Comment Letter IND149 – Mary Collins</b>               |                |
| IND149-1                                                  | Comment noted. |
| <b>Comment Letter IND150 – Esther Larsen</b>              |                |
| IND150-1                                                  | Comment noted. |
| <b>Comment Letter IND151 – Raymond Torretta</b>           |                |
| IND151-1                                                  | Comment noted. |
| <b>Comment Letter IND152 – Denee Scribner</b>             |                |
| IND152-1                                                  | Comment noted. |
| <b>Comment Letter IND153 – Virginia and George Gunby</b>  |                |
| IND153-1                                                  | Comment noted. |
| <b>Comment Letter IND154 – Charles Hill</b>               |                |
| IND154-1                                                  | Comment noted. |

**Comment Letter IND155 – Beth Prinz**

|          |                |
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| IND155-1 | Comment noted. |
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**Comment Letter IND151 – Raymond Torretta**

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| IND156-1 | Comment noted. |
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**Comment Letter IND156 – Robert Nuess**

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| IND157-1 | Comment noted. |
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**Comment Letter IND158 – Carmen Jackson**

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| IND158-1 | Comment noted. |
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**Comment Letter IND159 – Aulin Smith**

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| IND159-1 | Comment noted. |
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**Comment Letter IND160 – Form Letter (see Table 2 for list of commenters)**

|          |                |
|----------|----------------|
| IND160-1 | Comment noted. |
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**Table 3 – Responses to individual comments.****Businesses****Comment Letter BUS1 – Coulee Playland**

|        |                                                                                                                                                                                                                                  |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BUS1-1 | The FEIS identifies the use at Coulee Playland and the importance of the boat ramp.                                                                                                                                              |
| BUS1-2 | See responses to comments TRB3-1 and TRB3-4. Banks Lake will be refilled only when pumping is allowed in the mainstem. Restrictions on Columbia River diversions will result in drawdown of Banks Lake during the summer months. |

**Comment Letter BUS2 – Kettle Falls Marina**

|        |                                                                                                                                                                                                          |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BUS2-1 | A 1.5-foot drawdown of Lake Roosevelt for the purpose of power generation is a situation that occurs independently of any of the considered alternatives and was therefore beyond the scope of this EIS. |
| BUS2-2 | Comment noted.                                                                                                                                                                                           |
| BUS2-3 | The impacts from a 1.5-foot drawdown at FDR do not differ from the No Action Alternative.                                                                                                                |

**Comment Letter BUS3 – US Trust Bank of America**

|        |                |
|--------|----------------|
| BUS3-1 | Comment noted. |
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**Comment Letter BUS4 – Odessa Record**

|        |                |
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| BUS4-1 | Comment noted. |
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**Table 3 – Responses to individual comments.****Public Hearings****Comment Letter HRG1 – Coulee Dam Public Hearing**

|        |                                 |
|--------|---------------------------------|
| HRG1-1 | See response to comment BUS1-1. |
|--------|---------------------------------|



**Table 3 – Responses to individual comments.**

| <b>Public Hearings</b>                                 |                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HRG1-2                                                 | Comment noted.                                                                                                                                                                                                                                                                                                                           |
| HRG1-3                                                 | Banks Lake was constructed to regulate the flow of water to the Columbia Basin Project; recreation is a secondary benefit. Over the years that the reservoir has existed, recreators and fish and wildlife have enjoyed the benefits of the reservoir, but the needs of irrigated agriculture are, and will remain, the primary purpose. |
| HRG1-4                                                 | Comment noted.                                                                                                                                                                                                                                                                                                                           |
| HRG1-5                                                 | Specific mitigations for impacts associated with project construction will be determined during the phased development of the project should an Alternative be selected for implementation. Under the tiered review process, appropriate analysis will occur with each and every phase of the project.                                   |
| HRG1-6                                                 | The alternatives are designed to be consistent with the 2010 FCRPS BiOp.                                                                                                                                                                                                                                                                 |
| HRG1-7                                                 | This idea was considered during the 33-foot maintenance drawdown at Banks Lake during late 2011. Quantity of material needed and extent of construction planning necessary rendered this proposal infeasible at this time.                                                                                                               |
| HRG1-8                                                 | Comment noted.                                                                                                                                                                                                                                                                                                                           |
| HRG1-9                                                 | See response to comment ORG6-1.                                                                                                                                                                                                                                                                                                          |
| HRG1-10                                                | The Study Area is a smaller area than the entirety of irrigated land that is actually certificated for the Odessa Subarea. The contracts will be written in accordance with Federal Reclamation law. Federal Reclamation law recognizes State water law in Section 8 of the Reclamation Act of 1902 (43 USC 383).                        |
| HRG1-11                                                | See response to comment TRB1-36.                                                                                                                                                                                                                                                                                                         |
| HRG1-12                                                | Comment noted.                                                                                                                                                                                                                                                                                                                           |
| HRG1-13                                                | See response to comment IND54-5.                                                                                                                                                                                                                                                                                                         |
| HRG1-14                                                | Using FDR as the water supply during an average year, reservoir elevations would not be below 1,278 feet under any of the action alternatives.                                                                                                                                                                                           |
| HRG1-15                                                | Comment noted.                                                                                                                                                                                                                                                                                                                           |
| <b>Comment Letter HRG2 – Moses Lake Public Hearing</b> |                                                                                                                                                                                                                                                                                                                                          |
| HRG2-1                                                 | See response to comment FED3-7.                                                                                                                                                                                                                                                                                                          |
| HRG2-2                                                 | Revenue generated from the sale of power from Grand Coulee Dam has not been used to fund this Study. Funding for construction of the project could likely be anticipated to occur through Federal, State, and private partnering. Also, see response to comment IND49-1.                                                                 |
| HRG2-3                                                 | The account is still active. Expenses and revenues associated with the project settlement lands are attributed to the account.                                                                                                                                                                                                           |