CHAPTER 9.0 COMMENTS AND RESPONSES TO COMMENTS

LIST OF COMMENTERS

Comment Letter No. 1 – Yakama Nation

Comment Letter No. 2 – David J. Kaumheimer

Comment Letter No. 3 – Fish And Wildlife, John Easterbrook, Regional Fish Program Manager

Comment Letter No. 4 – Office Of Archaeology And Historic Preservation, Stephenie Kramer, Assistant State Archaeologist

Comment Letter No. 5 – Yakima County Public Services, Dean Patterson, Environmental & Natural Resources Manager

Comment Letter No. 6 – Taylor Consulting Group, David Taylor, Sr. Consultant

Comment Letter No. 7 – Robert Mcinnis

Comment Letter No. 8 – Vernette Phillips

Comment Letter No. 9 – Bob West

Comment Letter No. 10 – Suzy West

Comment Letter No. 11 – Irene And George Glessner

Comment Letter No. 12 – Herke Ranch, Mark Herke

PUBLIC OPEN HOUSE COMMENTS

Commenter No. 1 – Jeff Peters, City of Yakima, Assistant Planner

Commenter No. 2 – David Lockhart

Commenter No. 3 – Vern Burke

Commenter No. 4 – Debora and Ken Boyle

Molly Adolfson

From: Tom Ring
Sent: Friday, April 08, 2005 5:01 PM
To: Derek Sandison; Molly Adolfson
Subject: Ahtanum DEIS comments

ACWRP DEIS Comments.doc

Derek and Molly,
Attached please find comments from Yakama Nation staff on the Draft ACWRP EIS. These comments are generated at the staff level and do not constitute a policy position of the Yakama Nation. Please call or email if you have any questions.
Tom

Comments
DRAFT PROGRAMMATIC EIS FOR THE AHTANUM WATERESHED RESTORATION PROGRAM.

Fact Sheet (p.2).

1-1 As the Nation has indicated before, the Nation wishes to make clear that the State lacks jurisdiction on the Reservation for any purpose including any jurisdiction under the State Environmental Policy Act. The Nation does not agree there is state jurisdiction on the Reservation for any of the state "permits, licenses, and approvals" listed here. Permits would be required through appropriate Tribal offices, including the Yakama Nation Water Code Program and Zoning office.

1,1 Introduction.

1-2 The first paragraph should indicate that portions of the Ahtanum watershed lie in Yakima County and portions on the Yakama Reservation.

1-3 2nd para: …mixed public, private, and tribal ownership…

As noted in the introduction, as to the Ahtanum Watershed the "… the southern portion of the watershed falls within the Yakama Nation Reservation…" Accordingly, as the Nation has indicated before, the Nation wishes to make clear that the State lacks jurisdiction on the Reservation for any purpose including any jurisdiction under the State Environmental Policy Act.

1-4 The Introduction references the boundaries as defined by the Ahtanum Creek "in the middle and lower reaches." There is disagreement as to the correct boundary of the Creek and Reservation. There are a number of maps within the Draft EIS which generally locate the boundaries of the Ahtanum Creek watershed. (See, e.g. Figure 1-1). The Nation does not agree with the boundaries defined in the draft EIS to the extent that it is intended to correctly define the boundaries of the Reservation.

The Nation also disputes that the area defined as Tract C is outside the Reservation and disputes that the State or any non-Indian party owns any land within Tract C.

1-5 The introduction claims that the "…state's first irrigation diversion … is located at the St. Joseph Mission in the middle reach." While that may or may not be the first non-Indian diversion in the state, the draft EIS itself notes that there were earlier Indian diversions. See, p. 4-58 of DEIS.

1-6 p.2. 4th para: Most AID water is diverted from Ahtanum Creek into Bachelor and Hatton Creeks and pumped from there.

1-7 The Introduction notes that "…AID currently assesses 8,285 acres for tax purposes and serves approximately 5,470 acres with water." This figure is not correct. The amount of land on the northside of the Creek which have a surface water right is

1-7 currently at issue in Ecology v. Acquavella. The evidence shows that AID serves substantially fewer acres. Ecology should delete these figures pending resolution of Acquavella..

1.2 Description of Proposal.

1-8 The proposal is described as a providing a vehicle to protect fish habitat and stream flow. The Nation does not agree with any proposal to the extent that it disputes that the Nation already has a senior Treaty water right for fish and other aquatic life in Ahtanum Creek.

1.3 Purpose and Need for the Proposal.

1-9 Contrary to the map in Figure 1-2, the Yakama Nation does not agree that the State has any authority to define shoreline designations on the Reservation. The document also does not necessarily define the correct boundaries of the Reservation.

1.4

1-10 "provide a net benefit" is a weak statement. Should read e.g. "substantially restore productivity of the aquatic ecosystem".

1.5

1-11 EIS change from ~~"the basis"~~ to "a basis".

1.6

1-12 **1st para:** Change "will use" to "may use".

1-13 **2nd para:** after "federal" add "or other federal actions were involved".

1.9.2.1 Alternative 1 – No Action.

1-14 The alternative states that "[t]here would continue to be insufficient instream flow for sustained fish habitat and an unreliable water supply for irrigation." (p. 1-11). The Nation disputes this to the extent that the no action alternative ignores or does not factor in that, under applicable orders of the federal courts and the Acquavella court, that the Nation is entitled to the flow in the Creek needed for its Treaty water right for fish and aquatic life.

1-15 Change "minor improvements" to "some improvements".

1.9.2.2. Alternative 2

1-16 This alternative fails to consider the rights of the Yakama Nation for both irrigation and fish water in the Ahtanum basin. See discussion under 1.9.2.1. The alternative is correct that the Nation can claim the water for its irrigation water rights. The alternative fails to mention that the Yakama Nation can also claim its Treaty water right for fish and other aquatic life from both storage and natural flow.

1-17 The alternative also fails to consider other possible storage sites other than the Pine Hollow Reservoir. Among other alternatives not addressed is the proposal which forms the basis of the Yakama Nation's and the United State's practicably irrigable acreage claim in Acquavella.

1-18 p. 1.12 last para: delete "prohibiting access of Tribal members", replace with eliminate traditional cultural practices due to inundation of the reservoir footprint. Change "would be expected" to "might".

1.9.3

1-19 para 1: After "Wahsington state" add "and federal".

1-20 Para 2: Delete "stakeholders such as".

1.10 Areas of Uncertainty and Controversy.

1-21 The document is correct that storage or any new state-based water rights cannot be developed without impairing the senior water and other Treaty rights of the Yakama Nation.

2.0 Alternative Development Process.

See discussion under Chapter 1.0.

2.2.2

1-22 after "cooperation with" add "the Yakama Nation and".

2.2.5

1-23 The repairs to Wapato Dam are not expected to influence flow conditions at the Mouth of Ahtanum creek.

2.3.2

1-24 p. 2.4: After "This alternative includes the following operational characteristics" add parenthetical "(These are conceptual characteristics for purposes of this EIS. Actual details have not been agreed upon)."

1-25 Add "or piped" after "the WIP canal would be lined".

General

1-26 It is not entirely clear how the reservoir would be operated under the current options. It might be advantageous to continue to utilize the current diversion points for irrigation as long as creek flows can support both irrigation diversions and fish flows. This would have several advantages; (1). Flows when available could still be diverted from the North Fork Ahtanum to maximize storage in the reservoir, (2). diversions would

maximize recharge of the shallow aquifer system early in the season. Use of reservoir storage for supplementing fish flows should be minimized . Fish flows should come primarily from natural flows in the creek. This would minimize temperature issues associated with reservoir storage water being used to supplement the creek and would increase stream flows in the reach between the John Cox diversion and
1-26 where ever fish supplementation water is returned to Ahtanum creek from the Pine Hollow reservoir.

The EIS can also be read to say that diversions will continue at the traditional locations and that instream flows would be supplemented from the reservoir. Supplementation with reservoir water opens up many new questions including the suitability of reservoir water quality for instream flow.

3.0 LEGAL AND REGULATORY FRAMEWORK.

3.2.1.1

As discussed above,the state laws on acquisition of water do not apply on the Yakama Reservation. Nor can state law in the off-reservation portion of the Ahtanum
1-27 Basin be enacted or implemented to harm or impair the Yakama Nation's senior water rights. The Nation does not necessarily agree with the description of the scope of the state's groundwater exemption but that exemption, whatever its scope, cannot act to withdraw water to which the Nation is otherwise entitled.

1-28 P 3-2 3rd line: add "domestic" before "groundwater exemption".

3.2.3. Tribal Water Rights.

The description fails to adequately and completely describe the Yakama Nation's
1-29 adjudicated water rights in the Yakima Basin including its off-reservation right to water for fish and other aquatic life.

3.2.4

The nature and extent of the Yakama Nation's and its members' duties to pay
1-30 assessments to WIP is in litigation so the Nation does not agree that it has the duty to pay assessments in all circumstances.

1-31 p. 3-6, para 2, line 3, change to read "The AID uses Ahtanum, Bachelor, and Hatton Creeks…"

3.3.3. Shoreline Management Act.

1-32 See discussion above. This act and other state laws do not apply within the Yakama Reservation.

4.1.1

1-33 The Columbia River Basalts range in age from about 17.6 to 6 million years.
Page 4-2: first line, change "define" to "cover".

4.2.3. Middle and Lower Reaches.

1-34 The scope and extent of the Yakama Nation's right to divert water through WIP is currently in litigation. The Nation's water right is not limited by the amount diverted in 2002 nor in any other year.

4.3.1.1 Basalt Aquifer System

1-35 Strike "occasionally" from first sentence.

1-36 Strike "may tend to hydraulically isolate individual water-bearing zones" and replace with "form zones of lower vertical hydraulic conductivity".

Sedimeatary Aquifer System

1-37 p. 4-14, 1st full para, 1st lne: replace "recharge" with "leakage".

Alluvial Aquifer

1-38 p. 4-15, 2nd full para, 2nd line: After "irrigation water", add "and upward leakage from underlying aquifers".

4.3.2.1

1-39 p. 4.19, 4th para: Replace "vertical aquifer transmissivity" with "vertical hydraulic conductivity".

4.12 PUBLIC SERVICES AND UTILITIES.

1-40 The section appears to list public services outside of the Reservation. The Nation agrees that the DEIS has no jurisdiction on the Yakama Reservation and that it is not appropriate to plan for activities on the Reservation. To the extent it purports to list all public services in the Ahtanum basin, it fails to list services provided on the Yakama Reservation by the Yakama Nation and the United States government.

4.13.1 Previous Legal Proceedings in the Ahtanum Creek Watershed.

1-41 As the DEIS notes, the issues in the Ahtanum Creek are again being litigated in Acquavella. The Yakama Nation is not in agreement with the Department of Ecology on a number of issues in the adjudication. Accordingly, the Yakama Nation disputes Ecology's summary of the adjudication to the extent inconsistent with the Yakama Nation's position in that adjudication. The Nation incorporates its briefs and exceptions in the consolidated Subbasin 23 proceeding in Acquavella herein by reference.

Without thereby limiting its objections, the Nation notes the following problems with the description here.

1-42 First, the summary is incorrect to the extent it implies that the Code Agreement was with all northside water users. The Code Agreement was with specific northside parties for the use of water on specific lands for specific purposes.

1-43 Second, the Nation disputes that there is any water available for so-called "junior" users as alleged on page 4-62. The Nation has specifically taken exception to the Court's rulings on the so-called "junior" rights.

1-44 Third, the summary correctly notes that the Court in Acquavella has held that the Yakama Nation has a senior Treaty water right for fish in the Ahtanum Creek basin. That Treaty water right for fish has a time immemorial priority date which is senior to the irrigation rights referenced on page 4-61. The Nation disputes that the State can, by building a reservoir or taking any other action, change the Treaty rights of the Yakama Nation.

p. 4-63, 2nd full para:

1-45 It is unclear what is intended by the statement that "if a storage reservoir is built"…the prevailing conditions in the creek would change from the natural flow regime. Of course, the Creek has not experienced the natural hydrograph for a century due to irrigation diversions and other influences in the watershed.. Building a reservoir might serve to move the hydrograph back in the direction of the natural hydrograph. The sentence should be clarified or stricken.

6.3.2.4

1-46 The assertion that increased vertical leakage resulting from decreasing well use would not be significant does not appear to be based on any analysis and is contradicted by earlier statements regarding the lack of knowledge of aquifer and aquitard properties. It should be struck.

6.3.2.5

1-47 The first two sentences are incorrect. Interactions among all the aquifers and the creek are currently being studied, not just the alluvial aquifer. Development is not being permitted in the sedimentary or basalt aquifers as well as the alluvium.

1-48 We do not understand the statement beginning with "A secondary impact . . ."). Please clarify.

6.5 Fish

1-49 **General**: There needs to be some accounting for the fisheries improvements that have taken place during the last 5 years along with the decrease in WIP irrigation supplies for the south side during that time period. Utilizing the current baseline condition tends to negate fisheries improvements related to future changes in the Ahtanum Basin . Proposed storage and conservation improvement options also are more beneficial when observed in the light of the decreased supply of irrigation water that is now experienced by the WIP.

1-50 The document should explain that the lack of reservoir benefits for fish are, in part, an artifact of the selection of a recent and short baseline period. If a reservoir were considered over a longer baseline that included long periods when the stream was being completely dewatered, the benefits analysis would look quite different.

6.5.1. Alternative 1 – No Action.

1-51 This fails to consider the effects of provision of flows in Ahtanum Creek under the Yakama Nation's Treaty water right for fish. It is not clear what flow regime forms the assumptions underlying the discussion.

6.13.2

1-52 The Nation disputes that the only alternative for storage is one where a "… reservoir would provide all out-of-stream water use within the reservoir service area for the entire irrigation season…" The Nation does not necessarily support this as an alternative and notes that the DEIS has failed to consider other alternatives for storage including the one that forms the basis of the Nation's practicably irrigable acreage claim in Acquavella .

1-53 The Nation has objected in Acquavella to a claim for 0.25 cfs in Ahtanum for non-diversionary stockwater by AID and renews its objection here to any such claim.

Reservoir Operation Information – APPENDIX A

1-54 The Yakama Nation disputes this to the extent it does not consider other reservoir options including other options for AID's proposed Pine Hollow Reservoir. Among other issues, the proposal fails to consider steps that may be needed to protect the water supply from unauthorized diversion between the point of diversion on Ahtanum Creek at the John Cox Ditch and the diversion to the Wapato Irrigation Project.

Appendix B – Supplement Information Water Rights and Total Water Supply Available.

1-55 The Nation incorporates its previous objections and comments by reference. The failure of the Nation to comment to any point in this Appendix does not mean agreement. The Nation reserves the right to comment later on the legal points herein as appropriate.

Comment Letter No. 1 – Yakama Nation

1-1. Comment acknowledged. There was no intent to imply in the Draft Environmental Impact Statement (EIS) that there is state jurisdiction over the Yakama Reservation. The EIS has been revised where appropriate to clarify this and appropriate tribal permits have been added to the Fact Sheet.

1-2. The paragraph has been amended to state that portions of the watershed are located on the Yakama Reservation.

1-3. The paragraph has been amended to include tribal ownership.

1-4. Comment acknowledged. The state has no jurisdiction over the Yakama Reservation. The Yakama Nation's dispute of reservation boundaries is acknowledged. Standard maps were used in the EIS. A footnote has been added to the reference to Figure 1-1 acknowledging that the Yakama Nation disagrees with the reservation boundary depicted.

1-5. A sentence has been added to section 1.1 of the EIS to acknowledge earlier tribal irrigation.

1-6. The paragraph has been amended to clarify the diversions to Bachelor and Hatton Creeks.

1-7. The text has been revised to clarify that the assessed acreage is based on Ahtanum Irrigation District (AID) records and that the allowable acreage will be resolved by the Adjudication Court. In addition, AID has provided more current information on the number of acres it assesses and the updated number has been included.

1-8. The EIS does not dispute that the Yakama Nation has a senior water right for fish and other aquatic life (see Sections 6.13.2, and 6.13.5.2). As stated in your comment, one of the purposes of the Ahtanum Creek Watershed Restoration Project (ACWRP) is to enhance stream flow. The enhanced stream flows would help meet the Nation's senior water right for fish and other aquatic life. Section 6.13.2 states that "operation of the reservoir would require delivery of water to water users consistent with their water rights, including the Yakama Nation's senior right to instream flows for fish."

1-9. Figure 1-2 and Section 3.3.3 have been amended to clarify that the state designation of shorelines does not apply to the Yakama Reservation. The comment regarding the dispute of reservation boundaries is acknowledged.

1-10. The comment is acknowledged. The language for the objectives of the ACWRP was agreed upon by the Ahtanum Core Group. The objectives were developed at a

conceptual level and represent the opinion of the Core Group at the time the project started. As the ACWRP is developed, it is likely that the objectives will be refined.

1-11. The change has been made to the EIS.

1-12. Comment acknowledged. As stated in the EIS, the components of the restoration plan will be developed in cooperation with the Ahtanum Core Group, using the EIS as a basis for decisions. Ecology will not move forward on the ACWRP without the support from major stakeholders, including the Yakama Nation.

1-13. The text has been changed in the EIS.

1-14. The sentence has been reworded. See the response to Comment 8 regarding the Yakama Nation's senior water right for fish and other aquatic life.

1-15. The text has been changed in the EIS.

1-16. See the response to your Comment 8 regarding the tribal water right for fish and other aquatic life. Your comment regarding using the stored water to meet the Nation's treaty water right for fish and other aquatic life is acknowledged.

1-17. As required by the State Environmental Policy Act (SEPA), the Ahtanum Core Group identified and considered reasonable alternatives for the ACWRP that best meet the goals and objectives for the program. SEPA defines reasonable alternatives as "actions that could feasibly obtain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation" (WAC 197-11-440(5)(b)). The storage alternative that forms the basis of the Yakama Nation's and the United States practically irrigable acreage claim in Acquavella is The Narrows Dam, an on-stream reservoir. An on-stream reservoir was not considered by the Core Group because the environmental impacts associated with an on-stream reservoir would not meet the SEPA reasonableness criteria.

1-18. The requested changes have been made.

1-19. The requested change has been made.

1-20. The text has been reworded, but "other stakeholders" has been left in because others, such as the St. Joseph Mission, could be impacted.

1-21. Comment acknowledged.

1-22. The requested change had been made.

1-23. Reference to the Wapato Dam repairs has been deleted from the EIS.

1-24. The requested change has been made.

1-25. The requested change has been made.

1-26. The details of operation of the reservoir would be refined in the future if a reservoir is included as a component of the restoration plan. A more detailed analysis of reservoir operation and delivery options would be considered at that time.

Alternatives 2 and 4 assume that direct diversions from the mainstem would be discontinued once the reservoir is in operation and that water for irrigation would be distributed to water users directly from the reservoir through piped conveyance and distribution systems. It is anticipated that these systems would use the pressure created by the reservoir to distribute the water. A more detailed analysis of reservoir operations may indicate that continuing diversions from the stream would be beneficial. However, providing both pressurized water from the reservoir and non-pressurized flow directly from the creek may require additional facilities and complicate operations.

The intent of Alternatives 2 and 4 is to operate the diversion of water from the North Fork to the reservoir so that the need to discharge from the reservoir to supplement instream flows in the mainstem is minimized. This would minimize the impact that reservoir water temperatures and quality may have on the water in the mainstem of Ahtanum Creek. Based on the results of the EIS analysis, the supplement from the reservoir would be small relative to the flows in the mainstem and so the impact on temperatures in the stream would not be considered a significant issue for fish habitat (see Section 6.5.2.2).

1-27. Comment acknowledged. The state laws regarding the acquisition of water rights do not apply to federally reserved water rights, including those on the Yakama Reservation. State law prohibiting impairment of senior water rights applies to all senior water rights, including the Yakama Nation's off-reservation senior water rights.

1-28. This requested change was not made because the "groundwater exemption" applies to uses other than domestic as stated in the paragraph and in RCW 90.44.050.

1-29. A short description of the Yakama Nation's water rights, including its right to water for fish and other aquatic life is provided in Appendix B (page B-11). A reference to this appendix has been added to Section 3.2.3 of the EIS.

1-30. The reference to Wapato Irrigation Project (WIP) assessments has been deleted from Section 3.2.4.

1-31. The requested change has been made.

1-32. A sentence has been added to Section 3.3.3 to clarify that the Shoreline Management Act does not apply to reservation lands.

1-33. Sentence has been clarified and the requested change has been to Section 4.1.1.

1-34. The section has been amended to clarify that the water right is not limited by the 2002 diversion.

1-35. The requested change has been made.

1-36. The text has been changed to clarify the potential effects of low permeability zones.

1-37. Requested change has been made.

1-38. Requested change has been made.

1-39. Requested change has been made.

1-40. Information regarding services on the Yakama Reservation portion of the watershed has been added to Section 4.12.1.

1-41. Comment acknowledged.

1-42. Comment acknowledged. This issue has not yet been resolved. See the discussion in Appendix B, Section 4 (page B-12).

1-43. Comment acknowledged. The discussion in Section 4.13.1 refers to what the Adjudication Court has decided to date. Objections have been taken. The Yakama Nation's objections are stated in Appendix B, Section 3 (Page B-12).

1-44. It is not the intent of the state or the ACWRP to change the Treaty rights of the Yakama Nation. See the response to Comment 1-8 in this letter regarding the Nation's senior water right for fish and other aquatic life. A sentence has been added at the end of the first paragraph of Section 4.13.1 stating that all water rights for out-of-stream uses are junior to the Nation's treaty right for fish.

1-45. The sentences have been revised to clarify that the prevailing conditions would change, thus creating different conditions for determining the Nation's water right for fish.

1-46. The text has been changed.

1-47. Text has been added to explain the conditions that would result from a change in groundwater withdrawal.

1-48. The text has been changed.

1-49. The selection of an appropriate baseline period for Ahtanum Creek is problematic. For a number of reasons post-1999 conditions were chosen to model the affect of watershed conditions on fish populations. If a long period ending in 1999 were chosen, it would reflect conditions, particularly for flow regime, that no longer exist. It is true that if the alternatives were being considered over a longer baseline that included sustained periods when the stream was being completely dewatered, the benefits analysis would look quite different. Similarly, as the Yakama Nation has pointed out, the post-1999 period does not accurately reflect the conditions fish have had to contend with over the last six decades. The current baseline may not be sustainable if, for example, there were reoccurring drought years.

It is clear that environmental conditions in the mainstem of Ahtanum Creek have improved significantly since 2000. Prior to 2000, Ahtanum Creek was completely dewatered from 7 to 8 miles below the upper WIP diversion from approximately July 10 through early November, when the fall rains came and refilled the shallow aquifer beneath the dewatered reach and restored stream flows. It is also likely that flows in all reaches below the dewatered area were lower during this July to October period, and therefore the total wetted area was less, maximum temperatures were greater, and predation risk was increased throughout the mainstem below the upper WIP diversion.

To put the different baseline conditions in context, the Environmental Diagnostics and Treatment (EDT) model was used to estimate the benefits of the Pine Hollow Reservoir relative to a pre-1999 baseline (a baseline ending in 1998 is the most appropriate period because initial efforts at preserving instream flow began in 1999). This estimated production is for a scenario in which flow and flow-related conditions reflect pre-1999 conditions. Before 1999, adverse environmental conditions, particularly the low stream flows had a greater impact on fish populations than the post 2000 conditions in the watershed used for the model. The pre-1999 conditions were compared with the impacts of the current baseline and “reservoir-only” alternatives. In terms of mean coho abundance, the current baseline is more productive with greater coho abundance than the pre-1999 baseline. A pre-1999 baseline would have substantially increased the benefits of the reservoir to the coho population, with 140 percent greater production than with the current baseline. Similarly, the mean abundances of steelhead and spring Chinook would be 144 percent and 177 percent larger, respectively if the population performance for these species when measured against a pre-1999 baseline. For these reasons, the post-1999 watershed conditions were chosen as the most appropriate baseline for evaluating the impact of the proposed reservoir and watershed restoration.

1-50. See the response to Comment 1-49 in this letter.

1-51. The EDT simulation of the No Action Alternative assumes the baseline, or "current", flow regime resulting from the flow routing analysis detailed in Appendix D. The flow routing analysis measures the impact of withdrawals, seepage, runoff, evaporation, and other variables on instream flows. Flows used as input for the routing analysis are historic flows measured on the North Fork and South Fork of Ahtanum Creek from 1946 to 1984. The baseline, or "current", simulation was completed to determine the impact of "current" irrigation practices on instream flows. Withdrawals for irrigation were estimated based on a survey of cropping and irrigation practices in 2002 completed for the Ahtanum Creek Watershed Assessment (Golder, 2004). The 2002 irrigation practices included reduced diversions by WIP after July 10 to maintain continuous instream flows. The No Action Alternative assumes that these practices will continue.

1-52. See the response to Comment 1-17 of this letter.

1-53. Comment acknowledged. The Nation's objection is noted in Appendix B (page B-13) of the EIS.

1-54. See the response to Comment 1-17 regarding other reservoir options. Any unauthorized diversions would be in violation of state water law. The reservoir alternatives assume that Ahtanum Creek, ditches and reservoir would be patrolled periodically in order to prevent unauthorized diversions. This assumption has been added to Section 6.2.5.2 as a proposed mitigation measure.

1-55. Comment acknowledged.

United States Department of the Interior

BUREAU OF RECLAMATION
Upper Columbia Area Office
1917 Marsh Road
Yakima, Washington 98901-2058

IN REPLY REFER TO:

UCA-1600
ENV-1.10

MAR 25 2005

Mr. Derek I. Sandison
Regional Director
Central Regional Office
Washington State Department of Ecology
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

Subject: Comments on the Draft Programmatic Environmental Impact Statement for the "Ahtanum Creek Watershed Restoration Program"

Dear Mr. Sanderson:

We have reviewed the subject document and have the following brief comments.

The Washington Department of Ecology, working cooperatively with members of the Ahtanum Core Group, developed a thorough process defining several alternatives for a program to restore the health of the watershed. Four alternatives are evaluated in this EIS:

Alternative 1 – No Action
Alternative 2 – Watershed Restoration with Storage,
Alternative 3 – Watershed Restoration without Storage
Alternative 4 – Watershed Restoration without a Habitat Component.

2-1 An overview of these alternatives indicates that Alternative 2 may have unintended effects upon the Total Water Supply Available (TWSA) for the Yakima Project and upon flow and habitat improvements made under the Yakima River Basin Water Enhancement Project (YRBWEP). The level of detail contained in the EIS appears insufficient to allow a complete analysis of these concerns. A meeting may be needed with modelers to obtain a finer level of detail.

2-2 It appears that with either storage alternative 2 or 4, there would be created a greater demand on the TWSA or the fishery, or both. Waters not currently under a water right certificate are under claim or withdrawal by the United States in the ongoing adjudication. The Yakama Nation has time immemorial fishery rights which also could be affected. As you are already aware, the State has granted a withdrawal of all the remaining unappropriated water of the Yakima Basin, including the Ahtanum Creek sub-basin, to the United States. Consequently, as noted in the EIS, any new surface water appropriation in the Ahtanum Creek Sub-basin for storage or other beneficial uses will require a release of withdrawn water from the Reclamation. The Report on

2-2 Biologically-Based Flow Flows for the Yakima River Basin, developed as part of YRBWEP implementation, supports a normative or natural-like flow regime for fish propagation in the basin and any new long-term storage may reduce the ability of the river basin to move toward a more normative flow regime. In addition, reductions in flows within the system, during periods when water is being stored, could impact habitat enhancement efforts in the mainstem of the Yakima River.

2-3 Any watershed restoration without storage, such as Alternative 3, which includes water conservation measures and habitat restoration projects, would be unlikely to have any negative effects to YRBWEP activities. These comments should be considered to be preliminary only. Much more detailed modeling information is necessary to accurately determine any likely affects of the storage alternatives. We would be available to meet with your modelers to recommend necessary data assessment needs for determining any negative impacts from the storage alternatives.

We appreciate the opportunity to provide these comments.

Sincerely,

David J. Kaumheimer
Environmental Program Manager

Comment Letter No. 2 – U.S. Bureau of Reclamation, David J. Kaumheimer, Environmental Program Manager

2-1. Comment acknowledged. The Draft EIS is a programmatic evaluation of the potential impacts of conceptual alternatives proposed for the ACWRP. As stated in Sections 1.5 and 1.6 of the EIS, the purpose of the programmatic evaluation is to serve as a basis for decision on the ACWRP. As stated, additional environmental analysis will be conducted at a project level when the ACWRP is defined.

The EIS acknowledges potential impacts of the reservoir on the Total Water Supply Available (TWSA) in Sections 3.2.5 and 6.2.2 and Appendix B. If a reservoir is selected as part of the ACWRP, Ecology would coordinate with the Bureau of Reclamation to further analyze the effects of a reservoir on TWSA and the Yakima River Basin Watershed Enhancement Project flow and habitat improvements.

The Bureau of Reclamation has been invited to participate in the Ahtanum Core Group and to provide early input in the evaluation of alternatives for the ACWRP. The Core Group will continue to coordinate with the Bureau and to request its participation in the development of the components of the restoration program.

2-2. Your comments regarding the adjudication, TWSA, the Yakama Nation's treaty water rights, the Bureau's withdrawal of all remaining unappropriated water of the Yakima Basin are acknowledged and are noted throughout the EIS. The ACWRP will comply with the Final Decision of the Adjudication Court. See the response to Comment Letter Number 1, Comment 8 regarding the Yakama Nation fishery rights. Ecology will continue to consult with the Bureau regarding TWSA and the possibility of the release of the Bureau's withdrawal as the ACWRP is developed.

The TWSA analysis included in Appendix B, pages B-13 through B-14, indicates that minimal impact to TWSA will result from the alternatives outlined in the EIS. Overall, the analysis indicates that if either storage alternative were implemented (Alternative 2 or 4), the total volume of water flowing from Ahtanum Creek to the Yakima River would increase slightly, on average, from April to October. During an extremely dry year, such as 1977, the April to October flow would decrease slightly, but the impact on TWSA and flows in the Yakima River would be negligible and not measurable.

More discussion was added to the EIS in Sections 3.2.5, 6.2.2 and page B-14 on the potential effect on Yakima River flow during the remainder of the year when the reservoir would be filling. The analysis indicates the flow discharging from Ahtanum Creek into the Yakima River would decrease in average years by increase in dry years as a minimum flow in Ahtanum Creek would be maintained.

2-3. Comments acknowledged. The Bureau has been included in ACWRP discussions in the past and will continue to be consulted. See the response to Comment 2-1 above regarding additional modeling of impacts from storage.

Washington Department of FISH and WILDLIFE

Fish Program, Fish Management Division
Region 3 Headquarters, 1701 S. 24th Ave., Yakima, WA 98902
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March 24, 2005

Derek I. Sandison, Regional Director
Central Regional Office
Washington State Department of Ecology
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

Subject: Review Comments on ACWRP Draft SEPA Programmatic EIS

Dear Mr. Sandison:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the above-referenced document and provides the following comments for your consideration and use in finalizing the Programmatic EIS for the Ahtanum Creek Watershed Restoration Project (ACWRP).

General Comments

First and foremost, WDFW recommends that the Dept. of Ecology (DOE), as SEPA lead agency, select **Alternative 2 – "Watershed Restoration with Storage", as the preferred alternative.** It is clear to WDFW that a comprehensive, coordinated program incorporating: 1) basin-wide habitat restoration projects, 2) an aggressive water conservation program to maximize irrigation efficiency, and 3) water storage at the proposed Pine Hollow Reservoir, provides the highest net benefits for all water users, including in-stream and riparian fish and wildlife habitat and out-of-stream consumptive uses such as irrigation.

3-1 The "no action" alternative is unacceptable to WDFW because implementing independent water conservation and habitat restoration projects on a "piecemeal basis" will likely not result in significant enhancement (or even preserve the poor current status) from a fish and wildlife (F&W) population and habitat perspective. Continued human population growth and urbanization in the Ahtanum Valley will inevitably result in further deterioration of F&W habitat and populations. WDFW recognizes the value in maintaining a viable agricultural economy in the Ahtanum Basin that delays or minimizes the conversion to residential development. Fish and wildlife species and their habitats will benefit from maintaining a low density, rural environment associated with "environmentally-friendly" agriculture—that is, modern, progressive agricultural activity that utilizes water efficiently and protects floodplain function and instream and riparian habitats required by fish and wildlife to prosper.

Alternative 3 (Watershed Restoration Without Storage) and Alternative 4 (Storage and Water Conservation Without Habitat Restoration) also fail to fully meet the needs of all stakeholders in the Ahtanum Basin. Based on the EDT analysis conducted in support of the Draft EIS, excluding the habitat restoration components in Alternative 4 eliminates most of the purported fish and wildlife benefits from the program. If significant fish and wildlife benefits disappear, critical "non-reimbursable" public funding credited to fish and wildlife enhancement will not
3-1 materialize. The agricultural community alone will be unable to fund Alternative 4 without F&W associated funding assistance---particularly because agricultural-oriented program costs (storage and water conservation) are usually "reimbursable" and must be repaid by private waterusers that benefit from public investment. WDFW believes that only a programmatic alternative that generally satisfies the watershed restoration needs of all instream and out-of-stream stakeholders has a reasonable chance of receiving broad support from the public, policy-makers and potential funding partners.

Lastly, there are two critical uncertainties associated with the issuance of new water storage rights for the proposed Pine Hollow Reservoir (PHR). Moving forward with a preferred
3-2 alternative that includes water storage requires that the Dept. of Ecology and the Ahtanum Core Group (ACG) attempt to resolve, in an expeditious manner, whether the U.S Bureau of Reclamation is willing to release PHR water storage from the 1979 Yakima basin-wide withdrawal of unappropriated water. A second uncertainty that could be viewed as a "fatal flaw" is the issue of the Yakama Nation claiming PHR water to help satisfy the unmet "practicably
3-3 irrigable acreage" needs of the Yakama Reservation. WDFW believes that a binding agreement is needed, before proceeding with storage construction, that specifies that ACWRP stored water will be used on the Yakama Reservation only to improve water supply reliability for lands currently served by the Ahtanum Division of the Wapato Irrigation Project.

Specific Comments

Figure 4-8

3-4 The fish distribution maps are somewhat inaccurate and need to be revised prior to finalizing the EIS. The legend for each species distribution map needs to be revised to show which life history stage(s) is illustrated (e.g. adult spawning, juvenile rearing, etc.).

Table 4-2

Indicate that [carrying] capacity and mean abundance are expressed in "adults". As indicated in Fig. 4-8, spring chinook only utilize the lowermost reach of Ahtanum Creek---and only for juvenile rearing. Spring chinook currently cannot complete their life cycle in the Ahtanum
3-5 watershed. No adult spawning currently occurs. Table 4-2 gives the reader the false impression that current mean abundance is 26 adults with a maximum carrying capacity of 118 adults. The table should reflect that spring chinook have been extirpated from the Ahtanum Basin except for "dip in" rearing of juveniles produced elsewhere in the basin. Likewise, the EDT model simulations predict an unrealistically high current abundance of steelhead (174 adults). These estimates need to be tempered with actual stock status data---far fewer steelhead have actually been observed to spawn in the creek. The only estimate that appears reasonable is

3-5 the coho abundance (59 spawning adults). This table and any supporting text should be revised to provide the reader with a true picture of the current status of the anadromous fish resources.

Page 4-34; Section 4.5.1.3

3-6 What happened to priority reaches for habitat preservation? The absence of a narrative section on preservation priorities leads the reader to believe that there is no high quality habitat worth acquiring and protecting from degradation. Please explain the relative value of protection vs. restoration priorities for each species and reference the EDT analysis in Appendix C.

Page 4-35, Spring Chinook Salmon

3-7 In the first sentence of this section, indicate that current utilization is limited to juvenile rearing in the lower reaches near Union Gap. In the second sentence, indicate that historical use included all life history stages, including spawning adults. The remainder of the paragraph should be deleted because this does not describe the current status of spring chinook or you should indicate that these life history stages and timing refer to potential chinook utilization if the habitat and flow regime of the Ahtanum Creek watershed are restored.

Page 4-36, Paragraph 2

3-8 In the last sentence, elaborate on the significance of having a high percentage of age-1 steelhead smolts. Faster growth rates that allow smoltification to occur at age-1 results in higher smolt production because a second year of freshwater mortality is avoided.

Page 4-36, Coho Salmon

3-9 Native coho were extirpated from the entire Yakima Basin in the mid-to-late 1970's, including the Ahtanum watershed. By that time, coho had already been reduced to very low abundance by a variety of in-basin habitat and flow-related factors and by out-of-basin sources of mortality such as over-harvest and mainstem Columbia R. dam impacts. Out-of-basin impacts were the final blow that extirpated native coho---particularly classic, "mixed stock" over-exploitation in the ocean and the lower Columbia R. sport and commercial fisheries, where upper Columbia Basin wild coho stocks co-mingled with abundant lower Columbia R. hatchery coho that could sustain high levels of harvest.

Currently, hatchery coho are not released as smolts in the Ahtanum basin. Coho smolts are only released from four acclimation pond sites---two on the Naches R. and two on the upper Yakima R. The Yakama Nation releases age-0 coho fry or fingerlings in the Ahtanum Cr. watershed.

Page 4-37, Bull Trout, Paragraph 2

3-10 WDFW has conducted annual bull trout spawning surveys on N.F. Ahtanum Cr. since 1993. Surveys began on the Middle Fork in 1996 and the Yakama Nation has been surveying the South Fork for bull trout spawning since 2000. WDFW will provide a table showing all spawning survey results through 2004 that should be included in the final EIS.

Page 6-8, Alternative 2, Mitigation Measures

3-11 WDFW will insist that operation and management of any water storage facilities be governed by multi-party oversight committee consisting of, but not necessarily limited to, the two irrigation districts (AID and WIP), effected federal and state natural resource agencies (DOE, WDFW, USFWS, NOAA-Fisheries), and the Yakama Nation.

Page 6-11, Section 6.3.2.2, Water Conservation

3-12 Aggressive implementation of the irrigation water conservation component of Alternative 2 is critical to WDFW support for development of water storage at Pine Hollow Reservoir. High priority water conservation projects should be implemented prior to or concurrent with storage development. Reducing the annual irrigation demand by 29 percent (13,300 acre-feet) or more, if feasible, increases the operational reliability of the reservoir, while minimizing the impact of water withdrawal on Ahtanum Creek fish and wildlife populations and their habitats.

3-13 The sentence in this section suggesting that lining or piping the WIP canal would reduce base flows in lower Ahtanum Creek gives the reader a misleading, negative impression regarding the value of water conservation. Groundwater inflow from leakage will be reduced, however, irrigation diversion reductions attributed to conservation measures means that more water stays in the creek in "real-time" at the point-of-diversion. Canal leakage water may return to the creek at a time and location that does not provide maximum benefit for fish and wildlife. In other words, a seasonal time lag that results in water returning after the critical summer/fall low flow period or that enters the creek well downstream of the point-of-diversion is not preferred to retaining more water in the creek during the normal period of maximum irrigation use.

Page 6-28, Section 6.5.2.2, Paragraph 2 and Table 6-3

3-14 Pine Hollow Reservoir storage diversion is expected to reduce mean monthly flow in Ahtanum Creek during the normal reservoir refill period (late Oct. – May). WDFW recognizes that this is an unavoidable impact to instream resources that must occur in order to meet the late spring-summer-early fall surface water needs of all stakeholders. However, diversion of water should not occur during the normal low flow period (mid-July through mid-October), which is an annual constraint on rearing habitat/fish production for coho, steelhead and bull trout. Out-of-stream users need to rely on water already stored in PHR by mid-July and supplemental groundwater sources during this annual low flow period. Diversions into PHR should wait until fall rains resume, significantly increasing stream flow---usually mid-to-late October.

3-15 Also, why does the reach between Hatton Cr. return and Lower WIP diversion show a 13% decline from current base flow when reaches above and below show significant increases?

Page D-3, Appendix D

3-16 "Flat-lining" instream flow targets year-round (e.g. 20 cfs for the North Fork; 25 cfs for mainstem Ahtanum Cr.) in order to increase PHR yield from 15 KAF to 16 KAF is unacceptable

to WDFW. Instead of abandoning any attempt to provide "normative" flows on monthly basis, WDFW recommends that reservoir net yield be increased by reducing the conveyance losses associated with delivering water to PHR through the enlarged Johncox Ditch. Estimated reservoir leakage and evaporation losses represent only 20 percent (400 ac-ft) of the 2,000 acre-feet difference between the 17 KAF diverted from the North Fork and the 15 KAF average annual yield (see Page 6-11). By subtraction, Johncox Canal conveyance losses are estimated to be 1,600 ac-ft (80%) of the total loss. The enlarged Johncox Canal (160 cfs capacity) should be completely lined with concrete to significantly reduce or piped to completely eliminate transit conveyance losses. This additional, one-time, capital construction cost would have the same or greater positive benefit on reservoir net yield as reducing instream flow targets and "flat-lining"--an unacceptable environmental cost to instream fish and wildlife resources that would occur every year over the life of the project.

3-16

Thank you for the opportunity to provide comments on the Draft Programmatic EIS. WDFW looks forward to continued active participation as a member of the Ahtanum Core Group to finalize this EIS and to work on developing the specific suite of elements to be included in the final preferred alternative for the ACWRP.

3-17

Sincerely,

John A. Easterbrooks

John A. Easterbrooks
Regional Fish Program Manager

Comment Letter No. 3 – Fish and Wildlife, John Easterbrook, Regional Fish Program Manager

3-1. Your comments regarding WDFW's preferred alternative are acknowledged.

3-2. Comment acknowledged. See the response to Comment Letter Number 2, Comment 2 regarding the Bureau's release of unappropriated water in the Yakima Basin.

3-3. Your comment regarding the need for an agreement with the Yakama Nation prior to development of the ACWRP is acknowledged and is noted in Section 1.10 of the EIS.

3-4. Figure 4-8 has been revised to indicate the life history illustrated for each species.

3-5. All EDT simulations are primarily indices of the *relative impact* of the alternatives, not as absolute (or observed) estimates of current or future fish production. Table 4-2 represents "habitat potential," not actual fish production. This distinction can be illustrated by considering a pristine river system upstream of an impassible dam. The habitat above the dam may well have the potential to support thousands of salmon and steelhead, even though its actual production is zero.

The text accompanying Table 4-2 has been changed to indicate that the habitat production *potential* refers to adults, even though at present no spring Chinook adults, and very few coho and steelhead adults, spawn in the watershed. Equilibrium abundance for populations with such low productivity is very sensitive to the density of juvenile fish in the system. For example, an error in productivity of only plus or minus 10 percent would result in an abundance estimate 30 percent larger or smaller. Productivity was emphasized because, even with abundant carrying capacity (rearing space), habitat with low productivity potential is very likely to cause the extirpation of salmon and steelhead populations.

3-6. Comment acknowledged. Information about areas most suitable for habitat preservation has been added to Section 4.5.1.3.

3-7. The text in section 4.5.1.4 under the spring Chinook heading has been revised to reflect that current spring Chinook use of the lower several miles is limited to juvenile rearing; and that historic use by spring Chinook included all the life history stages, including spawning. It is important to retain the discussion on life history characteristics since all of the life stages are being modeled, including for extirpated Chinook. The life history description for potential Chinook utilization has been clarified.

3-8. The last sentence in 4.5.1.4 under the steelhead heading has been modified to describe the significance of having a high percentage of age-1 steelhead smolts.

3-9. The text in 4.5.1.4 under the coho heading has been revised to reflect that native coho were extirpated from the entire Yakima subbasin in the mid-to-late 1970s and that currently, hatchery coho are not released as smolts in the Ahtanum Watershed; the Yakama Nation releases age-0 coho fry or fingerlings in the watershed.

3-10. A table (Table 4-3a) showing all bull trout spawning results has been incorporated into section 4.5.1.4 under the Bull Trout heading.

3-11. Comment acknowledged. As noted in Section 1.10 of the EIS, a Joint Operating Agreement would need to be developed and will include the key stakeholders. This would include appropriate fish and wildlife agencies.

3-12. Comment acknowledged. Irrigation water conservation is included in all of the EIS alternatives. The two alternatives that include a storage component (Alternatives 2 and 4) include conservation programs that would be developed in conjunction with the storage reservoir.

3-13. Comment acknowledged. A clarifying statement has been added to Section 6.3.2.2.

3-14. Alternatives 2 and 4 are intended to limit diversions from the North Fork of Ahtanum Creek during the normal low flow. Under these alternatives, diversions to the reservoir would only occur when instream flow requirements have been met. Diversions to the reservoir would occur during the low flow period if the flow in North Fork was high, as might occur during a rainy summer or fall period. The details of operation of the reservoir would be refined in the future if a reservoir is included as a component of the ACWRP. A more detailed analysis of reservoir operation and diversions would be completed at that time.

3-15. Table 6-3 has been corrected. The modeling results do indicate an increase in the mean September and October flows in Ahtanum Creek in all reaches downstream of the Upper WIP Diversion under the Pine Hollow Reservoir alternatives.

3-16. The analysis of constant year-round flow targets was done largely for comparison, to determine the relative impact that instream flow targets would have on reservoir yield. It is anticipated that instream flow targets will be determined through additional analysis and discussion with the Ahtanum Core Group and Ecology as the components are selected for the ACWRP.

The analysis completed for the *Ahtanum Creek Watershed Assessment* (Golder, 2004) assumed a 10 percent conveyance loss through the renovated Johncox Ditch. Analysis done for the EIS assumed the same loss. A 10 percent loss may be slightly conservative, assuming the ditch is lined. If the Johncox Ditch is lined with concrete, shotcrete, or another impermeable liner, losses would be minimized. However, some loss would still occur through evaporation, and seepage through joints and cracks in the lining. Lining and maintenance of the ditch to reduce

losses would be given significant consideration. Piping of the ditch has been considered as well. However, the ditch intercepts and distributes runoff from Pine Mountain for irrigation. Piping the ditch would make collection and use of that runoff much more difficult. Piping the ditch would also likely require multiple large diameter pipes to provide the needed capacity, which could be very expensive.

3-17. Comment acknowledged. WDFW's continued participation with the Ahtanum Core Group is appreciated.

STATE OF WASHINGTON

Office of Archaeology and Historic Preservation

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
(Mailing Address) PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 Fax Number (360) 586-3067

March 22, 2005

Mr. Derek Sandison, Regional Director
Department of Ecology
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

In future correspondence please refer to:
Log: 032205-02-ECY
Property: Watershed Restoration Program for Ahtanum Creek SEPA EIS

Dear Mr. Sandison:

4-1 We have reviewed the materials forwarded to our office for the proposed project referenced above. The project area has significant potential for archaeological and historic resources. If Alternative 2, 3, or 4 is chosen, archaeological and historic properties surveys will be needed prior to project commencement. Any archaeological sites or historic properties will need to be inventoried and their eligibility and significance assessed. If impacts cannot be avoided, mitigation measures will have to be developed in consultation with this office and the Yakama Nation Cultural Resources Department.

4-2 If federal funds or permits are involved Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36CFR800, must be followed. This is a separate process from SEPA and also requires identification of historic properties and archaeological sites, as well as consultation with this office and the Yakama Nation.

4-3 These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment on this project and we look forward to receiving the survey report. Please note that as of July 1, 2005, OAHP will be requiring the use of OAHP Archaeology Site Forms for all archaeological survey projects. You can obtain a copy of the Archaeology Site form from our website at www.oahp.wa.gov. Also note that as of January 1, 2005, OAHP requires that all historic property inventory forms provided to our office be submitted in an electronic version using the Historic Property Inventory Database. If you have not registered for a copy of the database, please log onto our website and go to the Survey/Inventory page for more information and a registration form.

Sincerely,

Stephenie Kramer
Assistant State Archaeologist
(360) 586-3083
StephenieK@cted.wa.gov

cc: Johnson Meninick
Shane Scott

Comment Letter No. 4 – Office of Archaeology and Historic Preservation, Stephenie Kramer, Assistant State Archaeologist

4-1. The need for additional archaeological studies and possible mitigation is acknowledged in Sections 5.11 and 6.11.

4-2. Compliance with Section 106 of the National Historic Preservation Act has been added to the list of potential federal permits in the Fact Sheet. The ACWRP would comply with this requirement if federal funding or permits are part of the selected restoration program.

4-3. Comment acknowledged.

Public Services

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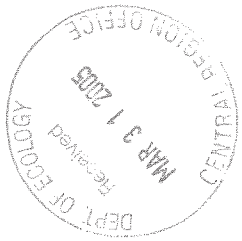
VERN M. REDIFER, P.E. - Director

March 29, 2005



Derek Sandison, Central Regional Director
Wa. Dept. of Ecology
15 W. Yakima Ave, Ste. 200
Yakima, WA 98902-3452

RE: SEPA comments for Ahtanum Watershed Restoration Program EIS

Dear Mr. Sandison,

5-1 Thank you for the opportunity to comment on this proposal. Our apologies for the late date of our comments. Below are a list of concerns relating to the Draft EIS for the Ahtanum Watershed Restoration Program. They mainly deal with the apparent incompleteness of the impact assessment. Specifically, basic information seems to be missing that is needed to assess the impacts, even from a phased environmental review perspective, and to determine which alternative to choose.

5-2 1. In the alternatives description, two of the main components proposed on the program are the dam and restoration activities. Yet there is no elements of either described in the plan. In order to assess the impacts of the dam, one needs to know at least the basic components that would be needed to make it happen. For the dam, this would include: diversion size and location, main distribution features such as to the WIP and main trunk lines to the Ahtanum Valley, alterations to the existing facilities, etc. For the habitat restoration activities, what kind of projects would be needed, and where are they needed? Our Surface Water Management Division is in favor of engineered channels such as at S. 42nd Ave. and Emma Lane. They are also interested in working with the other agencies in implementation of habitat enhancement projects in the watershed such as large wood projects, side channel projects, etc. They will try to integrate them into the Ahtanum Creek CFHMP, and would like to see a more integrated restoration plan developed that actually looks reach by reach at what is possible to do.

5-3

5-4 2. There is no information about the operation of the dam to determine the impacts it would have on Ahtanum Creek. The primary piece of information needed would seem to be how much water would be taken from the river, and at what season. This would allow some assessment of the impact to the regular flows in the river. This should be depicted using the hydrographs on page 4-8 for displaying the current condition, and then adjusting them based on the flow diversion for the dam.

5-5 3. Page 4-49, para. 1, end: The jurisdiction description should be modified. Non-federal and non-tribal lands are subject to local land use regulations unless used for forest practices under the FPA.

5-6 4. Page 4-49, para. 2, middle: The 1982 land use zones have been superceded by new zoning districts in 2000. Clarifying language should be added.

5-7 5. Page 4-50, para. 5: The subdivision information seems wrong. You can contact our Planning Staff that conduct subdivision reviews can confirm this information for you.

5-8 6. Page 4-49, para. 1, top: The state designates both sides of Ahtanum Creek as shoreline. Whether the state law applies to Yakama Nation land is a separate matter.

5-9 7. Page 5-3, sect. 5.2.2: The impacts to the flow dependent functions of the river due to altering spring freshet flows need to be considered. The assessment of impacts from the dam seems to be limited to construction and turbidity. Yet the diversion of increased volumes during a different time of year from the current situation will have consequences. There may be both positive and negative impacts (i.e. increase in-stream flows, etc.). The information discussed in items 1 and 2 above are needed to determine the impacts for alternatives that use the dam.

5-10 8. Page 5-4, sect. 5.3: The assessment of groundwater impacts needs to be informed by changes in the irrigation canal system, and by the expansion of water use in the valley resulting from the dam.

5-11 9. Page 5-4, sect. 5.4: Similar to other comments, changes to flood flows will change the habitat forming processes of the river. Impacts to fish and wildlife habitat can't be determined until changes to flood flows are determined. It does not appear that this has been adequately studied.

5-12 10. Given the unknown flow alteration situation, our Surface Water Division would like to see some kind of formal or written agreement that ensures current flow regimes, especially below the Upper WIP and AID diversion, are maintained into the future. Unless those flows are maintained, much of the rationale for restoration is lost.

Thank you for the opportunity to comment on this project. If you have any questions, please contact me at the number above and I can forward your questions to the relevant staff person.

Sincerely,

DEAN G. PATTERSON
Environmental and Natural Resources Manager

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Comment Letter No. 5 – Yakima County Public Services, Dean Patterson, Environmental & Natural Resources Manager

5-1. Comment acknowledged. As noted in Section 1.5, the purpose of a Programmatic EIS is "to evaluate nonproject governmental actions such as policies, plans, or programs and is used as the basis for future project decisions." The Programmatic ACWRP EIS is a programmatic level environmental evaluation of conceptual alternatives that could be selected for the ACWRP. As stated in Section 1.6, "Elements of the ACWRP would be selected from the alternatives evaluated in this EIS" and additional project level evaluation would be conducted as appropriate for the selected elements of the ACWRP.

5-2. As stated in Section 2.1 of the EIS, the alternatives presented in the Programmatic EIS are conceptual approaches to watershed restoration. Conceptual level details of the reservoir and dam were included in the EIS as described in Section 6.2.2 and Appendix A. Conceptual level restoration projects are presented in Section 6.5 and Appendix C. In addition, as described in Section 1.10 of the EIS, a separate study is being conducted on more specific restoration projects and potential funding for those projects. The results of that study will be available from Ecology in June. The County has been invited to participate in that project. As stated in Section 1.6 of the EIS, additional SEPA analysis will be conducted on the specific components of the ACWRP as appropriate, including a reservoir and restoration projects if those are chosen as part of the ACWRP.

5-3. The general types of restoration projects considered in the EIS are listed in Section 2.3.3.1. The purpose of the EDT model described in Sections 4.5.1.1 and 6.5 was to determine where habitat restoration efforts would provide the most benefits, on a reach basis. The priority reaches for habitat restoration are listed in Section 4.5.1.3 of the EIS. A separate project is being undertaken to identify specific restoration projects for the priority reaches and funding sources for those projects. The results of that study will be available from Ecology in June 2005. As the components of the ACWRP are developed, County projects will be integrated into the restoration plan.

5-4. As described in responses to your Comment 5-2 above, conceptual level details of the reservoir operations were included in Sections 6.2.2 and Appendix A. The hydrographs that you requested are included in Appendix D and summarized in Section 6.2.2.

5-5. The requested change has been made.

5-6. The language has been changed to clarify the date of the zoning districts.

5-7. The text in Section 4.7.3.2 has been clarified based on input from the Yakima County Planning Department.

5-8. As noted in the response to Comment Letter 1, Comment 9 and in Section 3.3.3 of the Final EIS, the Shoreline Management Act does not apply to the Yakama Reservation. WAC 173-18-430 specifically excludes the lands on the reservation from designation as Shorelines of the State.

5-9. The long-term impacts to surface water flows resulting from our analysis of the proposed reservoir are included in Section 6.2.2. A more thorough discussion of the flow routing analysis is included in Appendix D. The long-term impacts of diversions to the proposed reservoir on fish habitat are included in Section 6.5.2. A detailed description of the analysis done to determine impacts to the fish habitat are included in Appendix C. More detailed analyses will be conducted in future SEPA evaluation of program components.

5-10. The groundwater impacts discussed in Section 5.3 are short-term construction impacts. Operation or long-term impacts are discussed in Section 6.3 and include changes in the canal system and use of reservoir water.

5-11. Instream flows, including habitat forming flows, are evaluated in Section 6.2 of the EIS. As referenced in Section 6.2, the detailed discussion of the analysis of long-term impacts to surface water due to the proposed reservoir is included in Appendix D. That analysis included an allowance for "channel-forming" flows, meaning that flows greater than 350 cfs would be routed downstream as flood flows rather than being diverted to the reservoir. Additional evaluation of the impact of flows on habitat would be conducted in future SEPA documents following selection of the components of the ACWRP.

5-12. The maintenance of minimum instream flows is included in the alternatives analysis of the EIS (see Section 6.2 and Appendices A and D). As noted in Section 6.2.2, a detailed analysis of instream flow targets was not included in the programmatic EIS, but would be undertaken as part of a project-level EIS. The maintenance of minimum instream flows would be part of the Joint Operating Agreement that would be developed to implement the selected ACWRP as noted in Section 1.10 of the EIS.

TAYLOR CONSULTING GROUP L.L.C.
• Policy Development • Government Relations • Land Use

March 22, 2005

Mr. Derek Sandison, Regional Director
Central Regional Office
Washington State Department of Ecology
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

RE: Ahtanum Creek Watershed Restoration Program – Draft Programmatic EIS

Dear Mr. Sandison,

6-1 On behalf of the Ahtanum Irrigation District I would like to thank you for the opportunity to comment on the above mentioned document. This Draft Programmatic EIS represents thousands of hours and many years of work to arrive at where we are today. The Ahtanum Irrigation District would like to thank you for the dedication you have given to this project. We are confident the Final Programmatic EIS will show Alternative 2 as the "preferred alternative" based on the benefits it brings to the watershed as a whole.

6-2 As a whole, the Draft Programmatic EIS is well written and concise, which will provide decision makers with the information necessary to make long-term decisions. We have attached our comments on the Draft Programmatic EIS for inclusion as part of the public record. The issues raised in the attached comments are based on personal experiences, observations and on ground facts. The Board of the Ahtanum Irrigation District would like to offer you, your staff and the consultant an opportunity to discuss these issues should any questions arise.

Once again, on behalf of the Ahtanum Irrigation District we thank you for the opportunity to comment on the Draft Programmatic EIS for the Ahtanum Creek Watershed Restoration Program. Should you have any questions, please don't hesitate to contact us.

Sincerely,
Taylor Consulting Group

David V. Taylor, Senior Consultant

Cc: Ahtanum Irrigation District

1661 Beane Road, Moxee, Washington 98936 • 1(509) 949-6445 • 1(509) 452-7705 fax • tcg@nwinfo.net

Ahtanum Irrigation District Comments
on the
Draft Programmatic EIS for the Ahtanum Creek Watershed Restoration Program

6-3 1. Page 3, Fact Sheet: The Fact Sheet indicates a project level EIS for the reservoir would be prepared in 2007. We believe this process could begin in 2005, concurrent with the development of the Ahtanum Creek Watershed Restoration Program.

6-4 2. Page 1-1, Section 1.1: In addition to Wiley City and Tampico, the unincorporated town of Ahtanum should be included.

6-5 3. Page 1-2, Section 1.1: The Draft Programmatic EIS describes the diversions in Ahtanum Creek as being inadequate to meet the water demand for crops growing in the watershed, and these inadequacies lead to relatively low crop value. This analysis demonstrates the need for irrigation delivery improvements and for water storage, both of which could be achieved through implementation of Alternative 2.

6-6 4. Page 1-2, Section 1.3: This section provides an excellent description as to the purpose and need for watershed restoration. In addition, three of the four bulleted items describe issues that could be addressed through construction of the Pine Hollow Reservoir.

6-7 5. Page 1-5, Section 1.5: The document describes the purpose of a Programmatic EIS as an evaluation of "nongovernmental actions such as policies, plans or programs and is used as the basis for future project decisions." Given the described purpose of a Programmatic EIS, we believe the Department of Ecology should consider designating the Ahtanum Creek Watershed Restoration Program a Planned Action under Title 43.21C RCW and Chapter 197-11 WAC in order to facilitate implementation projects. We believe such a designation meets the intent of the Planned Action statutes and rules and would allow implementation of some restoration projects much more quickly. For example, projects meeting RCW 90.58.147 which utilize best management practices could move forward with little or no review based on the contents of this programmatic EIS.

6-8 6. Page 1-5, Section 1.6: The document indicates a 30-year timeframe was chosen because it is the likely period in which the benefits of habitat restoration would be achieved. We would ask Ecology to consider the utilization of hybrid vegetation as a temporary means to achieve habitat improvements. A planned residential development in Walla Walla County has utilized such techniques in order to achieve habitat improvements in a very short period of time. Once native vegetation is established, the temporary hybrid vegetation is removed.

6-9 7. Page 1-12, Section 1.9.2.2: The Draft Programmatic EIS indicates construction of the Pine Hollow Reservoir would increase water supply for irrigation and instream flows; however, even with construction of the reservoir other supplemental irrigation sources would be needed to meet the irrigation demand of the basin. The factual basis for this statement needs to be explained in detail. Are the additional irrigation needs based on the Practicably Irrigable Acreage (PIA) for the Yakama Indian Reservation?

6-10 In addition, the DEIS indicates "cultural impacts under Alternative 2 could include prohibiting access of tribal members to the Pine Hollow area." We believe this potential impact is already occurring as the proposed reservoir site is private property and, as such, this section should be revised to reflect current circumstances.

8. Page 1-14, Section 1.9.3: We agree and concur that the Department of Ecology must
6-11 evaluate new water right applications and water right change applications to determine if existing water rights would be impaired. We believe the document should specify that any approved water right change applications would retain their priority dates.

9. Page 3-3, Section 3.2.1.2: This section discusses water right change requests and indicates the Yakima County Water Conservancy Board would review any change application requests associated with the Ahtanum Creek Watershed Restoration Program. Although we are not necessarily opposed to the Yakima County Conservancy Board
6-12 reviewing change requests, we believe the Board should only be involved in change requests not associated with the Pine Hollow Reservoir. Because a new storage right is required from the Department of Ecology, we believe the DOE should review all new water right and change applications specifically associated with the Pine Hollow Reservoir as a consolidated application.

10. Page 3-3/4. Section 3.2.1.4: In the discussion of trust water rights, the document cites
6-13 RCW 90.38.030 and describes how some trust water rights are created. Does the DOE view the proposed Pine Hollow Reservoir as a mechanism to create trust water rights in the Ahtanum Creek basin?

11. Page 3-4, Section 3.2.1.5: This section discusses the ongoing Yakima River Adjudication
6-14 and explains "lost or extinguished" water rights. It should be noted extinguished water rights are not trust water rights, as defined by the statute.

12. Page 3-5, Section 3.2.3: It is our understanding the Yakama Nation's water rights are not being specifically adjudicated through the Yakima River Basin adjudication. In addition,
6-15 the McCarran Amendment only allows state courts to adjudicate federally reserved rights during a statewide adjudication. The information contained in the document should be clarified.

13. Page 3-7, Section 3.3.1: Discusses the Federal Endangered Species Act and specifically cites the Section 9 "take" prohibition and that "harm" has been defined to include significant habitat modification. The Section also indicates the U.S. Supreme Court has upheld this definition. Section 3.3.1 does not, however, include a discussion related to the "actual death or injury" standard upheld by the Courts.

6-16

In Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, the U.S. Supreme Court affirmed regulations defining "harm" to include significant habitat modifications and other acts that actually kill or injure wildlife. The Court concluded that any person may be liable for actions that indirectly take a listed species through habitat modification. However, the Court also stressed that liability for take is contingent on evidence that such

6-16 habitat modification is the immediate cause of actual death or injury to a listed species. The 9th Circuit case Defenders of Wildlife v. Bernal, illustrates the "actual" death or injury standard imposed by the Supreme Court. In Defenders of Wildlife v. Bernal a school district sought to build a new school in critical habitat for the endangered pygmy owl. The Court found that even though the school district's action might adversely affect the habitat of the endangered owl it was not a take because there was no proof construction of the school would cause an actual death or injury.

6-17 14. Page 3-7, Section 3.3: This section describes several federal and state habitat management programs. The Washington State Growth Management Act (Title 36.70A RCW) and Watershed Planning Act (Title 90.82 RCW) should also be discussed within this section.

6-18 15. Pages 4-7&8, Section 4.2.2: Based on the discussion contained in Section 4.2.2 and information contained in Figure 4-3 we believe the need for irrigation storage has been clearly demonstrated.

6-19 16. Page 4-10, Section 4.2.3: The DEIS indicates continuous flow in Ahtanum Creek has been maintained since 2000. Based on personal observations of several AID Board members, 2002 was the first year continuous flow was maintained in Ahtanum Creek.

6-20 In addition, previous studies in the Ahtanum Creek watershed show the WIP canal as having substantially lower efficiency in conveyance. We would ask the information from the previous studies be reviewed and included in this EIS.

6-21 17. Page 4-25, Section 4.5: This section describes the fish species present in the Ahtanum Creek watershed. Included in the list of fish species is summer steelhead, including its resident form (rainbow trout), and indicates it is listed as threatened under the ESA. This statement is inaccurate in that resident rainbow trout are not listed under the ESA. In addition, the legality of providing ESA protection to an unlisted species has not been settled in the courts.

6-22 18. Page 5-4, Section 5.3.2: Could construction of the Pine Hollow reservoir increase the groundwater level in the area? If so, what positive impacts could be experienced from an increase to groundwater levels?

6-23 19. Page 6-5, Section 6.2.2: The document cites construction of the reservoir would not provide an adequate irrigation supply for the entire WIP and AID. Based on the information contained in the Draft programmatic EIS and other studies previously prepared, it appears adequate irrigation supply for AID and WIP would occur if the PIA were not included in the figure. We ask that the reservoir be evaluated for providing water to the current irrigable acreage only.

6-24 20. Page 6-7, Section 6.2.2: The DEIS points to the temperature model which indicates water released from the reservoir would exceed the 16 degrees C threshold for salmon and trout spawning in August and September. Previous studies have indicated water

6-24 released from the reservoir would be too cold for salmon and trout spawning. This information needs to be clarified prior to issuance of the FEIS.

21. Page 6-13, Section 6.3.2.4: This section describes the transferring of groundwater rights in exchange for receiving reservoir water. It must be noted the groundwater rights
6-25 described in this section are private property rights independent of the Ahtanum Irrigation District. Whether or not these private groundwater rights are transferred should not be included in this evaluation, as AID has no control over these rights.

22. Page 6-19, Section 6.4.2: This section describes potential impacts to plants and wildlife and indicates a mixture of native and non-native vegetation is likely to colonize the mud
6-26 flats during the summer. It is important that an aggressive noxious weed elimination program be implemented in order to prevent their spread to agricultural lands.

6-27 In addition, this section cites the John Cox Ditch as being lined and piped. While we don't oppose lining the John Cox Ditch, we do have serious concerns with piping the conveyance ditch. The John Cox Ditch captures runoff from Pine Mountain and Cottonwood which are used by the AID for irrigation purposes.

23. Page 6-33, Section 6.6.2: It should be noted the dam would be located on the eastern end
6-28 of the canyon. In addition, we believe most potential aesthetic impacts will be negated by burying conveyance piping.

24. Page 6-56 & 57, Section 6.12.2.1: We believe the overall amount of electricity used within the AID will be reduced because the majority of the system will be pressurized. In
6-29 addition, although AID does not anticipate generating hydropower at this time, we do not want to foreclose that option for the future. We believe the reservoir may be used to create the electricity needed to pump to the limited areas where the system will not be pressurized.

25. Page A-1: The Reservoir Operation Information should be updated to include the
6-30 following information:

A. A "smart" diversion will be included at the Cottonwood interceptor, based on the Dames and Moore study; and

6-31 B. When the reservoir is full some diversion would occur to equalize the reservoir level.

6-32 In addition, service to the customers **WEST** of the reservoir may require pumping.

6-33 Finally, we ask the various Fish and Wildlife Agencies decide whether they want the reservoir to augment instream flows.

26. We believe the water yield from the Pine Mountain water flow has not been considered
6-34 and we believe a properly constructed interceptor could catch high flows and divert the flows to the Pine Hollow Reservoir, thereby increasing the total water supply available.

Comment Letter No. 6 – Taylor Consulting Group, David Taylor, Sr. Consultant

6-1. Comment acknowledged. The Final EIS will not include designation of a preferred alternative. The components of the restoration plan will be selected after completion of the Final EIS and will be selected jointly by Ecology, the Ahtanum Core Group, and other stakeholders. Selection of the components of the restoration plan will require agreement among the stakeholders, including the Yakama Nation.

6-2. Comment acknowledged.

6-3. Preparation of a project level EIS could not begin until the components of the restoration plan are selected and agreements have been reached among the stakeholders. This is likely to take until the end of 2005. In addition, preparation of a project level EIS would require the resolution of details associated with the ACWRP such as funding, which would determine whether a National Environmental Policy Act (NEPA) evaluation would be required. The project level EIS will be started as soon as reasonable.

6-4. Ahtanum has been added as an unincorporated town.

6-5. Comment acknowledged.

6-6. Comment acknowledged.

6-7. Ecology has consulted with Yakima County planning staff regarding the feasibility of incorporating the Pine Hollow Reservoir as a Planned Action. County staff have indicated that the County does not typically do Planned Actions and staff are not certain that a Planned Action would be appropriate for the reservoir. County staff indicate that permitting the project through the normal zoning process and doing a separate construction EIS for the reservoir would be the appropriate course of action. If an ACWRP is developed that includes a reservoir, Ecology will continue to consult with the County on the appropriateness of the Planned Action process.

6-8. Hybrid vegetation, such as hybrid poplars, exhibits very fast growth response. While this does accelerate the achievement of some of the desired restoration functions (for example shade), it does not contribute as much as native vegetation does to other desired attributes such as wildlife habitat or contributions of large wood to streams. Hybrid trees, for example, do not produce wood that persists as long in the stream. Accepted riparian restoration practices emphasize, where possible, the use of vegetation that is native to the watershed. The concept of using hybrid vegetation will, however, be considered as the Core Group moves forward with developing enhancement alternatives.

6-9. The Pine Hollow Reservoir would increase the reliability of surface water supplies. However, the reservoir would not yield enough water to reliably meet 100 percent of irrigation demands throughout the season. The irrigation demands used as a baseline in this study were estimated based on the survey of water users completed for the *Ahtanum Creek Watershed Assessment* (Golder, 2004). The information collected in the survey represents the acreage and types of crops irrigated in 2002. The baseline demand scenario is an estimate of the total irrigation demand generated by those acreages and types of crops. The estimated baseline demand is greater than the average estimated yield of the reservoir and so additional water sources would be needed to meet the irrigation demand generated by those acreages and types of crops. The irrigation demands used for the analysis are discussed in detail in Appendix D of the EIS.

The baseline demand scenario and reservoir analysis do not necessarily include irrigation demand for all acreages included in the Practicably Irrigable Acreage (PIA), or for any other acreages that were not being irrigated at the time of the crop survey. The details of operation of the reservoir with respect to water rights and irrigation needs would be refined in the future if a reservoir is included in the components selected for the ACWRP.

6-10. The statement regarding tribal access to the reservoir area has been revised per Comment Letter 1, Comment 18.

6-11. A statement regarding changes and transfers retaining their original priority date has been added to Section 3.2.1.2.

6-12. We agree that it would make sense for all applications for new water rights and changes associated with construction of a reservoir to be considered together. Ecology will consider combining the water rights applications. A sentence has been added to Section 3.2.1.2 clarifying that applications for change can be filed with either the County Conservancy Board or Ecology.

6-13. The Pine Hollow Reservoir would not be a mechanism to create Trust Water Rights, however; some of the conservation measures undertaken as part of the ACWRP could create Trust Water Rights, depending on the funding source. See Section 6.13.2.

6-14. The limitations of trust water rights are clearly described in Section 3.2.1.4.

6-15. The Yakama Nation's water rights are being adjudicated as part of the Yakima Basin Adjudication. The McCarran Amendment allows adjudication of federally reserved water rights in a "general stream adjudication." A federal court in Oregon has held that an adjudication that involves only surface water rights and not groundwater rights is a "general adjudication" for the purposes of the McCarran Amendment.

6-16. Comment acknowledged.

6-17. Brief discussions of the Growth Management Act and the Watershed Planning Act have been added to Section 3.3 of the Final EIS.

6-18. Comment acknowledged.

6-19. Section 4.2.3 has been revised to reflect your comment regarding the year in which year-round stream flows were maintained in Ahtanum Creek.

6-20. Section 4.2.3 has been revised to reflect your comment regarding the relative efficiencies of AID and WIP conveyance facilities.

6-21. Section 4.5 has been revised to clarify that rainbow trout is not a listed species.

6-22. Section 5.3.2 is a discussion of short-term impacts to groundwater. Long term impacts, including positive impacts to groundwater levels, are addressed in Section 6.3.2.1.

6-23. See the response to your Comment 6-9 above.

6-24. The temperature data provided in the EIS is based on thermal modeling of the reservoir under the conditions assumed for Alternatives 2 and 4. We are not aware of previous studies that used thermal modeling to determine the impact of water temperatures on fish. According to the thermal modeling done for the EIS, the temperatures from the reservoir would only exceed the 16 °C threshold for salmon and trout spawning during the late summer when the reservoir level is low. Based on the results of the EIS analysis, the supplemental flow from the reservoir would be small relative to the flows in the main stem and so the impact on temperatures in the stream and would not be considered a significant issue for fish habitat (see Section 6.5.2.2).

6-25. Section 6.3.2.5 is a general discussion of the impacts to groundwater levels if groundwater rights were exchanged for more reliable surface water rights. This transfer could occur as a result of construction of the reservoir and needs to be discussed as a potential impact. It is not intended to imply that Ahtanum Irrigation District has any control over the transfer of those rights. A sentence has been added to Section 6.3.2.4 to clarify that the groundwater rights are privately held.

6-26. Section 6.4.5 states that a noxious weed control program would be developed as part of the implementation of the ACWRP.

6-27. The analysis completed for the EIS assumed 10 percent conveyance loss through the renovated Johncox Ditch. Our analysis estimated that 17,000 acre-feet would be diverted to the proposed reservoir during an average year. The resulting 1,700 acre-foot loss is significant. Piping the ditch is mentioned, but may not be feasible for the reasons you mentioned. Piping the ditch would also likely require multiple large diameter pipes to provide the needed capacity, which could be very expensive.

6-28. The text has been changed to reflect this comment. Your comment about aesthetic impacts is acknowledged.

6-29. Your comment regarding the potential for an overall reduction in the amount of electricity used in the Ahtanum Irrigation District is acknowledged. Hydropower generation was not considered as part of the conceptual alternatives for the ACWRP, but could be considered in the future.

6-30. Our understanding is that the "smart" diversion would be located on the North Fork of Ahtanum Creek at the top of the Johncox Ditch. Updated or corrected information would be incorporated into a detailed operation plan if the reservoir is included in the restoration plan.

6-31. The reservoir operation information (Appendix A) has been revised to indicate that the diversion would operate to fill the reservoir and keep it as full as possible.

6-32. The reservoir operation information (Appendix A) has been revised to indicate that service to customers west of the reservoir would require pumping.

6-33. Comment acknowledged. A decision on the use of reservoir water to augment streamflows would be part of the decision process when the components of the ACWRP are selected.

6-34. The Pine Mountain drainage was included in the flow routing analysis as an inflow into the reservoir. The details of operation of the reservoir will be refined in the future if the reservoir is included in the ACWRP. A more detailed analysis of the interception of runoff should be considered at that time.

Ann Root

From: Derek Sandison
Sent: Thursday, March 03, 2005 11:57 AM
To: Ann Root; Molly Adolfson
Subject: FW: EIS-

fyi

-----Original Message-----
From: Wellner, Joanne
Sent: Thursday, March 03, 2005 11:51 AM
To: Sandison, Derek
Subject: EIS-

7-1 Today a gentleman named Robert McInnis came in with a NOA for the EIS. He said he had been looking at a neighbors and noticed an error on figure 4-2. It shows on the figure that his well is 300 ft south of Bachelor Creek and it is 300ft south of Hatton Creek.

Joanne R. Wellner
Dept. of Ecology-CRO SEA & Admin. Assist.
509/575-2680
jwel461@ecy.wa.gov

Comment Letter No. 7 – Robert McInnis

7-1. Comment acknowledged. As noted on Figure 4-2, the source of the map is the Ahtanum Creek Watershed Assessment prepared by Golder Associates. No additional research on well locations was conducted as part of the environmental analysis for the EIS. A note has been added to Figure 4-2 to indicate the correct location of the McInnis well.

Vernette Phillips
5597 S. Gledhill Avenue
apt. L.
Marysville, California
95901-7037

March 17, 2005

Derek Sandison
Department of Ecology
15 West Yakima Avenue Suite 200
Yakima, Washington

Re: Ahtanum Creek Watershed

Dear Mr. Sandison:

8-1 I myself am attending school here in California. Please send me a copy of your Final Draft of the Ahtanum Creek Watershed Containing 200 pages.

8-2 Comment: As of Today I am still not clear as to the final Orders of Court Decisions Pertaining to the Area. I am a land holder and as of today have not received any permits or Legal Documents to Enter nor Conduct any improvements. No starting Dates of Contracts, Ect.
there is much Digging and land lease issues within Our tribal Government that I have not been informed of.

8-3 Gathering Data is time consumming and involves a lot of Currency to process your findings. I'm all for education. But when it comes to bedding for a project through our Legislation Funding (GRANT)

Comment Continued:

8-3 I do hope that as a constituent, I also will be able to be heard. For My name is on your mailing list of "Persons of Interest"

8-4 I do not agree with any Economic Development in that area. Yes the Population Growth and our families are growing and buying Properties in the area and at this time We have needs. Yakima Schools needed to co-ordinate the "Return of their Fingerlings", which they planted in our Ahtanum Creek. Yakima River is our Natural Fish Hatchery. The Elder's know how we the Native American Indians of the Yakama Nation. Survive from this God given Area.

8-5 Yakama Nation Headquarters are writting asking me for their consent to Study the area. There's Non-Indians Leasing/Renting our tribal allotments and No currency is received but they have their Private Property Signs up; Denying us the Landowner's to enter or use our right-of-way to gather our Seasonal Traditional Foods.

8-6 Please send me a copy of your Draft to the address above. And Please except my comment and main points of interest

Thank You, I'll be waiting for your Reply.

Vernette Phillips 3/17/05
#3775 Yakama Enrolled
Tribal Land Holder

Comment Letter No. 8 – Vernette Phillips

8-1. A copy of the Draft EIS was sent to you.

8-2. Comments acknowledged. The actions you note are not part of the ACWRP.

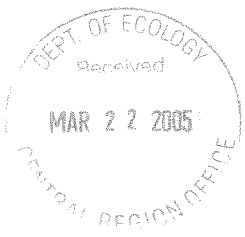
8-3. Comment acknowledged. Your name is on the mailing list and you will continue to receive information about the ACWRP.

8-4. Your opposition to economic development in the area is acknowledged.

8-5. Comment acknowledged. The actions you note are not part of the ACWRP.

8-6. As noted in response to your Comment 8-1, a copy of the Draft EIS was sent to you and your comments are included in the Final EIS.

March 20, 2005



Mr. Derek Sandison
Central Regional Director
Department of Ecology
15 West Yakima Avenue, Suite 200
Yakima, WA 98902-3452

Dear Mr. Sandison:

Re: Ahtanum Creek Watershed Draft Programmatic EIS

My comments on the draft programmatic EIS are as follows:

9-1 1) You need an Option 5, Conservation Only. From what I can see this option seems to be the lowest cost with the largest water benefit.

9-2 2) You need to re-do the economic tables or provide a cost analysis, which would show the cost of each option without adding in things like farm profits and net downstream flows.

9-3 3) How can you justify further wasting tax dollars (*Herald-Republic 3/20/05 story)* when the draft EIS states the reservoir water could be claimed by the Yakama's to irrigate its PIA?

9-4 4) It seems that almost everyone involved in this project stands to gain if the project is constructed. There are representatives from irrigation districts, DOE, Fisheries, Wildlife, and paid consultants. Who represents the taxpayer who will end up paying for this project or the landowners who will lose their property?

9-5 5) The study lists what conservation would save in Option 2, but it does not list how much water is saved by Option 3, conservation and habitat restoration without a reservoir.

9-6 6) How many landowners are involved with the 11,000 irrigated acres in question?

9-7 I would also like to know how much has been spent to date on these studies for the Pine Hollow reservoir and who has paid the bill.

Sincerely,

Bob West

Bob West
PO Box 521
Yakima, WA 98907-0521
509-972-2550
wwwest@nwinfo.net

Comment Letter No. 9 – Bob West

9-1. Alternative 3, Watershed Restoration without Storage is a "conservation only" alternative from the perspective of improvements to agricultural water supply. Since that is only one of the purposes of the ACWRP, Alternative 3 includes a habitat restoration component to meet the purpose of providing a net benefit to the watershed aquatic ecosystem (Section 1.4). Your proposed "conservation only" alternative would not meet the objectives of the proposal.

9-2. As stated in Section 6.10, an economic analysis is not a required analysis under SEPA. The analysis in the EIS was included to provide a general understanding of the potential economic impacts of the proposed alternatives at a programmatic level. The analysis was not intended as a cost-benefit analysis and therefore, does not include all of the economic elements requested in your comment. As stated in Section 1.6, additional economic analysis could be required for some elements that could be chosen for the ACWRP.

For the purposes of the EIS, it is appropriate to include farm profits and net downstream flows because the EIS is analyzing the potential impacts and benefits of a watershed restoration program, not just Pine Hollow Reservoir.

9-3. As stated in the EIS (Section 6.13.2), if a reservoir were constructed as part of the ACWRP, the Yakama Nation could claim stored water to provide a source of water for additional Practically Irrigable Acreage (PIA) on its lands. The issue of water for PIA would be resolved as part of the negotiations for a Joint Operating Agreement developed for implementation of the ACWRP and operation of the reservoir (Sections 1.10 and 6.13.5.2). It is unlikely that a reservoir would be constructed as part of the ACWRP if the Yakama Nation would claim the stored water for PIA, because the objectives of the ACWRP would not be met under that circumstance.

9-4. One of the purposes of the SEPA is to disclose the potential impacts of a proposal to the public and to solicit public input on a proposal. That public input becomes part of the public record and is included as part of the decision-making. For the ACWRP, there will be additional opportunities for public input on the project when project level environmental analyses are conducted and before the state Legislature should the state undertake funding for the reservoir.

9-5. Information on potential water savings through conservation measures is described in Section 6.2.2 for Alternative 2. Section 6.2.3 states that the impacts of conservation for Alternative 3 would be the same as those for Alternative 2.

9-6. The 11,000 irrigated acres figure is based on the Golder Associates *Ahtanum Creek Watershed Assessment* (2004). The Golder acreage calculation was based on surveys of landowners in the watershed and limited on-farm visits. The *Watershed Assessment* did not attempt to determine how many landowners were involved with the 11,000 acres irrigated. The number of landowners who would benefit

from the reservoir can be approximated by the number of landowners assessed by the Ahtanum Irrigation District. In 2005, the District is assessing approximately 1,600 landowners. Additional landowners associated with the Johncox Ditch and other irrigation systems would also benefit from the reservoir.

9-7. The only study to date that has been conducted exclusively on Pine Hollow Reservoir was the Dames and Moore Constructability Review that was completed in 1999. The Dames and Moore study was funded by State Referendum 38 funds. The cost of the project was $300,000. The other studies have examined restoration of the watershed, with Pine Hollow Reservoir included as only a component of an overall restoration of the watershed. The 2004 Golder Associates Ahtanum Creek Watershed Assessment was funded by a grant from the U.S. Department of Agriculture (USDA) to AID. The USDA grant was passed through the Washington State Department of Agriculture to AID which in turn, provided funds to Ecology to conduct the study. The cost of the Watershed Assessment was $369,000. This Ahtanum Creek Watershed Restoration Program EIS was funded through the State Drought Preparedness Account and the State Building Construction Account. The cost of the ACWRP EIS was $325,000.

Comment Letter No. 10

March 20, 2005

Mr. Derek Sandison
Central Regional Director
Department of Ecology
15 West Yakima Avenue, Suite 200
Yakima, WA 98902-3452

Dear Mr. Sandison:

Re: Ahtanum Creek Watershed Draft Programmatic EIS

My comments and questions about the draft EIS for the Ahtanum Creek Watershed Restoration Program are:

10-1

1. Mud Flats. In all sections where the mud flats are mentioned, there should be recognition that, in addition to weeds growing, there will be an increase in water insects, particularly mosquitoes. Receding water will leave small pools and puddles ideal for mosquito breeding—in the season in which they will be breeding most prolifically. This should mention the serious diseases mosquitoes carry and mitigation necessary.

10-2

2. Economics. It is interesting that, as far as I can tell, in Appendix E the economic models seem to assume only added value comes from the projects. The text of the document states that any farm profit at all assumes federal and/or state taxpayers are paying the capital costs. Yet farm profits come in at $22 million in the first ten years, with almost $50 million each ten years thereafter.

   I believe the document should clearly state the anticipated COST of each option. Not doing so allows proponents to say the reservoir costs $82 million *(Yakima Herald article 3/20/2005)*, when both reservoir options (Options 2 and 4) list the construction cost at $134 million. Stream channel improvements and habitat restoration are not included in that figure. In addition to construction being a potential one-time boon to the local economy, there needs to be some analysis that will help determine whether there is enough potential improved farming on 11,000 acres to justify the cost of the project. The report should also mention whether or not the capital costs are inclusive or exclusive of interest on any loans.

10-2

On page 6-48 the report says farm profit assumes taxpayers pay the capital costs, rather than the farmers, but the added property value of $1,500 per acre (page 6-49) accrues to the landowner. Why should taxpayers pay to increase the wealth of the land owners? That's $16.5 million in increased value going to just a few ($1,500 x 11,000 acres benefiting from the project). Are irrigators going to invest a like amount in the project to accrue this benefit?

How much will the farmers have to pay for the water? How can the irrigation district members make any decisions until they have an estimate of how much the water will cost?

10-3

3. Water Rights. We read in the newspaper that the Washington State legislature has a bill with $200,000 in it for more studies for Pine Hollow. And Representative Clements states the proponents need $550,000. Why is this before the legislature when water rights issues are still unresolved? Without a written agreement from the Yakama Indian Nation, this will be a waste of money that is very hard to come by in our state and could be better spent on something substantive. Or will the Washington taxpayers foot the bill and then the Yakama Nation gets to come in at the end without spending a dime? Why go forward to any next step until you have a signed agreement with the Yakama Nation? Shouldn't all who benefit be sharing in the cost of these studies?

I hope these issues can be addressed in the final Programmatic EIS.

Suzy West
PO Box 521
Yakima, WA 98907-0521
509-972-2550
wwwest@nwinfo.net

Comment Letter No. 10 – Suzy West

10-1. Information has been added to Section 6.4.2 regarding the potential for mosquitoes to breed in the receding water. The need for mitigation for increased mosquitoes has been added to Section 6.4.5.

10-2. See the response to Comment Letter 9, Comment 2 regarding economic analysis in the EIS.

10-3. The next step would involve development of a watershed restoration program based in part on the analysis from the EIS. This would include development of an agreement among the stakeholders in the ACWRP, including the Yakama Nation. The money included in the legislative package is to fund the process of selecting the components of the ACWRP, which could include any combination of elements evaluated in the alternatives for the EIS. Selecting the restoration plan components requires an agreement among all of the stakeholders, including the Yakama Nation.

Ann Root

From: Derek Sandison
Sent: Tuesday, March 22, 2005 9:58 PM
To: Ann Root
Subject: FW: comments

-----Original Message-----
From: George Glessner [mailto:budg@nwinfo.net]
Sent: Tuesday, March 22, 2005 6:30 PM
To: Sandison, Derek
Subject: comments

Derek Sandison
Regional Director
Central Regional Office
Washington Dept. of Ecology

Dear Mr.Sandison:

11-1 Please know that my husband and I are very much in favor of the Pine Hollow Reservoir. It will provide a source of water when there is need to fight forrest fires in our area, it will help to preserve ground water for our wells, it will make possible the uninterupted flow of water in Ahtanum Creek ,which will allow the trees to grow along the creek, and prevent the fish from being killed from lack of water in the creek every July 10th. ----- Our understanding is that you will be fair in your buy out of landowners who will be displaced . ------ We do have a concern for those of us who will not be displaced and chose to remain on our property. ----- My husband is retired and we are pretty much on a fixed income. -----Our big concern and fear is that we will be taxed out of our property!! ---- We would like to know if this concern is being addressed and if so how?

11-2

Sincerely, Irene and George Glessner
381 W Ponderosa Dr.
Yakima,WA 98902
966-2375

Comment Letter No. 11 – Irene and George Glessner

11-1. Comment acknowledged.

11-2. Implementation of the ACWRP would not involve an increase in general tax rates.

Herke Ranch

19201 Ahtanum Rd.
Yakima, Washington 98903

March 24, 2005

Re: Comments on Pine Hollow Reservoir EIS

Dear Mr. Sandison,

I am writing this response in representation of the Johncox Ditch (as it's president) and as a life long resident of the Ahtanum valley and an AID water user. In fact, our family also utilizes surface water on the Yakima Reservation. Our family has farmed and ranched here continuously since 1871.

I think some real historical perspective is important.

Shortly after this valley was settled, it was discovered that a certain kind of hops grew here like nowhere else that was very much in demand. To put it mildly when it came to this particular hop, the Ahtanum valley and particularly Tampico was King.

I don't offer this to suggest that this hop "supremacy" can be rebuilt with the building of Pine Hollow. The situation that caused the valley's loss of it's hop growing advantage is rooted in the fact that tastes for beer changed dramatically after women began drinking beer. No sexism, just fact.

12-1

It is well known that hops require a lot of water.

Yet, today there are persistent water shortages. Why?

If then at the turn of the century hops were grown, and I assure you they were and rather well, how is it that today there is no water?

Three large-scale shifts have occurred with respect to the Ahtanum valley, which I believe are largely responsible.

The first was the loss of intensive farming in the Ahtanum valley when hops were lost as a major crop. It's just a fact of life.. This area has a short growing season. No other crop was found to fill the economic niche that hops provided. Granted, there were many crops grown in the valley with hops being just one, but hops "payed the bills".

When hop prices were good, all the hop growers bought a new Buick. In the big picture, the migration of people to the cities was also evident and many smaller ranches and farms consolidated to fewer and larger. Regrettably, much land has already been converted to houses.

The second major shift was the large scale logging that has been conducted in the Ahtanum watershed. Snow melts much more early and more quickly than used to be the case. I can't condemn logging. People need wood products and our family enjoys selling our timber from time to time (though most of that timber is not in this water shed). It is just a fact of life that the surface water is leaving the valley earlier than in the past. Perhaps reforestation of some of the most over-logged lands should be included in the comprehensive plan.

Finally, the "last straw" was the Ninth Circuit ruling that the south-side users get all irrigation water after July 10 each season "that can be beneficially used".

Short of revisiting that court ruling, it's moot. Also, the Ninth Circuit did not destroy any water; it in fact only reallocated it to deny the north side users post July 10th.

Logging is a forgone conclusion. Again, logging did not destroy any water; it just caused run offs to occur more early.

12-1

With regards to the farming that occurred in the past, all of the early irrigation was flood and rill. By today's standards it is considered *wasteful*! I submit to you that this practice in this case was in fact **most prudent.** For in fact, this rill and flood irrigation cause huge amounts of water to fall into the substrate only to re-surface down the valley and be intercepted later in the irrigation season by other irrigators. The run-off during slightly sub-normal to above normal snow pack years in the Ahtanum is hardly timid. Normally, these run-offs (usually May is the biggest month) resemble a flood. The month of May is also a big irrigation requirement month as well. Getting *modern or progressive*, i.e. Converting to sprinklers or houses has cost this valley the use of a treasured water storage facility that did not cost tax money and only cost the farmer for the bigger labor layout as rill & flood are more labor intensive. This underground structure, one that resides under everyone's land, is in fact the first Ahtanum Reservoir.

Once regulation occurred each season, water still became scarce, but the fact that each successful grower "gave it hell" with respect to irrigation early when the water was abundant, the rest of the summer was not as bad as if each grower had just "puttered along" and then dried up like a fool. For in the process of applying "too much" water early when it was available, each grower banked water in the soil profile that the crop used when water was again short later in the irrigation season. A good percentage of the water that entered the substrate was **later** intercepted by other water users down the valley and used to maintain their crops. Success is hard to argue with. The crop did make it to market.

12-1 The operative phrase here is "give it hell when you've got it" really applies to the Ahtanum valley. It constitutes over-irrigation (early) and under or deficit irrigation (late season).

12-2 This whole over/deficit irrigation concept is presently lost on Ecology and the Tribe in the current adjudication. Water duty in all other sub-basins is at .02 CFS. All other sub-basins have the "expectation" that water will be **season long**. What magical powers do the farmers of the Ahtanum possess that allows Ecology et al to believe that half as much water for half the season is constructive?????? Could Ecology clue us into our inner powers that we are unaware of such that we could tap them???? Help in this matter would be greatly appreciated. I guarantee you that the Ahtanum Valley will be one large housing sprawl shortly without it's farmers being allowed to "give it hell" with the early "flood flows" from the Ahtanum Creek. It is inescapable. Once the current adjudication is complete and the likely North-side water duty is "rigidly" fixed at .01 CFS, the matter of conversion of the remaining farms to housing projects is only a matter of when – and a short when at that.

12-3 One needs to look no farther than Ecologies own EIS to confirm that much water is lost from Ahtanum Creek in a number of locations only to resurface later and farther down the valley. Imagine the recharge that occurred with rill and flood irrigation. For with that practice, whole ranches and farms did large-scale recharge merely by irrigating, not just the streambed zone. The beauty of it was that it was done when the Ahtanum's waters were in flood stage if not on the verge of it. Who did this hurt?? I maintain NO ONE! Who will suffer if the whole Ahtanum valley "grows" only houses in the future?

12-4 In Ecologies EIS, it is mentioned that building and operating the Pine Hollow Reservoir will not affect flooding. I suggest instead of designing for "failure", build Pine Hollow for success. Design the conveyance (Johncox Ditch) large enough to handle real flows. This will allow the storage facility to fill with greater confidence. When the Ahtanum "rumbles" it does so for sometimes relatively short times therefore, build the conveyance for SUCCESS.

12-5 I have never heard that it does not take water to sustain fish. If water is actually "out of vogue" with fish people …… then lets now do away with the minimum flow in the Ahtanum main stem at least for this season. I am referring to "expert opinion" in the draft EIS that implies that the reservoir will not greatly improve fish life.

I have heard that WFDW does not want any Pine Hollow reservoir water for fish. They have said that it will not help the fish in this case. Then why is so much water from other reservoirs being "wasted" on fish? Large amounts are dumped every year from area reservoirs in the name of fish enhancement. Are we to consider this other dumping of water to be malfeasance?? I have heard first that the Pine Hollow water would be too

12-6 warm. I doubt that. Early run-off from the Ahtanum is very cold. A deep pool like Pine Hollow would form would in my estimation not warm up as much as these experts suggest. I have also heard that the water would be too cold. That is laughable on its face. I have worked with enough fish people to know that contention is a joke. It is not even

worthy of further comment. And finally, water is being bought from willing farmers to be left in streams to "enhance the fishery". Is this yet another example of malfeasance? I think not. I notice that this draft EIS concludes that temperature change will be small. The premise though is that not much reservoir water will go for fish. Now, that's really hyperbole.

12-6 Experts? Common sense is more reliable. I suggest that this proposed project would greatly help with fish life. I have heard a great deal of hyperbole about fish welfare vs. this proposed project. I am surprised that the reservoir would not be used to enhance fish flow. I also doubt that that condition would persist if Pine Hollow were to be built. Rather, I would predict that not only would the fish interests jockey for significant flows from Pine Hollow, but also that the Yakima Tribe would attempt to seize the remaining water. Thus the North-side irrigators would end up once again empty handed. Worse still, large O&M charges against irrigators and the water going elsewhere.

12-7 As an upper-Ahtanum resident/farmer, I have two over-arching concerns in particular with this project. How will upper end of the valley water rights be handled if the reservoir is built? Will the Johncox have water in the late season as we have been promised? Will it be pumped back up to us from the reservoir or diverted from the creek?? The same question applies to our families ranch. It has been couched both ways.

12-8 What are the O&M charges and any other costs associated with this project that are to be charged to the landowner going to be?

12-9 In conclusion, I support the proposed project to build the Pine Hollow Reservoir. Water is the essence of life. The Ahtanum valley is an area that chronically has either too much water or too little. Storage of excess flows to be metered out during times of shortage is the best solution. Pine Hollow would do this. But how it is controlled and by whom is of paramount importance. The outcome of the adjudication and this proposed project will determine this valleys fate.

Respectfully submitted,

Mark Herke

Comment Letter No. 12 – Herke Ranch, Mark Herke

12-1. Comment acknowledged.

12-2. The establishment of a water duty is outside the scope of the EIS for the ACWRP. One of the purposes of the ACWRP is to improve the irrigation water supply, including increasing the length of the irrigation season.

12-3. The EIS addresses current groundwater conditions, which are controlled by current climate patterns, land use, and irrigation practices. The EIS describes potential changes to groundwater conditions due to redistribution of surface water under various alternatives. The EIS does not address anecdotal descriptions of historical and undocumented irrigation practices, nor does it speculate on the consequences of dramatic shifts in land use.

It is true that some of the excess water applied during rill and flood irrigation percolates to groundwater and can surface in streams to provide streamflow at some time in the future. However, it is uncertain when and where that water will surface in the stream. In addition, considerable amounts of water are wasted from a rill and flood irrigation system evaporation off fields and runoff from the end of fields.

12-4. Flood control has not been included as a primary feature of the proposed diversion and reservoir. As noted in the EIS, the ability of the proposed reservoir to reduce flooding would be limited by the size of the diversion from Ahtanum Creek and maintenance of channel-forming flows. The proposed diversion would have a capacity of 160 cfs. For comparison, the flood flows on the North Fork of Ahtanum Creek are approximately 600 cfs (10-year flood), and 860 cfs (100-year flood). Providing capacity to divert a significant portion of these flood flows to the reservoir would require a much larger diversion and ditch.

The discussion of our analysis included in Appendix D assumes an allowance for "channel-forming" flows, meaning that flows greater than 350 cfs were passed downstream as flood flows rather than being diverted to the reservoir. These flows were identified as the flows that transport material and form the channel, as needed for continued health of the fish habitat. The details of operation of the reservoir and diversion would be refined in the future if a reservoir is included in the ACWRP.

12-5. Water is necessary to sustain fish. The stream flow patterns in Ahtanum Creek watershed have improved over time, and that is assisting the fish populations. The reservoir would be operated to improve the reliability of instream flows, which would benefit fish. However, as pointed out in the analysis of the alternatives, improving flow alone is not sufficient to recover the fish populations. Instream and riparian habitat improvements are necessary to provide for all of the fish life history needs (migration, spawning, and juvenile rearing) and to support population abundance, productivity and diversity.

The Washington Department of Fish and Wildlife does support the Pine Hollow Reservoir concept as stated in their comment letter on the Draft EIS. See Comment Letter Number 3, Comment 1.

12-6. The temperature data provided in this report are based on thermal modeling of the reservoir under the conditions assumed for Alternatives 2 and 4. According to the analysis, the temperatures from the reservoir would only exceed the 16°C during the late summer when the reservoir level is low. See additional information on reservoir water temperature in the response to Comment Letter Number 6, Comment 4.

The intent of Alternatives 2 and 4 is to operate the diversion of water from the North Fork to the reservoir so that the need to discharge from the reservoir to supplement instream flows in the main stem is minimized. Based on the results our analysis, the supplement from the reservoir would be small relative to the flows in the main stem and so the impact on temperatures in the stream and would not be considered a significant issue for fish habitat (See Section 6.5.2.2).

See the response to your Comment 5 regarding instream flows and fish habitat improvements.

12-7. The details of how water would be supplied to irrigators at the upper end of the valley have not been defined. However, the EIS states that the reservoir would require delivery of water to water users consistent with their water rights (Section 6.13.2). That would include delivery to the Johncox Ditch users. The intent of the storage alternative is to provide water for the full irrigation season.

12-8. The costs of the project to the landowner, including operation and maintenance costs are not known at this time. The costs would depend on the components selected for the ACWRP and the funding source for the project, among other issues.

12-9. Comment acknowledged.

STATEMENT OF JEFF PETERS

My name is Jeff Peters and I'm the Assistant Planner for the City of Yakima.

The City of Yakima would just like to go and state their support for alternative No. 2, Watershed Restoration With Storage, and just add that this is a somewhat lesser solution than Blackrock Reservoir, and we're in full support of it.

As one of the many stewards of water resources in the Yakima Valley, the City of Yakima is in full support of the Ahtanum Creek Watershed Restoration Program. Because of the City's long-time involvement in watershed planning and the development of the Yakima Habitat Improvement Plan, we are well aware of the extensive efforts by Ahtanum Irrigation District, the Yakama Nation, Yakima County and others to develop the Pine Hollow Reservoir. All of the currently available information supports the position that this project, when completed, will be beneficial to agriculture and to the habitat associated with the Ahtanum Creek corridor. The agriculture benefits will primarily accrue due to a lengthened irrigation season, and habitat will be enhanced as a result of the increased instream flows for fish.

1-1

The concept of additional storage throughout the

Yakima River Basin is an essential tool for the preservation and enhancement of our economy and environment. The Bureau of Reclamation is currently studying additional storage options for consideration in the Yakima River Watershed Plan.

We understand that there is a great deal of work to be accomplished to bring this project to fruition and to realize the potential benefits. However, the City supports the efforts of Ahtanum Irrigation District and Yakama Nation to be good stewards of the natural resources associated with their efforts in the Ahtanum Creek corridor, and the potential enhancements that could result by the development of Pine Hollow Reservoir. 1-1

(OPEN HOUSE CONCLUDED AT 7:00 P.M.)

STATEMENT OF DAVID LOCKHART

I am David Lockhart; my name is spelled D-a-v-i-d L-o-c-k-h-a-r-t.

From what I understand about the proposal for the reservoir, I think it would be a good thing. The benefits for the economy, the farmers, the people in the area, I think, would be a positive. I haven't had an opportunity to read the entire Environmental Impact Statement as of yet; but overall, I think it's a good idea to put the reservoir in. 2-1

There's a lot of unanswered questions: property taxes issues, what that process is going to entail; or when will the property owners who will be impacted by the reservoir, when will they be contacted; and give us specifics about what's going to happen. A lot of unanswered questions still that there's a lot of people concerned about. 2-2

STATEMENT OF VERN BURKE

I am Vern Burke, B-u-r-k-e.

I was just wondering if they had put any funding into this project for long-term insect management, being that the west end of the reservoir, after probably 30, 40 days of water withdrawal, will be a swamp, basically; and so with the bug problem that's going to happen and the West Nile virus thing that's going around, what -- what are they going to do to try to control that?

3-1

I'd like that addressed.

STATEMENTS OF DEBORA AND KEN BOYLE

I'm Debora Boyle. I am Ken Boyle. It's B-o-y-l-e.

DEBORA: It's just that we'd like to see it happen, if it's going to happen, as soon as possible; because we'd like to get on with our lives.

4-1 KEN: The farmers need water. We've got to do something, and we're ready to move on. But let's do it.

You know, we've found another place; but we can't go until they do something.

PUBLIC OPEN HOUSE COMMENTS

Commenter No. 1 – Jeff Peters

1-1. The City of Yakima's support of Alternative 2, Watershed Restoration with Storage, is acknowledged.

Commenter No. 2 – David Lockhart

2-1. Comment acknowledged.

2-2 Your comments regarding the uncertainty of details related to implementation of the ACWRP are acknowledged. As stated in the EIS, this environmental analysis was conducted at a conceptual or programmatic level. The details of the ACWRP and its specific impacts on property owners will not be known until the elements of the ACWRP have been selected and additional analysis has been conducted. It is currently estimated that selection of the components of the ACWRP will begin later this year and that additional environmental analysis will be conducted starting in 2006 or 2007.

Commenter No. 3 – Vern Burke

3-1. See the response to Comment Letter Number 10, Comment 1 and Section 6.4.5 of the Final EIS regarding insect control.

Commenter No. 4 – Debora and Ken Boyle

4-1. Comments acknowledged. Timing of construction is dependent on selection of the components of the ACWRP as noted in response to Commenter No. 2, Comment 2.

APPENDIX A – RESERVOIR OPERATION INFORMATION

Reservoir Operation Information

The facilities that would be required to enable diversion and storage in the proposed reservoir include the following:

- A "smart" diversion constructed at the location of the head of the current Johncox Ditch to divert water from the North Fork of Ahtanum Creek to an expanded Johncox Ditch for conveyance to the new Pine Hollow Reservoir. The flow controls would limit the diversion based on maintenance of instream flow targets and channel-forming flows. When flows in the North Fork are less than instream flow targets, as listed in Table D-1 in Appendix D**,** no water would be diverted from the stream. When flows are equal to or greater than channel-forming flows (350 cfs) for a period of consecutive days, no water would be diverted from the stream. ~~When the reservoir is full, no flow would be diverted from the stream~~When instream flow targets and channel-forming flow criteria are met, water would be diverted as needed to fill the reservoir and keep it as full as possible.
- A fish screen, installed at the diversion with a capacity equal to the capacity of the expanded Johncox Ditch (160 cfs).
- Expansion of Johncox Ditch from its current capacity of approximately 15 cfs to a capacity of 160 cfs. This expansion was identified in the *Ahtanum Creek Watershed Assessment* (Golder, 2004) and the *Pine Hollow Reservoir Project Overview* (Dames and Moore, 1999b) as the capacity needed to convey flow to refill the proposed reservoir.
- The proposed 24,000 acre-foot Pine Hollow Reservoir impounded at the lower end by an earth-fill dam. The dam would include an emergency overflow spillway and a piped outlet near the base of the dam.

The controls on the reservoir outlet would first divert flow to the mainstem of Ahtanum Creek to supplement instream flow as needed. Then available flow would be conveyed through a system of pipes to the AID and WIP users as defined by the joint operating agreement developed for reservoir operations. The layout of a conveyance and distribution system to deliver water from the reservoir has not been evaluated as part of this EIS. However, it is anticipated that Alternative 2 would include the following conveyance and distribution facilities:

- An outlet pipe from the reservoir to the mainstem of Ahtanum Creek, extending across the creek to the upper WIP canal.
- Conveyance piping that would extend along the north side of Ahtanum Creek to customers east and west of the reservoir. The *Ahtanum Irrigation District Water Conservation Plan* envisioned a pipe that would extend to Goodman Road on the east. The required length of pipe may be shorter if urban land uses develop to the west of Union Gap that would not require surface water for irrigation. The *Ahtanum Creek Watershed Assessment* (Golder, 2004) determined that a pipe would also be required along the south side of the creek for delivery to WIP customers.
- Service to customers ~~east~~ west of the reservoir would require pumping, as outlined in the *Ahtanum Creek Watershed Assessment* (Golder, 2004).
- Lining or piping of the upper and lower WIP canals.
- Distribution laterals that would deliver water from the main conveyance pipe to the farms where the water will be used.

APPENDIX B – SUPPLEMENTAL INFORMATION ON WATER RIGHTS AND TOTAL WATER SUPPLY AVAILABLE

Supplemental Information on Water Rights and Total Water Supply Available

Water Rights

The following sections provide additional information on water rights in the Ahtanum Creek Watershed and related Yakima River Basin. Information is included on state water rights, federal tribal rights and Bureau Reclamation laws and policies.

State-Based Water Rights

Acquisition of Water Right

Prior to enactment of the surface water code in 1917 and the groundwater code in 1945, appropriative water rights were obtained by following the common law or statutory notice requirements and putting the water to beneficial use. Owners of pre-code water rights have been required to file a water right claim in order to preserve their water rights (RCW 90.14.071). Riparian water rights were obtained through ownership of land abutting the water source, and if such rights were not perfected by 1932 they were lost. Failure to file a claim results in a waiver or relinquishment of the right (RCW 90.14.071).

Since enactment of the surface water and groundwater codes, with one exception discussed below, the only way to obtain authorization to appropriate surface or groundwater is to apply for a permit from the Department of Ecology, develop the water diversion works or construct a well, and apply the water to beneficial use. Once this has been accomplished, the water right has been "perfected" and Ecology will issue a certificate for the quantity of water put to actual beneficial use.

The exception to the requirement to obtain a permit to appropriate water is the legislatively created exemption for the withdrawal of groundwater. Under the exemption, a well can be constructed and water withdrawn from an aquifer without a permit if the water will be used for (1) stock watering purposes, (2) the watering of a lawn or non-commercial garden not exceeding one-half acre in area, (3) single or group domestic uses in an amount not exceeding five thousand gallons a day, and (4) an industrial purpose in an amount not exceeding five thousand gallons a day (RCW 90.44.050). This section of the code is commonly referred to as the "groundwater exemption" and wells developed pursuant to the statute are known as "exempt wells."

Under the state's prior appropriation doctrine, water rights are regulated based upon priority date. In times of water shortage, a senior water right holder with an earlier priority date is entitled to use their full water right before the next junior right with a later priority date can be exercised. The priority date for a pre-code water right is the date the water was first put to beneficial use; for a riparian right it is the date the riparian land was patented from the federal government; and for a right authorized under the water code, once the water right is perfected the priority date relates back to the date of application.

New State-Based Water Rights

In order for Ecology to issue a permit for a new water right the Department must make four findings regarding the application: (1) the proposed use of water must be for a beneficial purpose; (2) there must be water available for appropriation; (3) the proposed use must not impair existing water rights; and (4) the proposed use must be in the public interest (RCW 90.03.290).

There is no single comprehensive definition of the types of beneficial uses, however the Water Resources Act provides the most relevant list of beneficial uses of water for purposes of the permit application process: "domestic, stock watering, industrial, commercial, agricultural, irrigation, hydroelectric power production, mining, fish and wildlife maintenance and enhancement, recreational, thermal power production purposes, preservation of environmental and aesthetic values, and all other uses compatible with the enjoyment of the public waters of the state" (RCW 90.54.020(1)).

There must be water available for appropriation from both a legal as well as a technical perspective. Technically, there must be water physically available from the source to meet the requested quantity of water. Water is legally available only if it can be appropriated without impairing existing water rights either by reducing the quantity available to satisfy those rights or by reducing the quality of the water available. For purposes of the impairment analysis, existing water rights include rights to withdraw or divert water, applications for new water rights (subject to exceptions authorized by rule), and instream flows set by administrative rule. A proposed direct diversion out of a surface water source will clearly affect that source. It is also recognized that withdrawal of groundwater from a source in hydraulic continuity with a surface water body may also reduce flow in the surface water and thus impair the instream flow right.

Finally, Ecology cannot issue a permit if the use of water will be detrimental to the public welfare, but can only issue a permit if the use of water would be in the public interest. The policies in the 1971 Water Resources Act "require allocation of water in a manner that preserves instream resources, protects the quality of the water, provides adequate and safe supplies of water and promotes regional water supply systems that serve the public generally" (Gregoire, et al., 2000). These factors inform Ecology's decision on whether granting an application for a new water right would be in the public interest.

In 1999, Ecology, the U.S. Bureau of Reclamation and the Yakama Nation agreed to study the groundwater resources in the Yakima Basin to develop a hydraulic model for water planning and management. Ecology agreed to withhold decisions on groundwater applications until the study results are in. Potential exceptions to the hold were identified as transfers and changes, public health and safety emergencies and domestic use from exempt wells (Ecology, 1999).

The general rule is that applications for new water rights are processed in the order they are received by Ecology. However, an application that "resolves or alleviates a public health or safety emergency caused by a failing public water supply system currently providing potable water to existing users" may be processed prior to competing applications from the same source

of water[1] (WAC 173-152-050). Similarly, an application may be processed prior to competing applications if there is a public health or safety emergency or the proposed use is non-consumptive and would "substantially enhance or protect the quality of the natural environment" (WAC 173-152-050(2)).

Construction and operation of new storage facilities would require obtaining a reservoir permit from Ecology (RCW 90.03.370). Applications for reservoir permits are subject to the permitting requirements in RCW 90.03.250 through 90.03.320. Generally, parties that propose to put the stored water to a beneficial use must also file an application for a secondary permit. However, a secondary permit is not required where a water right permit or certificate for the source of the stored water authorizes the beneficial use (RCW 90.03.370(1)c). A secondary permit would not be required for water users in the Ahtanum Watershed who have water rights to Ahtanum Creek for the entire irrigation season that are confirmed in the Yakima Adjudication. However, for those parties who are confirmed a right to divert only until July 10th each season, a secondary permit would be required. An application for a secondary permit must refer to the reservoir as its source of supply and provide documentary evidence that "an agreement has been entered into with the owners of the reservoir for a permanent and sufficient interest in said reservoir to impound enough water for the purposes set forth in said application" (RCW 90.03.370(1)(a). When beneficial use of the water has been completed and perfected under the secondary permit, a final certificate of appropriation is issued that refers to the delivery works in the secondary permit and the reservoir in the primary permit.

The legislature has directed Ecology to expedite processing applications for certain types of storage proposals: (1) storage facilities that will not require a new water right for diversion or withdrawal of the water to be stored; (2) adding or changing one or more purposes of use of the stored water: (3) adding to the storage capacity of an existing storage facility; and (4) applications for secondary permits to use water from existing storage facilities (RCW 90.03.370(1)(b)). An application for a reservoir permit for a new Pine Hollow Reservoir would not be entitled to expedited processing under the statute.

Relinquishment

Once a water right is perfected, it must continue to be used or it is subject to being lost through abandonment or relinquishment. Common law abandonment requires nonuse for an extended period of time and an intent to abandon the right. Statutory relinquishment occurs when all or a portion of a water right is not used for five successive years, unless there is a sufficient cause for the nonuse (RCW 90.14.160-180). A water right can be relinquished even if it was not the intent of the water right holder to lose the right.

The legislature has defined "sufficient cause" to include, but not be limited to, the following circumstances: drought or other unavailability of water; operation of legal proceedings that

[1] The "same water source" or "source of water" means "any aquifer or surface water body, including a stream, stream system, lake, or reservoir and any spring water or underground water that is part of or tributary to the surface water body or aquifer, that the department determines to be an independent water body for the purposes of water right administration" (WAC 173-152-020(5)).

prevent the use of water; and federal or state leases/options to buy land or water rights that preclude or reduce the use of the right by the owner of the water right (RCW 90.14.140(1)). Several sufficient causes specifically apply to irrigation rights: temporary reductions due to varying weather conditions that warrant a reduction in water use; reliance on transitory presence of return flow in lieu of diversion or withdrawal of water from the primary source when the return flows are measured or reliably estimated; and reductions in water use due to crop rotation (RCW 90.14.140(1)). Specifically in the Yakima Basin, conservation measures implemented under the Yakima River Basin Enhancement Project will not result in relinquishment of the saved water as long as it is reallocated according to the law establishing the Enhancement Project (RCW 90.14.140(1)(i)).

In addition to the sufficient causes for not using water, the following water rights are exempt from relinquishment: a water right claimed for power development; a right used for standby or reserve water supply; water claimed for a future development where there is a fixed and determined development plan within the first 5 years after nonuse and action is taken to develop within 15 years of the last use; municipal water supply purposes water rights; a right leased to another who makes beneficial use of the water and the change is approved by Ecology; a right or portion of a right satisfied by the use of reclaimed agricultural industrial water; and a trust water right (RCW 90.14.140(2)).

In order for a right to be relinquished, Ecology must issue an order notifying the water right holder of Ecology's finding of relinquishment, (RCW 90.14.130), or a court in the course of an adjudication must enter an order confirming that a right has been relinquished (RCW 90.03.110.245). Ecology may also make such a finding when it makes a decision on a change application.

Changes and Transfers

In general, changes in place of use, purpose of use, and/or points of diversion or withdrawal of a water right, or transfers of water rights to others require approval by Ecology under RCW 90.03.380 or 90.44.100. As discussed in the Irrigation District Laws section below, Ecology does not regulate changes or transfers within an irrigation district or joint board of control. In the Yakima Basin, Ecology does not approve water rights transferred to instream flow (RCW 90.38.040(6)). Because water rights in the Yakima Basin are in the process of being adjudicated (see the following section), temporary changes of water rights subject to the adjudication must be approved by the Adjudication Court through an *Order Pendente Lite* (an interim order issued by the court that remains in effect for the duration of the adjudication or a shorter time as specified in the order). Decisions on permanent changes are made by Ecology. In making a decision on a change application, Ecology must make a tentative determination of the validity and extent of the water right, whether all or part of the right has been lost due to nonuse, and whether the change would impair any other water right. When acting on a change application for a surface water right, Ecology may not deny the application based on public interest considerations. Ecology may, however, deny a request to change a groundwater right based on such considerations.

In determining the extent and validity of the existing right, Ecology focuses primarily on how much water has been beneficially used. There are exceptions to the general requirement that a

water right be perfected before it can be changed. An unperfected surface water right for municipal water supply purposes may be changed or transferred subject to the conditions identified in RCW 90.03.570 regarding water system plans, instream flow and watershed planning. The point of withdrawal or the place of use of a groundwater right that is still in the permit stage may also be changed. However, the purpose of use may not[2]. Once Ecology has determined the validity of the right, it must assess whether all or part of the right has been relinquished for nonuse.

Finally, in making its decision on a change application, Ecology must determine whether the change would impair existing water rights – either senior or junior in priority to the right sought to be changed. In contrast to an application for a new water right, Ecology is not required to consider potential impairment of pending applications for water rights when Ecology makes a decision on a change application. Existing rights are impaired if there would be a detrimental impact on the quantity or quality of the right or direct interference with the ability to exercise the right. To make this determination Ecology must quantify the consumptive use of the right. If the requested change would increase the amount of water used, the right would be unlawfully enlarged. "A change in the place of use, point of diversion, and/or purpose of use of a water right to enable irrigation of additional acreage or the addition of new uses may be permitted if such change results in no increase in the annual consumptive quantity of water used under the water right." For purposes of this section, "'annual consumptive quantity' means the estimated or actual annual amount of water diverted pursuant to the water right, reduced by the estimated annual amount of return flows, averaged over the two years of greatest use within the most recent five-year period of continuous beneficial use of the water right" (RCW 90.03.380(1)).

There have been recent legislative and administrative changes that allow Ecology to process change applications more promptly than was previously possible. Change applications may now be processed independently of applications for new water rights from the same source. Change applications may also be processed ahead of other previously filed change applications if there is not sufficient information for a decision on the previous application(s) and notice is given to the applicant(s) (RCW 90.03.380(5)). Applications for change may be processed prior to competing applications under the same circumstances as applications for new water rights: for public health or safety reasons. In addition, they may be processed ahead of competing applications if the change would substantially enhance the quality of the natural environment; would provide public water supplies to meet the general needs of the public for regional areas; or if the applicant is a party to an adjudication (WAC 173-152-050(3)).

The legislature has also attempted to speed up the decisions on change requests by authorizing the creation of county Water Conservancy Boards to make initial decisions on such applications (Chapter 90.80 RCW). A Water Conservancy Board applies the same standards as Ecology, and sends its record of decision to Ecology. Ecology may affirm, reverse, or modify the action of a board within 45 days (which may be extended by 30 days) of receipt of the record of decision. If Ecology does not act within the prescribed time period, the decision of the board becomes Ecology's decision.

[2] The issue whether the purpose of use of an unperfected groundwater right may be changed is currently being appealed to Division III of the Washington Court of Appeals in *City of West Richland and Benton County Conservancy Board v. Dept. of Ecology and Pollution Control Hearings Board,* Ct. of Appeals No. 226484-III.

Statutory Adjudication of Water Rights

An adjudication is a quiet title action of existing water rights to determine the rights and priorities for the use of water from a specific water source (RCW 90.03.110-90.03.240). An adjudication cannot grant new uses or new rights, rather the court analyzes claims for existing rights to determine their current validity. The rights are limited to the extent the water is being beneficially used. The surface water rights in the entire Yakima Basin are being adjudicated in Yakima County Superior Court. The decisions made in the adjudication will determine the extent and validity and relative priority of all surface water rights in the Yakima Basin.

An adjudication may be initiated by Ecology or upon a petition by one or more persons claiming a right to divert water (RCW 90.03.110). Ecology files with the superior court a report of the names of all those claiming a right to use water, a description of the claim and a brief statement of the facts relating to the water use. Those claiming the right to divert water are defendants in the case and bear the burden of proving their claimed right. At the end of the adjudication the court issues a decree confirming water rights and describing the nature of those rights. Ecology issues a water right certificate that incorporates the court's findings (RCW 90.03.240). Water rights subject to an adjudication that are not confirmed by the court are lost or extinguished.

To confirm a right that is based upon a certificate the court must find that the water user has complied with the permit conditions for beneficial use and exercised due diligence in putting the water to beneficial use. Claims for rights that were acquired prior to the permit system (1917 for surface water rights and 1945 for groundwater rights) must have been legally created under the common law or statutory notice requirements and perfected by being put to beneficial use. A right is quantified not on the basis of the amount stated in a claim or certificate, but upon the amount actually applied to beneficial use. Once the court has determined the quantity of water in a perfected right, it must determine whether all or a portion of the right has been lost due to common law abandonment or statutory relinquishment. The court also determines the land to which the water right is appurtenant.

Tribal Rights

Federal tribal reserved water rights are primarily based upon the *Winters* Doctrine, which was established in *Winters v. United States*, 207 U.S. 564 (1908). The two main principles of the doctrine are that (1) when the United States creates reservations, it implicitly included a reservation of water in an amount necessary to fulfill the purposes of the reservation, and (2) the priority date of the water right is the date the reservation was created. Courts have generally held that tribal reservations created in the 19th Century were primarily to give the tribes an agricultural base (see, *e.g., Arizona v. California,* 373 U.S. 546, 1963). Creation of a reservation may also imply the use of water for long-established aboriginal uses such as fishing and hunting. The priority date for water for such aboriginal uses is time immemorial (*United States v. Adair,* 723 F.2d 1394 (9th Cir. 1984)). Federal reserved water rights law does not distinguish between surface and groundwater, particularly where the two sources are in hydraulic continuity (*In re the water Rights of Gila River System and Source,* 989 P.2d 739 (Ariz. 1999)).

Federal tribal reserved water rights are not subject to the "use it or lose it" rule that is applicable to state-based water rights; therefore, the rights are not subject to relinquishment or abandonment for nonuse. The reserved rights are for potential future use as well as historic use. The future right for water for agriculture is defined by the practicably irrigable acres (PIA) standard. Those areas susceptible to sustained irrigation at a reasonable cost. The number of acres included within PIA is the number currently under irrigation plus those susceptible to irrigation but not yet developed.

Some reservation lands passed from ownership in trust for the benefit of the tribe to private ownership under the General Allotment Act of 1887 (Dawes Act, 24 Stat. 388). Under the Act a tribal member could be allotted 80 acres of irrigable land for agriculture or 160 acres of grazing land (25 U.S.C. sect. 331). The federal government would hold the allotted lands in trust for an individual tribal member for 25 years, after which the government could convey the land in fee to the allottee. The tribal allottee has a federally reserved water right that is not subject to relinquishment. The tribal allottee may convey his or her property and appurtenant water right to a non-tribal successor. If the tribal allottee has not beneficially used the water prior to selling the property, the non-tribal successor must put the water to beneficial use within a reasonable time after the property passes out of tribal allottee ownership. The right now held by the non-tribal allottee becomes subject to relinquishment.

Federal reserved water rights may be adjudicated in state court under the McCarran Amendment, (43 U.S.C. sect. 666(a)). Under the Amendment, Congress waived federal immunity and allowed the United States to be named in a state water rights general adjudication in its own capacity and as trustee for the tribes. There was some dispute whether a general adjudication required that both surface and groundwater be adjudicated. The Ninth Circuit has determined that groundwater need not be included for an adjudication to be a general adjudication (*United States v. Oregon*, 44 F.3d 758 (9th Cir. 1994)).

Irrigation District Laws

Irrigation districts are public entities formed pursuant to state statute. The primary purpose of an irrigation district is to divert and convey water to water users for irrigation of the lands within the district. An irrigation district may be formed for any of the purposes listed in the statute including the construction or purchase of new irrigation works, or repair or improvement and operation and maintenance of existing works for irrigation of lands within the district, construction or repair of diverting conduits from a natural water supply source to the point of distribution to individuals for irrigation, contracting with the federal or state government for irrigation purposes, and/or performance of all things necessary for the district to exercise the powers in the statute (RCW 87.03.010). In addition, irrigation districts have authority regarding purchase, sale and generation of electric power; provision of water to owners of irrigated lands within the district for domestic purposes; drains and sanitary sewers and sewage disposal and treatment plants; delivery of water to cities within the district; water for fire fighting purposes; and entry into contracts with other irrigation districts, boards of control, municipal or quasi-municipal corporations to jointly acquire and maintain works for irrigation and domestic water, drainage and sewerage (RCW 87.03.015).

Under Washington law, individual water users within the district are the owners of the water rights. An irrigation district is a trustee for the water users within the district and is obligated to deliver water to the water users subject to the bylaws and regulations of the district. Special provisions apply to transfers of water rights within and between irrigation districts. If the transfer is from one district to another, Ecology must receive the concurrence of each district that the transfer will not adversely affect the ability of the district to deliver water to other landowners or impair the financial integrity of the district (RCW 90.03.380(2)). A change in place of use by one or more water users within an irrigation district does not require Ecology's approval if the water use continues within the irrigation district; the only approval required is from the board of directors. If the water is provided by an irrigation entity that is a member of a joint board of control, the joint board must approve the change and it must not cause detriment or injury to existing rights (RCW 90.03.380(3)).

A joint board of control may be formed between

> . . . two or more irrigation entities which are the owners of, have an ownership interest in, or are trustees for owners of water rights having the same source or which use common works for the diversion and either transportation, or drainage, or both, of all or any part of their respective irrigation water supplies (RCW 87.80.010).

An "irrigation entity" means an irrigation district or any other entity that provides irrigation water as a primary purpose" (RCW 87.80.005(2)). An "ownership interest"' "means the irrigation entity holds water rights in its name for the benefit of itself, its water users or, in federal reclamation projects, the irrigation entity has a contractual responsibility for delivery of water to its individual water users" (RCW 87.80.005(4)).

Special provisions also apply to transfers of water in the case of a joint board of control. Ecology must approve any change of a water right that would change the point of diversion, purpose of use, or place of use outside the board's area of jurisdiction. Such approval is given pursuant to RCW 90.03.380. If the board's jurisdiction is within a federal reclamation project, the Bureau of Reclamation must also approve the change (RCW 87.80.130(2)(c)). If a transfer is between individual entities within the joint board of control, the board is required only to notify Ecology and any tribe requesting notification (RCW 87.8092)(d)). If the board of joint control wishes to undertake a water conservation or system efficiency improvement project that will result in distribution of saved water within the board's area of jurisdiction, it must first consult with Ecology and if within a federal project, obtain approval from Reclamation to assure the proposal will not impair rights of other water holders or Reclamation contract water users (RCW 87.80(2)(b)). The saved water may be redistributed within the area of the board's jurisdiction if it will not injure existing rights outside the board's area of jurisdiction, including instream flows established under state or federal law (RCW 87.80(2)(a)).

The only irrigation district in the Ahtanum Watershed is the Ahtanum Irrigation District (AID). It is an unusual district in that it does not own any canals, diversion or distribution works. The AID uses Ahtanum Creek as the conveyance works to deliver water to the individual users who divert directly from the creek. The Wapato Irrigation Project (WIP) is located on the south side of Ahtanum Creek within the boundaries of the Yakama Reservation. The WIP is operated by

the Bureau of Indian Affairs in consultation with the Yakama Nation. The WIP diverts water from Ahtanum Creek and delivers it to reservation landowners in the Ahtanum Unit via the Ahtanum Main Canal and Lower Canal. Water users pay assessments to the WIP and the WIP delivers water prorata to tribal and non-tribal fee owners and properties held in trust for the benefit of the Yakama Nation. The WIP also diverts water from the Yakima River at the Wapato Diversion Dam at Union Gap for delivery to the Wapato-Satus Unit. AID, the Johncox Ditch Association, and the WIP each would be considered an "irrigation entity" for purposes of possible formation of a joint board of control.

Bureau of Reclamation Laws and Policies

The U.S. Bureau of Reclamation (Reclamation) operates the Yakima Irrigation Project (Yakima Project) for irrigation water supply, instream flows for fish, and flood control. The project~~, which~~ supplies water to most of the water users who divert surface water from the Yakima, Naches, and Tieton Rivers. The Yakima Project provides water to about 361,000 irrigated acres of the Yakima Project and represents about 70 percent of the total surface water diversions for major irrigation entities in the Yakima River Basin. The Yakima Project includes five major reservoirs with a total capacity of 1,065,400 acre-feet. A sixth reservoir, Clear Lake, has a capacity of 5,300 acre-feet and is used primarily for recreational purposes. The water supply for the Yakima Project is derived from natural runoff, storage, and return flow from irrigated areas.

The Yakima Project is composed of six irrigation divisions: Kittitas, Roza, Tieton, Wapato, Sunnyside and Kennewick. The Kittitas, Roza and Tieton Divisions divert upstream of the confluence of Ahtanum Creek and the Yakima River. The Wapato, Sunnyside and Kennewick Divisions divert from the Yakima River downstream of the confluence of Ahtanum Creek and the Yakima River.

Reclamation prepares forecasts of the expected Total Water Supply Available (TWSA) for the Yakima Project. TWSA represents the combined quantity of unregulated flow, return flow, and stored water available for use. TWSA is computed at Sunnyside Dam. The forecast is used to determine the adequacy of water supply to meet entitlements. Since 1995 the forecast of TWSA has also been used to determine the magnitude of instream flow needs (target flows) over Sunnyside and Prosser Diversion Dams pursuant to the Yakima River Basin Water Enhancement Project (YRBWEP) (Title XII, Public Law 103-434). Target flows are met from TWSA prior to determining if proration is necessary. Proration is the process the Reclamation employs in water-short years to allocate the TWSA.

There are two classes of water entitlements, proratable and nonproratable. Nonproratable water users have water rights with priority dates filed prior to 1905. Proratable water users have water rights with a later priority date, and therefore have a lower priority and may have their water allotments reduced during a low flow year. Nonproratable entitlements have not been cut back in any year to date. Any shortages that may occur after the nonproratable water rights are met are shared equally by all of the proratable water users. The total volume of entitlements supplied by Reclamation above the Sunnyside Dam is approximately 2.5 million acre-feet (MAF) for the April through October time period. Of those entitlements, 51 percent, or 1.28 MAF are proratable. The water users with the largest proratable supplies are the Roza Irrigation District,

Kittitas Reclamation District, the WIP, and the Sunnyside Division. Table B-1 lists the entitlements for those water users with the largest proratable water supplies.

Table B-1. Summary of Entitlements for Largest Proratable Water Users

Water User	Proratable Entitlement (ac-ft)	Non-Proratable Entitlement (ac-ft)	Total (ac-ft)
Kittitas Irrigation District	336,000	0	336,000
Roza Irrigation District	375,000	0	375,000
Wapato Irrigation Project	350,000	305,613	655,613
Sunnyside Division	142,684	315,836	458,520

Downstream of Sunnyside Dam, the Kennewick Division diverts water from the Yakima River. The Yakima Project is not operated specifically to provide a water supply for the Kennewick Division users since in Reclamation's experience, those users obtain sufficient water from tributaries downstream of Sunnyside Dam and from return flow from irrigated areas between Sunnyside Dam and the diversions for the Kennewick Division.

The volume of TWSA can vary substantially depending on snowfall conditions in the Cascade Mountains. The average TWSA, covering a period since 1940, is over 3 MAF. During drought periods such as in 1977, 1993 and 1994, TWSA was just over 2 MAF.

It is the experience of Reclamation that unregulated flow (flow in excess of that needed for filling reservoirs or derived from tributaries without storage reservoirs) can meet irrigation demands in most years up to early July. At that time, the Yakima Project goes on "storage control" and most irrigation demands are then met from reservoir releases. During drought periods that date is earlier, usually during May.

Reclamation filed for withdrawal from appropriation of all unappropriated surface water in the Yakima River Basin under Chapter 90.40 RCW in 1979. The filing was made when Congress authorized YRBWEP. Ecology needs to extend the withdrawal every five years or less. The Reclamation withdrawal has received extensions and is still current. Therefore, any new surface water use in the Yakima River Basin would need to be agreed to by Reclamation. The new surface water user would need to demonstrate to Reclamation and Yakima Project water users that it would not adversely impact their water rights.

Ahtanum Subbasin Adjudication Supplemental Information

The following discussion is a supplement to the information on the Yakima River Basin Adjudication in Section 4.13. This discussion is a summary of the current status of remaining issues in the Ahtanum Subbasin proceeding before the Adjudication Court. The Court's ruling on these issues will determine the extent of the existing water rights in the Ahtanum Watershed. Any new water right for storage and any delivery of water to water right holders must be in compliance with and not impair existing rights.

1. Yakama Nation's Water Right

In the Report of the Court, the Court described the water rights of the Yakama Nation as follows. The Yakama Nation's irrigation right has a priority date of 1855, the date of the establishment of the Reservation. The number of acres historically irrigated is 3,306.5 acres (2,728.7 active and 577.8 idle). The annual quantity of water under the water right for the actively irrigated acres based on a water duty of 4.4 acre-feet/acre/year is 12,121 acre-feet. The instantaneous quantity (Qi) is described per Ahtanum II: (1) from April 1 through July 10 of each year, the Yakama Nation is entitled to 25 percent of the natural flow in Ahtanum Creek, and (2) after July 10, the Yakama Nation is entitled to 100 percent of the flow provided that (a) there is sufficient flow left in Ahtanum Creek for fish life, and (b) in later winter/early spring, there is enough flow for the AID to recharge its irrigation facilities. The irrigation right also has a PIA component for irrigation of future lands should stored water become available. The Court determined the total number of PIA at 5146.85 acres based on the capacity of the WIP as designed in 1915. The Qi for irrigation of future lands (idle plus irrigable) would be 0.0125 cfs and the QA would be 4.4 acre-feet/acre, an additional 10,639.86 acre-feet/year. The irrigation right is confirmed to the United States in trust for Yakama Nation in a proratable amount with tribal allottee and non-tribal successors on the Reservation.

The Yakama Nation's water right in the Yakima Basin for fish and other aquatic life was previously confirmed by the Adjudication Court. The right is unquantified but is described as the "minimum instream flow necessary to maintain fish life in Ahtanum Creek in light of prevailing conditions."

The parties have raised no objections to the Yakama Nation's water right for fish in their post-hearing briefs. They have, however, raised an objection to the number of acres that are considered to be PIA. The AID and Johncox Ditch object to the number used by the Court and argue it should be the number previously used by the Court—4,968 acres. These parties also claim that the use of water on south side lands in 2004 constituted waste. They claim that under the water duty established by the Court, there was enough water diverted to irrigate 3,680 acres and only 2,000 acres were actually irrigated. The Yakama Nation answers that the issue is not before the Court and the Court is basing its decisions on water use from 1957 through 2001, and should not consider water use in 2004.

2. Excess Water

The Court defines "excess water" as water that exists prior to July 10 when the flow in Ahtanum Creek is less than 62.59 cfs and (1) the on-Reservation water users are not using that excess water, and (2) the excess water is not being used to maintain fish life. The issues regarding "excess water" are (1) whether it actually exists and (2) if so, how it is to be calculated. The Yakama Nation and the United States argue there is no excess water because irrigable acres is the proper basis to quantify the Yakama Nation's water right and the courts have previously acknowledged there is not sufficient water to irrigate the acres identified within the capacity of the WIP as designed in 1915. Other parties respond that there is excess water to the extent it is not being beneficially used by the Yakama Nation. They contend that irrigable acres are relevant to the Yakama Nation's paper water right, but irrigated acres are relevant to whether there is any excess water available at any given time.

The parties make similar arguments regarding the calculation of excess water. The Yakama Nation and the United States contend that it should be determined by PIA, not by actual beneficial use. Further, they maintain that if the Court allows the northside water users to make a claim for water in excess of project capacity, the United States must be allowed to make a claim under PIA in excess of the same. Other parties respond that excess water should be calculated annually and daily by applying the water duty to the number of acres actually being irrigated.

3. Junior Water Rights

The issue of "junior water rights" is directly tied to that of excess water. Under the Court's analysis, junior water rights would be awarded to the parties who would be entitled to receive excess water. According to the Court they include north side water users who did not file an answer in the Ahtanum II case, and AID patrons who have been using more water than that confirmed in Ahtanum II. Claimants who failed to file an answer in Ahtanum II must prove that they were not properly joined to the case, that they are successors to a signatory to the Code Agreement, and that their water right was confirmed in the *Achepohl* Decree. The water rights to the excess water would be junior to the Southside water users and to the north side water users whose water rights were confirmed in Ahtanum II.

The objections to the Court's ruling on junior water rights are far ranging. The Yakama Nation and the Untied States object to any finding of junior water rights because they contend there is no excess water. They maintain that a federal tribal reserved water right is based on irrigable acres and includes the right to storage capacity of any future reservoir. Others maintain junior water rights exist, but only to water before July 10 each year. Others believe the junior rights should also extend after July 10.

There is also disagreement whether the TWSA should be a consideration when deciding whether there is any excess water and any junior water rights. The United States and the Yakama Nation maintain that TWSA must be considered because water that flows from Ahtanum Creek into the Yakima River contributes to flows at the gauge at Parker. Since the readings from the gauge are used to determine in part whether proration is necessary at any given time, a reduction in flows from Ahtanum Creek could mean that proration would occur more often and the reduction could be increased. Other parties maintain that any rights confirmed in Ahtanum are senior to the 1905 rights in the Yakima Project and therefore have the right to take the water from Ahtanum Creek.

4. North Side Water Rights

There is also an issue regarding where junior water rights may be used. The answer depends in large part upon whether or not the court in Ahtanum II awarded an aggregate right for the north side or individual parcel-by-parcel water rights. The Adjudication Court found that the 75 percent award is shared by the north side and parceled out according to the priorities established by the *Achepohl* Decree. The AID and Johncox Ditch argue that Ahtanum II awarded an aggregate right and placed no restriction on where excess water may be used on the north side and that the use of water there is governed by state law under *Achepohl*. Ecology and others argue that the north side rights were confirmed as individual rights and any change in place of use must be approved by Ecology.

5. Non-diversionary Stockwater Right

The Adjudication Court has ruled that there is a non-diversionary stockwater right, which requires 0.25 cfs to be retained in the streams when naturally available. The Yakama Nation and the United States argue strongly that no such right has been proved and there is no justification for a right senior to the Yakama Nation's 1855 priority date. Further, they assert that to keep 0.25 cfs in Bachelor and Hatton Creeks would require a diversion of 5 cfs from Ahtanum Creek and would shorten Yakama Nation's irrigation season by 2-4 weeks. Others parties maintain the non-diversionary stockwater right is appropriate and necessary.

Supplemental Information on the Effect of the ACWRP on TWSA

An analysis of the potential effect on TWSA was made. The current flow from Ahtanum Creek to the Yakima River for average flow conditions and for a representative dry year (1977) is shown in Table B-2. The flow from Ahtanum Creek between April and October is estimated to be 32,600 acre-feet on average. For a dry year such as 1977, the flow is much less—5,500 acre-feet in the April to October time period. Most of the flow occurs during the April to June period as snowmelt. For average flow conditions, over 80 percent of the flow from Ahtanum Creek occurs between April and June. That time period corresponds to when unregulated flows meet the demands of Yakima Project water users, including those downstream of Ahtanum Creek.

Table B-2. Average and Dry Year Flows in Ahtanum Creek

	Oct (cfs)	Nov (cfs)	Dec (cfs)	Jan (cfs)	Feb (cfs)	Mar (cfs)	Apr (cfs)	May (cfs)	Jun (cfs)	Jul (cfs)	Aug (cfs)	Sept (cfs)	April-Oct total (acre-feet)
Average	20	28	49	75	120	132	137	169	146	31	16	19	32,633
Dry Year (1977)	25	25	39	33	28	27	16	23	13	9	7	12	5,484

It should be noted that a reduction in diversions from Ahtanum Creek system after July 10 of each year recently occurred to improve instream flow. That action increased the flow discharged to the Yakima River.

The potential change in flow from Ahtanum Creek resulting from the alternatives was analyzed using the GoldSim model. The difference between average monthly flows for current flow conditions, which would generally continue under Alternatives 1 and 3 versus Alternatives 2 and 4 is summarized in Table B-3. For Alternatives 2 and 4, Pine Hollow Reservoir would divert surface water during the winter and spring time reducing flow. However, water from the reservoir would also augment streamflow to meet instream flow targets.

Table B-3. Difference in Average Monthly Flows at Union Gap with Implementation of ACWRP Alternatives

	Oct (cfs)	Nov (cfs)	Dec (cfs)	Jan (cfs)	Feb (cfs)	Mar (cfs)	Apr (cfs)	May (cfs)	Jun (cfs)	Jul (cfs)	Aug (cfs)	Sept (cfs)	April-Oct total (ac-ft)
Average Year													
Current Conditions and Alternatives 1,3	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternatives 2,4	3	-2	-10	-5	-15	-9	-4	3	4	33	1	4	2,676
Dry Year (1977)													
Current Conditions and Alternatives 1,3	0	0	0	0	0	0	0	0	0	0	0	0	0
Alternatives 2,4	4	5	6	13	16	18	3	-19	-13	9	3	3	-562

The difference in the April to October flow volume at Union Gap between Alternative 1 and 3 (without Pine Hollow Reservoir) and Alternatives 2 and 4 (with Pine Hollow Reservoir) is approximately 2,700 acre-feet for average flow conditions and -600 acre-feet for dry years such as 1977. The flow volume for the April to October time period is used in TWSA calculations. A slight increase in flow during that time period is predicted for average conditions, while a very slight decrease is predicted for drought conditions. The potential effect on TWSA would be very small (much less than 0.1 percent) and would not be measurable by Reclamation. In addition, most of the flow reduction would occur during the time that the Yakima Project is not on storage control.

Effect on Other Reclamation Operations

Reclamation operates the Yakima Project on a year-round basis to provide irrigation water supply while reducing impacts on fisheries resources. Operations take into account requirements for spawning, incubation, rearing, passage, flushing/spike flows, ramping rates, power subordination, and carryover storage in the Yakima Basin on an annual to daily basis (U.S. Bureau of Reclamation, 2002). A discussion follows of the operational seasons and the potential effect of the ACWRP on Reclamation operations. The description of operations is mostly copied from the Interim Comprehensive Basin Operating Program (U.S. Bureau of Reclamation, 2002).

Fall Operations (August, September, October):

In August, river operators begin the transition to fall operations (August, September, October), which establishes the demands, constraints, and operational criteria for the next season. The fall operations period overlaps summer/fall operations, as the irrigation season is brought to a close. During August, September, and October, when the reservoirs are being drawn down to meet irrigation needs, releases are coordinated to maintain system storage flexibility so that flows can be ensured and provided for spawning, incubation, and rearing of spring Chinook eggs and fry operations during the next season of operations. Fishery flow needs are coordinated with System Operations Advisory Committee. During the late August through September 10th period, the mini flip-flop and flip-flop operations are performed. During the flip-flop operations, Reclamation lowers the releases from the Upper Yakima River Reservoirs and increases releases from Rimrock Reservoir. The Rimrock Reservoir releases are used to meet irrigation demands in the lower Yakima River system so that river levels can be kept low in the upper Yakima River system to benefit salmon. The flip-flop operation allows Reclamation to protect salmon redds in the upper river during the incubation and emergence/rearing periods, while minimizing the release demands and maximizing storage. Requests for power subordination are also possible on the lower river system during this period to maintain instream flows for migration, passage, and rearing.

Potential Effects of the ACWRP

The modeling performed for the ACWRP (Table B-3) indicates an increase in flow for each of the three fall months for both average and wet years for Alternative 2 or 4. No change in flow would occur for Alternative 1 or 3. No effect on fall operations would result from any of the alternatives as flow into the Yakima River would remain the same or increase.

Winter Operations (November, December, January, February):

During this period, stream flows into Yakima Project reservoirs in excess of downstream requirements are stored. Flows are bypassed or released to provide instream flow for the incubation of spring Chinook eggs and fry and to meet other fish demands. Release schedules also consider flood control requirements. Flood control operations that may occur are guided by flood control space guidelines for the reservoirs and by forecasts of future runoff. Flood control operations must consider real time stream flows downstream of the dams prior to releasing water. For example, stream flows in the Yakima River at Easton, Cle Elum, Ellensburg, Parker, and Kiona; in the Naches River at Cliffdell; and in the Naches River are evaluated prior to any reservoir release. The main objective during flood control operations is to provide maximum protection against flood damage in the Yakima River Basin as a whole, without jeopardizing the irrigation water supply for the following year. Other issues or constraints at this time include migration flow and possible power subordination in the lower river system.

Potential Effects of the ACWRP

The modeling performed for the ACWRP (Table B-3) indicates a decrease in flow for each of the four winter months for average years and an increase in flow for dry years for Alternative 2 or 4. No change in flows would occur for Alternative 1 or 3. The maximum decrease in flow during

average years is 15 cfs during February. Filling the proposed Pine Hollow Reservoir would cause the decrease in flow. As a comparison, the mean flow in the Yakima River at Parker (downstream of Ahtanum Creek) is approximately 3,000 cfs in February. The change in flow resulting from filling the reservoir would be small and not measurable in the Yakima River during the winter operation period in average water years. In dry water years, flow is controlled more closely in the Yakima River. The mean flow in the Yakima River at Parker during the winter months in a dry water year is approximately 1,000 cfs, or one-third that of an average water year. However the modeling performed for the ACWRP indicates an increase in flow during a dry year in this time period. The increase is caused by the imposition of instream flow targets on the North Fork and Main Stem Ahtanum Creek.

Alternative 2 or 4 would cause a slight and not measurable reduction of flow in the Yakima River during average water years. During dry water years when Yakima River flows are much less, the alternatives would slightly increase flow. No effect on operations would result from Alternative 1 or 3.

Spring/Summer Operations (March, April, May, June):

Stream flows into the reservoirs in excess of downstream requirements are stored during this period. Irrigation diversion demand is largely met from natural flow accruing below the reservoirs from unregulated tributaries such as Ahtanum Creek. Some supplemental releases are made for instream flow maintenance for incubation and rearing where unregulated inflow downstream of the dams is inadequate. Occasionally releases are made for enhanced passage flows, spikes, or other flow enhancement needed to encourage smolt out-migration. Other issues or constraints at this time include migration flows and possible power subordination in the lower river system. Releases to maintain appropriate flood control space are provided as necessary. Spring/summer flood control operations at the five project reservoirs occur each water year, even during most dry years. The volume of runoff potential is estimated by the runoff forecast in balance with the TWSA process. The runoff forecast and the flood space guide curves are taken into account in the refill process and in the timing of attaining a full storage system. Reservoirs are generally brought to their highest level during the late May through June time period. Some of the reservoir inflow is stored and some is passed through the reservoir to supplement unregulated flows and return flows to meet downstream diversion demand. Unregulated flow and return flow are generally adequate to meet irrigation diversions through June. However, storage releases have begun as early as May in dry years and as late as August in wet years. The average date of storage control (period of record, 1926 to 1999) in the Yakima River basin is June 24th.

Potential Effects of the ACWRP

The effect on TWSA from Alternative 2 or 4 was described in the previous section of this Appendix B, with a slight increase in flow available for TWSA in average years and a slight decrease in dry years. Water from unregulated tributaries not captured by Reclamation is used as a water supply prior to the time when contract obligations are met out of TWSA (April). That water, called flood water, is used to prime canals and provide frost water and some early season water to irrigators. The irrigation districts with flood water claims located downstream of Ahtanum Creek are the Sunnyside Division and the Wapato Irrigation Project. The modeling

performed for the ACWRP indicates a decrease in flow of 9 cfs for an average water year in March. During a dry water year, an increase of 18 cfs is predicted. In comparison, the mean flow in the Yakima River at Parker is 3,150 cfs during March and during a dry year is much less, approximately 1,200 cfs.

Alternative 2 or 4 would cause a slight and not measurable reduction of flow in the Yakima River during average water years during the March time period. During dry water years when Yakima River flows are much less, either alternative would slightly increase flow. No effect on operations would result from Alternative 1 or 3.