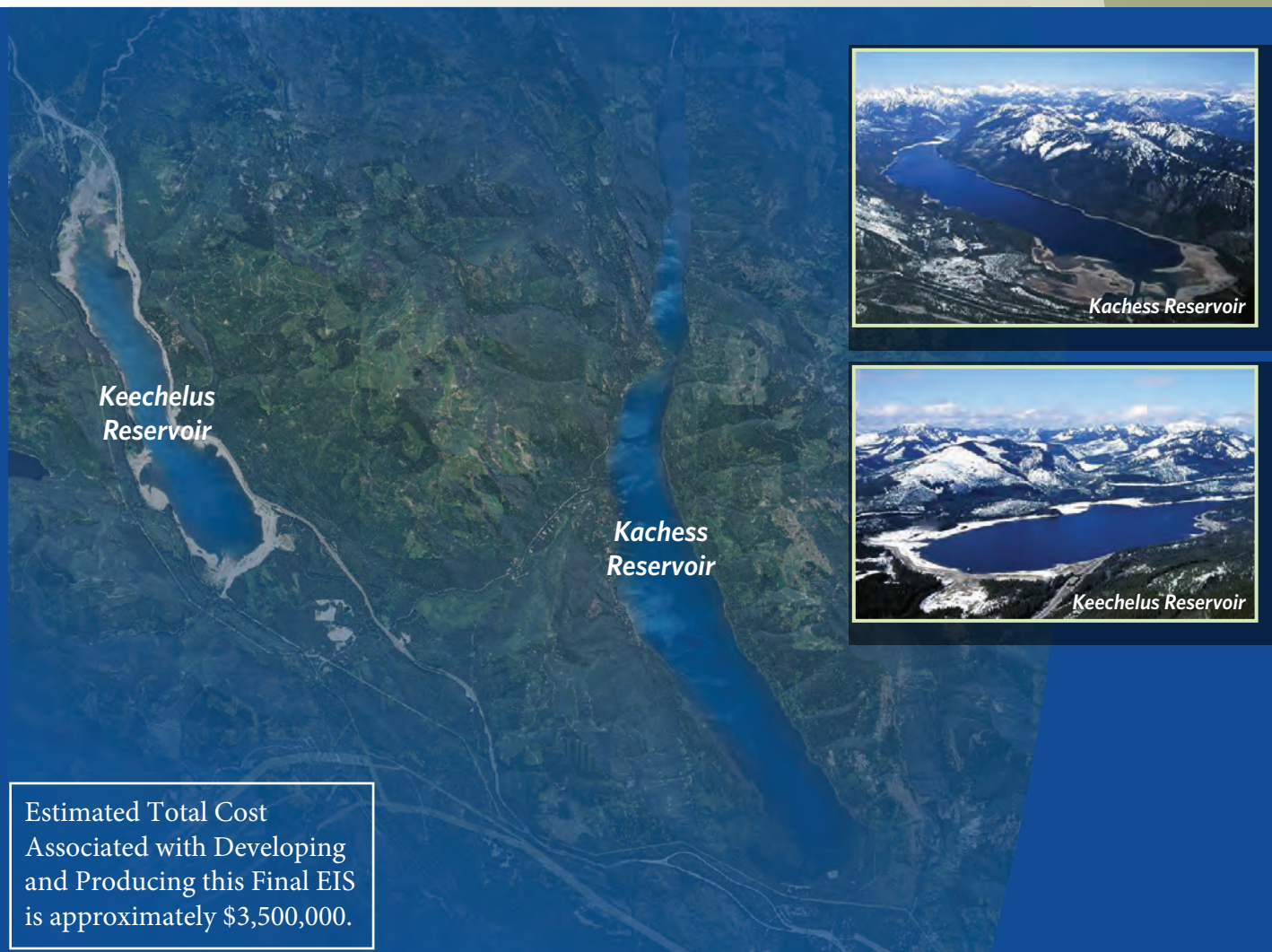


Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance

FINAL Environmental Impact Statement

KITTITAS and YAKIMA COUNTIES, WASHINGTON



Kachess Reservoir



Keechelus Reservoir

Estimated Total Cost
Associated with Developing
and Producing this Final EIS
is approximately \$3,500,000.



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



State of Washington
Department of Ecology
Office of Columbia River
Yakima, Washington
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Volume III of III

March 2019

Comments and Responses from the Supplemental Draft Environmental Impact Statement Released in April 2018

(see Volume II for an introduction to the Comments and Responses,
which include common issues and their responses.)

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SDEIS Comment Responses

Comment Letter Number	Commenter	Comment Number	Comment Response
203	Confederated Tribes of the Colville Reservation	1	Section revised per comment.
203	Confederated Tribes of the Colville Reservation	2	Section revised per comment.
203	Confederated Tribes of the Colville Reservation	3	Section revised per comment.
203	Confederated Tribes of the Colville Reservation	4	Yes, these are equivalent terms. A single term has been used to avoid confusion.
203	Confederated Tribes of the Colville Reservation	5	This is not consistent with the Section 106 regulations. However, no action will be taken that has a potential to effect a resource until eligibility is determined.
203	Confederated Tribes of the Colville Reservation	6	“Resources of Tribal Concern” is not a term used in this FEIS.
203	Confederated Tribes of the Colville Reservation	7	Section has been revised per comment in FEIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
203	Confederated Tribes of the Colville Reservation	8	Thank you for your comment. As part of Section 110 responsibilities, Reclamation is planning to implement a Cultural Resources Management Plan (CRMP) to address ongoing and future operational and land management implications to cultural resources. This will be done in collaboration with the consulting parties.
204	Yakama Nation DNR	1	Thank you for your comment. None of the alternatives impact the Yakama Nation's treaty rights.
204	Yakama Nation DNR	2	Impacts to fish in the Yakima River are described in section 4.6 in terms of changes in habitat suitability in different seasons resulting from changes in instream flow under each alternative. Where relevant, impacts to Chinook, sockeye, coho salmon are specified for given species. Otherwise, impacts to fish are referenced generally based on the assumption the larger the deviation from normative flows the larger the impact for native fishes of any species.
204	Yakama Nation DNR	3	Thank you for your comment.
204	Yakama Nation DNR	4	Recommended edits were considered and incorporated into this FEIS.
204	Yakama Nation DNR	5	Recommended edits were considered and incorporated into this FEIS.
204	Yakama Nation DNR	6	Recommended edits were considered and incorporated into this FEIS.
204	Yakama Nation DNR	7	Thank you for your comment. None of the alternatives impact the Yakama Nation's treaty rights.
204	Yakama Nation DNR	8	Reclamation recognizes the project area is within the Yakama ceded lands and that the Wenatshapam band is covered under the Treaty of 1855. However, members of the Wenatshapam (also known as the Wenatchi) band are also found in the Colville Confederated Tribes. Therefore both federally recognized tribes have a cultural connection to the project area. For this reason this section is not re-edited.
204	Yakama Nation DNR	9	This information is updated in this FEIS (see Section 1.8.1).
204	Yakama Nation DNR	10	This information is updated in this FEIS (see Section 1.8.1).
204	Yakama Nation DNR	11	No lands in Yakima County are potentially affected and no permits are anticipated from Yakima County. Table 1-2 has been updated in this FEIS to reflect this.

Comment Letter Number	Commenter	Comment Number	Comment Response
204	Yakama Nation DNR	12	Thank you for this comment about obtaining a share of the newly available water. The water rights section has been edited and expanded to address this comment.
204	Yakama Nation DNR	13	Recommended edits were considered and incorporated into this FEIS.
204	Yakama Nation DNR	14	Since it is under construction, the Cle Elum Pool Raise project is discussed in Section 2.1; however it is not included in Section 2.2.1 as it is not an ongoing project affecting annual operations.
204	Yakama Nation DNR	15	Recommended edits were considered and incorporated into this FEIS.
204	Yakama Nation DNR	16	Recommended edits were considered and incorporated into this FEIS.
204	Yakama Nation DNR	17	Franklin County was discussed in Table 2-9 because it was identified in Section 3.22.2.1 as having a potential environmental justice population because the Hispanic/Latino population was greater than 50 percent. None of the other counties assessed had Hispanic/Latino populations greater than 50 percent.
204	Yakama Nation DNR	18	Thank you for this factual correction. Section 3.3.1.3 of this FEIS has been edited in response.
204	Yakama Nation DNR	19	Thank you for this comment reminding Reclamation and Ecology of the Nation's rights. We acknowledge the comment and it will be included in the record of this EIS. We did not find it necessary to make a change in this FEIS in response.
204	Yakama Nation DNR	20	A comparative analysis of flows under different alternatives up to the Wapato Reach (Parker) is provided in section 4.3, Surface Water. As explained in section 4.3, the drought-year changes in flow downstream of Roza Dam would remain within current operating flows experienced in most years. Downstream from Roza Dam to the Parker gage, the relative change in streamflow would be less than in upstream reaches because some or most of the additional water supplied by KDRPP would be diverted. Any remaining increased supply could be diverted by WIP at Wapato Dam. The small change in streamflow downstream from Parker gage on the Yakima River would occur as Kachess Reservoir refills after a drought. The change would occur in winter and spring. The change would occur in winter and spring. As summarized in Tables 4-32 and 4-33 (Alternatives 2, 3, and 4), winter and spring flows at Parker are reduced by up to 1.2 percent. During refill years, high exceedance flows are reduced by 2.9 percent. As summarized In Tables 4-69 and 4-70 (Alternatives 5A, 5B, and 5C) winter and spring flows are reduced by up to 1.6 percent. During refill years, high exceedance flows are reduced by 4.6 percent.

Comment Letter Number	Commenter	Comment Number	Comment Response
204	Yakama Nation DNR	21	Comment noted. Returning anadromous fish undoubtedly brought beneficial marine-derived nutrients to these lakes prior to dam installation. However Lake Kachess is likely oligotrophic (nutrient poor), like many mountain lakes, because the reservoir has steep side slopes with little shoal area and is cold, clear, and relatively deep (310 feet) (WSDF, 1967).
204	Yakama Nation DNR	22	Comment noted. Existing summer flows are only described from the Keechelus Dam downstream to Granger (RM 88 to RM 83) in order to provide a baseline for comparisons to the changes in flows with the proposed alternatives, which would affect the Yakima River mainly upstream of Granger.
204	Yakama Nation DNR	23	Thank you for the suggested revisions. The title of the subsection indicates the section of Kachess River being described is downstream of the dam: 3.6.4 Yakima River and Kachess River Downstream of Keechelus and Kachess Dams
204	Yakama Nation DNR	24	Thank you for your comment. Table 3-1 provided detailed reach descriptions. This was added to the notes in Table 3-18.
204	Yakama Nation DNR	25	Suggested revisions will be made. Given uncertainty in the range in the number of sockeye passed over Roza Dam reported by DART, these data will be revised in the FEIS with data from resources other than DART.
204	Yakama Nation DNR	26	Reclamation recognizes the project area is within the Yakama ceded lands and that the Wenatshapam band is covered under the Treaty of 1855. However, members of the Wenatshapam (also known as the Wenatchi) band are also found in the Colville Confederated Tribes. Therefore both federally recognized tribes have a cultural connection to the project area. For this reason this section is not re-edited.
205	Columbia-Snake River Irrigators Association	1	Thank you for your comment supporting the proposed action. It has been noted and will be included in the record for this EIS. The section regarding acre-feet of water available for diversion at the Roza Irrigation District head works has been clarified in the Final EIS. The additional (instream) water supply available during drought years, up to 200,000 acre-ft from Kachess Reservoir, would be distributed among the Participating Entities of the Proposed Action, therefore the water supply could be available for diversion at KRD, Roza, WIP, or KID.
206	WDFW	1	Please see the response to Common Issue 13. Additionally, Reclamation and Ecology share your concern with bull trout and supporting the YBIP. We are committed to working with the Washington Department of Fish and Wildlife and all MOU partners to implement BTE projects. A change was not made to this FEIS in response to this comment.
206	WDFW	2	See Section 1.5 and Appendix A of this FEIS. Reclamation and Ecology are committed to working with all MOU partners to implement BTE projects through the Federal and State regulatory processes.

Comment Letter Number	Commenter	Comment Number	Comment Response
206	WDFW	3	Avoidance, minimization and mitigation measure for direct impacts are identified in this FEIS. See response to Common Issue 7.
206	WDFW	4	<p>The comment raises several issues that are addressed in this response:</p> <ol style="list-style-type: none"> 1. Upstream fish passage to Kachess River and Box Canyon Creek from Little Kachess. The passage for bull trout at the mouth of Box Canyon Creek and the Kachess River (where they enter into Little Kachess Lake) exists independent of any assessment of scour potential in the Narrows. These major tributaries to Little Kachess continually deliver bedload sediments into Little Kachess at their mouths and form ever changing deltas through with each tributary must flow. When the water surface elevation in Little Kachess is low, the upstream passage challenge is exacerbated, particularly when coupled with low flows in each tributary. Regardless of any potential effect on water surface elevation in Little Kachess that might be attributable to channel degradation in the Narrows, any fish passage improvements at the mouths of these two tributaries should be designed to accommodate a wide range of water surface elevations in Little Kachess and should be designed and constructed so that the continuing delivery of bedload sediments by both tributaries into Little Kachess will not adversely affect the performance of any such fish passage improvements. An adaptive management approach in conjunction with the above design criteria is an appropriate and prudent measure to include in the design of any fish passage improvements at these two locations. 2. Scour potential in the Narrows under KDRPP operations. The soils that comprise the Narrows channel were not deposited over the most recent 100 years. Rather, the Narrows is a glacial moraine that has existed since the at least the most recent ice age, some 12,000 to 15,000 years ago. There are two major tributaries to Little Kachess: the Kachess River that enters Little Kachess at its North end, and Box Canyon Creek that enters Little Kachess on the West shore of Little Kachess, just upstream of the Narrows. Both of these tributaries deposit their bedload sediments in deltas that occur at their terminus where they enter Little Kachess. Because Little Kachess is a quiescent body of water having little to no velocity in it, Little Kachess is not capable of transporting bedload sediments to the Narrows from either of these tributaries for deposition in the Narrows. There is however, a recent deposition of very fine sediments at the upper end of the Narrows. These fine sediments have deposited over the past 100 years. The depth of these sediments has not yet been established but could be established relatively easily. It is likely that this very fine sediment deposit will be mobilized in the future when KDRPP goes into operation. Once mobilized, the sediments comprising the Narrows Channel that existed prior to the construction of Kachess Dam will again be exposed. It is not known at this time if the Narrows Channel sediments that lie beneath these fine sediment deposits will be susceptible to scour. This separate and distinct question is addressed in the following text.

Comment Letter Number	Commenter	Comment Number	Comment Response
206	WDFW	4(continued)	<p>3. Susceptibility of the Narrows channel glacial moraine sediment to scour. The waters in Little Kachess flow into Big Kachess by passing through the Narrows channel when the Kachess Reservoir water surface elevation is at or below approximate elevation 2,223. At these lower elevations, the flows in the Narrows Channel flowing from Little Kachess to Big Kachess could be referred to as the Kachess River. At water surface elevations above 2,223, water passes from Little Kachess to Big Kachess above the Narrows, as the Narrows inundates beginning at water surface elevations higher than 2223. Above elevation 2,223, the two bodies of water begin to become a single large body of water that we refer to as Kachess Reservoir. Regardless of the origin of the soils comprising the Narrows, as stated in the comment, a flow restriction caused by the soils comprising the Narrows controls the upstream water surface elevation in Little Kachess whenever the water surface elevation in Big Kachess is below approximately 2,223.</p> <p>The majority of the time when high flows are moving from Little Kachess into Big Kachess (under present Reservoir operations) the Narrows is inundated and water velocities are very low or virtually non-existent over and through the Narrows; and no scouring of the Narrows channel is possible under these hydraulic conditions. In the future however, under drought relief pumping conditions, when Big Kachess has been drawn down below the water surface elevation present in Little Kachess, high flows will need to pass through the Narrows in the incised channel that exists in the Narrows now. It is under these conditions that the Narrows channel will experience high flows and their associated higher velocities that may or may not be capable of scouring these sediments.</p> <p>Prior to the construction of Kachess Dam, these high flows and attendant higher velocities had to pass through the glacial moraine we refer to as the Narrows, as well as pass through the incised channel that existed in the terminal glacial moraine that is the site of Kachess Dam at this time. These two glacial moraines, the Narrows and the Kachess Dam site, had achieved a state of equilibrium in terms of scouring. The state of equilibrium achieved is attested to by the huge remnant Cedar stumps that lined the banks of the Kachess River at both of these locations. The soils comprising these two glacial moraines are extremely dense and hard packed and are not easily eroded.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
206	WDFW	4(continued)	<p>The amount of time that the water surface elevation in Big Kachess will be lower than the water surface elevation in Little Kachess will however be more frequent and be of longer durations with the implementation of KDRPP. We believe the question being asked by WDFW is more correctly posed as follows: Will the glacial moraine soils that comprise the present day Narrows be susceptible to scour when Big Kachess is lowered for drought relief pumping purposes and the water surface elevation in Big Kachess is lower than the water surface elevation in Little Kachess more frequently and for longer durations?</p> <p>With the exception of the very fine sediments that exist at the upstream end of the Narrows, the glacial moraine sediments that exist in the Narrows are not likely to be easily scoured when Kachess Reservoir is drawn down by the proposed future operation of KDRPP. A small amount of scour may be possible in the Narrows channel, but the possibility of the Narrows channel scouring down 16 feet as suggested in the comment, is improbable.</p> <p>Therefore, to answer this question more precisely, a geotechnical exploration program will be undertaken to identify and categorize the soils comprising the existing channel in the Narrows in support of design of volitional fish passage. Then, with this information in hand, a hydraulic analysis of the scour potential of these soils should be performed to analyze their susceptibility to scour when they are exposed to the more frequent and longer durations of higher flows and the associated higher velocities that will occur within the Narrows channel under future KDRPP operations.</p> <p>4. Hyporheic Flows in the Narrows. The potential for hyporheic flows within the Narrows is very small. The reason being, there is very little thickness of sediments between the water flowing in the Narrows channel and the underlying glacial moraine soils which are virtually impervious.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
206	WDFW	5	<p>The comment raises several issues that are addressed in this response:</p> <ol style="list-style-type: none"> 1. Upstream fish passage to Kachess River and Box Canyon Creek from Little Kachess. The passage for bull trout at the mouth of Box Canyon Creek and the Kachess River (where they enter into Little Kachess Lake) exists independent of any assessment of scour potential in the Narrows. These major tributaries to Little Kachess continually deliver bedload sediments into Little Kachess at their mouths and form ever changing deltas through with each tributary must flow. When the water surface elevation in Little Kachess is low, the upstream passage challenge is exacerbated, particularly when coupled with low flows in each tributary. Regardless of any potential effect on water surface elevation in Little Kachess that might be attributable to channel degradation in the Narrows, any fish passage improvements at the mouths of these two tributaries should be designed to accommodate a wide range of water surface elevations in Little Kachess and should be designed and constructed so that the continuing delivery of bedload sediments by both tributaries into Little Kachess will not adversely affect the performance of any such fish passage improvements. An adaptive management approach in conjunction with the above design criteria is an appropriate and prudent measure to include in the design of any fish passage improvements at these two locations. 2. Scour potential in the Narrows under KDRPP operations. The soils that comprise the Narrows channel were not deposited over the most recent 100 years. Rather, the Narrows is a glacial moraine that has existed since the at least the most recent ice age, some 12,000 to 15,000 years ago. There are two major tributaries to Little Kachess: the Kachess River that enters Little Kachess at its North end, and Box Canyon Creek that enters Little Kachess on the West shore of Little Kachess, just upstream of the Narrows. Both of these tributaries deposit their bedload sediments in deltas that occur at their terminus where they enter Little Kachess. Because Little Kachess is a quiescent body of water having little to no velocity in it, Little Kachess is not capable of transporting bedload sediments to the Narrows from either of these tributaries for deposition in the Narrows. There is however, a recent deposition of very fine sediments at the upper end of the Narrows. These fine sediments have deposited over the past 100 years. The depth of these sediments has not yet been established but could be established relatively easily. It is likely that this very fine sediment deposit will be mobilized in the future when KDRPP goes into operation. Once mobilized, the sediments comprising the Narrows Channel that existed prior to the construction of Kachess Dam will again be exposed. It is not known at this time if the Narrows Channel sediments that lie beneath these fine sediment deposits will be susceptible to scour. This separate and distinct question is addressed in the following text.

Comment Letter Number	Commenter	Comment Number	Comment Response
206	WDFW	5(continued)	<p>3. Susceptibility of the Narrows channel glacial moraine sediment to scour. The waters in Little Kachess flow into Big Kachess by passing through the Narrows channel when the Kachess Reservoir water surface elevation is at or below approximate elevation 2,223. At these lower elevations, the flows in the Narrows Channel flowing from Little Kachess to Big Kachess could be referred to as the Kachess River. At water surface elevations above 2,223, water passes from Little Kachess to Big Kachess above the Narrows, as the Narrows inundates beginning at water surface elevations higher than 2223. Above elevation 2,223, the two bodies of water begin to become a single large body of water that we refer to as Kachess Reservoir. Regardless of the origin of the soils comprising the Narrows, as stated in the comment, a flow restriction caused by the soils comprising the Narrows controls the upstream water surface elevation in Little Kachess whenever the water surface elevation in Big Kachess is below approximately 2,223.</p> <p>The majority of the time when high flows are moving from Little Kachess into Big Kachess (under present Reservoir operations) the Narrows is inundated and water velocities are very low or virtually non-existent over and through the Narrows; and no scouring of the Narrows channel is possible under these hydraulic conditions. In the future however, under drought relief pumping conditions, when Big Kachess has been drawn down below the water surface elevation present in Little Kachess, high flows will need to pass through the Narrows in the incised channel that exists in the Narrows now. It is under these conditions that the Narrows channel will experience high flows and their associated higher velocities that may or may not be capable of scouring these sediments.</p> <p>Prior to the construction of Kachess Dam, these high flows and attendant higher velocities had to pass through the glacial moraine we refer to as the Narrows, as well as pass through the incised channel that existed in the terminal glacial moraine that is the site of Kachess Dam at this time. These two glacial moraines, the Narrows and the Kachess Dam site, had achieved a state of equilibrium in terms of scouring. The state of equilibrium achieved is attested to by the huge remnant Cedar stumps that lined the banks of the Kachess River at both of these locations. The soils comprising these two glacial moraines are extremely dense and hard packed and are not easily eroded.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
206	WDFW	5(continued)	<p>The amount of time that the water surface elevation in Big Kachess will be lower than the water surface elevation in Little Kachess will however be more frequent and be of longer durations with the implementation of KDRPP. We believe the question being asked by WDFW is more correctly posed as follows: Will the glacial moraine soils that comprise the present day Narrows be susceptible to scour when Big Kachess is lowered for drought relief pumping purposes and the water surface elevation in Big Kachess is lower than the water surface elevation in Little Kachess more frequently and for longer durations?</p> <p>With the exception of the very fine sediments that exist at the upstream end of the Narrows, the glacial moraine sediments that exist in the Narrows are not likely to be easily scoured when Kachess Reservoir is drawn down by the proposed future operation of KDRPP. A small amount of scour may be possible in the Narrows channel, but the possibility of the Narrows channel scouring down 16 feet as suggested in the comment, is improbable.</p> <p>Therefore, to answer this question more precisely, a geotechnical exploration program will be undertaken to identify and categorize the soils comprising the existing channel in the Narrows in support of design of volitional fish passage. Then, with this information in hand, a hydraulic analysis of the scour potential of these soils should be performed to analyze their susceptibility to scour when they are exposed to the more frequent and longer durations of higher flows and the associated higher velocities that will occur within the Narrows channel under future KDRPP operations.</p> <p>4. Hyporheic Flows in the Narrows. The potential for hyporheic flows within the Narrows is very small. The reason being, there is very little thickness of sediments between the water flowing in the Narrows channel and the underlying glacial moraine soils which are virtually impervious.</p>
206	WDFW	6	<p>Water temperature in the Volitional Bull Trout Passage channel and effects of water temperature on fish have been addressed in section 4.6.4 in the FEIS. Generally, surface water temperatures are predicted to decrease slightly in Lake Kachess with the proposed alternatives except for during late September.</p>
207	Yakima Basin Fish and Wildlife Recovery Board	1	<p>Thank you for this comment. It has been noted and will be included in the administrative record for this EIS. A change was not made to this FEIS in response to this comment.</p>
207	Yakima Basin Fish and Wildlife Recovery Board	2	<p>Thank you for your comment.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
207	Yakima Basin Fish and Wildlife Recovery Board	3	Please see the response to Common Issue 13. Reclamation and Ecology share your concern with potential impacts to bull trout. We are committed to working with the Yakima Basin Fish and Wildlife Recovery Board and all MOU partners to implement BTE projects. A change was not made to this FEIS in response to this comment.
207	Yakima Basin Fish and Wildlife Recovery Board	4	Thank you for the offer to discuss priority actions or convene the Working Group. We look forward to working collaboratively with you and others as we implement the alternative that will be selected in the ROD and future actions that would assist in the recovery of bull trout. A change was not made to this FEIS in response to this comment, because no response was required.
208	USFWS	1	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
208	USFWS	2	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
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Comment Letter Number	Commenter	Comment Number	Comment Response
208	USFWS	4	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
208	USFWS	5	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
208	USFWS	6	Reclamation has an existing agreement with WDFW to address fish passage and monitoring at Box Canyon Creek to provide fish passage at low flows during droughts. Withdrawing additional water will not affect fish passage at Box Canyon Creek and other upstream tributaries flowing into Little Kachess, because water levels in Little Kachess will not fall below historic levels. Reclamation and Ecology are committed to implementing BTE projects, including Box Canyon Creek. See Appendix C for additional details.
208	USFWS	7	The analysis allowed for assessment of impacts of the KKC element sufficient for the purposes of NEPA. Construction would affect wildlife, but the KKC North Tunnel Alignment would not permanently impact wildlife connectivity.
208	USFWS	8	Inconsistencies have been addressed in this FEIS, however the key point remains that fish passage will be provided by a roughened to channel.
208	USFWS	9	The volitional bull trout passage improvements specifically address fish passage between Big and Little Kachess during drought relief pumping. See Section 2.3.5 of this FEIS.
208	USFWS	10	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW. Additional details are provided in the Biological Assessment.
208	USFWS	11	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW. Additional details are provided in the Biological Assessment.

Comment Letter Number	Commenter	Comment Number	Comment Response
208	USFWS	12	Details of operations of the Preferred Alternative are presented in the KDRPP Floating Pumping Plant Draft Appraisal Design Report. (https://www.usbr.gov/pn/programs/eis/kkc/fppaappraisal.pdf)
208	USFWS	13	Tables 2-9 and 4-4 have been reconciled in this FEIS.
208	USFWS	14	Table 2-9 is intended to illustrate the differences between alternatives in terms of time when passage at the Narrows is imbedded. The table has been revised to indicate the period of the modeling.
208	USFWS	15	Reclamation has an existing agreement with WDFW to address fish passage and monitoring at Box Canyon Creek to provide fish passage at low flows during droughts. Withdrawing additional water will not affect fish passage at Box Canyon Creek and other upstream tributaries flowing into Little Kachess, because water levels in Little Kachess will not fall below historic levels. Reclamation and Ecology are committed to implementing BTE projects, including Box Canyon Creek. See Appendix C for additional details.
208	USFWS	16	revised preceding paragraph - no change to table to keep consistent with other sections
208	USFWS	17	Thank you for the correction, the section on listed species and critical habitat was changed accordingly.
208	USFWS	18	When Keechelus Reservoir level falls below elevation 2,466, bull trout access to its tributaries is adversely affected. This impact is summarized in Table 4-4 of the SDEIS. For all alternatives, Keechelus Reservoir typically falls below elevation 2,466 from August to November. Under Alternatives 5A, 5B, and 5C, Keechelus Reservoir levels would fall below elevation 2,466 in 11 fewer years than under Alternative 1 (from 80 years for Alternative 1 to 69 years for Alternatives 5A, 5B, and 5C) but for an additional 5 days per year in years Keechelus Reservoir levels fall below elevation 2,466.

Comment Letter Number	Commenter	Comment Number	Comment Response
208	USFWS	19	<p>A change was not made to this FEIS in response to this comment because Reclamation only partially agrees, and partially disagrees. The disagreement lies with the stated adverse effects of existing operations on bull trout and critical habitat. Please note that Reclamation remains fully committed to its Section 7(a)(2) responsibilities of avoiding actions that would jeopardize the continued existence of listed species or adversely modifying designated critical habitat. As such, Reclamation has prepared a biological assessment evaluating the effects of its preferred alternative on bull trout and their designated critical habitat. Reclamation looks forward to collaboration with the Services on this consultation and working with the Services to ensure that it will avoid adverse modification of critical habitat, including adverse effects on the PCEs.</p> <p>The part of the comment that Reclamation agrees with is the Service’s recommendation to implement Section 7(a)(1) conservation measures aimed at benefiting or promoting recovery of the species, and of improving PCEs of critical habitat.</p> <p>Overall in response, the water quality section of this FEIS was not changed in response to this comment, but a biological assessment is appended to this FEIS and it will be used in Section 7 consultation and coordination with the Services.</p>
208	USFWS	20	<p>Bull trout passage problems (access to Lake Kachess tributaries) are addressed in the noted section describing the No Action alternative. Benefits of providing passage between Big Kachess and Little Kachess to bull trout (or other fish) are described in the sections pertaining to Volitional Bull Trout Passage. When Keechelus Reservoir level falls below elevation 2,466, bull trout access to its tributaries is adversely affected. This impact is summarized in Table 4-4 of the SDEIS. For all alternatives, Keechelus Reservoir typically falls below elevation 2,466 from August to November. Under Alternatives 5A, 5B, and 5C, Keechelus Reservoir levels would fall below elevation 2,466 in 11 fewer years than under Alternative 1 (from 80 years for Alternative 1 to 69 years for Alternatives 5A, 5B, and 5C) but for an additional 5 days per year in years Keechelus Reservoir levels fall below elevation 2,466.</p> <p>In addition, please see the response to Common Issue 19. Reclamation is planning to collaborate with the Services on Box Canyon passage improvements or other conservation measures that might be within the agency’s discretionary authorities.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
208	USFWS	21	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
208	USFWS	22	As noted, impacts on the food web (zooplankton) of pumping from the epilimnion as proposed under the alternatives are described in the SDEIS using updated modeled scenarios published in 2017 (Hansen et al. 2017 and PSU 2017). The food-base (zooplankton abundance) is expected to be sufficient to support increased prey consumption rates
208	USFWS	23	Noise impacts described from previous sections for Alternatives 2 and 3. Statement about potential to cause individuals to be disrupted and leave area and pre construction surveys added
208	USFWS	24	Reclamation does not agree with the part of the comment about current operations adversely impacting bull trout or critical habitat, so in response to that part of the comment, no change was made to this FEIS. However, now that a preferred alternative has been identified, Reclamation is providing a biological assessment to the Services assessing effects of the preferred alternative compared to the baseline. Also, Reclamation and Ecology agree that there will be subsequent NEPA and ESA compliance on BTE actions, but these future actions and analyses will be site-specific and at a different times than the action analyzed in this FEIS or in the biological assessment.
209	Roza	1	Thank you for the identification of Roza's willingness to "...fully fund, construct, operation, and maintain the proposed Action, Alternative 4—Floating Pumping Plant. We have changed multiple sections in this FEIS to reflect this.
209	Roza	2	The analysis was based on the most recent comprehensive data and supports a comparative analysis to meet the requirements of NEPA.
209	Roza	3	This study area has been used as the regional study area for the economic analyses completed for the Integrated Plan, and has been subject to peer review. From the perspective of evaluating impacts related to the region's economy, it continues to be the appropriate study area, for the reason the comment or identified: the economies of these counties are tied together.

Comment Letter Number	Commenter	Comment Number	Comment Response
209	Roza	4	<p>The agricultural data for the economic analysis conducted for this EIS were supplied by the irrigation districts and Washington Department of Agriculture's geographic information system database of agricultural land use. The data from the districts relied on data and interviews with the districts from 2006 to 2010. I assume that interview process would need to be repeated at considerable effort to update those data. The Four Accounts Analysis for the Integrated Plan, which was used for the economic analysis in this EIS, utilized Agricultural Census data to determine the share of product from Yakima vs. elsewhere in Washington and the US to provide context and assess the likelihood of price effects from changes in Yakima production. These Agricultural Census data are from 2007, and more current data (from 2012) do exist. However, Reclamation and Ecology's economic analysts believe it is unlikely 2012 data would yield a different conclusion than was derived from an analysis using the 2007 data.</p> <p>Changes in crop patterns within irrigation district areas would be unlikely change the conclusions in the socioeconomic analysis -- notably that effects of the project would have positive impacts on the regional economy by providing additional water to farmers during droughts.</p>
209	Roza	5	This FEIS includes a more detailed description of the impacts of the 2015 drought, based on the Washington State Department of Agriculture 2015 report.
209	Roza	6	Thank you for your comment.
210	Port of Benton	1	Thank you for the comment. Although Alternative 4 from the DEIS is no longer under consideration in the SDEIS, Alternatives 5A, 5B and 5C evaluate construction and operation of both KDRPP and the KKC North Tunnel alignment.
210	Port of Benton	2	The analysis was based on the most recent comprehensive data and supports a comparative analysis to meet the requirements of NEPA.
210	Port of Benton	3	This study area has been used as the regional study area for the economic analyses completed for the Integrated Plan, and has been subject to peer review. From the perspective of evaluating impacts related to the region's economy, it continues to be the appropriate study area, for the reason the comment or identified: the economies of these counties are tied together.

Comment Letter Number	Commenter	Comment Number	Comment Response
210	Port of Benton	4	<p>The agricultural data for the economic analysis conducted for this EIS were supplied by the irrigation districts and Washington Department of Agriculture's geographic information system database of agricultural land use. The data from the districts relied on data and interviews with the districts from 2006 to 2010. I assume that interview process would need to be repeated at considerable effort to update those data. The Four Accounts Analysis for the Integrated Plan, which was used for the economic analysis in this EIS, utilized Agricultural Census data to determine the share of product from Yakima vs. elsewhere in Washington and the US to provide context and assess the likelihood of price effects from changes in Yakima production. These Agricultural Census data are from 2007, and more current data (from 2012) do exist. However, Reclamation and Ecology's economic analysts believe it is unlikely 2012 data would yield a different conclusion than was derived from an analysis using the 2007 data.</p> <p>Changes in crop patterns within irrigation district areas would be unlikely change the conclusions in the socioeconomic analysis -- notably that effects of the project would have positive impacts on the regional economy by providing additional water to farmers during droughts.</p>
210	Port of Benton	5	<p>This FEIS includes a more detailed description of the impacts of the 2015 drought, based on the Washington State Department of Agriculture 2015 report.</p>
210	Port of Benton	6	<p>Thank you for your comment.</p>
211	Kittitas County Reclamation District	1	<p>Thank you for the comment. Although Alternative 4 from the DEIS is no longer under consideration in the SDEIS, Alternatives 5A, 5B and 5C evaluate construction and operation of both KDRPP and the KKC North Tunnel alignment.</p>
211	Kittitas County Reclamation District	2	<p>The analysis was based on the most recent comprehensive data and supports a comparative analysis to meet the requirements of NEPA.</p>
211	Kittitas County Reclamation District	3	<p>This study area has been used as the regional study area for the economic analyses completed for the Integrated Plan, and has been subject to peer review. From the perspective of evaluating impacts related to the region's economy, it continues to be the appropriate study area, for the reason the comment or identified: the economies of these counties are tied together.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
211	Kittitas County Reclamation District	4	<p>The agricultural data for the economic analysis conducted for this EIS were supplied by the irrigation districts and Washington Department of Agriculture's geographic information system database of agricultural land use. The data from the districts relied on data and interviews with the districts from 2006 to 2010. I assume that interview process would need to be repeated at considerable effort to update those data. The Four Accounts Analysis for the Integrated Plan, which was used for the economic analysis in this EIS, utilized Agricultural Census data to determine the share of product from Yakima vs. elsewhere in Washington and the US to provide context and assess the likelihood of price effects from changes in Yakima production. These Agricultural Census data are from 2007, and more current data (from 2012) do exist. However, Reclamation and Ecology's economic analysts believe it is unlikely 2012 data would yield a different conclusion than was derived from an analysis using the 2007 data.</p> <p>Changes in crop patterns within irrigation district areas would be unlikely change the conclusions in the socioeconomic analysis -- notably that effects of the project would have positive impacts on the regional economy by providing additional water to farmers during droughts.</p>
211	Kittitas County Reclamation District	5	This FEIS includes a more detailed description of the impacts of the 2015 drought, based on the Washington State Department of Agriculture 2015 report.
211	Kittitas County Reclamation District	6	Thank you for your comment.
212	Benton County Commissioners	1	Thank you for the comment. Although Alternative 4 from the DEIS is no longer under consideration in the SDEIS, Alternatives 5A, 5B and 5C evaluate construction and operation of both KDRPP and the KKC North Tunnel alignment.
212	Benton County Commissioners	2	This study area has been used as the regional study area for the economic analyses completed for the Integrated Plan, and has been subject to peer review. From the perspective of evaluating impacts related to the region's economy, it continues to be the appropriate study area, for the reason the comment or identified: the economies of these counties are tied together.
212	Benton County Commissioners	3	This FEIS includes a more detailed description of the impacts of the 2015 drought, based on the Washington State Department of Agriculture 2015 report.
212	Benton County Commissioners	4	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
213	Port of Grandview	1	Thank you for the comment. Although Alternative 4 from the DEIS is no longer under consideration in the SDEIS, Alternatives 5A, 5B and 5C evaluate construction and operation of both KDRPP and the KKC North Tunnel alignment.
213	Port of Grandview	2	The analysis was based on the most recent comprehensive data and supports a comparative analysis to meet the requirements of NEPA.
213	Port of Grandview	3	This study area has been used as the regional study area for the economic analyses completed for the Integrated Plan, and has been subject to peer review. From the perspective of evaluating impacts related to the region's economy, it continues to be the appropriate study area, for the reason the comment or identified: the economies of these counties are tied together.
213	Port of Grandview	4	The agricultural data for the economic analysis conducted for this EIS were supplied by the irrigation districts and Washington Department of Agriculture's geographic information system database of agricultural land use. The data from the districts relied on data and interviews with the districts from 2006 to 2010. I assume that interview process would need to be repeated at considerable effort to update those data. The Four Accounts Analysis for the Integrated Plan, which was used for the economic analysis in this EIS, utilized Agricultural Census data to determine the share of product from Yakima vs. elsewhere in Washington and the US to provide context and assess the likelihood of price effects from changes in Yakima production. These Agricultural Census data are from 2007, and more current data (from 2012) do exist. However, Reclamation and Ecology's economic analysts believe it is unlikely 2012 data would yield a different conclusion than was derived from an analysis using the 2007 data. Changes in crop patterns within irrigation district areas would be unlikely change the conclusions in the socioeconomic analysis -- notably that effects of the project would have positive impacts on the regional economy by providing additional water to farmers during droughts.
213	Port of Grandview	5	This FEIS includes a more detailed description of the impacts of the 2015 drought, based on the Washington State Department of Agriculture 2015 report.
213	Port of Grandview	6	Thank you for your comment.
214	NMFS	1	Reclamation will coordinate with NMFS to establish operating criteria to apply during KDRPP operations as part of ESA compliance and ongoing Yakima Project operations.
214	NMFS	2	Reclamation is committed to working with the Services to protect salmon, steelhead and bull trout during refill and other operations. See Sections 4.3 and 4.6 of this FEIS.
214	NMFS	3	Details of operations of the Preferred Alternative are presented in the KDRPP Floating Pumping Plant Draft Appraisal Design Report. (https://www.usbr.gov/pn/programs/eis/kkc/fppaappraisal.pdf)

Comment Letter Number	Commenter	Comment Number	Comment Response
214	NMFS	4	Reclamation anticipates ongoing annual communications with fish and wildlife agencies regarding provision of sufficient flows for ecological purposes in the spring and other seasons.
214	NMFS	5	Reclamation is committed to working with the Services to protect salmon, steelhead and bull trout during refill and other operations. See Sections 4.3 and 4.6 of this FEIS
215	City of Yakima	1	Thank you for your comment.
216	Washington Department of Ag	1	Thank you for the comment. Although Alternative 4 from the DEIS is no longer under consideration in the SDEIS, Alternatives 5A, 5B and 5C evaluate construction and operation of both KDRPP and the KKC North Tunnel alignment.
217	Kennewick Irrigation District	1	Thank you for your comment. These comments were addressed as part of the development of the Final EIS.
217	Kennewick Irrigation District	2	When refill operations commence, refills into Kachess Reservoir will be dependent on hydrologic conditions. The quantity of refill may be more or less than 239,000 acre-feet in any given year. See Section 4.3 and Appendix F of the Final EIS.
217	Kennewick Irrigation District	3	See Appendix F of the Final EIS.
217	Kennewick Irrigation District	4	See Appendix F of the Final EIS for information on responsibilities for pumping during refill operations.
217	Kennewick Irrigation District	5	Under the proposed action, KDRPP would not be pumped in years when prorationing is above 70 percent except when pumping is needed to fill senior and non-proratable water rights in years following drawdown.
217	Kennewick Irrigation District	6	KDRPP will not change TWSA and or other ongoing operations. FEIS has been expanded to address this topic. Reclamation anticipates entering into an agreement with Roza and/or the other Participating Entities that will include assurances that pumping will be performed in refill years so Reclamation can meet its obligations for water supply and stream flows.

Comment Letter Number	Commenter	Comment Number	Comment Response
217	Kennewick Irrigation District	7	Under Alternative 4, Roza Irrigation District and any other participating entities would pay all power costs for operating the pumping plant. Power requirements for the East Shore and South Pumping Plants (Alternatives 2 and 3) were estimated during the feasibility study of KDRPP performed in 2014. They account for years when pumping is not required; years when drought-relief pumping is performed; and years when refill operations are under way. The power cost reported in Table 2-5 of the SDEIS shows results for those two alternatives. For Alternative 2 (East Shore), estimated costs for power were: \$48,000 in all years; plus \$502,500 in years when KDRPP is actively pumping; plus 29,100 in years when KDRPP is not actively pumping. For the Alternative 3 (South) the power costs were estimated to be lower than Alternative 2. The power cost for Alternative 4 (floating pumping plant) was judged to be lower than Alternative 3. The cost listed in Table 2-5 of the SDEIS is a rough estimate based on changes in the pumping units and physical configuration of Alternative 4 in comparison with Alternative 3.
217	Kennewick Irrigation District	8	Section 2.3.7 describes power substation and transmission line proposal. Reclamation and Roza have coordinated directly with both Puget Sound Energy (PSE) and the Bonneville Power Administration (BPA) regarding the power supply needs of the KDRPP project and where the KDRPP project would interconnect to the existing high voltage electrical utility grid. PSE is the local supplier of power to the Easton and surrounding areas of Kittitas County and as such will supply power to KDRPP. PSE and BPA supply far more power to the region than the KDRPP project will require and they have assured Reclamation that they have sufficient generating capacity for the KDRPP project along with the other power needs of the region.
217	Kennewick Irrigation District	9	See response to Common Issue 1. For the Preferred Alternative, Roza proposes to fund, design, construct, operate, and maintain the floating pumping plant at Kachess Reservoir. Roza would coordinate participation by other proratable entities.
217	Kennewick Irrigation District	10	Volumes would be determined annually, depending on hydrological conditions and subject to operating agreements. Volumes available to participating proratable entities would be limited to amounts needed to raise prorated supplies to a maximum of 70%.
217	Kennewick Irrigation District	11	There would be no change to the calculation of TWSA with KDRPP. As a condition for the operation of the preferred alternative Roza will be required to ensure that the Kachess contribution to TWSA in subsequent years is not changed based upon the operation of KDRPP. Additional information is available in the Interim Comprehensive Basin Operating Plan for the Yakima Project.

Comment Letter Number	Commenter	Comment Number	Comment Response
217	Kennewick Irrigation District	12	The Preferred Alternative is designed to improve prorationing up to 70% in drought years for participating proratable entities. It is possible that other proratable entities could benefit as an incidental effect of operations.
217	Kennewick Irrigation District	13	Reclamation is open to discussion with non-participating, proratable users regarding the small diminishment of prorated supply that may occur during some refill years. Specific solutions would need to be negotiated consistent with Reclamation law and the Yakima Basin adjudication to maintain the TWSA status quo
217	Kennewick Irrigation District	14	Reclamation is open to discussion with non-participating, proratable users regarding the small diminishment of prorated supply that may occur during some refill years. Specific solutions would need to be negotiated consistent with Reclamation law and the Yakima Basin adjudication.
217	Kennewick Irrigation District	15	See Appendix F of the Final EIS for information on these points.
217	Kennewick Irrigation District	16	See Appendix F of the Final EIS for information on these points.
217	Kennewick Irrigation District	17	Pumping will be provided to supply instream flows and other obligations as required when Kachess Reservoir is below the gravity outlet elevation. Reclamation would manage the operation of all Yakima Project reservoirs to refill Kachess Reservoir after a drought while meeting Project obligations, which causes lower minimum elevations in Keechelus Reservoir during refill years. See Appendix F for additional details.
217	Kennewick Irrigation District	18	Rimrock Reservoir minimum pool elevations would be up to 11 feet lower in prorated years and up to 23 feet lower in refill years
217	Kennewick Irrigation District	19	Seasonal flow changes at Parker are within 1.3 percent of the No Action Alternative, which are relatively small. Therefore, no mitigation is required.
217	Kennewick Irrigation District	20	See Appendix F of the Final EIS for information on these points.
217	Kennewick Irrigation District	21	See Appendix F of the Final EIS for information on these points.
217	Kennewick Irrigation District	22	In addition to the storage transfer portion of the KKC, the KKC would also reduce summer flows in the Keechelus Reach of the Yakima River to improve flow conditions. Pumping will be provided to supply instream flows and other obligations as required when Kachess Reservoir is below the gravity outlet elevation. Keechelus Reservoir flows would increase to help refill Kachess Reservoir during refill years.
217	Kennewick Irrigation District	23	Seasonal flow decreases at Parker are within 1.3 percent of the No Action Alternative, which are relatively small. Therefore, no mitigation is required.

Comment Letter Number	Commenter	Comment Number	Comment Response
217	Kennewick Irrigation District	24	Reclamation has an obligation to meet entitlements therefore no mitigation should be required. The scenario difference is only 0.2 percent increase and is therefore not a notable change. This may be modeling nuance for the TWSA calculation, that because TWSA is higher, therefore the target flows are higher over Parker. Also, flows over Parker could be higher because Storage Control Period was extended in prorated years due to the Kachess inactive volume.
217	Kennewick Irrigation District	25	See Appendix F of the Final EIS for information on these points.
217	Kennewick Irrigation District	26	See Appendix F of the Final EIS, which provides information with KID's participation, consistent with the comment.
217	Kennewick Irrigation District	27	The request to provide daily flow data cannot be addressed in this FEIS because the modelling was performed at seasonal and annual time steps. An appendix was added to this FEIS clarifying the modelling that was performed to analyze effects of the alternatives on flows in the study area, but modelling was not performed using daily data.

Comment Letter Number	Commenter	Comment Number	Comment Response
217	Kennewick Irrigation District	28	<p>Reclamation and Ecology reviewed ASARCO, all 3 BARRIE cases, and LESCHI to understand this comment. We disagree with the commenter that there are deficiencies in the disclosure of potentially significant adverse environmental impacts. We carefully reviewed the court rulings provided in this comment and conclude from ASARCO that we have given full consideration to environmental values, new information, and comments received on the DEIS, as well as SDEIS. In compliance with SEPA, Ecology's officials will be using this FEIS and the project record as the basis upon which a balancing judgment can be weighed between the benefits to be gained by the proposed action and its impact upon the environment.</p> <p>With respect to LESCHI, we reviewed all Environmental Consequences and Section 4.26 on the relationship between short-term uses of the environment and maintenance of long-term productivity; and Section 4.27 on irreversible and irretrievable commitment of resources. We did not find a specific change that needed to be made to these sections in this FEIS based on the case or comment.</p> <p>BARRIE II revolved around the need for an amended or new draft of an EIS based on substantial changes to a proposal or new information concerning anticipated environmental impacts. Please note that the SDEIS was issued for that reason: to ensure the public and decision-makers consider all reasonable alternatives to meet the purpose and need for action and to update the analysis of effects to the quality of the human environment that might arise from implementation of the alternatives. We believe that issuance of the SDEIS, and now this FEIS, is responsive to the concerns raised by the BARRIE cases.</p> <p>In summary, after reviewing the court findings, we believe the SDEIS and now this FEIS fully disclose the effects the alternatives would have on the quality of the human environment. No changes were made to this FEIS in response to this comment.</p>
217	Kennewick Irrigation District	29	<p>A wetland delineation and jurisdictional determination is not needed for making a choice among the alternatives. With the selection of an alternative to be implemented, the project proponents would complete a wetland delineation/jurisdictional determination to support permitting (see Section 4.7.10).</p>
217	Kennewick Irrigation District	30	<p>See Appendix F of the Final EIS.</p>
218	Kittitas County Board of County Commissioners	1	<p>Thank you for your comment.</p>
218	Kittitas County Board of County Commissioners	2	<p>The intake and outlet for Alternative 4 are described and illustrated in Section 2.5.1 of this FEIS.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
218	Kittitas County Board of County Commissioners	3	As stated in Section 1.4 of this FEIS Roza would fund, design, construct, operate, and maintain a pumping plant at Kachess Reservoir. Other Proratable Entities could participate. Adverse and beneficial impacts of the project including regional economic are described in Chapter 4.
218	Kittitas County Board of County Commissioners	4	Reclamation and Ecology are committed to implementing the Integrated Plan and will conduct specific environmental impact analyses for additional work in the future.
218	Kittitas County Board of County Commissioners	5	See response to Common Issue 8.
218	Kittitas County Board of County Commissioners	6	See response to Common Issue 10.
218	Kittitas County Board of County Commissioners	7	As noted in Section 4.17.10 of the SDEIS, if any road deterioration merits repair, Reclamation and Ecology would coordinate with local jurisdictions, WSDOT or others as needed.
218	Kittitas County Board of County Commissioners	8	See response to Common Issue 17.
218	Kittitas County Board of County Commissioners	9	See Appendix F of the Final EIS for information on when pumping would begin. In any given year, prorationing (curtailment) begins at the time Reclamation initiates storage control in the spring.
218	Kittitas County Board of County Commissioners	10	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
219	Columbia Irrigation District	1	See Appendix F of the Final EIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
219	Columbia Irrigation District	2	See Appendix F of the Final EIS.
220	WSDOT	1	Thank you for your comment.
221	EPA	1	Thank you for this comment about the Floating Pumping Plant alternative, we agree. This alternative has been identified as the Preferred Alternative in the Final EIS.
221	EPA	2	Thank you for your comments on the SDEIS and DEIS. In response, we identified the Floating Pumping Plant as the agency's preferred Alternative in the Final EIS.
221	EPA	3	Thank you for the LO score on the SDEIS. Your letter and the score will be included in the administrative record for this EIS. No change was made to this FEIS in response.
222	Hyak Home Owners Association	1	Thank you for your comment.
222	Hyak Home Owners Association	2	Thank you for your comment.
222	Hyak Home Owners Association	3	Thank you for your comment.
222	Hyak Home Owners Association	4	The commenter questioned why this EIS does not include all the components of the broader, programmatic IP. This project is tiered from the IP, but it is an individual, site-specific action not intended to encompass all components or elements of the broader, programmatic IP. Instead, as the commenter mentions, based on the purpose and need for action, this EIS is to analyze an individual, site-specific action.
222	Hyak Home Owners Association	5	The KDRPP project is a component of the Integrated Plan selected alternative, which is a comprehensive program to balance water needs and restore ecosystems in the Yakima River basin.
222	Hyak Home Owners Association	6	The proposed action provides more sustainable water resources for agricultural, municipal, and domestic needs, while also helping to restore ecological functions and the health of the riverine environment in the Yakima River basin as specific action identified in the Integrated Plan. The EIS evaluates KDRPP and KKC in a site-specific analysis tiered to the Integrated Plan FPEIS and ROD. See Section 1.3 of this FEIS and response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
222	Hyak Home Owners Association	7	The proposed action provides more sustainable water resources for agricultural, municipal, and domestic needs, while also helping to restore ecological functions and the health of the riverine environment in the Yakima River basin as specific action identified in the Integrated Plan. The EIS evaluates KDRPP and KKC in a site-specific analysis tiered to the Integrated Plan FPEIS and ROD. See Section 1.3 of this FEIS and response to Common Issue 4. In response to the question about drying wells, please see the response to Common Issue 8.
222	Hyak Home Owners Association	8	See response to Common Issue 8.
222	Hyak Home Owners Association	9	See response to Common Issue 4.
222	Hyak Home Owners Association	10	See response to Common Issue 4.
222	Hyak Home Owners Association	11	See response to Common Issue 4.
222	Hyak Home Owners Association	12	See response to Common Issue 4.
222	Hyak Home Owners Association	13	See response to Common Issue 2.
222	Hyak Home Owners Association	14	Per the purpose of the Integrated Plan, this site-specific action improves availability of water supply.
222	Hyak Home Owners Association	15	See Appendix F of the Final EIS for information on these points.

Comment Letter Number	Commenter	Comment Number	Comment Response
222	Hyak Home Owners Association	16	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomic assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
222	Hyak Home Owners Association	17	See response to Common Issue 16.
222	Hyak Home Owners Association	18	See response to Common Issue 10.
222	Hyak Home Owners Association	19	See Section 1.5.4 of this FEIS.
222	Hyak Home Owners Association	20	The analysis contained in this FEIS enables a comparison between the Alternatives 4 and 5. Alternative 4 is the floating pumping plant, and Alternative 5 includes the floating pumping plant plus KKC. Alternative 5 would enable faster refill of Kachess Reservoir inactive pool but this FEIS demonstrates that KKC is not essential to meeting the purpose and need for the project. None of the model runs for Alternative 4 indicates return to maximum pool levels would require 20 years.
222	Hyak Home Owners Association	21	The DEIS and SDEIS both state in Section 4.3.2 that Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. The mention of a 20-year cycle in the DEIS (and SDEIS) is the replacement time of pumps and associated equipment.
222	Hyak Home Owners Association	22	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.

Comment Letter Number	Commenter	Comment Number	Comment Response
222	Hyak Home Owners Association	23	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
222	Hyak Home Owners Association	24	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
222	Hyak Home Owners Association	25	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
222	Hyak Home Owners Association	26	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
222	Hyak Home Owners Association	27	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
222	Hyak Home Owners Association	28	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
222	Hyak Home Owners Association	29	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).

Comment Letter Number	Commenter	Comment Number	Comment Response
222	Hyak Home Owners Association	30	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
222	Hyak Home Owners Association	31	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
222	Hyak Home Owners Association	32	See response to Common Issue 14.
222	Hyak Home Owners Association	33	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
222	Hyak Home Owners Association	34	See response to Common Issue 13.
222	Hyak Home Owners Association	35	The Bureau of Reclamation's Dam Safety Program is in place to confirm that dams are operated and maintained in a safe manner. The proposed project does not involve modifications to the Kachess or Keechelus dams; operational changes in Kachess Reservoir proposed under the action alternatives would not impact the stability of Kachess Dam, which has been subject to fluctuations in reservoir levels throughout its history.
222	Hyak Home Owners Association	36	Figure 4-2 in this FEIS illustrates the surfaces below current low pool elevation.

Comment Letter Number	Commenter	Comment Number	Comment Response
222	Hyak Home Owners Association	37	See response to Common Issue 15.
222	Hyak Home Owners Association	38	See response to Common Issue 15.
222	Hyak Home Owners Association	39	Section 4.2 of the SDEIS describes risks and related effects of landslides and seismic events.
222	Hyak Home Owners Association	40	See response to Common Issue 15.
222	Hyak Home Owners Association	41	Reclamation and Ecology reviewed the economic analysis and especially the analysis of effects on property values, the fire department, and recreational opportunities. For fire, see Common Issue 10; for recreation see Common Issue 16. No new economic data are available that would change the analysis presented in the SDEIS, so the comment will be included in the record for this EIS, but no change was made to this FEIS in response.
222	Hyak Home Owners Association	42	See response to Common Issue 8.
222	Hyak Home Owners Association	43	See response to Common Issue 8.

Comment Letter Number	Commenter	Comment Number	Comment Response
222	Hyak Home Owners Association	44	Reclamation and Ecology acknowledge the statement from the Hyak Property Owner's Association, but this FEIS was not altered in response. We point the commenter to the agencies' missions and legal authorizations; in particular, to the 1902 Reclamation Act which authorized the Department of the Interior to construct irrigation projects and operate them in conformity with state water laws and water rights. The operation of a particular Reclamation project, including the Yakima Project, is governed largely by the 1902 Act, the statute authorizing the project, and by the contracts under which the project delivers water for authorized and designated uses. Please note in response to this comment that the Record of Decision will be issued after weighing economic, social, and technical considerations, as well as the potentially significant environmental effects described in this FEIS, and after reviewing comments and concerns of the public, agencies, tribes, and private individuals and organizations, including this commenter's.
222	Hyak Home Owners Association	45	Reclamation and Ecology have jointly prepared the DEIS, SDEIS, and Final EIS, including responses to comments.
223	PNW Four Wheel Drive Association	1	Thank you for your comment.
224	KCA	1	Thank you for your comment.
224	KCA	2	Thank you for your comment.
224	KCA	3	Thank you for your comment.
224	KCA	4	Thank you for your comment.
224	KCA	5	Thank you for your comment.
224	KCA	6	Reclamation was not required to respond to comments received on the DEIS as part of preparation of the SDEIS (40 C.F.R. § 1503.4[a]). All comments on the DEIS and SDEIS have been reviewed, considered, and responded to by Reclamation and Ecology. They are included in this FEIS.
224	KCA	7	The purpose and need meets Reclamation's requirements under NEPA and Ecology and Roza's requirements under SEPA. See responses to Common Issues 3, 4 and 12. As a condition of the Preferred Alternative, Roza would be required to fund, design, construct, operate and maintain the project, which would result in no direct federal funding on the project.

Comment Letter Number	Commenter	Comment Number	Comment Response
224	KCA	8	See response to Common Issue 4. The use of "Proposed Action" in the purpose and need section was a typographical error that has been corrected in this Final EIS. As a condition of the Preferred Alternative, Roza would be required to fund, design, construct, operate and maintain the project, which would result in no direct federal funding on the project. Further, the analysis considers the potential impacts of the proposed project regardless of who is funding the project.
224	KCA	9	See response to Common Issue 3. Under the Yakima Project Authorization Reclamation has Congressional Authority for ongoing project maintenance and operation. Operation of KDRPP falls within this authorization. As a condition of the Preferred Alternative, Roza would be required to fund, design, construct, operate and maintain the project, which would result in no direct federal funding on the project.
224	KCA	10	See response to Common Issue 4.
224	KCA	11	See response to Common Issue 13.
224	KCA	12	See response to Common Issue 13.
224	KCA	13	See response to Common Issue 7.
224	KCA	14	See response to Common Issue 10.
224	KCA	15	See response to Common Issue 8.
224	KCA	16	The US Forest Service served as a cooperating agency for the purpose of preparing this EIS. As such, they provided information, comments, and technical expertise to Reclamation and Ecology regarding the campground and other issues for which they have both legal jurisdiction and special expertise.
224	KCA	17	See response to Common Issue 8.
224	KCA	18	See response to Common Issue 4.
225	Ellensburg Water Company, Sunnyside Valley ID, Yakima-Tieton ID, Selah-Moxee ID, Naches-Selah ID, and West Side Irrigating Company	1	Thank you for your comment. In addition, Reclamation and Ecology will ensure that the Irrigation Providers are on mailing lists regarding future operational plans or other information disseminated by the agencies.

Comment Letter Number	Commenter	Comment Number	Comment Response
226	Xerces Society	1	WDFW's Priority Habitat and Species database has been reviewed by Reclamation to assess the presence of any freshwater mussels in Kachess Reservoir. As a result, no documentation was found. Neither of these species are recognized by the USFS and BLM as species of conservation and population viability concern. As the project is implemented project proponents will work with Federal and state agencies to consider potential impacts to mussels.
227	American Rivers - Trout Unlimited - Wilderness Society	1	Thank you for your comment.
227	American Rivers - Trout Unlimited - Wilderness Society	2	Thank you for your comment.
227	American Rivers - Trout Unlimited - Wilderness Society	3	Thank you for your comment.
227	American Rivers - Trout Unlimited - Wilderness Society	4	Thank you for the comment. Although Alternative 4 from the DEIS is no longer under consideration in the SDEIS, Alternatives 5A, 5B and 5C evaluate construction and operation of both KDRPP and the KKC North Tunnel alignment.
227	American Rivers - Trout Unlimited - Wilderness Society	5	Thank you for your comment.
227	American Rivers - Trout Unlimited - Wilderness Society	6	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
227	American Rivers - Trout Unlimited - Wilderness Society	7	See response to Common Issue 7.
227	American Rivers - Trout Unlimited - Wilderness Society	8	KDRPP will not change TWSA and or other ongoing operations. FEIS has been expanded to address this topic. See Appendix F of the Final EIS.
227	American Rivers - Trout Unlimited - Wilderness Society	9	Thank you for your comment.
227	American Rivers - Trout Unlimited - Wilderness Society	10	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5). Please see the response to Common Issue 13. Depending on the Services' opinions and the conclusion of the Section 7 consultation process, Reclamation will be working collaboratively to develop reasonable and prudent alternatives, should this be necessary. Depending upon timing, this may be included in the ROD as an environmental commitment or it might be after the ROD.
227	American Rivers - Trout Unlimited - Wilderness Society	11	See Section 1.5 and Appendix A. Reclamation and Ecology are committed to working with all MOU partners to implement BTE projects through the Federal and State regulatory processes.
227	American Rivers - Trout Unlimited - Wilderness Society	12	The roughened channel design will comply with NMFS (with USFWS approval) design criteria. For the Preferred Alternative, Roza may choose to contract with WDFW for maintenance and operations of this facility, including monitoring fish passage performance.

Comment Letter Number	Commenter	Comment Number	Comment Response
227	American Rivers - Trout Unlimited - Wilderness Society	13	Reclamation has an existing agreement with WDFW to address fish passage and monitoring at Box Canyon Creek to provide fish passage at low flows during droughts. Withdrawing additional water will not affect fish passage at Box Canyon Creek and other upstream tributaries flowing into Little Kachess, because water levels in Little Kachess will not fall below historic levels. Reclamation and Ecology are committed to implementing BTE projects, including Box Canyon Creek. See Appendix C for additional details.
227	American Rivers - Trout Unlimited - Wilderness Society	14	Project proponents will coordinate with WDFW and USFWS to identify measures to provide fish passage during construction of volitional fish passage at the Narrows, in accordance with requirements of the Service's biological opinion.
227	American Rivers - Trout Unlimited - Wilderness Society	15	During refill operations flow in the Kachess River will be maintained to meet required minimum flow level.
227	American Rivers - Trout Unlimited - Wilderness Society	16	A comparison of July-September Title XII target flow impacts has been added to Section 4.3.4.2 and 4.3.7.2 of the Final EIS. The winter and spring target flows will be maintained at level they would have been under existing conditions without refill at Kachess.
227	American Rivers - Trout Unlimited - Wilderness Society	17	Construction impacts to fish (including the habitat elements that support fish such of riparian and shoreline vegetation) are addressed for each Alternative in section 4.6 and this impact is broadly characterized as a "loss of habitat complexity". Construction impacts on fish of the floating pumping plant facility (Alternative 4) would be similar to those described for Alternative 2. Currently text states that "Permanent reductions in shoreline vegetation would occur." This FEIS has been expanded to indicate that benthic habitat will be permanently altered by construction of mooring structures with alternatives 4 and 5C, reducing benthic habitat complexity, vegetation, and invertebrate productivity, affecting benthic oriented fish species like mountain whitefish, peamouth, largescale sucker, and threespine stickleback.
227	American Rivers - Trout Unlimited - Wilderness Society	18	See response to Common Issue 15.

Comment Letter Number	Commenter	Comment Number	Comment Response
227	American Rivers - Trout Unlimited - Wilderness Society	19	statement added about shoreline habitat and more detailed info on reservoir food web etc. is already provided in section 4.6
227	American Rivers - Trout Unlimited - Wilderness Society	20	See response to Common Issue 8.
227	American Rivers - Trout Unlimited - Wilderness Society	21	See response to Common Issue 10.
227	American Rivers - Trout Unlimited - Wilderness Society	22	Thank you for your comment.
228	Hyak Home Owners Association	1	Thank you for your comment.
228	Hyak Home Owners Association	2	Section 1.2 describes Reclamation and Ecology's commitment to the Integrated Plan
228	Hyak Home Owners Association	3	The KDRPP project is a component of the Integrated Plan selected alternative, which is a comprehensive program to balance water needs and restore ecosystems in the Yakima River basin.
228	Hyak Home Owners Association	4	The proposed action provides more sustainable water resources for agricultural, municipal, and domestic needs, while also helping to restore ecological functions and the health of the riverine environment in the Yakima River basin as specific action identified in the Integrated Plan. The EIS evaluates KDRPP and KKC in a site-specific analysis tiered to the Integrated Plan FPEIS and ROD. See Section 1.3 of this FEIS and response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
228	Hyak Home Owners Association	5	The proposed action provides more sustainable water resources for agricultural, municipal, and domestic needs, while also helping to restore ecological functions and the health of the riverine environment in the Yakima River basin as specific action identified in the Integrated Plan. The EIS evaluates KDRPP and KKC in a site-specific analysis tiered to the Integrated Plan FPEIS and ROD. See Section 1.3 of this FEIS and response to Common Issue 4.
228	Hyak Home Owners Association	6	This FEIS presents the how the proposed action addresses the purpose and need, and provides Responses to public comments on the DEIS and SDEIS.
228	Hyak Home Owners Association	7	See response to Common Issue 4.
228	Hyak Home Owners Association	8	See response to Common Issue 4.
228	Hyak Home Owners Association	9	See response to Common Issue 4.
228	Hyak Home Owners Association	10	See response to Common Issue 4.
228	Hyak Home Owners Association	11	See response to Common Issue 2.
228	Hyak Home Owners Association	12	Per the purpose of the Integrated Plan, this site-specific action improves availability of water supply.
228	Hyak Home Owners Association	13	See Appendix F of the Final EIS for information on these points.

Comment Letter Number	Commenter	Comment Number	Comment Response
228	Hyak Home Owners Association	14	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomic assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
228	Hyak Home Owners Association	15	See response to Common Issue 16.
228	Hyak Home Owners Association	16	See response to Common Issue 10.
228	Hyak Home Owners Association	17	See section 1.5.5 of this FEIS.
228	Hyak Home Owners Association	18	The analysis contained in this FEIS enables a comparison between the Alternatives 4 and 5. Alternative 4 is the floating pumping plant, and Alternative 5 includes the floating pumping plant plus KKC. Alternative 5 would enable faster refill of Kachess Reservoir inactive pool but this FEIS demonstrates that KKC is not essential to meeting the purpose and need for the project. None of the model runs for Alternative 4 indicates return to maximum pool levels would require 20 years.
228	Hyak Home Owners Association	19	The DEIS and SDEIS both state in Section 4.3.2 that Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. The mention of a 20-year cycle in the DEIS (and SDEIS) is the replacement time of pumps and associated equipment.
228	Hyak Home Owners Association	20	An appendix has been added to this FEIS explaining in more detail the hydrologic modelling used to project effects to water resources and other resources in this FEIS. Please note that modelling does not provide a “prediction” but rather, a projection of reasonably likely water resource responses to the alternatives.
228	Hyak Home Owners Association	21	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
228	Hyak Home Owners Association	22	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.

Comment Letter Number	Commenter	Comment Number	Comment Response
228	Hyak Home Owners Association	23	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
228	Hyak Home Owners Association	24	To promote public understanding of action, summary costs are provided in the EIS. Details are presented in supported documents referenced in the EIS. The Preferred Alternative would not be funded by taxpayers.
228	Hyak Home Owners Association	25	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
228	Hyak Home Owners Association	26	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
228	Hyak Home Owners Association	27	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
228	Hyak Home Owners Association	28	Mitigation measures for ESA Threatened and Endangered fish species (bull trout) related to changes in Kachess Reservoir water levels, including monitoring of the Volitional Bull Trout Passage Improvements, if warranted, will be determined in consultation with the Service and NMFS which is ongoing, as explained in section 4.9.10 of the SDEIS.
228	Hyak Home Owners Association	29	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
228	Hyak Home Owners Association	30	See response to Common Issue 14.

Comment Letter Number	Commenter	Comment Number	Comment Response
228	Hyak Home Owners Association	31	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
228	Hyak Home Owners Association	32	See response to Common Issue 13.
228	Hyak Home Owners Association	33	The Bureau of Reclamation's Dam Safety Program is in place to confirm that dams are operated and maintained in a safe manner. The proposed project does not involve modifications to the Kachess or Keechelus dams; operational changes in Kachess Reservoir proposed under the action alternatives would not impact the stability of Kachess Dam, which has been subject to fluctuations in reservoir levels throughout its history.
228	Hyak Home Owners Association	34	Figure 4-2 in this FEIS illustrates the surfaces below current low pool elevation.
228	Hyak Home Owners Association	35	See response to Common Issue 15.
228	Hyak Home Owners Association	36	See response to Common Issue 15.
228	Hyak Home Owners Association	37	Section 4.2 of the SDEIS describes risks and related effects of landslides and seismic events.
228	Hyak Home Owners Association	38	See response to Common Issue 15.

Comment Letter Number	Commenter	Comment Number	Comment Response
228	Hyak Home Owners Association	39	See response to Common Issue 9.
228	Hyak Home Owners Association	40	See response to Common Issue 8.
228	Hyak Home Owners Association	41	See response to Common Issue 8.
228	Hyak Home Owners Association	42	Thank you for your comment.
228	Hyak Home Owners Association	43	Reclamation and Ecology have jointly prepared the DEIS, SDEIS, and Final EIS, including responses to comments.
229	Wise Use Movement	1	Thank you for your comment.
229	Wise Use Movement	2	Thank you for your comment.
229	Wise Use Movement	3	Thank you for your comment.
229	Wise Use Movement	4	BPA is listed as a cooperating agency as they would potentially oversee any power requirements for the constructed facility.
229	Wise Use Movement	5	The SDEIS has been updated regarding the applicability of the Shoreline Management Act. See Section 3.15.2.3.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	6	The volitional fish passage channel will convey all flow leaving Little Kachess up to 100 cfs into Big Kachess. The waters in the volitional fish passage channel will remain the same native headwaters that flow through the Narrows and into Big Kachess today as they have for thousands of years. The entrance to the volitional fish passage channel will be comprised of the same alluvium that the Narrows Channel is comprised of now. The entrance to the volitional fish passage channel will be anywhere from 100 feet away to 2,600 feet away from the existing entrance to the Narrows channel, depending on the water surface elevation in Big Kachess when KDRPP and the volitional fish passage channel is in operation. Therefore, there are no known concerns associated with fish being able to find and enter the volitional fish passage channel. The upstream passage of fish into Box Creek Canyon is an existing, separate and independent issue from the volitional fish passage channel at the Narrows.
229	Wise Use Movement	7	See response to Common Issue 4.
229	Wise Use Movement	8	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
229	Wise Use Movement	9	BTE was included in the DEIS, specific BTE projects are not included in the Proposed Action, therefore not carried forward as part of this action because BTE project designs were not sufficiently advanced. In the future, BTE projects undertaken by Reclamation or Ecology would require separate NEPA or SEPA compliance prior to implementation. This includes Endangered Species Act (ESA) consultation on BTE projects remaining as part of the Integrated Plan. Reclamation and Ecology are committed to working with all MOU partners to implement BTE projects through the Federal and State regulatory processes
229	Wise Use Movement	10	Workgroup formation and membership is described in Section 1.9.3 of the Integrated Plan Final PEIS, and is incorporated here by reference.
229	Wise Use Movement	11	See response to Common Issue 4.
229	Wise Use Movement	12	Thank you for your comment.
229	Wise Use Movement	13	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
229	Wise Use Movement	14	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	15	Cost for the Integrated Plan are presented in the Integrated Plan FPEIS. Cost for the proposed action are presented in Section 2.7 of the SDEIS.
229	Wise Use Movement	16	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
229	Wise Use Movement	17	The volitional fish passage channel would convey all flow leaving Little Kachess up to 100 cfs into Big Kachess. The waters in the volitional fish passage channel will remain the same native headwaters that flow through the Narrows and into Big Kachess. The entrance to the volitional fish passage channel will be comprised of the same alluvium that the Narrows Channel is comprised of now. The entrance to the volitional fish passage channel will be anywhere from 100 feet away to 2,600 feet away from the existing entrance to the Narrows channel, depending on the water surface elevation in Big Kachess when KDRPP and the volitional fish passage channel is in operation. Therefore, there are no known concerns associated with fish being able to find and enter the volitional fish passage channel.
229	Wise Use Movement	18	Reclamation and Ecology are committed to working with all MOU partners to implement BTE projects through the Federal and State regulatory processes, as demonstrated in the Bull Trout Enhancement Memorandum of Understanding. See Section 1.5.5 and Appendix A of this FEIS.
229	Wise Use Movement	19	The KKC project was not presented in this SDEIS as a stand-alone (KKC only) alternative as described in the DEIS; instead, it was advanced as a component of a KDRPP alternative. Reclamation and Ecology will continue to analyze KKC for other benefits, consistent with the Integrated Plan.
229	Wise Use Movement	20	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
229	Wise Use Movement	21	See response to Common Issue 4.
229	Wise Use Movement	22	See response to Common Issue 7.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	23	KDRPP would not create new or additional agricultural activities as water supplied by KDRPP would not be used to serve new irrigated agricultural lands. Greenhouse gas impacts anticipated from KDRPP are described in Section 4.12 of this FEIS.
229	Wise Use Movement	24	See response to Common Issue 2.
229	Wise Use Movement	25	Section 4.25 of the SDEIS includes the Integrated Plan as part of the present and reasonably foreseeable future actions.
229	Wise Use Movement	26	See response to Common Issue 4.
229	Wise Use Movement	27	Thank you for your comment.
229	Wise Use Movement	28	The effects of the proposed project, including beneficial and adverse impacts, are described in Section 4.21 and summarized in the Executive Summary.
229	Wise Use Movement	29	Reclamation determined that a public hearing in western Washington was not necessary. Following the Notice of Availability and the publication of the SDEIS, Reclamation and Ecology held two public meetings (with a court reporter to record public testimony) in the area where environmental impacts would occur. See Section 5.
229	Wise Use Movement	30	The NEPA adequacy of the Programmatic EIS is not under consideration in this environmental review. This EIS was tiered to the Programmatic EIS but this FEIS provides a site specific analysis of the KDRPP and KKC alternatives.
229	Wise Use Movement	31	<p>Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use."</p> <p>https://www.usbr.gov/projects/glossary.php#R</p> <p>The US Forest Service is a cooperating agency for this EIS, and is a preparer of the document. The location of the proposed action with respect to Okanagan-Wenatchee National Forest and the potential impacts are acknowledged in the EIS along with the US Forest Service's roles and responsibilities with respect to the EIS and the proposed action.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	32	Water rights are described in sufficient detail to analyze the impacts of the proposed action and alternatives.
229	Wise Use Movement	33	Thank your for your comment.
229	Wise Use Movement	34	Workgroup formation and membership is described in Section 1.9.3 of the Integrated Plan Final PEIS, and is incorporated here by reference.
229	Wise Use Movement	35	Ecology issues a report to the WA. State Legislature periodically to summarize implementation progress. Information is available in the Yakima River Basin Integrated Water Resource Management Plan Implementation Status Report 2017 (Department of Ecology 2018).
229	Wise Use Movement	36	See Section 1.2.4 of FEIS or https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-supply-projects-EW/Yakima-River-Basin-projects/Yakima-integrated-plan for additional details about Integrated Plan Implementation.
229	Wise Use Movement	37	RCW 90.38.110 directed WSU to do a cost-benefit analysis of individual storage projects, prior to the Legislature appropriating funds exceeding \$100M for water storage projects listed in Integrated Plan.
229	Wise Use Movement	38	See response to Common Issue 2.
229	Wise Use Movement	39	See Section 2.3.5 of this FEIS describes volitional fish passage. See Figure 4-3 which displays pool levels under different scenarios under No Action and the Preferred Alternative.
229	Wise Use Movement	40	See response to Common Issue 4.
229	Wise Use Movement	41	Section 1.8.1 of the SDEIS describes the authorization of YRBWEP in sufficient detail.
229	Wise Use Movement	42	Thank you for your comment.
229	Wise Use Movement	43	See response to Common Issue 3.
229	Wise Use Movement	44	Most of the information requested in this comment is out of scope for this FEIS, however the table 3-7 on page 3-20 of the FPEIS contains the Yakima Project Irrigation District Water Rights in acre-feet per year.
229	Wise Use Movement	45	Section 1.4 of SDEIS describes the USFS role in the EIS process.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	46	This level of detail about YRBWEP Phase II is not required to analyze the impacts of the proposed action and alternatives.
229	Wise Use Movement	47	This is outside the scope of the EIS.
229	Wise Use Movement	48	This question is outside the scope of the environmental analysis in the EIS.
229	Wise Use Movement	49	See response to Common Issue 4.
229	Wise Use Movement	50	Section 2.2.1 of the SDEIS clarifies that target flow levels at Keechelus Reservoir have not been an issue since 1996.
229	Wise Use Movement	51	Specific crop irrigation requirements are beyond the scope of the EIS. In the RiverWare modeling period, Kachess Reservoir has not been drawn down below 2197.75 feet in 88 of the 91 years for the No Action Alternative. In all years, the No Action Alternative remains within existing operating levels.
229	Wise Use Movement	52	Environmental analysis of 70% threshold was completed in the Integrated Plan FPEIS. The reference to "catastrophic loss" is based upon input provided by farm producers during development of the Integrated Plan. Reclamation has no authority to reduce deliveries to senior water rights holders.
229	Wise Use Movement	53	The volitional fish passage channel will convey all flow leaving Little Kachess up to 100 cfs into Big Kachess. The waters in the volitional fish passage channel will remain the same native headwaters that flow through the Narrows and into Big Kachess today as they have for thousands of years. The entrance to the volitional fish passage channel will be comprised of the same alluvium that the Narrows Channel is comprised of now. The entrance to the volitional fish passage channel will be anywhere from 100 feet away to 2,600 feet away from the existing entrance to the Narrows channel, depending on the water surface elevation in Big Kachess when KDRPP and the volitional fish passage channel is in operation. Therefore, there are no known concerns associated with fish being able to find and enter the volitional fish passage channel.
229	Wise Use Movement	54	See response to Common Issue 5.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	55	<p>Wind data used to assess the moorage requirements and stability of the Floating Pumping Plant Barge were taken from the nearby Easton Airport.</p> <p>The nylon net proposed for use in precluding fish from gaining entry into the pump intakes is the same material as used for constructing net pens for raising salmon or other fish species in a salt water marine environment. The project proponents would inspect the net annually and repair or replace the net upon seeing deterioration of the net, as appropriate.</p>
229	Wise Use Movement	56	<p>Rigid pipe bridges are commonly used throughout the world. The flexible pipe bridge concept is used on marine applications; and most notably seen in association with dredging operations where the dredge discharge line needs to accommodate tides, wind, waves and the constant need to move the dredge itself to locations that need to be dredged.</p> <p>Cardanic joints of the type to be used on the floating pumping plant will have a normal design life of between 25 and 50 years (dependent upon the actual service conditions experienced) under continuous operating conditions. The cardanic joints for this installation will experience only limited periodic operation and minimal frequency of flexure. Thus, in the envisioned operating conditions, these cardanic joints should have a life expectancy that will likely exceed the normal design life expectancy.</p>
229	Wise Use Movement	57	<p>Thank you for your comment.</p>
229	Wise Use Movement	58	<p>Construction impacts to fish (including the habitat elements that support fish such of riparian and shoreline vegetation) are addressed for each Alternative in section 4.6 and this impact is broadly characterized as a "loss of habitat complexity". Construction impacts on fish of the floating pumping plant facility (Alternative 4) would be similar to those described for Alternative 2. Currently text states that "Permanent reductions in shoreline vegetation would occur." This FEIS has been expanded to indicate that benthic habitat will be permanently altered by construction of mooring structures with alternatives 4 and 5C, reducing benthic habitat complexity, vegetation, and invertebrate productivity, affecting benthic oriented fish species like mountain whitefish, peamouth, largescale sucker, and threespine stickleback.</p>
229	Wise Use Movement	59	<p>Approximately 60,000 cubic yards of materials would be dredged. The dredged material will be side cast onto the floor of the reservoir within a silt curtained area. Far less handling of the dredge spoils if simply side cast onto the floor of the Reservoir. Additional storage volume not needed that would be added by employing an upland disposal site.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	60	The design appraisal report for Alternative 4, which was used for the environmental analysis, was posted on Reclamation's website concurrently with publication of the SDEIS. It provides design details in addition to those presented in the SDEIS. It can be found at https://www.usbr.gov/pn/programs/eis/kkc/fppaappraisal.pdf .
229	Wise Use Movement	61	The design appraisal report for Alternative 4, which was used for the environmental analysis, was posted on Reclamation's website concurrently with publication of the SDEIS. It provides design details in addition to those presented in the SDEIS. It can be found at https://www.usbr.gov/pn/programs/eis/kkc/fppaappraisal.pdf .
229	Wise Use Movement	62	See response to Common Issue 16.
229	Wise Use Movement	63	Disposal areas have yet to be identified; for this SDEIS analysis, Reclamation assumed the offsite location would be within 10 miles of the Keechelus Reservoir. An existing quarry near Keechelus Dam may be available for disposing of the crushed material excavated from the tunnel. Depending on construction timing, WSDOT could potentially use the material as fill for the I-90 improvement project. Reclamation would ensure that all required permits and clearances are obtained for use of any material disposal area(s).
229	Wise Use Movement	64	Operations impacts were analyzed based on drought relief pumping of up to 200,000 acre-feet. Operational characteristics of Alternative 4 that are distinct from other pumping plant alternative are described in this FEIS. Project proponents and authorizations are described in Sections 1.3 and 1.8 of this FEIS, respectively, and in response to Common Issue 3.
229	Wise Use Movement	65	Reclamation will meet obligations to non-proratable irrigation districts. Pumping would continue while Kachess Lake is below the existing outlet works. In the period of record analyzed, pumping could last up to 33 months in Alternative 4.
229	Wise Use Movement	66	Thank you for your comment. The cross reference has been updated in this FEIS.
229	Wise Use Movement	67	Mitigation measures for ESA Threatened and Endangered fish species, including monitoring of fish impacts downstream of Kachess Dam, if warranted, will be determined in consultation with the Service and NMFS which is ongoing, as explained in section 4.9.10 of the SDEIS.
229	Wise Use Movement	68	To promote public understanding of action, summary costs are provided in the EIS. Details are presented in the EIS supported documents referenced in the EIS (feasibility-level design reports and appraisal report).

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	69	See response to Common Issue 2. To promote public understanding of action, summary costs are provided in the EIS. Details are presented in supported documents referenced in the EIS, and include volitional bull trout passage. The Preferred Alternative is substantially lower in cost than \$500M and would not be funded by taxpayers. The upstream passage of fish into Box Creek Canyon is an existing, separate and independent issue from the volitional fish passage channel at the Narrows.
229	Wise Use Movement	70	See response to Common Issue 4.
229	Wise Use Movement	71	The Bureau of Reclamation's Dam Safety Program is in place to confirm that dams are operated and maintained in a safe manner. The proposed project does not involve modifications to the Kachess or Keechelus dams; operational changes in Kachess Reservoir proposed under the action alternatives would not impact the stability of Kachess Dam, which has been subject to fluctuations in reservoir levels throughout its history. Project effects on slope stability and seismic factors are described in Section 4.2.
229	Wise Use Movement	72	Figure 3-3 illustrates flows under current conditions, which are the basis of the affected environment.
229	Wise Use Movement	73	These questions are beyond the scope of the EIS.
229	Wise Use Movement	74	The purpose of this table is to present target flows established in the Yakima River; these target flows are an element of the operational requirements that determine how much water needs to be released from Keechelus and Kachess (and other) Reservoirs.
229	Wise Use Movement	75	The RiverWare modeling covered the period from 1926 to 2015 - in this period, the modeled prorating of less than 70 percent occurred 15 years. Other questions are beyond the scope of the EIS.
229	Wise Use Movement	76	The Keechelus Reservoir drainage area has a much higher average precipitation than the Kachess Reservoir drainage area. Mean annual precipitation quantities have been added to Tables 3-5 and 3-7 in the Final EIS
229	Wise Use Movement	77	As described in Section 4.3.2 of the SDEIS, Alternatives 2, 3, and 4 would improve Keechelus Reach July flow conditions by 68 days compared to the No Action Alternative, and Alternatives 5A, 5B, and 5C would improve Keechelus Reach July flow conditions by 2,635 days compared to the No Action Alternative (out of the period of record modeled).
229	Wise Use Movement	78	Section 3.6.4.3 of the EIS has been updated to include mention of a recently implemented plan to rear coho salmon at the Sampson Hatchery for reintroduction to the upper Yakima Basin.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	79	Figure 3-6 has been updated in the Final EIS to show existing minimum pool and lake separation elevations.
229	Wise Use Movement	80	Water quality is described in Section 3.4 of the SDEIS. Kachess and Kachess Reservoirs are the headwaters of the Yakima River so they are the initial source of Yakima River water quality. As noted in Section 3.4.7.1, Ecology rates the overall Yakima River water quality as meeting or exceeding expectations and is of lowest concern.
229	Wise Use Movement	81	Changes in water temperature with each alternative are addressed in section 4.4 Surface Water Quality of the SDEIS. Water temperatures in Lake Kachess would decrease under most alternative scenarios, except for a slight increase in late September, with the impacts to fish discussed in section 4.6. The Fish and Wildlife Coordination Act Report (BOR 2012) discusses predicted changes in temperature due to climate change relative to existing temperature problems in the Yakima Basin.
229	Wise Use Movement	82	This is outside the scope of the EIS.
229	Wise Use Movement	83	Temperature change due to the projects are summarized in Section 4.4.2 of the SDEIS.
229	Wise Use Movement	84	Fish passage at Keechelus is not proposed under the Proposed Action.
229	Wise Use Movement	85	Fish passage at Keechelus is not proposed under the Proposed Action.
229	Wise Use Movement	86	Reintroduction of anadromous salmon species to the Upper Yakima Basin reservoirs is a goal of the Yakima Basin Integrated Plan. After considering scenarios to add fish passage to each of the Upper Yakima Basin Dam, Cle Elum Dam and Reservoir was chosen as the first project to implement, and implementation is occurring (see BOR 2005 Phase 1 Fish Passage Study and BOR 2011 Cle Elum Dam Fish Passage Facilities and Fish Reintroduction Project). Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
229	Wise Use Movement	87	Please see updates to section 3.6 and 4.6 in the SDEIS which reference recent WDFW and University of Washington studies of Kachess and Keechelus reservoirs productivity and zooplankton abundance (Hansen et al. 2017, PSU 2017a). The comparison to sockeye-producing lakes in Alaska by Goodwin and Westley (1967) refers to Tikchik Lakes system which also supports Chinook, coho, chum, and pink salmon.
229	Wise Use Movement	88	Section 3.6.4.3 of the EIS has been updated to include mention of a recently implemented plan to rear coho salmon at the Sampson Hatchery for reintroduction to the upper Yakima Basin.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	89	Commenters have identified uncertainty in the range in the number of sockeye passed over Roza Dam reported by DART, these data have been revised in the FEIS with data from resources other than DART. Reintroduction of anadromous salmon species to the Upper Yakima Basin reservoirs is a goal of the Yakima Basin Integrated Plan. After considering scenarios to add fish passage to each of the Upper Yakima Basin Dam, Cle Elum Dam and Reservoir was chosen as the first project to implement, and implementation is occurring (see BOR 2005 Phase 1 Fish Passage Study and BOR 2011 Cle Elum Dam Fish Passage Facilities and Fish Reintroduction Project). Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
229	Wise Use Movement	90	The listing of the Pacific lamprey as a threatened or endangered species is outside of the scope of this EIS.
229	Wise Use Movement	91	Evaluation of wetlands at an inventory level to compare EIS alternatives is adequate. Wetlands that will be directly impacted by the project will be delineated as required for federal, state, and local permits.
229	Wise Use Movement	92	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
229	Wise Use Movement	93	The listing of the Pacific lamprey as a threatened or endangered species is outside of the scope of this EIS.
229	Wise Use Movement	94	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	95	As outlined in Section 4.9 of this FEIS, Water temperatures are expected to decrease by 1 to 2 degrees in Kachess Reservoir, which would be a benefit to bull trout. ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
229	Wise Use Movement	96	Climate change effects on reservoir levels (which influence fish passage) and stream flows, and the effects of alternatives considering those climate change effects, are described in Section 4.12 of the SDEIS.
229	Wise Use Movement	97	Reclamation and Ecology developed more specific information as part of the Yakima River Basin Study (Reclamation 2011) that focused on the Yakima Basin and that was used as the basis for the Integrated Plan.
229	Wise Use Movement	98	See response to Common Issue 17.
229	Wise Use Movement	99	See response to Common Issue 16.
229	Wise Use Movement	100	The Supplemental EIS provides a description of environmental impacts of the project alternatives, including those impacts that would occur on National Forest lands (See Supplemental EIS Chapter 4).
229	Wise Use Movement	101	This question is outside the scope of the environmental analysis in the EIS.
229	Wise Use Movement	102	The SDEIS has been updated regarding the applicability of the Shoreline Management Act. See Section 3.15.2.3.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	103	See Sections 3.3 and 4.3 Surface Water Resources of the SDEIS and Section 1.3 of the Integrated Plan PEIS describes the 70 percent proration level determination. Section 1.3 of the Integrated Plan PEIS states: "A water supply of 70 percent of proratable water rights during a drought year would provide a minimally acceptable supply to prevent severe economic losses to farmers. This number was reached following extensive discussions with stakeholders regarding the lowest level of water supply that could be accommodated without catastrophic losses to crops, assuming aggressive water management techniques were employed. This 70 percent threshold is similar to the State of Washington's definition of a drought condition contained in RCW 43.83B.400, which recognizes a drought when water supply for a significant portion of a geographic area falls below 75 percent of normal and is likely to cause undue hardship for various water uses and users."
229	Wise Use Movement	104	As stated in Section 4.4.1 of the SDEIS, these indicators are not addressed because the project is not expected to affect these parameters.
229	Wise Use Movement	105	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
229	Wise Use Movement	106	Section 1.2.3 in the SDEIS notes that reservoir fish passage is one of the seven elements of the Integrated Plan's comprehensive package address ecosystem restoration, water supply, and climate change flexibility issues in the basin. Fish passage at Kachess Dam, while included in the reservoir fish passage element, is not an objective of the KDRPP and KKC projects; however KDRPP would be designed to not preclude future fish passage improvements to Kachess Dam consistent with the Integrated Plan.
229	Wise Use Movement	107	With the KKC (Alternatives 5A, 5B, and 5C) the addition of nutrients through the conveyance of water from Keechelus Reservoir to Kachess Reservoir would cause a small increase in the productivity of Kachess Reservoir. Generally, zooplankton and benthic invertebrate (fish prey) productivity is estimated to decrease with all pumping alternatives.
229	Wise Use Movement	108	Please see section 4.6 of the SDEIS which describes adverse impacts to benthic invertebrate productivity (a fish food base) with increased drawdown under pumping alternatives.
229	Wise Use Movement	109	The Supplemental EIS provides a description of environmental impacts of the project alternatives, including those impacts that would occur on National Forest lands (See Supplemental EIS Chapter 4).

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	110	In the period of record analyzed, pumping could last up to 33 months.
229	Wise Use Movement	111	Reclamation's mission includes providing water for irrigated agriculture. The Federal Government does not make individual cropping decisions.
229	Wise Use Movement	112	Table 4-155 of the SDEIS summarizes the economic impacts under adverse climate change conditions associated with the change in agricultural production attributed to the additional water provided by this alternative compared with the amount of water provided by Alternative 1.
229	Wise Use Movement	113	This text has been removed from the SDEIS.
229	Wise Use Movement	114	Fish passage is an element of the Integrated Plan (and as such is discussed in Section 4.24); it is not part of the Purpose and Need for the KDRPP and KKC project.
229	Wise Use Movement	115	Section 4.25 of the SDEIS considers whether the impacts of KDRPP and KKC could have additive or iterative effects in combination with other past, present, or reasonably foreseeable projects in the area with the defined analysis area. Neither KDRPP nor KKC would have no effect on the recruitment of gravels, small cobbles, or large woody debris.
229	Wise Use Movement	116	The existing National Forest Management Plan was considered in describing the affected environment. Reclamation has coordinated with the Forest Service as a cooperating agency.
229	Wise Use Movement	117	This text has been removed from the SDEIS.
229	Wise Use Movement	118	The existing National Forest Management Plan was considered in describing the affected environment. Reclamation has coordinated with the Forest Service as a cooperating agency.
229	Wise Use Movement	119	This text has been removed from the SDEIS.
229	Wise Use Movement	120	This text has been removed from the SDEIS.
229	Wise Use Movement	121	This text has been removed from the SDEIS.
229	Wise Use Movement	122	This text has been removed from the SDEIS.
229	Wise Use Movement	123	See response to Common Issue 8.

Comment Letter Number	Commenter	Comment Number	Comment Response
229	Wise Use Movement	124	Section 5.5 lists substantive environmental laws only. FACA is a procedural law and would be complied with as appropriate.
229	Wise Use Movement	125	Thank you for your comment. As noted in the Integrated Plan FPEIS (Section 1.9.3) In April 2009, Reclamation and Ecology initiated the YRBWEP Workgroup to help develop a proposal for an Integrated Water Resource Management Plan. Current membership includes environmental non-governmental organizations.
229	Wise Use Movement	126	Impacts from the artificial channel from Lake Kachess to Box Canyon Creek are outside the scope of this EIS.
230	Lewis, Ann (KCA, East Kachess HOA, Kachess Ridge, Friends of Bumping Lake, North Cascades CC, CELP, Snoqualmie Pass Fire, Yakima Coalition)	1	Thank you for your comment.
230	Lewis, Ann, et al	2	The NEPA adequacy of the Programmatic EIS is not under consideration in this environmental review. This EIS was tiered to the Programmatic EIS but this FEIS provides a site specific analysis of the KDRPP and KKC alternatives.
230	Lewis, Ann, et al	3	See response to Common Issue 4.
230	Lewis, Ann, et al	4	Both the Yakama Nation and Colville Confederated Tribes are involved and are the two tribes identified as having a cultural connection to the project area. Both Tribes have been assisting Reclamation in identifying and addressing any cultural resource concerns that may arise as a part of the project. In response to the question about potential artifacts unearthed in the future, please note that this specific comment was not addressed in this FEIS due to NEPA's no derogation clause at §104 which means that Reclamation retains responsibility to comply with the specific statutory obligations of NHPA, ARPA, or NAGPRA; however Section 4.18 of this FEIS clarifies that as part of NHPA § 110 responsibilities, Reclamation is planning to implement a Cultural Resources Management Plan (CRMP) to address ongoing and future operational and land management implications to cultural resources.

Comment Letter Number	Commenter	Comment Number	Comment Response
230	Lewis, Ann, et al	5	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
230	Lewis, Ann, et al	6	See response to Common Issue 6.
230	Lewis, Ann, et al	7	See Section 3.3.1 of the SDEIS for a description of Yakima Project operations. The five reservoirs in the Yakima Project are operated in a coordinated manner to provide for surface water needs of the system as a whole; no single reservoir is designated to supply the needs of any particular area. Water rights senior to Reclamation's water right will not be impacted.
230	Lewis, Ann, et al	8	The results of the value analysis study concluded that a floating pumping plant would be feasible.
230	Lewis, Ann, et al	9	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
230	Lewis, Ann, et al	10	NEPA allows refinement of the proposed action to get to a preferred alternative. Impacts were fully disclosed in the SDEIS and this FEIS, and mitigation measures will be stated in the Record of Decision.
230	Lewis, Ann, et al	11	See response to Common Issue 8.
230	Lewis, Ann, et al	12	Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.

Comment Letter Number	Commenter	Comment Number	Comment Response
230	Lewis, Ann, et al	13	Thank you for this comment about the terms lake and reservoir. The comment has been noted and will be included in the record for this EIS; however, the requested change was not made to this FEIS due to the common, public understanding and historical uses of these terms. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
230	Lewis, Ann, et al	14	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
230	Lewis, Ann, et al	15	The 2013 "Yakima River Basin Resource Management" law (2SSB 5367) set the vision for the forest and authorized the state Board of Natural Resources to enroll the property as the Teanaway Community Forest under the Community Forest Trust Program. The 2013 state authorizing legislation specifies that if the 214,000 acre feet of water is not developed by 2025, the TCF would be returned to the common school trust. See Section 1.8.2 of the SDEIS for additional details.
230	Lewis, Ann, et al	16	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
230	Lewis, Ann, et al	17	See Figure 4 -2 in this FEIS for additional illustration of proposed drawdown.
230	Lewis, Ann, et al	18	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
230	Lewis, Ann, et al	19	See response to Common Issue 13.
230	Lewis, Ann, et al	20	See response to Common Issue 10.
230	Lewis, Ann, et al	21	See response to Common Issue 9.
230	Lewis, Ann, et al	22	See Appendix F of the Final EIS.
230	Lewis, Ann, et al	23	See response to Common Issue 11.
230	Lewis, Ann, et al	24	See response to Common Issue 8. As noted, Ecology will conduct an analysis of water availability, potential impairment of existing water rights, beneficial use, and potential detriment to the public interest as part of the water right permitting process
230	Lewis, Ann, et al	25	See response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
230	Lewis, Ann, et al	26	See response to Common Issue 17.
230	Lewis, Ann, et al	27	Specific quantities and management of excavated and fill material for this feature would be further refined as part of final design, if KKC is included in the selected alternative.
230	Lewis, Ann, et al	28	As stated in section 4.6, "Short-term exceedances of State surface water quality standards for turbidity may occur during and immediately following runoff events (see Section 4.4.4.2, Surface Water Quality). Increased turbidity would cause negative impacts on fish that visually locate prey and may alter existing predator-prey relationships in shallow shoreline areas (Gregory and Levings, 1998; Hansen et al., 2013)." State of Washington water quality criteria for freshwater areas supporting salmonid rearing, such as Lake Kachess, are not to exceed turbidity levels of 5 NTU, which if exceeded for days to weeks can interfere with fish foraging and growth.
230	Lewis, Ann, et al	29	No permanent habitat loss is predicted for listed fish species including bull trout. As outlined in Section 4.9 of the SDEIS, recent surveys have indicated that suitable habitat occurs throughout much of the areas surrounding the project alternatives, but the area was not found to be currently occupied by spotted owls. Historically owls have occupied areas near the Kachess east shore and they have never been detected in the south shore area. The proposed projects would impact suitable habitat. Pre-construction surveys would be conducted to confirm if this area remains unoccupied. Project impacts would be considered to have no potential effects on northern spotted owls if pre-construction surveys verify that no owls are present within the threshold distances for disturbance or harm.
230	Lewis, Ann, et al	30	See response to Common Issue 16.
230	Lewis, Ann, et al	31	See response to Common Issue 2.
230	Lewis, Ann, et al	32	The DEIS used the 2012 303(d) list, which was the most updated list at the time of the report. The SDEIS used the 2014 303(d) list, which was published between the releases of the DEIS and the SDEIS. As noted in Table 3-9 of the SDEIS, PCBs were listed due to being found in fish tissue and do not have a known source. PCBs were found in fish throughout the river and the reservoirs; downstream Yakima River fish were found to have higher levels of PCBs than upper Yakima River and reservoir fish.
230	Lewis, Ann, et al	33	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
230	Lewis, Ann, et al	34	Impacts from construction for each alternative and each resource are described in Chapter 4 of this FEIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
231	Chabal, Sharon	1	Thank you for your comment.
232	Cooley, Hannah	1	Thank you for your comment.
233	Dunkel, Sarah	1	Thank you for your comment.
234	Fountain, Tim/Jean	1	Thank you for this comment about the terms lake and reservoir. The comment has been noted and will be included in the record for this EIS; however, the requested change was not made to this FEIS due to the common, public understanding and historical uses of these terms. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
234	Fountain, Tim/Jean	2	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.
234	Fountain, Tim/Jean	3	See response to Common Issue 10.
234	Fountain, Tim/Jean	4	See response to Common Issue 4. Further, a pumping plant at Keechelus Reservoir is not feasible to provide the volume of water needed. Moreover, releases from Keechelus adversely impact fish habitat below Keechelus Dam to Lake Easton.
235	Lewis, Ann	1	The SDEIS is a standalone document that can be read on its own, but it was prepared to supplement the 2015 Draft EIS.
236	Morrison, Lisa	1	Thank you for your comment.
237	Hazard, Alyxandra	1	Thank you for your comment.
238	Hazard, Emily	1	Thank you for your comment.
239	Hazard, Kiefer	1	Thank you for your comment.
240	Hazard, Morgan	1	Thank you for your comment.
241	Hazard, Nick	1	Thank you for your comment.
242	Hendren, Alec	1	Thank you for your comment.
243	Johnson, Josie	1	Thank you for your comment.
244	Halpin, Maggie	1	Thank you for your comment.
245	Owens, JP	1	See response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
245	Owens, JP	2	See response to Common Issue 4. Roza and other potentially participating entities are currently improving canals to improve conservation.
245	Owens, JP	3	See response to Common Issue 5.
245	Owens, JP	4	See response to Common Issue 4.
245	Owens, JP	5	Groundwater storage is an element in the Integrated Plan selected alternative, and as such is part of the comprehensive strategy to address ecosystem restoration, water supply and climate change flexibility issues in the Yakima basin.
245	Owens, JP	6	See response to Common Issue 4.
245	Owens, JP	7	See response to Common Issue 4.
245	Owens, JP	8	See response to Common Issue 8.
245	Owens, JP	9	See response to Common Issue 9.
245	Owens, JP	10	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
246	Rostron, Kaylin	1	Thank you for your comment.
247	Johnson, Nancy and Joel	1	Thank you for your comment.
248	Upbliee, Jean	1	Wildlife would continue to have access to water under drought relief pumping.
249	Rowe, James	1	Thank you for your comment.
249	Rowe, James	2	See response to Common Issue 10.
249	Rowe, James	3	Thank you for your comment.
250	Wilson, Larry	1	Modeling used for environmental analysis included multi-year drought (1992 through 1994). Surface water resource impacts for multiple drought years are included in Section 4.3 and are results were used in other applicable impact assessments.
250	Wilson, Larry	2	See response to Common Issue 8.
250	Wilson, Larry	3	See response to Common Issue 17.
250	Wilson, Larry	4	Operational impacts from the proposed project are addressed throughout Chapter 4 of the SDEIS.
250	Wilson, Larry	5	The construction and operational impacts of the proposed project on wildlife are addressed in Section 4.8 and on groundwater in Section 4.5 of the EIS.
250	Wilson, Larry	6	See response to Common Issue 10.
250	Wilson, Larry	7	See response to Common Issue 4.
250	Wilson, Larry	8	This question is outside the scope of the environmental analysis in the EIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
250	Wilson, Larry	9	Habitat connectivity and migration routes discussed in Section 3.8.2 and impacts to migration in Section 4.8
250	Wilson, Larry	10	Restoration scenarios referenced in Section 4.6 of the SDEIS are Big Kachess tributary connections to Lake Kachess (Gale, Thetis, and Lodge creeks. Information on potential restoration actions can be found in Reclamation 2005, <i>Phase I Assessment Report Storage Dam Fish Passage Study Yakima Project, Washington, Technical Series No. PN-YDFP-001</i> . U.S. Department of the Interior Bureau of Reclamation Pacific Northwest Region, Boise, Idaho, Chapter 5: Tributary Habitat Conditions. Future restoration actions could include removal of man-made barriers such as culverts and restoration of riparian and stream channel conditions that do not meet USFS Forest Plan standards.
250	Wilson, Larry	11	The adverse effects to the zooplankton could adversely affect bull trout, an ESA-listed species. Mitigation measures for ESA Threatened and Endangered fish species related to changes in Kachess Reservoir water levels (and zooplankton), if warranted, will be determined in consultation with the Service and NMFS which is ongoing, as explained in section 4.9.10 of the SDEIS.
250	Wilson, Larry	12	Actions would require review and approval of Ecology under the Clean Water Act.
250	Wilson, Larry	13	In a typical year, the proposed alternatives for pumping and drawdown would typically begin around August, but depending on drought duration and severity could begin as early as June and may continue to pump while the reservoir is below the outlet works to meeting flow obligations ending in late September or early October. Most species spawn early enough in the year that larval stages would not be present in the lake in June, with the exception of Northern pike minnow that spawn in summer.
250	Wilson, Larry	14	See response to Common Issue 16.
250	Wilson, Larry	15	Both Kachess Reservoir and Keechelus Reservoir were both identified as containing PCBs in both the Draft EIS and the SDEIS.
250	Wilson, Larry	16	See response to Common Issue 16.
250	Wilson, Larry	17	It is unclear what the exact comment was that you heard during a particular public meeting, but we would like to respond that the statement about not increasing the amount of irrigated land is correct; consequently, no change was made to this FEIS. By way of explanation, if additional irrigated land or acres are proposed for addition to an existing Reclamation project area, that action is called an inclusion. An inclusion is viewed as a discretionary action undertaken by Reclamation and as such, it would require its own NEPA and other environmental reviews. No inclusion is proposed for this action.
250	Wilson, Larry	18	See response to Common Issue 9.
251	Aguilar, Bonnie	1	Thank you for your comment.
252	Aigner, Rob	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
253	Canan, Mike	1	See response to Common Issue 4.
254	Kitchell, Sarah	1	Thank you for your comment.
254	Kitchell, Sarah	2	See response to Common Issue 8.
254	Kitchell, Sarah	3	See response to Common Issue 10.
254	Kitchell, Sarah	4	Thank you for your comment.
254	Kitchell, Sarah	5	Thank you for your comment.
255	Clark, Dennis	1	Thank you for your comment.
255	Clark, Dennis	2	Thank you for the comment. Although Alternative 4 from the DEIS is no longer under consideration in the SDEIS, Alternatives 5A, 5B and 5C evaluate construction and operation of both KDRPP and the KKC North Tunnel alignment.
255	Clark, Dennis	3	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
256	Klebanoff, Mark	1	Thank you for your comment.
257	Berline, Michael	1	Thank you for your comment.
258	Fox, Lucia	1	Thank you for your comment.
259	Grinius-Hill, Sue	1	Thank you for your comment.
260	Halvorson, Henry	1	The purpose and need for the proposed action are described in the EIS Executive Summary and in Section 1.3.
261	Mulqueeny, Kara/Shawn	1	Thank you for your comment.
262	Poulin, Baraka	1	Power requirements for the East Shore and South Pumping Plants (Alternatives 2 and 3) were estimated during the feasibility study of KDRPP performed in 2014. They account for years when pumping is not required; years when drought-relief pumping is performed; and years when refill operations are under way. The power cost reported in Table 2-5 of the SDEIS shows results for those two alternatives. The power cost for the floating pumping plant (Alternative 4) was a rough estimate using engineering judgment. It is based on changes in the pumping units and physical configuration of Alternative 4 in comparison with Alternatives 2 and 3. All values are discounted over the 100 year period analyzed. The \$5M power cost shown for Alternative 4 is equivalent to approximately \$17.5M over the 100 year period without discounting.
262	Poulin, Baraka	2	Thank you for your comment. Executive Order 13783 (March 28, 2017) withdrew documents regarding social cost of carbon as no longer consistent with government policy. GHG and climate change assessment was retained in the SDEIS and FEIS based on public scoping and at the request of Ecology, but did not include using social cost of carbon as an assessment tool.

Comment Letter Number	Commenter	Comment Number	Comment Response
262	Poulin, Baraka	3	To promote public understanding of action, summary costs are provided in the EIS. Details are presented in supported documents referenced in the EIS. The Preferred Alternative is substantially lower in cost than \$450M and would not be funded by taxpayers.
262	Poulin, Baraka	4	Specific cost were not developed for this EIS, however slope stability will be monitored and erosion control will be implemented, as needed. See response to Issue 12 (Slope Stability)
263	Shirley, Amy	1	Thank you for your comment.
264	Brill, Gary	1	Thank you for your comment.
265	Cook, Paul	1	Thank you for your comment.
266	Villa, Steve	1	See response to Common Issue 4.
267	Wolcott, Kevin	1	Thank you for your comment.
268	MacLeod, Malcolm	1	Thank you for your comment.
269	Batson, Maggie	1	Thank you for your comment.
270	Day, Phil	1	Thank you for your comment.
270	Day, Phil	2	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
270	Day, Phil	3	See response to Common Issue 10.
270	Day, Phil	4	The DEIS evaluates the socioeconomic impacts of the alternatives. It is not intended to serve, nor is it required to serve as a benefit-cost analysis of the project (40 CFR 1502.23). Other documents prepared by Reclamation and Ecology serve this function, and are cited in the EIS.
270	Day, Phil	5	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
270	Day, Phil	6	See response to Common Issue 17.
270	Day, Phil	7	See response to Common Issue 10.
270	Day, Phil	8	Runoff water coming into lower Kittitas County during the spring supplies irrigation demands and supplements downstream Yakima River instream flows.

Comment Letter Number	Commenter	Comment Number	Comment Response
270	Day, Phil	9	See response to Common Issue 4.
270	Day, Phil	10	Thank you for your comment.
271	Giaudrone, Edward	1	Thank you for your comment.
271	Giaudrone, Edward	2	See response to Common Issue 4.
271	Giaudrone, Edward	3	See response to Common Issue 4.
272	Gorski, Adam	1	See response to Common Issue 4.
273	Morrison, Lisa	1	Thank you for your comment.
274	Mulqueeny, Kara/Shawn	1	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. Section 5 of the Final EIS presents a description of outreach conducted.
274	Mulqueeny, Kara/Shawn	2	A water supply of 70 percent of proratable water rights during a drought year would provide a minimally acceptable supply to prevent severe economic losses to farmers. This number was reached following extensive discussions with stakeholders regarding the lowest level of water supply that could be accommodated without catastrophic losses to crops, assuming aggressive water management techniques were employed. This 70 percent threshold is similar to the State of Washington's definition of a drought condition contained in RCW 43.83B.400, which recognizes a drought when water supply for a significant portion of a geographic area falls below 75 percent of normal and is likely to cause undue hardship for various water uses and users.
275	North, Rick	1	Thank you for your comment.
275	North, Rick	2	See response to Common Issue 17.
275	North, Rick	3	See response to Common Issue 10.
275	North, Rick	4	Runoff water coming into lower Kittitas County during the spring supplies irrigation demands and supplements downstream Yakima River instream flows.

Comment Letter Number	Commenter	Comment Number	Comment Response
275	North, Rick	5	See response to Common Issue 4.
276	Owens, Cliff	1	Thank you for your comment.
276	Owens, Cliff	2	Thank you for your comment.
276	Owens, Cliff	3	This question is outside the scope of the environmental analysis in the EIS.
276	Owens, Cliff	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
276	Owens, Cliff	5	Thank you for your comment.
277	Owens, CC	1	Thank you for your comment.
277	Owens, CC	2	Thank you for your comment.
277	Owens, CC	3	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
277	Owens, CC	4	See response to Common Issue 4.
277	Owens, CC	5	Thank you for your comment.
278	Owens, JP	1	Thank you for your comment.
278	Owens, JP	2	Thank you for your comment.
278	Owens, JP	3	Thank you for your comment.
278	Owens, JP	4	See response to Common Issue 8.
278	Owens, JP	5	Thank you for your comment.
279	Owens, J	1	Thank you for your comment.
279	Owens, J	2	Thank you for your comment.
279	Owens, J	3	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
279	Owens, J	4	See response to Common Issue 10.
279	Owens, J	5	See response to Common Issue 8.
280	Owens, Jo	1	Thank you for your comment.
280	Owens, Jo	2	Thank you for your comment.
280	Owens, Jo	3	See response to Common Issue 10.
280	Owens, Jo	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
280	Owens, Jo	5	See response to Common Issue 4.
281	Owens, Rachel	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
281	Owens, Rachel	2	Thank you for your comment.
281	Owens, Rachel	3	As shown in Table 4-36 of the SDEIS, under Alternatives 5A, 5B or 5C an average annual volume of 81,170 acre-feet would be transferred from Keechelus Reservoir to Kachess Reservoir with a maximum annual volume transferred of 143,758 acre-feet.
281	Owens, Rachel	4	Snow removal activities along I-90 are outside of the scope of the Environmental Impact Statement.
281	Owens, Rachel	5	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
282	Owens, Stephanie	1	Thank you for your comment.
282	Owens, Stephanie	2	Thank you for your comment.
282	Owens, Stephanie	3	This EIS is the environmental study of the proposed project.
282	Owens, Stephanie	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
282	Owens, Stephanie	5	Thank you for your comment.
283	Ryynanen, Dan	1	See response to Common Issue 9.
283	Ryynanen, Dan	2	See response to Common Issue 15.
283	Ryynanen, Dan	3	The effects of climate change on fish is considered and described in Section 4.6 of the SDEIS.
283	Ryynanen, Dan	4	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
283	Ryynanen, Dan	5	See response to Common Issues 8 and 12.
283	Ryynanen, Dan	6	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project. How they fund the project is outside the scope of the EIS. However, Reclamation expects that any authorization will contain provisions that ensure financial responsibility for all mitigation.
284	Tsuneoka, Junichi	1	See response to Common Issue 3.
284	Tsuneoka, Junichi	2	See response to Common Issue 8.

Comment Letter Number	Commenter	Comment Number	Comment Response
284	Tsuneoka, Junichi	3	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
284	Tsuneoka, Junichi	4	Whenever the reservoir falls below the existing gravity outlet, the water stored cannot be delivered to downstream users except by pumping. During the refill period, there will be times when this occurs, and pumping will be needed to satisfy contracts for water deliveries downstream.
284	Tsuneoka, Junichi	5	See response to Common Issue 4.
284	Tsuneoka, Junichi	6	See response to Common Issue 17.
284	Ryynanen, Dan	7	As described in Section 2.5.1.1, the floating pumping plan intake will be 18 feet below the water surface. Impacts to Lake Kachess water temperature are discussed in Section 4.4.6.2 of the SDEIS. The effects of the change in water temperature on bull trout are discussed in Section 4.6.6.2 of the SDEIS. Pumping large volumes of warm water from near-surface depths would improve the general thermal conditions for growth for cold water salmonid species in Kachess Reservoir like bull trout, however Overall, the potential benefits of improved thermal conditions for growth are not expected to be significant because of the loss of zooplankton production that is also anticipated under Alternative 4.
284	Tsuneoka, Junichi	7	See response to Common Issue 8. As noted, Ecology will conduct an analysis of water availability, potential impairment of existing water rights, beneficial use, and potential detriment to the public interest as part of the water right permitting process
284	Tsuneoka, Junichi	8	Operations during the project's construction periods will need to be planned carefully to manage impacts to water users, the flip-flop operation and associated fisheries resources. Details of the temporary construction-related drawdown would be developed during a subsequent design stage, in consultation with Yakima Project users, state and federal fish and wildlife agencies and the Yakama Nation.
284	Tsuneoka, Junichi	9	Disposal areas have yet to be identified; for this SDEIS analysis, Reclamation assumed the offsite location would be within 10 miles of the Keechelus Reservoir. An existing quarry near Keechelus Dam may be available for disposing of the crushed material excavated from the tunnel. Depending on construction timing, WSDOT could potentially use the material as fill for the I-90 improvement project. Reclamation would ensure that all required permits and clearances are obtained for use of any material disposal area(s).

Comment Letter Number	Commenter	Comment Number	Comment Response
284	Tsuneoka, Junichi	10	As stated in section 4.6, "Short-term exceedances of State surface water quality standards for turbidity may occur during and immediately following runoff events (see Section 4.4.4.2, Surface Water Quality). Increased turbidity would cause negative impacts on fish that visually locate prey and may alter existing predator-prey relationships in shallow shoreline areas (Gregory and Levings, 1998; Hansen et al., 2013)." State of Washington water quality criteria for freshwater areas supporting salmonid rearing, such as Lake Kachess, are not to exceed turbidity levels of 5 NTU, which if exceeded for days to weeks can interfere with fish foraging and growth.
284	Tsuneoka, Junichi	11	No permanent habitat loss is predicted for listed fish species including bull trout. As outlined in Section 4.9 of the SDEIS, recent surveys have indicated that suitable habitat occurs throughout much of the areas surrounding the project alternatives, but the area was not found to be currently occupied by spotted owls. Historically owls have occupied areas near the Kachess east shore and they have never been detected in the south shore area. The proposed projects would impact suitable habitat. Pre-construction surveys would be conducted to confirm if this area remains unoccupied. Project impacts would be considered to have no potential effects on northern spotted owls if pre-construction surveys verify that no owls are present within the threshold distances for disturbance or harm.
284	Tsuneoka, Junichi	12	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
284	Tsuneoka, Junichi	13	The SDEIS presents impacts based on preliminary designs to provide a reasonable comparison of alternatives. Specific areas and costs easements or other property acquisition would be confirmed as part of final design of a selected alternative.
284	Tsuneoka, Junichi	14	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
285	Ferguson, Don and Carol	1	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. Reclamation would manage the operation of all Yakima Project reservoirs to refill Kachess Reservoir after a drought while meeting Project obligations. See Appendix F of the Final EIS for further information.

Comment Letter Number	Commenter	Comment Number	Comment Response
285	Ferguson, Don and Carol	2	The long-term effects of the proposed project are outlined in Chapter 4 of the EIS.
285	Ferguson, Don and Carol	3	Many bull trout undertake spawning migrations as early as mid-July, when tributaries may still have adequate flow, then hold until spawning in September and October. Other bull trout may attempt to migrate upstream just before spawning and if prevented from access to high quality spawning areas may attempt to spawn in lower quality habitat near their natal tributary, or may stray into other tributaries.
285	Ferguson, Don and Carol	4	See response to Common Issue 17.
285	Ferguson, Don and Carol	5	See response to Common Issue 10.
285	Ferguson, Don and Carol	6	Thank you for your comment.
285	Ferguson, Don and Carol	7	See response to Common Issue 8.
285	Ferguson, Don and Carol	8	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.
285	Ferguson, Don and Carol	9	Thank you for your comment.
285	Ferguson, Don and Carol	10	Water will remain in Kachess Reservoir under all foreseeable conditions. See Appendix F of the Final EIS for additional detail.
285	Ferguson, Don and Carol	11	The alternatives under consideration are outlined in Chapter 2 of the SDEIS.
285	Ferguson, Don and Carol	12	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
285	Ferguson, Don and Carol	13	See response to Common Issue 7.
285	Ferguson, Don and Carol	14	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.

Comment Letter Number	Commenter	Comment Number	Comment Response
285	Tsuneoka, Junichi	15	It is Reclamation policy to avoid impacts and leave cultural materials in place. If that is not feasible cultural materials will be recovered scientifically in advance of construction. Recovered materials will be curated at a museum which meets federal standards. As part of Section 110 responsibilities, Reclamation is planning to implement a Cultural Resources Management Plan (CRMP) to address ongoing and future operational and land management implications to cultural resources.
285	Ferguson, Don and Carol	15	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.
285	Ferguson, Don and Carol	16	Thank you for your comment.
285	Ferguson, Don and Carol	17	Thank you for your comment.
285	Ferguson, Don and Carol	18	See response to Common Issue 4.
285	Ferguson, Don and Carol	19	Thank you for your comment.
285	Ferguson, Don and Carol	20	Currently no anadromous salmon exist in Lake Kachess. Reintroduction of anadromous salmon into upper Yakima Basin reservoirs is occurring first in Cle Elum Reservoir. At this time, a plan to reintroduce anadromous salmon to Lake Kachess has not been developed. Effects to resident salmonids like bull trout, kokanee, rainbow trout and cutthroat trout are discussed in the SDEIS, section 4.6.
285	Ferguson, Don and Carol	21	Thank you for your comment.
286	Thompson, Raylan	1	Thank you for your comment.
287	Bernhardt, Kathryn	1	Thank you for your comment.
287	Bernhardt, Kathryn	2	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. See Appendix F of the Final EIS for further information.
288	Fountain, Nikki	1	Thank you for your comment.
289	Jelovich, Joslynn	1	Thank you for your comment.
290	Leavitt, Loralee	1	Thank you for your comment.
291	Owens, JR	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
291	Owens, JR	2	Thank you for your comment.
291	Owens, JR	3	Thank you for your comment.
291	Owens, JR	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
292	Owens, RB	1	Thank you for your comment.
292	Owens, RB	2	Thank you for your comment.
292	Owens, RB	3	Thank you for your comment.
293	Owens, CC	1	Thank you for your comment.
293	Owens, CC	2	Thank you for your comment.
293	Owens, CC	3	Thank you for your comment.
293	Owens, CC	4	See response to Common Issue 8.
293	Owens, CC	5	Thank you for your comment.
293	Owens, CC	6	Thank you for your comment.
294	Owens, Cliff	1	Thank you for your comment.
294	Owens, Cliff	2	Thank you for your comment.
294	Owens, Cliff	3	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
294	Owens, Cliff	4	Thank you for your comment.
294	Owens, cliff	5	Thank you for your comment.
294	Owens, Cliff	6	See response to Common Issue 4.
294	Owens, Cliff	7	Thank you for your comment.
295	Owens, JR	1	Thank you for your comment.
295	Owens, JR	2	Thank you for your comment.
295	Owens, JR	3	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
296	Owens, JR	1	Thank you for your comment.
296	Owens, JR	2	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
296	Owens, JR	3	As shown in Table 4-36 of the SDEIS, under Alternatives 5A, 5B or 5C an average annual volume of 81,170 acre-feet would be transferred from Keechelus Reservoir to Kachess Reservoir with a maximum annual volume transferred of 143,758 acre-feet.
296	Owens, JR	4	Thank you for your comment.
297	Anderson, Meghan	1	Thank you for your comment.
297	Anderson, Meghan	2	Climate change is specifically considered with respect to water. Sections 3.12 and 4.12 of the SDEIS provide descriptions of the effects of climate change. With respect to your comment on No Solar on our Farm Lands, this part of your comment is beyond to scope of the action analyzed in this EIS, but your comment has been noted and will be included in the record for this EIS.
298	Bickford, Alice	1	Thank you for your comment.
299	Brandt, Gordon	1	Thank you for your comment.
299	Brandt, Gordon	2	See response to Common Issue 8.
299	Brandt, Gordon	3	See response to Common Issue 3.
299	Brandt, Gordon	4	See response to Common Issue 8.
299	Brandt, Gordon	5	Following the Draft EIS, Ecology conducted a review of groundwater elevations around Kachess Lake, downstream of the reservoir, Lake Easton will continue to serve as a recharge boundary and maintain groundwater levels near the lake.
299	Brandt, Gordon	6	Estimation of the number of bull trout that could potentially be encountered and/or killed in construction and operation of the preferred alternative will be calculated in consultation with USFWS under the Endangered Species Act. Consultation with The USFWS and NMFS which is ongoing, as explained in section 4.9.10 of the SDEIS.
299	Brandt, Gordon	7	See response to Common Issue 11.
299	Brandt, Gordon	8	See response to Common Issue 4.
299	Brandt, Gordon	9	See response to Common Issue 17.
299	Brandt, Gordon	10	See response to Common Issue 3.
299	Brandt, Gordon	11	Disposal areas have yet to be identified; for this SDEIS analysis, Reclamation assumed the offsite location would be within 10 miles of the Keechelus Reservoir. An existing quarry near Keechelus Dam may be available for disposing of the crushed material excavated from the tunnel. Depending on construction timing, WSDOT could potentially use the material as fill for the I-90 improvement project. Reclamation would ensure that all required permits and clearances are obtained for use of any material disposal area(s).

Comment Letter Number	Commenter	Comment Number	Comment Response
299	Brandt, Gordon	12	As stated in section 4.6, "Short-term exceedances of State surface water quality standards for turbidity may occur during and immediately following runoff events (see Section 4.4.4.2, Surface Water Quality). Increased turbidity would cause negative impacts on fish that visually locate prey and may alter existing predator-prey relationships in shallow shoreline areas (Gregory and Levings, 1998; Hansen et al., 2013)." State of Washington water quality criteria for freshwater areas supporting salmonid rearing, such as Lake Kachess, are not to exceed turbidity levels of 5 NTU, which if exceeded for days to weeks can interfere with fish foraging and growth.
299	Brandt, Gordon	13	No permanent habitat loss is predicted for listed fish species including bull trout. As outlined in Section 4.9 of the SDEIS, recent surveys have indicated that suitable habitat occurs throughout much of the areas surrounding the project alternatives, but the area was not found to be currently occupied by spotted owls. Historically owls have occupied areas near the Kachess east shore and they have never been detected in the south shore area. The proposed projects would impact suitable habitat. Pre-construction surveys would be conducted to confirm if this area remains unoccupied. Project impacts would be considered to have no potential effects on northern spotted owls if pre-construction surveys verify that no owls are present within the threshold distances for disturbance or harm.
299	Brandt, Gordon	14	See response to Common Issue 16.
299	Brandt, Gordon	15	Acquisition of real property interests based on design concepts for the alternatives are summarized in Section 4.15 of the SDEIS. Reclamation would comply with Federal property acquisition policies. Reclamation would survey properties before construction to determine whether acquisition is required. Reclamation would follow the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601) and the procedures described in the 2003 Reclamation Manual Directives and Standards LND 06-01 for any property or easement acquisition.
299	Brandt, Gordon	16	The DEIS used the 2012 303(d) list, which was the most updated list at the time of the report. The SDEIS used the 2014 303(d) list, which was published between the releases of the DEIS and the SDEIS. As noted in Table 3-9 of the SDEIS, PCBs were listed due to being found in fish tissue and do not have a known source. PCBs were found in fish throughout the river and the reservoirs; downstream Yakima River fish were found to have higher levels of PCBs than upper Yakima River and reservoir fish.

Comment Letter Number	Commenter	Comment Number	Comment Response
299	Brandt, Gordon	17	It is Reclamation policy to avoid impacts and leave cultural materials in place. If that is not feasible cultural materials will be recovered scientifically in advance of construction. Recovered materials will be curated at a museum which meets federal standards. As part of Section 110 responsibilities, Reclamation is planning to implement a Cultural Resources Management Plan (CRMP) to address ongoing and future operational and land management implications to cultural resources.
299	Brandt, Gordon	18	Normal reservoir operations would continue during construction, and Kachess Reservoir would not be drawn down for construction purposes below the current operations drawdown.
299	Brandt, Gordon	19	See response to Common Issue 3.
300	Carmody, Tom	1	Thank you for this comment about the terms lake and reservoir. The comment has been noted and will be included in the record for this EIS; however, the requested change was not made to this FEIS due to the common, public understanding and historical uses of these terms. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
301	Curd, Kevin	1	Thank you for your comment.
302	Fountain, Jean	1	Thank you for your comment.
302	Fountain, Jean	2	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project. Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
302	Fountain, Jean	3	See response to Common Issue 16.

Comment Letter Number	Commenter	Comment Number	Comment Response
303	Gorchels, Chris	1	Thank you for this comment about the terms lake and reservoir. The comment has been noted and will be included in the record for this EIS; however, the requested change was not made to this FEIS due to the common, public understanding and historical uses of these terms. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
304	Gorchels, Kay	1	Thank you for your comment.
304	Gorchels, Kay	2	Throughout Section 4.3 of the SDEIS, details were added that describe impacts to streamflow and water levels during refill periods.
305	Owens, CC	1	Thank you for your comment.
305	Owens, CC	2	Thank you for your comment.
305	Gorchels, Kay	3	Thank you for your comment.
305	Owens, CC	3	Thank you for your comment.
305	Owens, CC	4	Thank you for your comment.
305	Owens, CC	5	See response to Common Issue 16.
305	Owens, CC	6	Thank you for your comment.
306	Owens, Jaxon	1	Thank you for your comment.
306	Owens, Jaxon	2	Thank you for your comment.
306	Owens, Jaxon	3	See response to Common Issue 16.
306	Owens, Jaxon	4	Thank you for your comment.
307	Owens, JP	1	Thank you for your comment.
307	Owens, JP	2	Thank you for your comment.
307	Owens, JP	3	See response to Common Issue 16.
307	Owens, JP	4	Thank you for your comment.
308	Owens, JR	1	Thank you for your comment.
308	Owens, JR	2	Thank you for your comment.
308	Owens, JR	3	Thank you for your comment.
308	Owens, JR	4	Thank you for your comment.
308	Owens, JR	5	See response to Common Issue 16.

Comment Letter Number	Commenter	Comment Number	Comment Response
308	Owens, JR	6	Thank you for your comment.
309	Owens, Stephanie	1	Thank you for your comment.
309	Owens, Stephanie	2	Thank you for your comment.
309	Owens, Stephanie	3	See response to Common Issue 16.
309	Owens, Stephanie	4	Thank you for your comment.
310	Reeves, Tina	1	Thank you for your comment.
310	Reeves, Tina	2	Thank you for your comment.
310	Reeves, Tina	3	See response to Common Issue 10.
310	Reeves, Tina	4	Thank you for your comment.
311	Aresu, Avery M.	1	Thank you for your comment.
311	Aresu, Avery M.	2	See response to Common Issue 4.
311	Aresu, Avery M.	3	Thank you for your comment.
312	Baker, Chris	1	Thank you for your comment.
313	Buri, Sarah	1	Thank you for your comment.
313	Buri, Sarah	2	See response to Common Issue 4.
314	Dill, Joseph	1	Thank you for your comment.
314	Dill, Joseph	2	See response to Common Issue 4.
315	Fountain, Jean	1	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
315	Fountain, Jean	2	See response to Common Issue 9.
315	Fountain, Jean	3	Thank you for your comment.
316	Fountain, Jean	1	Thank you for your comment.
316	Fountain, Jean	2	Thank you for your comment.
317	Gienger, Lonnie	1	Thank you for your comment.
317	Gienger, Lonnie	2	See response to Common Issue 8.

Comment Letter Number	Commenter	Comment Number	Comment Response
317	Gienger, Lonnie	3	Following the Draft EIS, Ecology conducted a review of groundwater elevations around Kachess Lake, downstream of the reservoir, Lake Easton will continue to serve as a recharge boundary and maintain groundwater levels near the lake.
317	Gienger, Lonnie	4	Thank you for your comment. This FEIS has been updated to include more specific information on private property and homes in the project area.
317	Gienger, Lonnie	5	See response to Common Issue 9.
317	Gienger, Lonnie	6	See Appendix F of the Final EIS.
317	Gienger, Lonnie	7	See responses to Common Issues 4 and 5.
317	Gienger, Lonnie	8	See response to Common Issue 2.
317	Gienger, Lonnie	9	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
317	Gienger, Lonnie	10	See response to Common Issue 11.
317	Gienger, Lonnie	11	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
317	Gienger, Lonnie	12	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
317	Gienger, Lonnie	13	Individual farmers make independent decisions about which crops they plant and the benefits or costs of those plantings. Such decisions are beyond the scope of this EIS.
317	Gienger, Lonnie	14	This question is outside the scope of the environmental analysis in the EIS.
317	Gienger, Lonnie	15	As co-lead agencies, Reclamation and Ecology jointly prepared these responses to comments. And you will receive this FEIS and ROD when they are released.
318	Hamilton, Laura Lottman	1	Thank you for your comment.
319	Harris, Kirk	1	Thank you for your comment.
319	Harris, Kirk	2	See response to Common Issue 4.
319	Harris, Kirk	3	Thank you for your comment.
320	Hoover, Mark	1	Thank you for your comment.
321	Lavrentyev, Larisa	1	Thank you for your comment.
322	Lavrentyev, Max	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
323	Lavrentyev, Sergey	1	Thank you for your comment.
324	Lawton, Nancy	1	Thank you for the comment, as well as the attached photos of turf lawn. The comment and photos will be included in the record for this EIS. Please note that Reclamation project water is delivered to contractors primarily for agricultural purposes, although municipalities may also receive project water.
325	Lewis, Katie	1	Thank you for your comment.
325	Lewis, Katie	2	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
325	Lewis, Katie	3	See response to Common Issue 4.
325	Lewis, Katie	4	See response to Common Issue 17.
325	Lewis, Katie	5	See response to Common Issue 14.
325	Lewis, Katie	6	See response to Common Issue 9.
325	Lewis, Katie	7	See response to Common Issue 8.
325	Lewis, Katie	8	See response to Common Issue 9.
325	Lewis, Katie	9	See response to Common Issue 10.
325	Lewis, Katie	10	See response to Common Issue 10.
325	Lewis, Katie	11	See response to Common Issue 16.
325	Lewis, Katie	12	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
325	Lewis, Katie	13	As described in Section 4.3.4.2 of the SDEIS, Kachess Reservoir could be below the existing outlet level for multiple years in a row during a multi-year drought.
325	Lewis, Katie	14	See response to Common Issue 7.
325	Lewis, Katie	15	Thank you for your comment.
326	Owens, Cliff	1	Thank you for your comment.
327	Owens, Cliff	1	Thank you for your comment.
327	Owens, Cliff	2	See response to Common Issue 4.
328	Phillips, Patricia	1	Thank you for your comment.
329	Richter, Jenna	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
329	Richter, Jenna	2	See response to Common Issue 4.
330	Owens, Jaxon	1	Thank you for your comment.
330	Owens, Jaxon	2	This question is outside the scope of the environmental analysis in the EIS.
330	Owens, Jaxon	3	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.
331	Owens, Joann	1	Thank you for your comment.
331	Owens, Joann	2	See response to Common Issue 9.
331	Owens, Joann	3	See response to Common Issue 8.
331	Owens, Joann	4	See response to Common Issue 8.
331	Owens, Joann	5	See response to Common Issue 10.
331	Owens, Joann	6	Thank you for your comment.
331	Owens, Joann	7	Thank you for your comment.
332	Owens, J.P.	1	Thank you for your comment.
332	Owens, J.P.	2	See response to Common Issue 9.
332	Owens, J.P.	3	This question is outside the scope of the environmental analysis in the EIS.
333	Owens, J.R.	1	Thank you for your comment.
334	Owens, Rachel	1	Thank you for your comment.
334	Owens, Rachel	2	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
334	Owens, Rachel	3	See response to Common Issue 8.

Comment Letter Number	Commenter	Comment Number	Comment Response
334	Owens, Rachel	4	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
335	Owens, R.L.	1	Thank you for your comment.
336	Owens, R.L.	1	Thank you for your comment.
337	Owens, Stephanie	1	Thank you for your comment.
337	Owens, Stephanie	2	See response to Common Issue 4.
337	Owens, Stephanie	3	Kittitas Reclamation District has embarked on a program to increase canal efficiencies. In addition, the Integrated Plan contains a comprehensive package of strategies to address ecosystem restoration, water supply, and climate change flexibility issues in the Yakima River Basin. It includes seven elements, including surface water storage and groundwater storage, and enhanced water conservation (see Section 1.2.3). As such, the Integrated Plan evaluated, in accordance with the National Environmental Policy Act, a range of alternative strategies to address identified needs, including conservation, storage, water marketing, and other methods. The Integrated Plan Final Programmatic EIS (March 2012) assessed impacts from all seven elements. In July 2013, Reclamation published the Record of Decision (2013 Integrated Plan ROD) to implement the Integrated Plan in cooperation with Ecology and other Federal, State, local, and Tribal partners. The selected alternative presented in the 2013 Integrated Plan ROD implements the Integrated Plan, and identifies specific actions for further analysis in tiered NEPA reviews. The project-level Draft EIS and SDEIS on KKC and KDRPP address impacts of these projects, and as such do not evaluate other elements identified in the Integrated Plan's selected alternative. However the interrelationships are described in Section 2.1 of the SDEIS.
337	Owens, Stephanie	4	See response to Common Issue 4.
337	Owens, Stephanie	5	See response to Common Issue 4.
337	Owens, Stephanie	6	See response to Common Issue 4.
337	Owens, Stephanie	7	This question is outside the scope of the environmental analysis in the EIS.
337	Owens, Stephanie	8	See response to Common Issue 4.
337	Owens, Stephanie	9	Thank you for your comment.
337	Owens, Stephanie	10	Cle Elum will be raised by approximately 3 feet, which is not part of this proposed action.
337	Owens, Stephanie	11	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
338	Owens, S.L.	1	Thank you for your comment.
339	Phillips, John	1	Thank you for your comment.
340	Smith, Rachel	1	Thank you for your comment.
340	Smith, Rachel	2	Thank you for your comment.
340	Smith, Rachel	3	Thank you for your comment.
341	Aguilar, Bonnie	1	Thank you for your comment.
342	Aiken, Michael	1	Thank you for your comment.
342	Aiken, Michael	2	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
342	Aiken, Michael	3	See response to Common Issue 9.
342	Aiken, Michael	4	Thank you for your comment.
342	Aiken, Michael	5	See response to Common Issue 8.
342	Aiken, Michael	6	See response to Common Issue 4.
342	Aiken, Michael	7	See response to Common Issue 10.
342	Aiken, Michael	8	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. See Appendix F of the Final EIS for further information.
342	Aiken, Michael	9	Thank you for your comment.
342	Aiken, Michael	10	Thank you for your comment.
343	Albulet, Michelle	1	Thank you for your comment.
344	Aresu, Diana E.	1	Thank you for your comment.
345	Aresu, Tony	1	Thank you for your comment.
346	Avdeyev, Inna	1	Thank you for your comment.
347	Baldi, Gloria and Jeb	1	Thank you for your comment.
347	Baldi, Gloria and Jeb	2	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
347	Baldi, Gloria and Jeb	3	Throughout Section 4.3 of the DEIS, details were added that describe impacts to streamflow and water levels during refill periods.
347	Baldi, Gloria and Jeb	4	The effects of lowered water elevations on connections between Lake Kachess and tributary streams have been quantified in terms of days in which water elevation falls below critical elevations, summarized in section 4.3 and table 4-4 of the SDEIS. An increase in drawdown with the proposed alternatives is likely to have an adverse impact on connectivity between the lake and tributaries and associated adverse impact on fish, including bull trout. When Keechelus Reservoir level falls below elevation 2,466, bull trout access to its tributaries is adversely affected. This impact is summarized in Table 4-4. For all alternatives, Keechelus Reservoir typically falls below elevation 2,466 from August to November. Under Alternatives 5A, 5B, and 5C, Keechelus Reservoir levels would fall below elevation 2,466 in 11 fewer years than under Alternative 1 (from 80 years for Alternative 1 to 69 years for Alternatives 5A, 5B, and 5C) but for an additional 5 days per year in years Keechelus Reservoir levels fall below elevation 2,466.
347	Baldi, Gloria and Jeb	5	The effects of lowered water elevations on connections between Lake Kachess and tributary streams have been quantified in terms of days in which water elevation falls below critical elevations, summarized in section 4.3 and table 4-4 of the SDEIS. An increase in drawdown with the proposed alternatives is likely to have an adverse impact on connectivity between the lake and tributaries and associated adverse impact on fish, including bull trout. When Keechelus Reservoir level falls below elevation 2,466, bull trout access to its tributaries is adversely affected. This impact is summarized in Table 4-4. For all alternatives, Keechelus Reservoir typically falls below elevation 2,466 from August to November. Under Alternatives 5A, 5B, and 5C, Keechelus Reservoir levels would fall below elevation 2,466 in 11 fewer years than under Alternative 1 (from 80 years for Alternative 1 to 69 years for Alternatives 5A, 5B, and 5C) but for an additional 5 days per year in years Keechelus Reservoir levels fall below elevation 2,466.
347	Baldi, Gloria and Jeb	6	The groundwater elevation around Kachess is approximately 60 feet below the ground surface. The effects of drawdown under KDRPP on groundwater would not impact the forest surrounding Kachess Reservoir.
347	Baldi, Gloria and Jeb	7	See response to Common Issue 16.
347	Baldi, Gloria and Jeb	8	Thank you for your comment.
347	Baldi, Gloria and Jeb	9	Thank you for your comment.
348	Beaty, Rebecca M.	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
349	Benediktsson, Lynn	1	Thank you for your comment.
349	Benediktsson, Lynn	2	Thank you for your comment.
349	Benediktsson, Lynn	3	See response to Common Issue 4.
349	Benediktsson, Lynn	4	See response to Common Issue 4.
349	Benediktsson, Lynn	5	See responses to Common Issue 8 and 12
349	Benediktsson, Lynn	6	See response to Common Issue 8.
349	Benediktsson, Lynn	7	This EIS serves as the assessment of the environmental impacts.
349	Benediktsson, Lynn	8	Mitigation measures for ESA Threatened and Endangered fish species, including for bull trout habitat fragmentation, if warranted, will be determined in consultation with the Service and NMFS which is ongoing, as explained in section 4.9.10 of the SDEIS.
349	Benediktsson, Lynn	9	Reclamation is working with the Yakama Nation and the Colville Confederated Tribes in regards to potential impacts to resources of tribal concern, and they are consulted with on a continual basis. It is Reclamation policy to avoid impacts and leave cultural materials in place, if at all possible. As part of Section 110 responsibilities, Reclamation is planning to implement a Cultural Resources Management Plan (CRMP) to address ongoing and future operational and land management implications to cultural resources.
349	Benediktsson, Lynn	10	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
349	Benediktsson, Lynn	11	Thank you for your comment.
350	Benediktsson, Tom	1	Thank you for your comment.
350	Benediktsson, Tom	2	See response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
350	Benediktsson, Tom	3	See response to Common Issue 4.
350	Benediktsson, Tom	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
350	Benediktsson, Tom	5	Sections 3.12 and 4.12 describe the implication of climate change on reservoir operations, including refill for action alternatives.
350	Benediktsson, Tom	6	Yes, pumping will draw the reservoir pool down below the pool level of the original lake. See Appendix F of the Final EIS.
350	Benediktsson, Tom	7	See response to Common Issue 8.
350	Benediktsson, Tom	8	See response to Common Issue 10.
350	Benediktsson, Tom	9	Drought relief pumping would expose areas and make them susceptible to erosion. As noted in Section 4.2: Under all alternatives, drawdown associated with the operation of KDRPP would result in exposure of up to about 628 acres of shoreline at Kachess Reservoir. If reservoir rim stability or erosion are identified following drawdown, Reclamation would implement erosion control measures to minimize the impacts.
350	Benediktsson, Tom	10	Thank you for your comment.
351	Bondarenko, Raya	1	Thank you for your comment.
352	Brewer, Lynn	1	Thank you for your comment.
352	Brewer, Lynn	2	See response to Common Issue 8.
352	Brewer, Lynn	3	Thank you for attaching the geological assessment of your well. We have reviewed it and it will be included in the project record for this EIS.
352	Brewer, Lynn	4	Thank you for your comment.
352	Brewer, Lynn	5	Risks of contamination to groundwater from project-related activities are very low. Such risks and proposed measures to avoid and minimize risks are described in Section 4.5 of this FEIS.
353	de la Chapelle, Charlie	1	Thank you for your comment.
353	de la Chapelle, Charlie	2	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.

Comment Letter Number	Commenter	Comment Number	Comment Response
353	de la Chapelle, Charlie	3	Section 4.12 describes how climate change would affect the project's performance.
353	de la Chapelle, Charlie	4	A comparative analysis of flows under different alternatives up to the Wapato Reach (Parker) is provided in section 4.3 Surface Water. As explained in section 4.3, the drought-year changes in flow downstream of Roza Dam would remain within current operating flows experienced in most years. Downstream from Roza Dam to the Parker gage, the relative change in streamflow would be less than in upstream reaches because some or most of the additional water supplied by KDRPP would be diverted. Any remaining increased supply could be diverted by WIP at Wapato Dam. The small change in streamflow downstream from Parker gage on the Yakima River would occur as Kachess Reservoir refills after a drought. The change would occur in winter and spring. As summarized in Tables 4-32 and 4-33 (Alternatives 2, 3, and 4), winter and spring flows at Parker are reduced by up to 1.2 percent. During refill years, high exceedance flows are reduced by 2.9 percent. As summarized in Tables 4-69 and 4-70 (Alternatives 5A, 5B, and 5C) winter and spring flows are reduced by up to 1.6 percent. During refill years, high exceedance flows are reduced by 4.6 percent. In the SDEIS, recent analyses were used to update the foodweb and productivity relationships in Kachess Reservoir (See Hansen et al. 2017) and recent counts of salmon (including sockeye salmon) at Roza Dam (section 3.6).
353	de la Chapelle, Charlie	5	Thank you for your comment.
353	de la Chapelle, Charlie	6	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project. How they fund the project is outside the scope of the EIS. However, Reclamation expects that any authorization will contain provisions that ensure financial responsibility for all mitigation.
354	Duncanson, Harold	1	Thank you for your comment.
354	Duncanson, Harold	2	Thank you for your comment.
354	Duncanson, Harold	3	The SDEIS comment period was 90 days, which is substantially longer than 45-day comment period required.
354	Duncanson, Harold	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
354	Duncanson, Harold	5	See response to Common Issue 16.

Comment Letter Number	Commenter	Comment Number	Comment Response
354	Duncanson, Harold	6	See response to Common Issue 4.
354	Duncanson, Harold	7	Thank you for your comment.
355	Elder, James and Barbara	1	Thank you for your comment.
356	Erickson, Brandon	1	Thank you for your comment.
357	Fountain, AP	1	See response to Common Issue 4.
357	Fountain, AP	2	Thank you for your comment.
358	Fountain, Tim	1	See response to Common Issue 9.
358	Fountain, Tim	2	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. Reclamation would manage the operation of all Yakima Project reservoirs to refill Kachess Reservoir after a drought while meeting Project obligations. See Appendix F of the Final EIS for further information.
358	Fountain, Tim	3	Thank you for your comment.
359	Garrison, Neil and Tom	1	Thank you for your comment.
359	Garrison, Neil and Tom	2	Thank you for your comment.
359	Garrison, Neil and Tom	3	Thank you for your comment.
359	Garrison, Neil and Tom	4	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
359	Garrison, Neil and Tom	5	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
360	Gienger, Shelley	1	Thank you for your comment.
360	Gienger, Shelley	2	See response to Common Issue 9.
360	Gienger, Shelley	3	Thank you for your comment.
360	Gienger, Shelley	4	Thank you for your comment.
360	Gienger, Shelley	5	See response to Common Issue 9.
360	Gienger, Shelley	6	Thank you for your comment.
361	Gold, Raelene	1	Thank you for your comment.
361	Gold, Raelene	2	Thank you for your comment.
361	Gold, Raelene	3	Thank you for your comment.
361	Gold, Raelene	4	See response to Common Issue 9.
361	Gold, Raelene	5	See response to Common Issue 8.
361	Gold, Raelene	6	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
361	Gold, Raelene	7	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
361	Gold, Raelene	8	WDFW's Priority Habitat and Species database has been reviewed by Reclamation to assess the presence of any freshwater mussels in Kachess Reservoir. As a result, no documentation was found. Neither of these species are recognized by the USFS and BLM as species of conservation and population viability concern. As the project is implemented project proponents will work with Federal and state agencies to consider potential impacts to mussels.
361	Gold, Raelene	9	Thank you for your comment.
362	Gratama, Candace	1	Thank you for your comment.
362	Gratama, Candace	2	Thank you for your comment.
362	Gratama, Candace	3	Thank you for your comment.
362	Gratama, Candace	4	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
362	Gratama, Candace	5	See response to Common Issue 4.
362	Gratama, Candace	6	See response to Common Issue 9.
362	Gratama, Candace	7	See response to Common Issue 16.
362	Gratama, Candace	8	See response to Common Issue 10.
362	Gratama, Candace	9	The DEIS and SDEIS both state in Section 4.3.2 that Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. The mention of a 20-year cycle in the DEIS (and SDEIS) is the replacement time of pumps and associated equipment.
362	Gratama, Candace	10	See response to Common Issue 8.
363	Greben, Oleg	1	Thank you for your comment.
364	Greben, Paul and Galina	1	Thank you for your comment.
364	Greben, Paul and Galina	2	Thank you (as well as commenters 412, 453) for attaching a photograph of what appears to be organic matter—not solid waste. While we cannot comment on whether this particular substance would be classified as a pollutant under the legal definition at 33 USC §1362(6), please be assured that the WDFW maintains the fish passage at Box Canyon Creek in compliance with all applicable sections of the Clean Water Act and all applicable state and local laws.
364	Greben, Paul and Galina	3	Impacts from the artificial channel from Lake Kachess to Box Canyon Creek are outside the scope of this EIS.
365	Guilfoyle, Josh	1	Thank you for your comment.
365	Guilfoyle, Josh	2	As stated in Section 4.3.2, under KDRPP, Kachess Reservoir water levels would be below the existing low level outlet in portions of 32 to 34 years (out of 91 years modeled). This assumes the full 200,000 acre-feet, which is a maximum pumping scenario. See Appendix F for additional information on frequency and magnitude of operational scenarios.
365	Guilfoyle, Josh	3	Reclamation and Ecology determined that, at this time, the benefits of KKC in terms of enhancing water supply did not merit its consideration as a standalone project. However, the contribution to refill of Kachess Reservoir when KDRPP would operate warranted consideration as a component of KDRPP. See Section 1.5.4.
365	Guilfoyle, Josh	4	See response to Common Issue 4.
366	Halwachs, Carrera	1	Thank you for your comment.
366	Halwachs, Carrera	2	See response to Common Issue 4.
366	Halwachs, Carrera	3	See response to Common Issue 8.
366	Halwachs, Carrera	4	See response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
366	Halwachs, Carrera	5	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
366	Halwachs, Carrera	6	Impacts to wildlife habitat is described in Section 4.8 of the SDEIS.
366	Halwachs, Carrera	7	See response to Common Issue 10.
367	Hamilton, Alistair	1	Thank you for your comment.
368	Hamilton, Grace	1	Thank you for your comment.
369	Harris, Sophie	1	Thank you for your comment.
370	Haugen, Geraldine	1	Thank you for your comment.
370	Haugen, Geraldine	2	See response to Common Issue 4.
371	Henderson, Edward	1	Thank you for your comment. It has been noted and will be included in the record for this EIS. No change was made to this FEIS in response.
371	Henderson, Edward	2	Reponses to the DEIS comments are also included in this comment response appendix.
371	Henderson, Edward	3	Thank you for your comment.
371	Henderson, Edward	4	Thank you for your comment.
371	Henderson, Edward	5	See response to Common Issue 4.
371	Henderson, Edward	6	Thank you for your comment.
371	Henderson, Edward	7	See response to Common Issue 4.
371	Henderson, Edward	8	See response to Common Issue 4.
371	Henderson, Edward	9	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. Reclamation would manage the operation of all Yakima Project reservoirs to refill Kachess Reservoir after a drought while meeting Project obligations. See Appendix F of the Final EIS for further information.
371	Henderson, Edward	10	See Appendix F of the Final EIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
371	Henderson, Edward	11	Thank you for your comment.
371	Henderson, Edward	12	Deign studies for KDRPP and KKC are referenced in the SDEIS and FEIS and are located on the Reclamation website: https://www.usbr.gov/pn/programs/eis/kdrpp/ and https://www.usbr.gov/pn/programs/eis/kkc/
371	Henderson, Edward	13	Staging areas for construction have been identified in the DEIS, SDEIS and FEIS. Disposal of materials (like excavated soils) has been estimated and management of those materials has been characterized in a manner sufficient to allow a reasonable disclosure and comparison of alternatives. Quantities and specific management like transportation will be further defined as part of final design of a selected alternative. Materials will be managed in accordance with applicable laws and regulations.
371	Henderson, Edward	14	Suitability of material and specific management like transportation will be further defined as part of final design of a selected alternative.
371	Henderson, Edward	15	The alignment corridor for the KKC North Tunnel is described in this FEIS. The specific location within the corridor would be defined as part of final design, if included in the selected alternative.
371	Henderson, Edward	16	Additional design information is available in the KKC feasibility-level design report at https://www.usbr.gov/pn/programs/eis/kkc/2018kkcfesdesign.pdf .
371	Henderson, Edward	17	The DEIS and SDEIS document positive economic impacts of the projects in terms of increased jobs and income from construction and crop production that likely otherwise would not occur in the region. A separate document, "Economic Analyses of the Proposed Kachess Drought Relief Pumping Plant" (ECONorthwest 2015) documents the direct economic benefits of the project, in terms of increased value of agricultural production.
371	Henderson, Edward	18	As noted in Section 1.5.4 of the SDEIS, KKC is not presented as a stand-alone alternative and is a component of a KDRPP alternative. The Preferred Alternative in this FEIS does not include construction of KKC.
371	Henderson, Edward	19	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
371	Henderson, Edward	20	Kachess Dam currently does not have facilities for upstream fish passage, and the proposed action will not change this condition. The design of the proposed action does not preclude future installation of fish passage facilities at Kachess Dam.
371	Henderson, Edward	21	Thank you for your comment.
371	Henderson, Edward	22	Thank you for your comment.
372	Hendricks, Brooke	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
373	Howland , Jon	1	Thank you for your comment.
373	Howland , Jon	2	The SDEIS comment period was 90 days, which is substantially longer than 45-day comment period required.
374	Susan, Irinel	1	Thank you for your comment.
375	Jonas, Brad	1	Thank you for your comment.
375	Jonas, Brad	2	Thank you for your comment.
375	Jonas, Brad	3	Thank you for your comment.
375	Jonas, Brad	4	See response to Common Issue 4.
375	Jonas, Brad	5	See response to Common Issue 16.
375	Jonas, Brad	6	See response to Common Issue 10.
375	Jonas, Brad	7	See response to Common Issue 3.
375	Jonas, Brad	8	See response to Common Issue 8.
375	Jonas, Brad	9	The DEIS and SDEIS both state in Section 4.3.2 that Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. The mention of a 20-year cycle in the DEIS (and SDEIS) is the replacement time of pumps and associated equipment.
375	Jonas, Brad	10	See response to Common Issue 13.
375	Jonas, Brad	11	See response to Common Issue 9.
375	Jonas, Brad	12	As described in Section 2.3, drought years are defined by the State of Washington when water supply for a significant portion of a geographic area fall below 75 percent of normal and is likely to cause undue hardship for various water uses and users. Reclamation would manage Kachess Reservoir pumping in addition to the Yakima Project reservoirs as a system to increase prorationing up to 70 percent.
375	Jonas, Brad	13	Thank you for your comment.
376	Kast, Jessica	1	Thank you for your comment.
377	Keilholz, Natalie	1	Thank you for your comment.
378	Kirkham, Randy	1	Thank you for your comment.
379	Kirkham, Randy	1	Thank you for your comment.
379	Kirkham, Randy	2	Reclamation and Ecology had project engineer’s review your proposal or possible draft alternative, but they did not find it viable at this time and for this place or sufficiently different from those studied in this FEIS. That said, please note that Reclamation engineers are investigating similar ideas called floatovoltaics or floating solar photovoltaic arrays for the Southwest. These would not work in the Pacific Northwest, but innovative ideas like yours are and will continue to be investigated. Your comment will be included in the project record. We hope you keep “...wearing your scientist hat.”

Comment Letter Number	Commenter	Comment Number	Comment Response
379	Kirkham, Randy	3	Thank you for your comment.
380	Kitchell, Sarah	1	Thank you for your comment.
380	Kitchell, Sarah	2	Thank you for your comment.
380	Kitchell, Sarah	3	See response to Common Issue 4.
380	Kitchell, Sarah	4	Thank you for your comment.
381	Knauft, Sandy	1	See response to Common Issue 10.
382	Lawson, Billy Z	1	Thank you for your comment.
383	Lewis, Leanne	1	Thank you for your comment.
384	Loftus, Jeff and Stacie	1	Thank you for your comment.
384	Loftus, Jeff and Stacie	2	Thank you for your comment.
385	Loftus, Stacie	1	Thank you for your comment.
386	Magnuson, Andrew Craig	1	Thank you for your comment.
386	Magnuson, Andrew Craig	2	This comment is outside the scope of the Proposed Action.
387	Mallory, Joe	1	Thank you for your comment.
387	Mallory, Joe	2	Thank you for your comment.
387	Mallory, Joe	3	The NEPA adequacy of the Programmatic EIS is not under consideration in this environmental review. This EIS was tiered to the Programmatic EIS but this FEIS provides a site specific analysis of the KDRPP and KKC alternatives.
387	Mallory, Joe	4	See response to Common Issue 4.
387	Mallory, Joe	5	Reclamation has identified the Yakama Nation and the Colville Confederated Tribes as Tribes with a cultural connection with the project area. Reclamation continues to work with these Tribes in addressing potential impacts to resources of tribal concern.

Comment Letter Number	Commenter	Comment Number	Comment Response
387	Mallory, Joe	6	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
387	Mallory, Joe	7	The results of the value analysis study concluded that a floating pumping plant would be feasible.
387	Mallory, Joe	8	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
387	Mallory, Joe	9	You questioned why a preferred alternative was not identified and whether there was a change in scope from the IP. There is a difference in scope between the programmatic IP (from which this site-specific action is tiered) and the action analyzed here. This action is not intended to encompass all components or elements of the broader, programmatic IP. As to the identification of the agency's preferred alternative, the agencies had no preference for one alternative over another at the SDEIS stage. The intent was to receive and review comments on the alternatives and impacts, and after careful weighing of comments, the agencies would select a preferred alternative that would be identified in the Final EIS. Please note that this is in compliance with the CEQ regulations at §1502.14(e) which states that if the responsible official has no preference at the draft stage, a preferred alternative need not be identified at that time, but by the time the Final EIS is filed, §1502.14(e) requires the selection of a preferred alternative. The identification of the Floating Pumping Plant as the preferred alternative in this FEIS is based on a review of comments and concerns, and based on the missions of the two agencies. Reclamation and Ecology believe this would fulfill both agencies' statutory missions and responsibilities, while considering the economic, environmental, technical and other factors.
387	Mallory, Joe	10	See response to Common Issue 8.

Comment Letter Number	Commenter	Comment Number	Comment Response
387	Mallory, Joe	11	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
387	Mallory, Joe	12	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
387	Mallory, Joe	13	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
387	Mallory, Joe	14	The 2013 "Yakima River Basin Resource Management" law (2SSB 5367) set the vision for the forest and authorized the state Board of Natural Resources to enroll the property as the Teanaway Community Forest under the Community Forest Trust Program. The 2013 state authorizing legislation specifies that if the 214,000 acre feet of water is not developed by 2025, the TCF would be returned to the common school trust. See Section 1.8.2 of the SDEIS for additional details.
387	Mallory, Joe	15	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
387	Mallory, Joe	16	See Figure 4 -2 in this FEIS for additional illustration of proposed drawdown.
387	Mallory, Joe	17	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
387	Mallory, Joe	18	See response to Common Issue 10.
387	Mallory, Joe	19	See response to Common Issue 9.
387	Mallory, Joe	20	See Appendix F of the Final EIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
387	Mallory, Joe	21	See response to Common Issue 11.
387	Mallory, Joe	22	See response to Common Issue 8. As noted, Ecology will conduct an analysis of water availability, potential impairment of existing water rights, beneficial use, and potential detriment to the public interest as part of the water right permitting process
387	Mallory, Joe	23	See response to Common Issue 4.
387	Mallory, Joe	24	See response to Common Issue 17.
387	Mallory, Joe	25	Specific quantities and management of excavated and fill material for this feature would be further refined as part of final design, if KKC is included in the selected alternative.
387	Mallory, Joe	26	As stated in section 4.6, "Short-term exceedances of State surface water quality standards for turbidity may occur during and immediately following runoff events (see Section 4.4.4.2, Surface Water Quality). Increased turbidity would cause negative impacts on fish that visually locate prey and may alter existing predator-prey relationships in shallow shoreline areas (Gregory and Levings, 1998; Hansen et al., 2013)." State of Washington water quality criteria for freshwater areas supporting salmonid rearing, such as Lake Kachess, are not to exceed turbidity levels of 5 NTU, which if exceeded for days to weeks can interfere with fish foraging and growth.
387	Mallory, Joe	27	No permanent habitat loss is predicted for listed fish species including bull trout. As outlined in Section 4.9 of the SDEIS, recent surveys have indicated that suitable habitat occurs throughout much of the areas surrounding the project alternatives, but the area was not found to be currently occupied by spotted owls. Historically owls have occupied areas near the Kachess east shore and they have never been detected in the south shore area. The proposed projects would impact suitable habitat. Pre-construction surveys would be conducted to confirm if this area remains unoccupied. Project impacts would be considered to have no potential effects on northern spotted owls if pre-construction surveys verify that no owls are present within the threshold distances for disturbance or harm.
387	Mallory, Joe	28	See response to Common Issue 16.
387	Mallory, Joe	29	See response to Common Issue 2.
387	Mallory, Joe	30	The DEIS used the 2012 303(d) list, which was the most updated list at the time of the report. The SDEIS used the 2014 303(d) list, which was published between the releases of the DEIS and the SDEIS. As noted in Table 3-9 of the SDEIS, PCBs were listed due to being found in fish tissue and do not have a known source. PCBs were found in fish throughout the river and the reservoirs; downstream Yakima River fish were found to have higher levels of PCBs than upper Yakima River and reservoir fish.

Comment Letter Number	Commenter	Comment Number	Comment Response
387	Mallory, Joe	31	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
387	Mallory, Joe	32	During construction Kachess reservoir would release flows early in the season to meet demands in the System. The goal would be to release Kachess water but not “waste” any water. This would accelerate Kachess usage so that construction could begin as early as possible in the late summer or early fall. Kachess flow would then likely be low in the fall. This would impact mini-flip-flop so that the Keechelus reach would not be open for spawning during construction
387	Mallory, Joe	33	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. See Appendix F of the Final EIS for further information.
387	Mallory, Joe	34	See response to Common Issue 8.
387	Mallory, Joe	35	Pumps would be used when water levels are below the existing gravity outlet to provide flow to the Kachess River.
387	Mallory, Joe	36	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
387	Mallory, Joe	37	Keechelus Reservoir water levels will be managed such that transfers to Kachess Reservoir would occur when there is sufficient water available.
387	Mallory, Joe	38	None of the alternatives affect river flows in such a way that will impact tribal hatcheries.
387	Mallory, Joe	39	Lake Easton will continue to have water in drought years.
387	Mallory, Joe	40	The proposed project would not impact Lake Easton reservoir levels.
387	Mallory, Joe	41	See response to Common Issue 16.
387	Mallory, Joe	42	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.

Comment Letter Number	Commenter	Comment Number	Comment Response
387	Mallory, Joe	43	See response to Common Issue 8.
387	Mallory, Joe	44	See response to Common Issue 8.
387	Mallory, Joe	45	These effects are not reasonably foreseeable, and are outside the scope of this review.
387	Mallory, Joe	46	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.
387	Mallory, Joe	47	See response to Common Issue 17.
387	Mallory, Joe	48	As shown in Section 2.3, backup diesel generators are proposed to be located away from Kachess Reservoir. As discussed in Section 4.4.10, appropriate spill response plans will be developed to prevent spills from entering receiving waters.
387	Mallory, Joe	49	See response to Common Issue 10.
387	Mallory, Joe	50	Thank you for your comment.
388	Mankus, Ashley	1	Thank you for your comment.
388	Mankus, Ashley	2	The potential locations of the pumping plant are described in Chapter 2 of the EIS.
388	Mankus, Ashley	3	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
388	Mankus, Ashley	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
388	Mankus, Ashley	5	Pumped water would go to participating proratable entities.

Comment Letter Number	Commenter	Comment Number	Comment Response
388	Mankus, Ashley	6	Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
389	McShane, Cathie	1	Thank you for your comment.
389	McShane, Cathie	2	See response to Common Issue 4.
390	Misocky, William	1	Thank you for your comment.
391	Moldoveanu, Anca	1	Thank you for your comment.
392	Murphy, Brian	1	See responses to Common Issue 8 and 9.
393	Stevenson-Ness, Amy	1	Thank you for your comment.
393	Stevenson-Ness, Amy	2	See response to Common Issue 4.
394	Ness, Steven	1	Thank you for your comment.
394	Ness, Steven	2	See response to Common Issue 4.
395	Newman, Katherine	1	Thank you for your comment.
395	Newman, Katherine	2	The Integrated Plan selected alternative includes and enhanced water conservation element that is part of the comprehensive strategy presented in the Integrated Plan Final PEIS. The KDRPP and KKC projects are also part of that integrated plan. The KDRPP and KKC EIS addresses those specific projects, and is tiered off of the Integrated Plan Final PEIS.
395	Newman, Katherine	3	The cost of drip irrigation is outside the scope of this EIS. For additional details about alternatives considered, see response to Common Issue 4.
395	Newman, Katherine	4	Section 4.11 describes operational effects on air quality, including dust generated by additional exposed shoreline area with KDRPP alternatives. The additional exposed shoreline could increase the amount of windblown dust, but shoreline materials are mostly stable. Therefore, particulate emissions due to drawdown is not expected to cause air quality or human health impacts.

Comment Letter Number	Commenter	Comment Number	Comment Response
395	Newman, Katherine	5	See response to Common Issues 8 and 12.
395	Newman, Katherine	6	See response to Common Issue 17.
395	Newman, Katherine	7	Reclamation is not aware of this resource; however, is committed to compliance with Paleontological Resources Preservation Act.
395	Newman, Katherine	8	Contaminated soils, if any, encountered in the project, will be handled and disposed of in accordance with applicable laws and regulations.
395	Newman, Katherine	9	Thank you for your comment.
396	Nye, Wes and Debbie	1	Thank you for your comment.
396	Nye, Wes and Debbie	2	See response to Common Issue 4.
396	Nye, Wes and Debbie	3	See response to Common Issue 9.
397	Opel, Kurt	1	Thank you for your comment.
397	Opel, Kurt	2	Thank you for your comment.
397	Opel, Kurt	3	See response to Common Issue 4.
397	Opel, Kurt	4	Reclamation has been working with, and continues to work with the Yakama Nation to resolve potential impacts to resources of tribal concern.
397	Opel, Kurt	5	Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
397	Opel, Kurt	6	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
397	Opel, Kurt	7	See response to Common Issue 8.

Comment Letter Number	Commenter	Comment Number	Comment Response
397	Opel, Kurt	8	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." https://www.usbr.gov/projects/glossary.php#R
397	Opel, Kurt	9	Thank you for your comment.
398	Owens-Fountain, J.J.	1	Thank you for your comment.
399	Pizzo, Kathryn	1	Thank you for your comment.
399	Pizzo, Kathryn	2	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
399	Pizzo, Kathryn	3	See response to Common Issue 9.
399	Pizzo, Kathryn	4	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
399	Pizzo, Kathryn	5	See response to Common Issue 8.
399	Pizzo, Kathryn	6	See response to Common Issue 8.
399	Pizzo, Kathryn	7	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
399	Pizzo, Kathryn	8	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
400	Plouse, Dan	1	Thank you for providing this proposal. Project engineers considered whether this could be superior to those alternatives in this FEIS. Their response is that if the lake bed were excavated and no other changes were made, the additional water stored could not flow to the Kachess River and downstream because it would lie below the existing gravity outlet. A pump station would still be needed to access water below elevation of the existing outlet. Thus, we did not find this proposal to be a feasible, additional alternative, although it will be included in the project record.
401	Poulin, Baraka	1	Thank you for your comment.
401	Poulin, Baraka	2	Thank you for your comment.
401	Poulin, Baraka	3	Power requirements for the East Shore and South Pumping Plants (Alternatives 2 and 3) were estimated during the feasibility study of KDRPP performed in 2014. They account for years when pumping is not required; years when drought-relief pumping is performed; and years when refill operations are under way. The power cost reported in Table 2-5 of the SDEIS shows results for those two alternatives. The power cost for the floating pumping plant (Alternative 4) was a rough estimate using engineering judgment. It is based on changes in the pumping units and physical configuration of Alternative 4 in comparison with Alternatives 2 and 3. All values are discounted over the 100 year period analyzed. The \$5M power cost shown for Alternative 4 is equivalent to approximately \$17.5M over the 100 year period without discounting.
401	Poulin, Baraka	4	Thank you for your comment. Executive Order 13783 (March 28, 2017) withdrew documents regarding social cost of carbon as no longer consistent with government policy. GHG and climate change assessment was retained in the SDEIS and FEIS based on public scoping and at the request of Ecology, but did not include using social cost of carbon as an assessment tool.
401	Poulin, Baraka	5	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
401	Poulin, Baraka	6	See response to Common Issue 15.
401	Poulin, Baraka	7	Thank you for your comment.
402	Quinn, Stewart and Kitchell, Sarah	1	Thank you for your comment.
402	Quinn, Stewart and Kitchell, Sarah	2	See response to Common Issue 8.
402	Quinn, Stewart and Kitchell, Sarah	3	See response to Common Issue 16.

Comment Letter Number	Commenter	Comment Number	Comment Response
402	Quinn, Stewart and Kitchell, Sarah	4	See response to Common Issue 10.
402	Quinn, Stewart and Kitchell, Sarah	5	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
403	Huynh, Heidi	1	Thank you for your comment.
404	Reeves, John	1	Thank you for your comment.
404	Reeves, John	2	Thank you for your comment.
404	Reeves, John	3	Thank you for your comment.
404	Reeves, John	4	Thank you for your comment.
404	Reeves, John	5	Thank you for your comment.
404	Reeves, John	6	See response to Common Issue 4.
404	Reeves, John	7	No acquisition of private property is anticipated for the Preferred Alternative. If private property acquisition is required, procedures for acquisition are described in Section 4.15.10 of this FEIS.
404	Reeves, John	8	Thank you for your comment.
404	Reeves, John	9	Thank you for your comment.
404	Reeves, John	10	Thank you for your comment.
404	Reeves, John	11	See response to Common Issue 4.
404	Reeves, John	12	Thank you for your comment.
404	Reeves, John	13	Thank you for your comment.
404	Reeves, John	14	The Yakama Nation is a cooperator on the project. Reclamation has been working with, and continues to work with the Yakama Nation to resolve potential impacts to resources of tribal concern.
404	Reeves, John	15	Thank you for your comment.
404	Reeves, John	16	Environmental effects were analyzed based on design and operations information sufficient for making reasonable assessment of the impacts of the proposed action and alternatives for the purposes of NEPA and SEPA.

Comment Letter Number	Commenter	Comment Number	Comment Response
404	Reeves, John	17	Thank you for your comment.
404	Reeves, John	18	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
404	Reeves, John	19	See response to Common Issue 11.
404	Reeves, John	20	See response to Common Issue 4.
404	Reeves, John	21	The Final Programmatic EIS on the Integrated Plan documented establishment of the 70 percent prorationing target for water supply. The amount of water that KDRPP would provide contributes toward achieving this target.
404	Reeves, John	22	See response to Common Issue 11.
404	Reeves, John	23	In drought years where pumping occurs, Roza alone were using the facility, the maximum quantity likely to be needed in the worst historic drought year would have been approximately 70,000 acre-feet.
404	Reeves, John	24	Additional figures to illustrate visual impacts have been added to Section 4.10 of this FEIS.
404	Reeves, John	25	Figures in this FEIS have been added and updated for consistency.
404	Reeves, John	25	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
404	Reeves, John	26	Thank you for your comment.
404	Reeves, John	27	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
404	Reeves, John	28	Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
404	Reeves, John	29	The operation effects of KKC are not anticipated to adversely affect groundwater. See Section 4.5.7. The scope of the environmental justice analysis is appropriate for this environmental review.
404	Reeves, John	30	See response to Common Issue 4.
404	Reeves, John	31	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
404	Reeves, John	32	No surveys have been done in Lake Kachess to identify the species of freshwater shellfish that exist in the lake and therefore impacts to freshwater invertebrates (reduced survival and productivity) are described in general terms in the SDEIS. The California floater (<i>Anodonta californiensis</i>) is a freshwater mussel that is recently listed as a State of Washington candidate priority species, however no specific knowledge of this species exists in Lake Kachess.
404	Reeves, John	33	See response to Common Issue 15.
404	Reeves, John	34	Additional figures to illustrate visual impacts have been added to Section 4.10 of this FEIS.
404	Reeves, John	35	See response to Common Issue 17.
404	Reeves, John	36	Reclamation will require best management practices for construction and operational activities (like fuel delivery) to minimize impacts like fugitive dust emissions from such activities. Carbon emissions were considered for anticipated construction activities consistent, see Section 4.12 of the SDEIS.
404	Reeves, John	37	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
404	Reeves, John	38	The proposed roughened channel would be constructed out of rock that would not be impacted by being submerged under water; therefore, no long-term erosion issues from the channel are anticipated. Final design of the roughened channel will consider soil and geological conditions and the channel will be designed to minimize erosion potential.
404	Reeves, John	39	Construction traffic impacts were estimated based on proposed activities and are documented in Section 4.17 of the SDEIS.
404	Reeves, John	40	Reclamation has identified the Yakama Nation and the Colville Confederated Tribes as Tribes with a cultural connection with the project area and they are consulted with on a continual basis. Reclamation continues to work with these Tribes in addressing potential impacts to resources of tribal concern.
404	Reeves, John	41	The image in question has not been modified to deceive. Please see Figure 4-2 of the SDEIS for the latest version.
404	Reeves, John	42	See response to Common Issue 8.
404	Reeves, John	43	This question is outside the scope of the environmental analysis in the EIS.
404	Reeves, John	44	The comment is outside of the scope of the proposed action. These questions should be directed to the USFS or Washington State Parks.
404	Reeves, John	45	See response to Common Issue 4.
404	Reeves, John	46	Thank you for your comment.
404	Reeves, John	47	Thank you for your comment.
404	Reeves, John	48	Thank you for your comment.
405	Rodstrom, Angelina	1	Thank you for your comment.
406	Roshchuk, Inna	1	Thank you for your comment.
407	Ryan, Delaney	1	Reclamation has an existing agreement with WDFW to address fish passage and monitoring at Box Canyon Creek to provide fish passage at low flows during droughts. Withdrawing additional water will not affect fish passage at Box Canyon Creek and other upstream tributaries flowing into Little Kachess, because water levels in Little Kachess will not fall below historic levels. Reclamation and Ecology are committed to implementing BTE projects, including Box Canyon Creek. See Appendix C for additional details.
407	Ryan, Delaney	2	Impacts from the artificial channel from Lake Kachess to Box Canyon Creek are outside the scope of this EIS.
408	Johnson, Christine	1	Thank you for your comment.
408	Johnson, Christine	2	Thank you for your comment.
408	Johnson, Christine	3	See response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
408	Johnson, Christine	4	The NEPA adequacy of the Programmatic EIS is not under consideration in this environmental review. This EIS was tiered to the Programmatic EIS but this FEIS provides a site specific analysis of the KDRPP and KKC alternatives.
408	Johnson, Christine	5	Reclamation has identified the Yakama Nation and the Colville Confederated Tribes as Tribes with a cultural connection with the project area and they are consulted with on a continual basis. Reclamation continues to work with these Tribes in addressing potential impacts to resources of tribal concern.
408	Johnson, Christine	6	Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
408	Johnson, Christine	7	Thank you for your comment.
408	Johnson, Christine	8	See Section 3.3.1 of the SDEIS for a description of Yakima Project operations. The five reservoirs in the Yakima Project are operated in a coordinated manner to provide for surface water needs of the system as a whole; no single reservoir is designated to supply the needs of any particular area. Water rights senior to Reclamation's water right will not be impacted.
408	Johnson, Christine	9	The results of the value analysis study concluded that a floating pumping plant would be feasible.
408	Johnson, Christine	10	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.
408	Johnson, Christine	11	NEPA allows refinement of the proposed action to get to a preferred alternative. Impacts were fully disclosed in the SDEIS and FEIS, and mitigation measures will be stated in the Record of Decision.

Comment Letter Number	Commenter	Comment Number	Comment Response
408	Johnson, Christine	12	The SDEIS was updated with additional information about the potential for the proposal to cause impacts on wells. The Washington Department of Ecology (Ecology) is monitoring six wells around Kachess Reservoir to better understand the potential impact of KDRPP operation. The results of that monitoring have been incorporated into the SDEIS and indicate that about 15 of the 107 wells in the primary study area may be impacted by reservoir operations. Project proponents will continue to monitor a select number of wells near Kachess Reservoir to determine whether groundwater levels are lowered by additional reservoir drawdown attributable to the action alternatives and would coordinate with affected parties. If well water levels are adversely affected to the point that well yields are decreased and therefore compromise property use, some of the potential options may include but are not limited to: changing the intake elevation of a pump, deepening the well, or drilling a new well. Site specific information would be required to select a mitigation method.
408	Johnson, Christine	13	Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
408	Johnson, Christine	14	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
408	Johnson, Christine	15	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.

Comment Letter Number	Commenter	Comment Number	Comment Response
408	Johnson, Christine	16	The 2013 “Yakima River Basin Resource Management” law (2SSB 5367) set the vision for the forest and authorized the state Board of Natural Resources to enroll the property as the Teanaway Community Forest under the Community Forest Trust Program. The 2013 state authorizing legislation specifies that if the 214,000 acre feet of water is not developed by 2025, the TCF would be returned to the common school trust. See Section 1.8.2 of the SDEIS for additional details.
408	Johnson, Christine	17	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomic assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
408	Johnson, Christine	18	Figure 4-2 in this FEIS illustrates the shoreline area under 200,000 acre feet drawdown scenario.
408	Johnson, Christine	19	See response to Common Issue 6.
408	Johnson, Christine	20	See response to Common Issue 13.
408	Johnson, Christine	21	Reducing reservoir levels would not cause the surrounding landscape to dry out and become more susceptible to fire risk (Ecology 2015).
408	Johnson, Christine	22	See response to Common Issue 9.
408	Johnson, Christine	23	See responses to Common Issues 8 and 12.
408	Johnson, Christine	24	See response to Common Issue 11.
408	Johnson, Christine	25	See response to Common Issue 8. As noted, Ecology will conduct an analysis of water availability, potential impairment of existing water rights, beneficial use, and potential detriment to the public interest as part of the water right permitting process
408	Johnson, Christine	26	See response to Common Issue 4.
408	Johnson, Christine	27	Section 4.13 provides discussion of the expected noise impacts from operation of the project.
408	Johnson, Christine	28	Disposal areas have yet to be identified; for this SDEIS analysis, Reclamation assumed the offsite location would be within 10 miles of the Keechelus Reservoir. An existing quarry near Keechelus Dam may be available for disposing of the crushed material excavated from the tunnel. Depending on construction timing, WSDOT could potentially use the material as fill for the I-90 improvement project. Reclamation would ensure that all required permits and clearances are obtained for use of any material disposal area(s).

Comment Letter Number	Commenter	Comment Number	Comment Response
408	Johnson, Christine	29	As stated in section 4.6, "Short-term exceedances of State surface water quality standards for turbidity may occur during and immediately following runoff events (see Section 4.4.4.2, Surface Water Quality). Increased turbidity would cause negative impacts on fish that visually locate prey and may alter existing predator-prey relationships in shallow shoreline areas (Gregory and Levings, 1998; Hansen et al., 2013)." State of Washington water quality criteria for freshwater areas supporting salmonid rearing, such as Lake Kachess, are not to exceed turbidity levels of 5 NTU, which if exceeded for days to weeks can interfere with fish foraging and growth.
408	Johnson, Christine	30	No permanent habitat loss is predicted for listed fish species including bull trout. As outlined in Section 4.9 of the SDEIS, recent surveys have indicated that suitable habitat occurs throughout much of the areas surrounding the project alternatives, but the area was not found to be currently occupied by spotted owls. Historically owls have occupied areas near the Kachess east shore and they have never been detected in the south shore area. The proposed projects would impact suitable habitat. Pre-construction surveys would be conducted to confirm if this area remains unoccupied. Project impacts would be considered to have no potential effects on northern spotted owls if pre-construction surveys verify that no owls are present within the threshold distances for disturbance or harm.
408	Johnson, Christine	31	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
408	Johnson, Christine	32	See response to Common Issue 2.
408	Johnson, Christine	33	The DEIS used the 2012 303(d) list, which was the most updated list at the time of the report. The SDEIS used the 2014 303(d) list, which was published between the releases of the DEIS and the SDEIS. As noted in Table 3-9 of the SDEIS, PCBs were listed due to being found in fish tissue and do not have a known source. PCBs were found in fish throughout the river and the reservoirs; downstream Yakima River fish were found to have higher levels of PCBs than upper Yakima River and reservoir fish.
408	Johnson, Christine	34	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
408	Johnson, Christine	35	Impacts from construction for each alternative and each resource are described in Chapter 4 of this FEIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
408	Johnson, Christine	36	Reclamation and Ecology have jointly prepared the DEIS, SDEIS, and Final EIS, including responses to comments.
409	Sequin, Kaitlyn	1	Thank you for your comment.
410	Sequin, Kaitlyn	1	Thank you for your comment.
410	Sequin, Kaitlyn	2	Thank you for your comment.
410	Sequin, Kaitlyn	3	Thank you for your comment.
410	Sequin, Kaitlyn	4	See response to Common Issue 4.
410	Sequin, Kaitlyn	5	The purpose and need for the proposed action are described in the Supplemental EIS Executive Summary and in Section 1.3
410	Sequin, Kaitlyn	6	See response to Common Issue 4.
410	Sequin, Kaitlyn	7	Reclamation has identified the Yakama Nation and the Colville Confederated Tribes as Tribes with a cultural connection with the project area and they are consulted with on a continual basis on cultural resources issues. The Yakama Nation and the Umatilla Tribes have potential Indian Trust Assets (ITAs)(water rights). Reclamation continues to work with these Tribes in addressing potential impacts to resources of tribal concern. The Snoqualmie Tribe has not been identified as having a cultural connection to the project area, and do have any ITAs, and have not requested to be consulted.
410	Sequin, Kaitlyn	8	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
410	Sequin, Kaitlyn	9	The results of the value analysis study concluded that a floating pumping plant would be feasible.
410	Sequin, Kaitlyn	10	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project. The public has had the opportunity to comment on the potential costs during the DEIS and SDEIS comment periods.
410	Sequin, Kaitlyn	11	NEPA allow refinement of the proposed action to get to a preferred alternative. Impacts were fully disclosed in the SDEIS and FEIS, and mitigation measures will be stated in the Record of Decision.
410	Sequin, Kaitlyn	12	See response to Common Issue 8.

Comment Letter Number	Commenter	Comment Number	Comment Response
410	Sequin, Kaitlyn	13	See response to Common Issue 3.
410	Sequin, Kaitlyn	14	Following the Draft EIS, Ecology conducted a review of groundwater elevations around Kachess Lake, downstream of the reservoir, Lake Easton will continue to serve as a recharge boundary and maintain groundwater levels near the lake.
410	Sequin, Kaitlyn	15	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
410	Sequin, Kaitlyn	16	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
410	Sequin, Kaitlyn	17	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
410	Sequin, Kaitlyn	18	The 2013 "Yakima River Basin Resource Management" law (2SSB 5367) set the vision for the forest and authorized the state Board of Natural Resources to enroll the property as the Teanaway Community Forest under the Community Forest Trust Program. The 2013 state authorizing legislation specifies that if the 214,000 acre feet of water is not developed by 2025, the TCF would be returned to the common school trust. See Section 1.8.2 of the SDEIS for additional details.
410	Sequin, Kaitlyn	19	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
410	Sequin, Kaitlyn	20	See Figure 4 -2 in this FEIS for additional illustration of proposed drawdown.
411	Sheldon, Jeanne	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
411	Sheldon, Jeanne	2	Thank you for your comment.
411	Sheldon, Jeanne	3	Thank you for your comment.
411	Sheldon, Jeanne	4	Thank you for your comment.
411	Sheldon, Jeanne	5	Several others commented about the use of the term "lake" or "reservoir." Your comment is the only one citing the U.S. Board on Geographic Names, and yes, you are correct that federal agencies usually apply whatever name is officially designated by the Board and used in the Geographic Names Information System. However, Reclamation is sensitive to those members of the public who object to the use of the term "lake" for any artificial impoundment of water managed by the agency. . Therefore, "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
411	Sheldon, Jeanne	6	Construction best management practices would minimize environmental effects of the boat ramp construction. Project proponents will coordinate with USFS regarding management of roads for access to the boat ramp.
411	Sheldon, Jeanne	7	Thank you for your comment.
411	Sheldon, Jeanne	8	Thank you for your comment.
411	Sheldon, Jeanne	9	See Section 1.5 in SDEIS about considerations that led to the addition of the floating pumping plant alternative. Chapter 4 of this FEIS discloses adverse effects and mitigation measures.
411	Sheldon, Jeanne	10	See response to Common Issue 13.
411	Sheldon, Jeanne	11	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
411	Sheldon, Jeanne	12	See response to Common Issue 16.
411	Sheldon, Jeanne	13	See response to Common Issue 9.

Comment Letter Number	Commenter	Comment Number	Comment Response
411	Sheldon, Jeanne	14	As stated in section 4.6, "Short-term exceedances of State surface water quality standards for turbidity may occur during and immediately following runoff events (see Section 4.4.4.2, Surface Water Quality). Increased turbidity would cause negative impacts on fish that visually locate prey and may alter existing predator-prey relationships in shallow shoreline areas (Gregory and Levings, 1998; Hansen et al., 2013)." State of Washington water quality criteria for freshwater areas supporting salmonid rearing, such as Lake Kachess, are not to exceed turbidity levels of 5 NTU, which if exceeded for days to weeks can interfere with fish foraging and growth.
411	Sheldon, Jeanne	15	See response to Common Issue 7.
411	Sheldon, Jeanne	16	Thank you for your comment.
411	Sheldon, Jeanne	17	Thank you for your comment.
412	Siegel, Jessica	1	Thank you for your comment.
412	Siegel, Jessica	2	Reclamation has an existing agreement with WDFW to address fish passage and monitoring at Box Canyon Creek to provide fish passage at low flows during droughts. Withdrawing additional water will not affect fish passage at Box Canyon Creek and other upstream tributaries flowing into Little Kachess, because water levels in Little Kachess will not fall below historic levels. Reclamation and Ecology are committed to implementing BTE projects, including Box Canyon Creek. See Appendix C for additional details.
412	Siegel, Jessica	3	Please see the response to comment 364.3, who attached the same photograph of what appears to be organic matter—not solid waste. While we cannot comment on whether this particular substance would be classified as a pollutant under the legal definition at 33 USC §1362(6), please be assured that the WDFW maintains the fish passage at Box Canyon Creek in compliance with all applicable sections of the Clean Water Act and all applicable state and local laws. Also, please note that this FEIS has been updated regarding the applicability of the Shoreline Management Act. See Section 3.15.2.3.
413	Simmons, Stephen	1	Thank you for your comment.
413	Simmons, Stephen	2	Thank you for your comment.
413	Simmons, Stephen	3	The Integrated Plan includes improvements to water supply and ecosystem functions. Both of these are fully consistent with the missions of Reclamation and Ecology. The proposed action is being undertaken in conformance with the Integrated Plan and these missions.
413	Simmons, Stephen	4	Thank you for your comment.
413	Simmons, Stephen	5	Thank you for your comment.
413	Simmons, Stephen	6	See response to Common Issue 4.
413	Simmons, Stephen	7	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
413	Simmons, Stephen	8	Thank you for your comment.
413	Simmons, Stephen	9	Thank you for your comment.
413	Simmons, Stephen	10	Thank you for your comment.
413	Simmons, Stephen	11	The SDEIS has been updated regarding the applicability of the Shoreline Management Act. See Section 3.15.2.3.
413	Simmons, Stephen	12	See response to Common Issue 8.
413	Simmons, Stephen	13	Thank you for your comment.
413	Simmons, Stephen	14	See response to Common Issue 4.
413	Simmons, Stephen	15	The purpose and need for the proposed action are described in the SDEIS Executive Summary and in Section 1.3
413	Simmons, Stephen	16	See response to Common Issue 4.
413	Simmons, Stephen	17	See response to Common Issue 4.
413	Simmons, Stephen	18	See response to Common Issue 4.
413	Simmons, Stephen	19	The NEPA adequacy of the Programmatic EIS is not under consideration in this environmental review. This EIS was tiered to the Programmatic EIS but this FEIS provides a site specific analysis of the KDRPP and KKC alternatives.
413	Simmons, Stephen	20	Thank you for your comment.
413	Simmons, Stephen	21	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
413	Simmons, Stephen	22	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." https://www.usbr.gov/projects/glossary.php#R

Comment Letter Number	Commenter	Comment Number	Comment Response
413	Simmons, Stephen	23	Thank you for your comment.
413	Simmons, Stephen	24	Evaluation of wetlands at an inventory level to compare EIS alternatives is adequate. Wetlands that will be directly impacted by the project will be delineated as required for federal, state, and local permits.
413	Simmons, Stephen	25	As described in Section 4.4 of the SDEIS, Keechelus Reservoir would provide cool water to Kachess Reservoir, so the impacts to water temperature would be less than Alternatives without KKC. If temperature modeling of Keechelus Reservoir were completed, temperatures would likely be cooler than those described in Alternatives 2, 3, and 4.
413	Simmons, Stephen	26	As described in Section 4.4 of the SDEIS, Keechelus Reservoir would provide cool water to Kachess Reservoir, so the impacts to water temperature would be less than Alternatives without KKC. If temperature modeling of Keechelus Reservoir were completed, temperatures would likely be cooler than those described in Alternatives 2, 3, and 4.
413	Simmons, Stephen	27	Please note that recent hydrodynamic modeling was performed to more accurately estimate the change in zooplankton abundance with different pumping scenarios from different lake strata (see section 4.6.6.2 and PSU 2017b). The modeling supports the assessment of impacts of Alternative 4 and provides a comparison with the aquatic system impacts of the other KDRPP alternatives for the purposes of NEPA. As noted in this FEIS, additional hydrodynamic and bioenergetics modeling would be needed to determine precise responses for individual species, but that is not necessary for this EIS.
413	Simmons, Stephen	28	Renderings of action alternatives are presented in Chapter 2 of this FEIS. Additional detailed engineering drawings are presented in the reports supporting this FEIS and available on Reclamation's website at
413	Simmons, Stephen	29	The "No Action" Alternative does not involve any spending that could be modeled using IMPLAN. The IMPLAN results related to agricultural output represent net gains for each alternative as measured against the "No Action" alternative.
413	Simmons, Stephen	30	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
413	Simmons, Stephen	31	Generally a decrease in lake temperature would benefit cold-water associated species like salmonids. As described in section 4.4, If a severe long-term drought occurs where water supply conditions are expected to be 75 percent or less of the normal supply for multiple years, water levels in the reservoirs could substantially drop. As the Kachess Reservoir's water levels drop the amount of nearshore shallow water subject to heating would be reduced and the reservoir would be expected to be cooler than in non-drought years.

Comment Letter Number	Commenter	Comment Number	Comment Response
413	Simmons, Stephen	32	<p>“Reservoir balancing” is a term used to refer to a process where releases are made to meet instream flow and water delivery requirements so that the remaining usable storage in each of the five Yakima River basin reservoirs is relatively consistent. Remaining usable storage is not kept equal, because each reservoir’s capacity, usability, and refill characteristics are different.</p> <p>Yakima River basin operations are performed by human decision-makers, on a real time basis, using the best available measurements of current and projected future conditions of water availability and need. The operator also incorporates qualitative input concerning reservoir releases that may be available from resource agencies and water users. At times, these operational decision may also be tested by using specialized model runs and other software.</p> <p>The YAKRW planning model used to support this EIS makes a given decision on how much water to release from each reservoir based upon rules coded into model logic that are controlled by similar, but more limited, water availability and need data (including a fixed set of projected future conditions). The model logic is designed to approximately duplicate the human decision-maker’s operational decisions, and it generally does. But the model does not have all of the same information available to it, and it is not able to make subjective adjustments, to use intuition, or to incorporate certain unquantifiable inputs and information.</p> <p>The model is not deficient nor does it use inaccurate assumptions. The model does not have available to it all of the intangible inputs that real-time operations include, but it is still an appropriate tool to support analysis of alternatives in this EIS and support operational decision-making. Additionally, with respect to the specific case of reservoir balancing under conditions when KDRPP has been constructed, model logic is an estimate of operational procedures that have not yet been developed, because the project has not been constructed.</p>
413	Simmons, Stephen	33	Climate change effects on reservoir levels and stream flows, and the effects of alternatives considering those climate change effects, are described in Section 4.12 of the SDEIS.
413	Simmons, Stephen	34	Refill period would be 2 to 5 years. This FEIS has been revised for consistency.
413	Simmons, Stephen	35	There is not a “target pool elevation” for refill, but rather refill goals while still meeting delivery and instream flow targets, and that KKC would accelerate refill

Comment Letter Number	Commenter	Comment Number	Comment Response
413	Simmons, Stephen	36	<p>The volitional fish passage channel will convey all flow leaving Little Kachess up to 100 cfs into Big Kachess. The waters in the volitional fish passage channel will remain the same native headwaters that flow through the Narrows and into Big Kachess today as they have for thousands of years. The entrance to the volitional fish passage channel will be comprised of the same alluvium that the Narrows Channel is comprised of now. The entrance to the volitional fish passage channel will be anywhere from 100 feet away to 2,600 feet away from the existing entrance to the Narrows channel, depending on the water surface elevation in Big Kachess when KDRPP and the volitional fish passage channel is in operation. Therefore, there are no known concerns associated with fish being able to find and enter the volitional fish passage channel. The upstream passage of fish into Box Creek Canyon is an existing, separate and independent issue from the volitional fish passage channel at the Narrows.</p>
413	Simmons, Stephen	37	<p>See Section 1.5 of this FEIS. In 2016, Roza Irrigation District (a proratable entity) utilized the value analysis and proposed to construct and operate a “drought emergency” temporary floating pumping plant, referred to as the Kachess Emergency Temporary Floating Pumping Plant (KETFPP). Roza determined that the KETFPP would allow access to an additional 50,000 acre-feet of water below the existing reservoir outlet for the upcoming 2016 irrigation season, if the 2015 drought continued.</p> <p>With new information accumulated during Roza’s emergency efforts, Reclamation and Ecology collaborated with Roza to consider the substantial change in engineering knowledge accumulated, which indicated that a larger-scale floating pumping plant could be feasible in achieving the KDRPP purposes. Reclamation and Ecology determined an SDEIS would be required to consider a new floating pumping plant alternative that would withdraw an additional 200,000 acre-feet of water (below the existing gravity outlet works) from Kachess Reservoir. This additional alternative intends to provide the same benefits to the Yakima River basin as the South and East Shore KDRPP project alternatives described in the DEIS.</p>
413	Simmons, Stephen	38	<p>The results of the value analysis study concluded that a floating pumping plant would be feasible.</p>
413	Simmons, Stephen	39	<p>If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.</p>
413	Simmons, Stephen	40	<p>If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.</p>
413	Simmons, Stephen	41	<p>NEPA allow refinement of the proposed action to get to a preferred alternative. Impacts were fully disclosed in the SDEIS and FEIS, and mitigation measures will be stated in the Record of Decision.</p>
413	Simmons, Stephen	42	<p>Comment is outside the scope of an EIS.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
413	Simmons, Stephen	43	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomic assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
413	Simmons, Stephen	44	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomic assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
413	Simmons, Stephen	45	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomic assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
413	Simmons, Stephen	46	See response to Common Issue 17.
413	Simmons, Stephen	47	The proposed action would not, of itself, induce farming or other land use changes. It would operate only during drought years when less than 70 percent water supply is available.
413	Simmons, Stephen	48	The proposed action would not, of itself, induce farming or other land use changes. It would operate only during drought years when less than 70 percent water supply is available.
413	Simmons, Stephen	49	As described in the SDEIS, the Volitional Bull Trout Passage Improvements would produce economic impacts in the same manner as the other construction spending for the project. Detailed data sufficient to quantify these impacts, including construction cost estimates, were not available at the time of preparation. Because the impacts are expected to be positive and less than the construction costs for the main actions of the alternatives, quantification of these impacts is non-essential to the decision-making process.
413	Simmons, Stephen	50	See response to Common Issue 10.
413	Simmons, Stephen	51	Figure 4-2 in this FEIS illustrates the shoreline area under 200,000 acre feet drawdown scenario.
413	Simmons, Stephen	52	See response to Common Issue 15.
413	Simmons, Stephen	53	See response to Common Issue 8.
413	Simmons, Stephen	54	Water quality was considered in the assessment of impacts to fish was considered in the EIS. See Section 4.6.
413	Simmons, Stephen	55	Operations would not have noise impacts. Pumps are electric and noise would not impact residences or campgrounds.
413	Simmons, Stephen	56	See response to Common Issue 16.
413	Simmons, Stephen	57	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
413	Simmons, Stephen	58	See response to Common Issue 15.
413	Simmons, Stephen	59	See response to Common Issue 8.
413	Simmons, Stephen	60	See response to Common Issue 3.
413	Simmons, Stephen	61	See response to Common Issue 10.
413	Simmons, Stephen	62	See response to Common Issue 10.
413	Simmons, Stephen	63	Following the Draft EIS, Ecology conducted a review of groundwater elevations around Kachess Lake, downstream of the reservoir, Lake Easton will continue to serve as a recharge boundary and maintain groundwater levels near the lake.
413	Simmons, Stephen	64	Thank you for your comment.
413	Simmons, Stephen	65	The environmental impacts of drawdown are addressed in Chapter 4 of the EIS.
413	Simmons, Stephen	66	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
413	Simmons, Stephen	67	See response to Common Issue 16.
413	Simmons, Stephen	68	See response to Common Issue 16.
413	Simmons, Stephen	69	See response to Common Issue 16.
413	Simmons, Stephen	70	Species that would be affected by changes in instream flow in the upper Yakima River include anadromous salmonid species (Chinook, coho, and sockeye salmon and steelhead) that do not have access to Lake Kachess, and are therefore a different suite of species than those affected in Lake Kachess. Note that while Alternatives 2, 3, and 4 cause increases in annual instream flow that decrease habitat suitability in summer in the upper Yakima River reaches in drought years, Alternatives 5A, 5B, and 5C reduce summer flow in the Keechelus Reach and Easton Reach, providing a large benefit to summer-rearing salmonids.
413	Simmons, Stephen	71	Effects of KDRPP on the food web were studied, including studies that were completed following the DEIS and used in updates presented in the SDEIS (Berger and Wells 2017, Hanson 2015, Hanson 2017), in Sections 3.6 and 4.6.

Comment Letter Number	Commenter	Comment Number	Comment Response
413	Simmons, Stephen	72	Withdrawing additional water will not affect fish passage at Box Canyon Creek and other upstream tributaries flowing into Little Kachess, because water levels in Little Kachess will not fall below historic levels. Reclamation and Ecology are committed to implementing BTE projects, including Box Canyon Creek.
413	Simmons, Stephen	73	Estimated cost of volitional bull trout passage is included in Section 2.7.2 of the SDEIS. It was not included in the cost comparison of action alternatives because would be included in, and the same for, all alternatives.
413	Simmons, Stephen	74	The volitional fish passage channel will convey all flow leaving Little Kachess up to 100 cfs into Big Kachess. The waters in the volitional fish passage channel will remain the same native headwaters that flow through the Narrows and into Big Kachess today as they have for thousands of years. The entrance to the volitional fish passage channel will be comprised of the same alluvium that the Narrows Channel is comprised of now. The entrance to the volitional fish passage channel will be anywhere from 100 feet away to 2,600 feet away from the existing entrance to the Narrows channel, depending on the water surface elevation in Big Kachess when KDRPP and the volitional fish passage channel is in operation. Therefore, there are no known concerns associated with fish being able to find and enter the volitional fish passage channel. The upstream passage of fish into Box Creek Canyon is an existing, separate and independent issue from the volitional fish passage channel at the Narrows.
413	Simmons, Stephen	75	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
413	Simmons, Stephen	76	The RiverWare modeling used in analyzing KDRPP includes the entire Reclamation system of storage reservoirs. Pumping through KDRPP can be readily accommodated in the system. See Appendix F for additional details.
413	Simmons, Stephen	77	See Appendix F of the Final EIS for details of refill operations and effect on TWSA.
413	Simmons, Stephen	78	See response to Common Issue 4. Roza and other potentially participating entities are currently improving canals to improve conservation.
413	Simmons, Stephen	79	See response to Common Issue 5.

Comment Letter Number	Commenter	Comment Number	Comment Response
413	Simmons, Stephen	80	Development of the Integrated Plan included consideration of prior studies of multiple surface-water storage sites in the Yakima River Basin. The surface-water sites identified were considered to be the most practical and would have the least impact on natural resources. Three storage sites are identified in the Integrated Plan Wymer Dam and Reservoir, Bumping Reservoir Enlargement, and use of inactive pool storage at Kachess Reservoir via KDRPP. The Integrated Plan also includes use of subsurface storage in to capture high winter flows."
413	Simmons, Stephen	81	Thank you (and commenter 448) for the response about future climate change and hydrologic effects to Lake Kachess being "most certainly a cumulative impact." We would like to clarify the difference between the cumulative effects analysis in Section 4.25 of this FEIS and the projection of hydrological effects of the alternatives in Section 4.3. A multi-year drought or reservoir drawdown that you describe is a statistically probable future condition that was modeled and incorporated into the Environmental Consequences assessment. A cumulative impact analysis on water resources is performed by identifying current and reasonably foreseeable actions or projects within the regional study area that are expected to occur regardless of the alternative selected. The effect of these actions or projects are then added to those in the Environmental Consequences resource-specific sections. We hope this clarifies the difference in analyses and explains why no change to this FEIS was made in response to your comment.
413	Simmons, Stephen	82	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
413	Simmons, Stephen	83	Thank you for your comment.
413	Simmons, Stephen	84	Thank you for your comment.
414	Snow, Kelly	1	Thank you for your comment.
414	Snow, Kelly	2	Thank you for your comment.
414	Snow, Kelly	2	Thank you for your comment.
414	Snow, Kelly	3	Thank you for your comment.
414	Snow, Kelly	4	Acquisition of real property interests based on design concepts for the alternatives are summarized in Section 4.15 of the SDEIS. Reclamation would comply with Federal property acquisition policies. Reclamation would survey properties before construction to determine whether acquisition is required. Reclamation would follow the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601) and the procedures described in the 2003 Reclamation Manual Directives and Standards LND 06-01 for any property or easement acquisition.
414	Snow, Kelly	5	See response to Common Issue 9.

Comment Letter Number	Commenter	Comment Number	Comment Response
414	Snow, Kelly	6	See response to Common Issue 9.
414	Snow, Kelly	7	See response to Common Issue 9.
414	Snow, Kelly	8	See response to Common Issue 9.
414	Snow, Kelly	9	Section 4.2.10 of this FEIS describes mitigation measures to address potential erosion impacts.
414	Snow, Kelly	10	See response to Common Issue 8.
414	Snow, Kelly	11	See response to Common Issue 10.
414	Snow, Kelly	12	See response to Common Issue 4.
414	Snow, Kelly	13	Reclamation and Ecology have jointly prepared the DEIS, SDEIS, and Final EIS, including responses to comments.
415	Stemley, Craig	1	Thank you for your comment.
416	Stroup, Ashley	1	Thank you for your comment.
417	Tavener, Starr	1	Thank you for your comment.
418	Thomas, Joel	1	See response to Common Issue 4.
419	Tidball, Emily	1	Thank you for your comment.
419	Tidball, Emily	2	Thank you for your comment.
420	de la Chapelle, Charlie	1	Thank you for your comment.
420	de la Chapelle, Charlie	2	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project and therefore provide direction on how farmers would be charged. The participating proratable irrigation districts will rely upon existing funding mechanisms to fund the project.
420	de la Chapelle, Charlie	3	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
420	de la Chapelle, Charlie	4	Alternatives 5A, 5B, and 5C analyses take into account water availability in Keechelus Reservoir for transfer to Kachess Reservoir during droughts. As discussed in Section 4.3.2, the time to refill Kachess Reservoir to normal operating levels is 2 to 5 years following a drought.

Comment Letter Number	Commenter	Comment Number	Comment Response
420	de la Chapelle, Charlie	5	A comparative analysis of flows under different alternatives up to the Wapato Reach (Parker) is provided in section 4.3, Surface Water. As explained in section 4.3, the drought-year changes in flow downstream of Roza Dam would remain within current operating flows experienced in most years. Downstream from Roza Dam to the Parker gage, the relative change in streamflow would be less than in upstream reaches because some or most of the additional water supplied by KDRPP would be diverted. Any remaining increased supply could be diverted by WIP at Wapato Dam. The small change in streamflow downstream from Parker gage on the Yakima River would occur as Kachess Reservoir refills after a drought. The change would occur in winter and spring. The change would occur in winter and spring. As summarized in Tables 4-32 and 4-33 (Alternatives 2, 3, and 4), winter and spring flows at Parker are reduced by up to 1.2 percent. During refill years, high exceedance flows are reduced by 2.9 percent. As summarized In Tables 4-69 and 4-70 (Alternatives 5A, 5B, and 5C) winter and spring flows are reduced by up to 1.6 percent. During refill years, high exceedance flows are reduced by 4.6 percent.
420	de la Chapelle, Charlie	6	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
420	de la Chapelle, Charlie	7	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
421	Walker, Scott	1	Thank you for your comment.
422	Aiken, Michael	1	Thank you for your comment.
422	Aiken, Michael	2	Much of the water used during the irrigation season comes from melting snow. Therefore increases in snow could increase irrigation-season water supply. Increase in rainfall however, does not improve supply, because the increase would come primarily during the non-irrigation season. Additional rain at that time of year would drain through the Yakima River and Columbia River system to the Pacific Ocean, and would not remain in the basin to be used during the irrigation season. In other words, Reclamation lacks storage capacity to store additional rainfall during this time of year.
422	Aiken, Michael	3	See response to Common Issue 4.
422	Aiken, Michael	4	See response to Common Issue 4. Study of the Columbia River Pump Exchange is identified in the Surface Water Storage Element of the Integrated Plan Final Programmatic EIS Preferred Alternative. It was not considered as an alternative because this was a project-specific EIS for the KDRPP and KKC projects identified in the Integrated Plan.

Comment Letter Number	Commenter	Comment Number	Comment Response
422	Aiken, Michael	5	See response to Common Issue 4. Multiple new storage projects (though not a Gold Creek Reservoir, were considered but not carried forward as part of the Integrated Plan development (see Integrated Plan FPEIS Section 2.5.2).
422	Aiken, Michael	6	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
422	Aiken, Michael	7	Throughout Section 4.3 of the SDEIS, details were added that describe impacts to streamflow and water levels during refill periods.
423	Benediktsson, Mike	1	Thank you for your comment.
423	Benediktsson, Mike	2	See response to Common Issue 8.
423	Benediktsson, Mike	3	See response to Common Issues 8 and 12.
423	Benediktsson, Mike	4	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
423	Benediktsson, Mike	5	Impacts to fish at the population level have not been modeled or estimated, rather the change in fish productivity is inferred from a change in available habitat during key times of the year with changes in instream flow downstream of the reservoirs. Estimation of the number of ESA-listed species that will be encountered and/or killed in construction and operation of the preferred alternative as well as implementation of measures to prevent losses will be calculated in consultation with USFWS under the Endangered Species Act. Consultation with The USFWS and NMFS which is ongoing, as explained in section 4.9.10 of the SDEIS.
423	Benediktsson, Mike	6	There are no plans to improve the road.
424	Black, Christopher	1	See response to Common Issue 8.
424	Black, Christopher	2	See response to Common Issue 9.
424	Black, Christopher	3	Thank you for your comment.
424	Black, Christopher	4	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
424	Black, Christopher	5	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
424	Black, Christopher	6	Thank you for your comment.
425	Bocek, S	1	Thank you for your comment.
425	Bocek, S	2	See response to Common Issue 4.
426	Bocek, Thomas	1	Thank you for your comment.
426	Bocek, Thomas	2	See response to Common Issue 4.
426	Bocek, Thomas	3	See response to Common Issue 16.
426	Bocek, Thomas	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
426	Bocek, Thomas	5	See response to Common Issues 8 and 12.
426	Bocek, Thomas	6	See response to Common Issue 9.
426	Bocek, Thomas	7	Thank you for your comment.
427	Burke, Austin	1	Thank you for your comment.
427	Burke, Austin	2	Thank you for your comment.
427	Burke, Austin	3	As noted in Section 3.3.1 of the SDEIS, hydrologic modeling was used instead of historic information to compare existing conditions to future conditions with the project alternatives. Hydrologic modeling reflects recent operations of the Yakima Project versus historical information, which has changed throughout the historic operation of the Yakima Project.
427	Burke, Austin	4	See response to Common Issue 8.
427	Burke, Austin	5	See response to Common Issue 9.
427	Burke, Austin	6	Thank you for your comment.
427	Burke, Austin	7	Thank you for your comment.
428	Cadwalader, Wende	1	Thank you for your comment.
429	Campbell, Karen	1	Thank you for your comment.
429	Campbell, Karen	2	Thank you for your comment.
429	Campbell, Karen	3	Thank you for your comment.
429	Campbell, Karen	4	Thank you for your comment.
430	Cernick, Debbie	1	See response to Common Issue 4.
431	Coan, Michael	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
431	Coan, Michael	2	Thank you for your comment.
431	Coan, Michael	3	See response to Common Issue 4.
431	Coan, Michael	4	See response to Common Issue 4.
431	Coan, Michael	5	See response to Common Issue 4.
431	Coan, Michael	6	Thank you for your comment.
432	Daly, Greg	1	Thank you for your comment.
433	Davidson, Doug	1	Thank you for your comment.
434	Donovan, Tracey	1	Thank you for your comment.
435	Dressler, Aaron	1	Thank you for your comment.
435	Dressler, Aaron	2	Thank you for your comment.
435	Dressler, Aaron	3	See response to Common Issue 9.
435	Dressler, Aaron	4	See response to Common Issue 15.
435	Dressler, Aaron	5	Endangered fish species are addressed in Sections 3.9 and 4.9 of this FEIS. WDFW's Priority Habitat and Species database has been reviewed by Reclamation to assess the presence of any freshwater mussels in Kachess Reservoir. As a result, no documentation was found. Neither of these species are recognized by the USFS and BLM as species of conservation and population viability concern. As the project is implemented project proponents will work with Federal and state agencies to consider potential impacts to mussels.
435	Dressler, Aaron	6	Thank you for your comment.
435	Dressler, Aaron	7	The project will be operated during drought years as described in Section 2.3.3. Roza could actually use on the order of 70,000 acre-feet during the worst drought years. Some droughts last more than one year and the capacity of the pumping plant is sized to allow resilience against multiple-year droughts. Additional proratable entities besides Roza may also receive water from the project. The 200,000 acre-feet capacity provides flexibility to meet these needs.
435	Dressler, Aaron	8	See Appendix F of the Final EIS for information on the timing and conditions of pumping operations, including both drought-relief and refill operations.
435	Dressler, Aaron	9	Thank you for your comment.
435	Dressler, Aaron	10	Thank you for your comment.
435	Dressler, Aaron	11	Thank you for your comment.
436	Dulin, Andy	1	Thank you for your comment.
436	Dulin, Andy	2	Thank you for your comment.
436	Dulin, Andy	3	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
436	Dulin, Andy	4	See response to Common Issue 4. In addition, Roza and other Proratable Entities are implementing conservation measures related to canals and ditches.
436	Dulin, Andy	5	Thank you for your comment.
437	Elder, Barbara	1	Thank you for your comment.
438	Engberg, Greg	1	Thank you for your comment.
438	Engberg, Greg	2	Thank you for your comment.
438	Engberg, Greg	3	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. Reclamation would manage the operation of all Yakima Project reservoirs to refill Kachess Reservoir after a drought while meeting Project obligations. See Appendix F of the Final EIS for further information.
438	Engberg, Greg	4	Thank you for your comment.
439	Fitzpatrick, Camille	1	Thank you for your comment.
440	Golding, Gerald/Norma	1	Thank you for your comment.
440	Golding, Gerald/Norma	2	Thank you for your comment.
440	Golding, Gerald/Norma	3	See response to Common Issue 4.
441	Gulifoyle, Carol	1	Thank you for your comment.
442	Hallisey, Judy	1	See response to Common Issue 4.
442	Hallisey, Judy	2	Thank you for your comment.
442	Hallisey, Judy	3	See response to Common Issue 3.
442	Hallisey, Judy	4	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." https://www.usbr.gov/projects/glossary.php#R
442	Hallisey, Judy	5	Design details developed to are sufficient for NEPA analysis. Addition design details on elements like excavation would be developed as part of final design of a selected alternative.

Comment Letter Number	Commenter	Comment Number	Comment Response
442	Hallisey, Judy	6	Thank you for your comment.
443	Hamilton, Alistair	1	Thank you for your comment.
444	Hendricks, Lorelle	1	Thank you for your comment.
445	Hubble, Joel	1	Thank you for the suggested technical revisions, these have been incorporated into the FEIS. Rimrock prorated year changes are likely due to reservoir balancing done in the RiverWare model. According to the RiverWare modeling results, there are 8 instances in the modeling period of record where it takes 2-5 years to refill.
446	Hughart, Jenny	1	Thank you for your comment.
447	Jahn, Brandy	1	Thank you for your comment.
448	Jonas, Jayme	1	Thank you for your comment.
448	Jonas, Jayme	2	Thank you for your comment.
448	Jonas, Jayme	3	The Integrated Plan includes improvements to water supply and ecosystem functions. Both of these are fully consistent with the missions of Reclamation and Ecology. The proposed action is being undertaken in conformance with the Integrated Plan and these missions.
448	Jonas, Jayme	4	See response to Common Issue 4.
448	Jonas, Jayme	5	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
448	Jonas, Jayme	6	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)

Comment Letter Number	Commenter	Comment Number	Comment Response
448	Jonas, Jayme	7	An appendix has been included in this FEIS that provides documentation of the modeling assumptions and other inputs. 40 CFR 1502.22 provides that if there is incomplete or missing information, Reclamation can determine whether is essential for making a reasoned choice among alternatives. Reclamation has determined that information available is adequate for identifying a Preferred Alternative.
448	Jonas, Jayme	8	Evaluation of wetlands at an inventory level to compare EIS alternatives is considered adequate for NEPA and SEPA environmental review. Wetlands that will be directly impacted by the project will be delineated as required for federal, state, and local permits.
448	Jonas, Jayme	9	The proposed changes to Keechelus would fall within the existing operating conditions and therefore did not need to be modeled.
448	Jonas, Jayme	10	Temperature impacts of KKC were not modeled, but modeling was not necessary for the water quality analysis to support this EIS. Existing data on water temperature was sufficient to conduct the analysis.
448	Jonas, Jayme	11	Modeling and estimates were sufficient to assess and disclose the likely impacts of the alternatives.
448	Jonas, Jayme	12	Renderings of action alternatives are presented in Chapter 2 of this FEIS. Additional detailed engineering drawings are presented in the reports supporting this FEIS and available on Reclamation's website at
448	Jonas, Jayme	13	No Action Alternative economic conditions were assessed and provide the basis for comparison of the action alternatives. See Section 4.21.
448	Jonas, Jayme	14	Section 4.21 of this FEIS includes updates providing additional information on economic effects of the proposed action on recreation and the recreational economic activity.
448	Jonas, Jayme	15	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
448	Jonas, Jayme	16	<p>“Reservoir balancing” is a term used to refer to a process where releases are made to meet instream flow and water delivery requirements so that the remaining usable storage in each of the five Yakima River basin reservoirs is relatively consistent. Remaining usable storage is not kept equal, because each reservoir’s capacity, usability, and refill characteristics are different.</p> <p>Yakima River basin operations are performed by human decision-makers, on a real time basis, using the best available measurements of current and projected future conditions of water availability and need. The operator also incorporates qualitative input concerning reservoir releases that may be available from resource agencies and water users. At times, these operational decision may also be tested by using specialized model runs and other software.</p> <p>The YAKRW planning model used to support this EIS makes a given decision on how much water to release from each reservoir based upon rules coded into model logic that are controlled by similar, but more limited, water availability and need data (including a fixed set of projected future conditions). The model logic is designed to approximately duplicate the human decision-maker’s operational decisions, and it generally does. But the model does not have all of the same information available to it, and it is not able to make subjective adjustments, to use intuition, or to incorporate certain unquantifiable inputs and information.</p> <p>The model is not deficient nor does it use inaccurate assumptions. The model does not have available to it all of the intangible inputs that real-time operations include, but it is still an appropriate tool to support analysis of alternatives in this EIS and support operational decision-making. Additionally, with respect to the specific case of reservoir balancing under conditions when KDRPP has been constructed, model logic is an estimate of operational procedures that have not yet been developed, because the project has not been constructed.</p>
448	Jonas, Jayme	17	The uncertainty is acknowledged in the analysis and disclosed in this FEIS.
448	Jonas, Jayme	18	Refill period would be 2 to 5 years. This FEIS has been revised for consistency.
448	Jonas, Jayme	19	There is not a “target pool elevation” for refill, but rather refill goals while still meeting delivery and instream flow targets. KKC would accelerate refill.
448	Jonas, Jayme	20	See response to Common Issue 6.

Comment Letter Number	Commenter	Comment Number	Comment Response
448	Jonas, Jayme	21	<p>See Section 1.5 of this FEIS. In 2016, Roza Irrigation District (a proratable entity) utilized the value analysis and proposed to construct and operate a “drought emergency” temporary floating pumping plant, referred to as the Kachess Emergency Temporary Floating Pumping Plant (KETFPP). Roza determined that the KETFPP would allow access to an additional 50,000 acre-feet of water below the existing reservoir outlet for the upcoming 2016 irrigation season, if the 2015 drought continued.</p> <p>With new information accumulated during Roza’s emergency efforts, Reclamation and Ecology collaborated with Roza to consider the substantial change in engineering knowledge accumulated, which indicated that a larger-scale floating pumping plant could be feasible in achieving the KDRPP purposes. Reclamation and Ecology determined an SDEIS would be required to consider a new floating pumping plant alternative that would withdraw an additional 200,000 acre-feet of water (below the existing gravity outlet works) from Kachess Reservoir. This additional alternative intends to provide the same benefits to the Yakima River basin as the South and East Shore KDRPP project alternatives described in the DEIS.</p>
448	Jonas, Jayme	22	<p>Under Reclamation's guidance and direction, a task force of Reclamation, Roza and consultant experts conducted a value analysis study in the summer of 2015. At the time of this study, Eastern Washington was under an Emergency Drought Declaration by the Governor. Subsequent to this Study, Roza embarked on the design of an emergency, temporary floating pumping plant. When the drought was declared over in December of 2015, Roza discontinued advancing the temporary emergency floating pumping plant project, and the work through the additional design and analysis performed in late 2015, the feasibility of a floating pumping plant was verified resulting a decision was made to add this alternative into the EIS documentation. See Section 2.8.1.3 of this FEIS</p>
448	Jonas, Jayme	23	<p>If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.</p>
448	Jonas, Jayme	24	<p>The SDEIS summarizes environmental impacts of the KDRPP alternatives, providing new information applicable to the environmental effects of KDRPP and explaining the removal of KKC as a stand-alone alternative.</p>
448	Jonas, Jayme	25	<p>A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.</p>
448	Jonas, Jayme	26	<p>See response to Common Issue 17.</p>

Comment Letter Number	Commenter	Comment Number	Comment Response
448	Jonas, Jayme	27	The proposed action would not, of itself, induce farming or other land use changes. It would operate only during drought years when less than 70 percent water supply is available.
448	Jonas, Jayme	28	As described in the SDEIS, the Volitional Bull Trout Passage Improvements would produce economic impacts in the same manner as the other construction spending for the project. Detailed data sufficient to quantify these impacts, including construction cost estimates, were not available at the time of preparation. Because the impacts are expected to be positive and less than the construction costs for the main actions of the alternatives, quantification of these impacts is largely immaterial to the decision-making process.
448	Jonas, Jayme	29	See response to Common Issue 10.
448	Jonas, Jayme	30	See Figure 4 -2 in this FEIS for additional illustration of proposed drawdown.
448	Jonas, Jayme	31	See response to Common Issue 15.
448	Jonas, Jayme	32	See response to Common Issue 8.
448	Jonas, Jayme	33	Adverse impacts of changes in water temperatures are addressed in detail in section 4.6 of the SDEIS.
448	Jonas, Jayme	34	Operations would not have noise impacts. Pumps are electric and noise would not impact residences or campgrounds.
448	Jonas, Jayme	35	See response to Common Issue 16.
448	Jonas, Jayme	36	See response to Common Issue 15.
448	Jonas, Jayme	37	See response to Common Issue 8.
448	Jonas, Jayme	38	See response to Common Issue 3.
448	Jonas, Jayme	39	Thank you for your comment.
448	Jonas, Jayme	40	See response to Common Issue 10.
448	Jonas, Jayme	41	Following the Draft EIS, Ecology conducted a review of groundwater elevations around Kachess Lake, downstream of the reservoir, Lake Easton will continue to serve as a recharge boundary and maintain groundwater levels near the lake.
448	Jonas, Jayme	42	See response to Common Issue 2.
448	Jonas, Jayme	43	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
448	Jonas, Jayme	44	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
448	Jonas, Jayme	45	See response to Common Issue 16.
448	Jonas, Jayme	46	See response to Common Issue 16.
448	Jonas, Jayme	47	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
448	Jonas, Jayme	48	While Alternatives 2, 3, and 4 cause increases in annual instream flow that decrease habitat suitability in summer in the upper Yakima River reaches in drought years, Alternatives 5A, 5B, and 5C reduce summer flow in the Keechelus Reach and Easton Reach, providing a large benefit to summer-rearing salmonids. Note that the number of years in which instream flow targets are attained in the Upper Yakima River reaches would improve with all proposed alternatives compared to Alternative 1, No Action except for a 1.5% reduction in attainment in spring in the Keechelus Reach with Alternatives 5A, 5B, and 5C and a 6% reduction in attainment in summer in the Easton Reach with all alternatives (Please see Tables 4-80 and 4-81)
448	Jonas, Jayme	49	Thank you for your comment.
448	Jonas, Jayme	50	When Keechelus Reservoir level falls below elevation 2,466, bull trout access to its tributaries is adversely affected. This impact is summarized in Table 4-4. For all alternatives, Keechelus Reservoir typically falls below elevation 2,466 from August to November. Under Alternatives 5A, 5B, and 5C, Keechelus Reservoir levels would fall below elevation 2,466 in 11 fewer years than under Alternative 1 (from 80 years for Alternative 1 to 69 years for Alternatives 5A, 5B, and 5C) but for an additional 5 days per year in years Keechelus Reservoir levels fall below elevation 2,466. Mitigation measures for ESA Threatened and Endangered fish species, including monitoring of habitat disconnection to tributary streams, if warranted, will be determined in consultation with the Service and NMFS which is ongoing, as explained in section 4.9.10 of the SDEIS.
448	Jonas, Jayme	51	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.

Comment Letter Number	Commenter	Comment Number	Comment Response
448	Jonas, Jayme	52	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
448	Jonas, Jayme	53	Section 1.2 describes Reclamation and Ecology's commitment to the Integrated Plan
448	Jonas, Jayme	54	See response to Common Issue 8.
448	Jonas, Jayme	55	The request is out of scope of this environmental review. Water conservation is an element of the Integrated Plan. An updated status of project implementation is provided in the Yakima River Basin Integrated Water Resource Management Plan Implementation Status Report (Ecology, 2017)
448	Jonas, Jayme	56	See response to Common Issue 5.
448	Jonas, Jayme	57	See response to Common Issue 4.
448	Jonas, Jayme	58	Thank you for the response about future climate change and hydrologic effects to Lake Kachess being “most certainly a cumulative impact.” This comment has been noted but no change was made to this FEIS. See 4.13.8 for the explanation.
448	Jonas, Jayme	59	Thank you for your comment.
449	Kelley, Elizabeth	1	See response to Common Issue 4.
449	Kelley, Elizabeth	2	The cost of drip irrigation is outside the scope of this EIS. For additional details about alternatives considered, see response to Common Issue 4.
449	Kelley, Elizabeth	3	Section 4.11 describes operational effects on air quality, including dust generated by additional exposed shoreline area with KDRPP alternatives. The additional exposed shoreline could increase the amount of windblown dust, but shoreline materials are mostly stable. Therefore, particulate emissions due to drawdown is not expected to cause air quality or human health impacts.
449	Kelley, Elizabeth	4	The proposed action would not enable junior water rights to take priority over senior water rights. See response to Common Issue 3.
449	Kelley, Elizabeth	5	See response to Common Issue 17.
449	Kelley, Elizabeth	6	Reclamation is not aware of this resource; however, is committed to compliance with Paleontological Resources Preservation Act.

Comment Letter Number	Commenter	Comment Number	Comment Response
449	Kelley, Elizabeth	7	Contaminated soils, if any, encountered in the project, will be handled and disposed of in accordance with applicable laws and regulations.
450	Kitchell, Carolyn/Robert	1	See response to Common Issue 8.
450	Kitchell, Carolyn/Robert	2	The migration of fish between Big and Little Kachess would be addressed by the volitional bull trout passage improvements included as an element in all action alternatives. Measures to mitigate impacts to wildlife are described in Section 4.8.10.
450	Kitchell, Carolyn/Robert	3	See response to Common Issue 10.
450	Kitchell, Carolyn/Robert	4	See response to Common Issue 4.
450	Kitchell, Carolyn/Robert	5	See response to Common Issue 8.
450	Kitchell, Carolyn/Robert	6	See response to Common Issue 4.
450	Kitchell, Carolyn/Robert	7	See response to Common Issue 16.
450	Kitchell, Carolyn/Robert	8	Thank you for your comment.
450	Kitchell, Carolyn/Robert	9	See response to Common Issue 4.
450	Kitchell, Carolyn/Robert	10	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. Reclamation would manage the operation of all Yakima Project reservoirs to refill Kachess Reservoir after a drought while meeting Project obligations. See Appendix F of the Final EIS for further information.
450	Kitchell, Carolyn/Robert	11	Thank you for your comment.
451	Landen, Dick	1	Thank you for your comment.
451	Landen, Dick	2	See response to Common Issue 4.
451	Landen, Dick	3	Thank you for your comment.
451	Landen, Dick	4	See response to Common Issue 7.

Comment Letter Number	Commenter	Comment Number	Comment Response
451	Landen, Dick	5	Thank you for your comment.
452	Lee, Tom	1	Please see the FEIS for expanded descriptions of impacts on Yakima River flows by reach and by season. Section 4.3 Surface Water Resources for predicted changes in Yakima River flow by reach for each Alternative downstream from Keechelus Dam to Sunnyside Diversion Dam. Effects of predicted changes in Yakima River flow (either adverse or beneficial) each reach to Sunnyside Diversion Dam are described in section 4.6 Fish with reference to whether rearing habitat would increase or decrease in each reach in specific seasons.
452	Lee, Tom	2	See response to Common Issue 4.
452	Lee, Tom	3	Thank you for your comment.
453	Lewis, Ann	1	Reclamation has an existing agreement with WDFW to address fish passage and monitoring at Box Canyon Creek to provide fish passage at low flows during droughts. Withdrawing additional water will not affect fish passage at Box Canyon Creek and other upstream tributaries flowing into Little Kachess, because water levels in Little Kachess will not fall below historic levels. Reclamation and Ecology are committed to implementing BTE projects, including Box Canyon Creek. See Appendix C for additional details.
453	Lewis, Ann	2	Impacts from the artificial channel from Lake Kachess to Box Canyon Creek are outside the scope of this EIS.
454	Modery, Elizabeth	1	Thank you for your comment.
454	Modery, Elizabeth	2	See response to Common Issue 4.
454	Modery, Elizabeth	3	With respect to the part of your comment about fire response, please see Common Issue 10. With respect to water quality, please see Section 4.4 in this FEIS. With respect to recreation see Section 4.14 in this FEIS and for wells, see the Groundwater Section 4.5 in this FEIS.
455	Mundy, Lee	1	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the FEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
455	Mundy, Lee	2	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. See Appendix F of the Final EIS for further information.
455	Mundy, Lee	3	Section 1.9.2 of this FEIS describes how Proratable Entities would receive water under the proposed action.
455	Mundy, Lee	4	This FEIS clarifies that Roza and potentially other participating proratable irrigation districts would fund implementation of the Preferred Alternative. With respect to the part of your comment on sitting on this for 30 years, please note that Reclamation and Ecology follow the guidance of CEQ: 40 Questions Number 32, that if a proposal has not yet been implemented, EISs that are more than 5 years old are generally supplemented so that the agency has the best possible information regarding the proposal.

Comment Letter Number	Commenter	Comment Number	Comment Response
455	Mundy, Lee	5	Thank you for your comment.
455	Mundy, Lee	6	Thank you for your comment.
456	Nelson, Alyse	1	Thank you for your comment, it will be included in the record for the EIS, but please note that the proposal is consistent with the IP and tiered from it. Also, please note that a purpose for action is to continue to deliver project water for authorized purposes—the action alternatives are consistent with those purposes. Please see Common Issue 12.
456	Nelson, Alyse	2	The Integrated Plan includes improvements to water supply and ecosystem functions. Both of these are fully consistent with the missions of Reclamation and Ecology. The proposed action is being undertaken in conformance with the Integrated Plan and these missions.
456	Nelson, Alyse	3	An appendix has been included in this FEIS that provides documentation of the modeling assumptions and other inputs. 40 CFR 1502.22 provides that if there is incomplete or missing information, Reclamation can determine whether is essential for making a reasoned choice among alternatives. Reclamation has determined that information available is adequate for identifying a Preferred Alternative.
456	Nelson, Alyse	4	Evaluation of wetlands at an inventory level to compare EIS alternatives is considered adequate for NEPA and SEPA environmental review. Wetlands that will be directly impacted by the project will be delineated as required for federal, state, and local permits.
456	Nelson, Alyse	5	
456	Nelson, Alyse	6	Temperature impacts of KKC were not modeled, but modeling was not necessary for the water quality analysis to support this EIS. Existing data on water temperature was sufficient to conduct the analysis.
456	Nelson, Alyse	7	Modeling and estimates were sufficient to assess and disclose the likely impacts of the alternatives.
456	Nelson, Alyse	8	Renderings of action alternatives are presented in Chapter 2 of this FEIS. Additional detailed engineering drawings are presented in the reports supporting this FEIS and available on Reclamation's website at
456	Nelson, Alyse	9	No Action Alternative economic conditions were assessed and provide the basis for comparison of the action alternatives. See Section 4.21.
456	Nelson, Alyse	10	Section 4.21 of this FEIS includes updates providing additional information on economic effects of the proposed action on recreation and the recreational economic activity.
456	Nelson, Alyse	11	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
456	Nelson, Alyse	12	<p>“Reservoir balancing” is a term used to refer to a process where releases are made to meet instream flow and water delivery requirements so that the remaining usable storage in each of the five Yakima River basin reservoirs is relatively consistent. Remaining usable storage is not kept equal, because each reservoir’s capacity, usability, and refill characteristics are different.</p> <p>Yakima River basin operations are performed by human decision-makers, on a real time basis, using the best available measurements of current and projected future conditions of water availability and need. The operator also incorporates qualitative input concerning reservoir releases that may be available from resource agencies and water users. At times, these operational decision may also be tested by using specialized model runs and other software.</p> <p>The YAKRW planning model used to support this EIS makes a given decision on how much water to release from each reservoir based upon rules coded into model logic that are controlled by similar, but more limited, water availability and need data (including a fixed set of projected future conditions). The model logic is designed to approximately duplicate the human decision-maker’s operational decisions, and it generally does. But the model does not have all of the same information available to it, and it is not able to make subjective adjustments, to use intuition, or to incorporate certain unquantifiable inputs and information.</p> <p>The model is not deficient nor does it use inaccurate assumptions. The model does not have available to it all of the intangible inputs that real-time operations include, but it is still an appropriate tool to support analysis of alternatives in this EIS and support operational decision-making. Additionally, with respect to the specific case of reservoir balancing under conditions when KDRPP has been constructed, model logic is an estimate of operational procedures that have not yet been developed, because the project has not been constructed.</p>
456	Nelson, Alyse	13	The uncertainty is acknowledged in the analysis and disclosed in this FEIS.
456	Nelson, Alyse	14	Refill period would be 2 to 5 years. This FEIS has been revised for consistency.
456	Nelson, Alyse	15	There is not a “target pool elevation” for refill, but rather refill goals while still meeting delivery and instream flow targets. KKC would accelerate refill.
456	Nelson, Alyse	16	See response to Common Issue 6.

Comment Letter Number	Commenter	Comment Number	Comment Response
456	Nelson, Alyse	17	<p>See Section 1.5 of this FEIS. In 2016, Roza Irrigation District (a proratable entity) utilized the value analysis and proposed to construct and operate a “drought emergency” temporary floating pumping plant, referred to as the Kachess Emergency Temporary Floating Pumping Plant (KETFPP). Roza determined that the KETFPP would allow access to an additional 50,000 acre-feet of water below the existing reservoir outlet for the upcoming 2016 irrigation season, if the 2015 drought continued.</p> <p>With new information accumulated during Roza’s emergency efforts, Reclamation and Ecology collaborated with Roza to consider the substantial change in engineering knowledge accumulated, which indicated that a larger-scale floating pumping plant could be feasible in achieving the KDRPP purposes. Reclamation and Ecology determined an SDEIS would be required to consider a new floating pumping plant alternative that would withdraw an additional 200,000 acre-feet of water (below the existing gravity outlet works) from Kachess Reservoir. This additional alternative intends to provide the same benefits to the Yakima River basin as the South and East Shore KDRPP project alternatives described in the DEIS.</p>
456	Nelson, Alyse	18	See response to Common Issue 17.
456	Nelson, Alyse	19	The proposed action would not, of itself, induce farming or other land use changes. It would operate only during drought years when less than 70 percent water supply is available.
456	Nelson, Alyse	20	As described in the SDEIS, the Volitional Bull Trout Passage Improvements would produce economic impacts in the same manner as the other construction spending for the project. Detailed data sufficient to quantify these impacts, including construction cost estimates, were not available at the time of preparation. Because the impacts are expected to be positive and less than the construction costs for the main actions of the alternatives, quantification of these impacts is largely immaterial to the decision-making process.
456	Nelson, Alyse	21	See response to Common Issue 10.
456	Nelson, Alyse	22	See response to Common Issue 15.
456	Nelson, Alyse	23	See response to Common Issue 8.
456	Nelson, Alyse	24	Adverse impacts of changes in water temperatures are addressed in detail in section 4.6 of the SDEIS.
456	Nelson, Alyse	25	Operations would not have noise impacts. Pumps are electric and noise would not impact residences or campgrounds.
456	Nelson, Alyse	26	See response to Common Issue 16.
456	Nelson, Alyse	27	See response to Common Issue 15.
456	Nelson, Alyse	28	See response to Common Issue 8.
456	Nelson, Alyse	29	Thank you for your comment.
456	Nelson, Alyse	30	See response to Common Issue 2.

Comment Letter Number	Commenter	Comment Number	Comment Response
456	Nelson, Alyse	31	Thank you for your comment.
456	Nelson, Alyse	32	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
456	Nelson, Alyse	33	See response to Common Issue 16.
456	Nelson, Alyse	34	See response to Common Issue 16.
456	Nelson, Alyse	35	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
456	Nelson, Alyse	36	While Alternatives 2, 3, and 4 cause increases in annual instream flow that decrease habitat suitability in summer in the upper Yakima River reaches in drought years, Alternatives 5A, 5B, and 5C reduce summer flow in the Keechelus Reach and Easton Reach, providing a large benefit to summer-rearing salmonids. Note that the number of years in which instream flow targets are attained in the Upper Yakima River reaches would improve with all proposed alternatives compared to Alternative 1, No Action except for a 1.5% reduction in attainment in spring in the Keechelus Reach with Alternatives 5A, 5B, and 5C and a 6% reduction in attainment in summer in the Easton Reach with all alternatives (Please see Tables 4-80 and 4-81)
456	Nelson, Alyse	37	Thank you for your comment.
456	Nelson, Alyse	38	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
456	Nelson, Alyse	39	Section 1.2 describes Reclamation and Ecology's commitment to the Integrated Plan
456	Nelson, Alyse	40	The request is out of scope of this environmental review. Water conservation is an element of the Integrated Plan. An updated status of project implementation is provided in the Yakima River Basin Integrated Water Resource Management Plan Implementation Status Report (Ecology, 2017)
456	Nelson, Alyse	41	See response to Common Issue 5.
456	Nelson, Alyse	42	See response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
456	Nelson, Alyse	43	YRBWEP Phases II and III are considered reasonably foreseeable future actions, and therefore for a basis for the cumulative effects assessment documented in the SDEIS. An updated status of project implementation is provided in the Yakima River Basin Integrated Water Resource Management Plan Implementation Status Report (Department of Ecology 2018OCR , 2017)
456	Nelson, Alyse	44	Thank you for your comment.
457	Newman, Peter	1	Thank you for your comment.
457	Newman, Peter	2	See response to Common Issue 8.
457	Newman, Peter	3	See response to Common Issue 8.
457	Newman, Peter	4	See response to Common Issue 17.
457	Newman, Peter	5	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
457	Newman, Peter	6	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
457	Newman, Peter	7	See response to Common Issue 16.
457	Newman, Peter	8	There are no plans to improve the road.
458	Oh, Shenton	1	Thank you for your comment.
458	Oh, Shenton	2	Thank you for your comment.
458	Oh, Shenton	3	Thank you for your comment.
459	Owens, C.C.	1	Thank you for your comment.
459	Owens, C.C.	2	Thank you for your comment. It has been noted and will be included in the record for the EIS. Please see Common Issue 10 regarding fire response. With respect to the comment about taxpayer money, please note this FEIS clarifies that Roza and potentially other participating proratable irrigation districts would fund the project.

Comment Letter Number	Commenter	Comment Number	Comment Response
460	Owens, Joann	1	Thank you for your comment.
460	Owens, Joann	2	Thank you for your comment.
461	Owens, JP	1	Thank you for your comment.
461	Owens, JP	2	Thank you for your comment.
461	Owens, JP	3	Thank you for your comment.
461	Owens, JP	4	Thank you for your comment.
462	Parry, Jeff	1	Thank you for your comment.
462	Parry, Jeff	2	See response to Common Issue 17.
462	Parry, Jeff	3	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
462	Parry, Jeff	4	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. See Appendix F of the Final EIS for further information.
462	Parry, Jeff	5	The potential impacts to fish are described in Section 4.6 of the EIS.
462	Parry, Jeff	6	See response to Common Issue 16.
462	Parry, Jeff	7	Thank you for your comment.
462	Parry, Jeff	8	Thank you for your comment.
462	Parry, Jeff	9	See response to Common Issue 4.
462	Parry, Jeff	10	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
462	Parry, Jeff	11	Thank you for your comment.
462	Parry, Jeff	12	Thank you for your comment.
463	Reeves, Harold	1	Thank you for your comment.
463	Reeves, Harold	2	Thank you for your comment.
463	Reeves, Harold	3	Thank you for your comment.
463	Reeves, Harold	4	See response to Common Issue 4.
463	Reeves, Harold	5	No acquisition of private property is anticipated for the Preferred Alternative. If private property acquisition is required, procedures for acquisition are described in Section 4.15.10 of this FEIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
463	Reeves, Harold	6	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
463	Reeves, Harold	7	Thank you for your comment.
463	Reeves, Harold	8	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
463	Reeves, Harold	9	See response to Common Issue 7.
463	Reeves, Harold	10	Thank you for your comment.
463	Reeves, Harold	11	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
463	Reeves, Harold	12	See response to Common Issue 4.
463	Reeves, Harold	13	Reclamation and Ecology would execute agreements with Roza Irrigation District prior to construction that will address roles and responsibilities, including financial commitments.
463	Reeves, Harold	14	Estimated operations costs are presented Section 2.7.2 of the SDEIS. If the Preferred Alternative is selected, Roza will assess operating costs during its decision making process on whether and how to proceed.
463	Reeves, Harold	15	See response to Common Issue 4.
463	Reeves, Harold	16	See response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
463	Reeves, Harold	17	See response to Common Issue 14.
463	Reeves, Harold	18	Lake Kachess is periodically stocked with kokanee and cutthroat fry by WDFW.
463	Reeves, Harold	19	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
464	Ryan, Paige and Scott	1	Thank you for your comment.
464	Ryan, Paige and Scott	2	See response to Common Issue 9.
465	Schwartz, Jay	1	Thank you for your comment.
465	Schwartz, Jay	2	Thank you for your comment.
465	Schwartz, Jay	3	Reclamation has met and engaged with the commenter on multiple occasions from 2015 to 2018 and has shared data and model outputs related to system operations, reservoir pool levels, stream flows, and related aspects of the Yakima Project. See Section 5 of this FEIS regarding stakeholder engagement. Reclamation has reviewed the information and opinions that this commenter has provided. However, for purposes of NEPA, Reclamation relies on meeting the Information Quality Act and the Office of Management of Budget's authorities overseeing the quality of agency information, analyses, and actions. As such, Reclamation relies on use of RiverWare (TM) and the YakRW Model. This model and its applications have gone through years of validation by professional hydrologist and operators. For purposes of this environmental review, this meets information quality requirements and provides a sound basis for decision-making.
465	Schwartz, Jay	4	Thank you for your comment.
465	Schwartz, Jay	5	See response to Common Issue 8.
465	Schwartz, Jay	6	As noted in Section 3.3.1 of the SDEIS, hydrologic modeling was used instead of historic information to compare existing conditions to future conditions with the project alternatives. Hydrologic modeling reflects recent operations of the Yakima Project versus historical information, which has changed throughout the historic operation of the Yakima Project. Additional details of modeling results are further detailed in the Hydrologic Modeling Report.

Comment Letter Number	Commenter	Comment Number	Comment Response
465	Schwartz, Jay	7	The five reservoirs in the Yakima Project are operated in a coordinated manner to provide for surface water needs of the system as a whole; no single reservoir is designated to supply the needs of any particular area. Therefore a change in total water supply available or in proration would impact more than Kachess Reservoir; these flow and reservoir impacts are described in Section 4.3 of the SDEIS.
465	Schwartz, Jay	8	As noted in Section 4.3.1, it is assumed that KRD, Roza, and WIP agree to participate in KDRPP.
465	Schwartz, Jay	9	As noted in Section 4.3.1, it is assumed that KRD, Roza, and WIP agree to participate in KDRPP. KRD diversions are different than KRD deliveries. According to RiverWare modeling results, Roza deliveries are higher than KRD deliveries (by 41 kAF) for the drought years mentioned in Alternative 2.
465	Schwartz, Jay	10	Please see section 2.3.5 of the SDEIS which describes Volitional Bull Trout Passage Improvements to improve the connections between Big Kachess and Little Kachess when water levels fall below an elevation of 2,226 feet. Please see section 4.3 of the SDEIS which shows the estimated days that Lake Kachess would fall below critical elevations under each alternative scenario, summarized in table 4-4.
465	Schwartz, Jay	11	See response to Common Issue 2. As noted therein, as a condition of the Preferred Alternative, Roza would be required to fund, design, construct, operate and maintain the project, which would result in no direct federal funding on the project and therefore, there is no need for Reclamation to prepare a principles and guidelines economic analysis to submit to OMB.
466	Newman, Livia	1	Thank you for your comment.
466	Newman, Livia	2	See response to Common Issue 8.
466	Newman, Livia	3	See response to Common Issue 8.
466	Newman, Livia	4	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
466	Newman, Livia	5	See Appendix F of the Final EIS for information on pumping during refill operations.
466	Newman, Livia	6	Please note that there is a difference in scope between the programmatic IP—which identified multiple components for future analysis and action, and the site-specific action analyzed here. This action is not intended to encompass all components or elements of the broader, programmatic IP.

Comment Letter Number	Commenter	Comment Number	Comment Response
466	Newman, Livia	7	See response to Common Issue 8. As noted, Ecology will conduct an analysis of water availability, potential impairment of existing water rights, beneficial use, and potential detriment to the public interest as part of the water right permitting process for KDRPP.
466	Newman, Livia	8	The DEIS used the 2012 303(d) list, which was the most updated list at the time of the report. The SDEIS used the 2014 303(d) list, which was published between the releases of the DEIS and the SDEIS. As noted in Table 3-9 of the SDEIS, PCBs were listed due to being found in fish tissue and do not have a known source. PCBs were found in fish throughout the river and the reservoirs; downstream Yakima River fish were found to have higher levels of PCBs than upper Yakima River and reservoir fish.
466	Newman, Livia	9	It is Reclamation policy to avoid impacts and leave cultural materials in place. If that is not feasible cultural materials will be recovered scientifically in advance of construction. Recovered materials will be curated at a museum which meets federal standards. As part of Section 110 responsibilities, Reclamation is planning to implement a Cultural Resources Management Plan (CRMP) to address ongoing and future operational and land management implications to cultural resources.
467	Smith, Doug	1	Thank you for your comment.
468	Staberow, Katherine	1	Thank you for your comment.
469	Starcevich, John P.	1	Thank you for your comment.
470	Thomas, Lynn	1	Thank you for your comment.
470	Thomas, Lynn	2	See response to Common Issue 4.
471	Vaughn, William F.	1	Thank you for your comment.
471	Vaughn, William F.	2	Thank you for your comment.
471	Vaughn, William F.	3	Thank you for your comment.
471	Vaughn, William F.	4	See response to Common Issue 9.

Comment Letter Number	Commenter	Comment Number	Comment Response
471	Vaughn, William F.	5	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted. With respect to your question about recreational opportunities and the campground, please see Section 4.14 of this FEIS
471	Vaughn, William F.	6	See response to Common Issue 4.
472	Wenstrup, John	1	Section 4.2 of the EIS addresses seismic risks associated with the project. The proposed action is predicated on the presence of a dam; therefore, a scenario involving the dam having been removed for safety reasons was not considered.
472	Wenstrup, John	2	In response to your question about the applicability of the 2018 State of Washington v U.S. case, we have read the decision, but have not extrapolated from the specifics of that case to the Yakima Project. Please note that Reclamation remains committed to carrying out Yakima Project operations (and all activities) in a manner that protects Indian trust assets—including tribal fishing rights, and avoiding adverse impacts to these assets when possible. With respect to the action being analyzed in this FEIS, our finding is that no Indian Trust Assets are adversely impacted and no mitigation is required. Consultation with potentially affected and concerned Indian tribes is ongoing/
472	Wenstrup, John	3	Section 4.11 describes operational effects on air quality, including dust generated by additional exposed shoreline area with KDRPP alternatives. The additional exposed shoreline could increase the amount of windblown dust, but shoreline materials are mostly stable. Therefore, particulate emissions due to drawdown is not expected to cause air quality or human health impacts.
472	Wenstrup, John	4	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)

Comment Letter Number	Commenter	Comment Number	Comment Response
472	Wenstrup, John	5	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
473	Whitney, Dan	1	Thank you for your comment.
474	Williams, Jerald	1	Thank you for your comment.
474	Williams, Jerald	2	Thank you for your comment.
474	Williams, Jerald	3	KDRPP has been sized to improve supplies to a subset of proratable users of Yakima Project water consistent with the Integrated Plan. See Appendix F of the Final EIS for additional detail.
474	Williams, Jerald	4	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
474	Williams, Jerald	5	KDRPP is sized to meet the need of other proratable entities in addition to Roza, see Section 1.3 of the Final EIS.
474	Williams, Jerald	6	Sections 1.2 and 1.9 of this FEIS describe the Integrated Plan and proposed action in terms of proratable users and water rights. Under the Preferred Alternative, Roza and other participating Proratable Entities would fund the implementation and operations of KDRPP.
474	Williams, Jerald	7	See response to Common Issue 8.
474	Williams, Jerald	8	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
475	Worcester, Karen	1	See response to 456.1.
475	Worcester, Karen	2	The Integrated Plan includes improvements to water supply and ecosystem functions. Both of these are fully consistent with the missions of Reclamation and Ecology. The proposed action is being undertaken in conformance with the Integrated Plan and these missions.
475	Worcester, Karen	3	An appendix has been included in this FEIS that provides documentation of the modeling assumptions and other inputs. 40 CFR 1502.22 provides that if there is incomplete or missing information, Reclamation can determine whether is essential for making a reasoned choice among alternatives. Reclamation has determined that information available is adequate for identifying a Preferred Alternative.

Comment Letter Number	Commenter	Comment Number	Comment Response
475	Worcester, Karen	4	Evaluation of wetlands at an inventory level to compare EIS alternatives is considered adequate for NEPA and SEPA environmental review. Wetlands that will be directly impacted by the project will be delineated as required for federal, state, and local permits.
475	Worcester, Karen	5	Modeling was used to determine temperature effects of KDRPP on Kachess Reservoir and downstream of Kachess Dam.
475	Worcester, Karen	6	Temperature impacts of KKC were not modeled, but modeling was not necessary for the water quality analysis to support this EIS. Existing data on water temperature was sufficient to conduct the analysis.
475	Worcester, Karen	7	Modeling and estimates were sufficient to assess and disclose the likely impacts of the alternatives.
475	Worcester, Karen	8	Renderings of action alternatives are presented in Chapter 2 of this FEIS. Additional detailed engineering drawings are presented in the reports supporting this FEIS and available on Reclamation's website at
475	Worcester, Karen	9	No Action Alternative economic conditions were assessed and provide the basis for comparison of the action alternatives. See Section 4.21.
475	Worcester, Karen	10	Section 4.21 of this FEIS includes updates providing additional information on economic effects of the proposed action on recreation and the recreational economic activity.
475	Worcester, Karen	11	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
475	Worcester, Karen	12	<p>“Reservoir balancing” is a term used to refer to a process where releases are made to meet instream flow and water delivery requirements so that the remaining usable storage in each of the five Yakima River basin reservoirs is relatively consistent. Remaining usable storage is not kept equal, because each reservoir’s capacity, usability, and refill characteristics are different.</p> <p>Yakima River basin operations are performed by human decision-makers, on a real time basis, using the best available measurements of current and projected future conditions of water availability and need. The operator also incorporates qualitative input concerning reservoir releases that may be available from resource agencies and water users. At times, these operational decision may also be tested by using specialized model runs and other software.</p> <p>The YAKRW planning model used to support this EIS makes a given decision on how much water to release from each reservoir based upon rules coded into model logic that are controlled by similar, but more limited, water availability and need data (including a fixed set of projected future conditions). The model logic is designed to approximately duplicate the human decision-maker’s operational decisions, and it generally does. But the model does not have all of the same information available to it, and it is not able to make subjective adjustments, to use intuition, or to incorporate certain unquantifiable inputs and information.</p> <p>The model is not deficient nor does it use inaccurate assumptions. The model does not have available to it all of the intangible inputs that real-time operations include, but it is still an appropriate tool to support analysis of alternatives in this EIS and support operational decision-making. Additionally, with respect to the specific case of reservoir balancing under conditions when KDRPP has been constructed, model logic is an estimate of operational procedures that have not yet been developed, because the project has not been constructed.</p>
475	Worcester, Karen	13	The uncertainty is acknowledged in the analysis and disclosed in this FEIS.
475	Worcester, Karen	14	Refill period would be 2 to 5 years. This FEIS has been revised for consistency.
475	Worcester, Karen	15	There is not a “target pool elevation” for refill, but rather refill goals while still meeting delivery and instream flow targets. KKC would accelerate refill.
475	Worcester, Karen	16	See response to Common Issue 6.

Comment Letter Number	Commenter	Comment Number	Comment Response
475	Worcester, Karen	17	<p>See Section 1.5 of this FEIS. In 2016, Roza Irrigation District (a proratable entity) utilized the value analysis and proposed to construct and operate a “drought emergency” temporary floating pumping plant, referred to as the Kachess Emergency Temporary Floating Pumping Plant (KETFPP). Roza determined that the KETFPP would allow access to an additional 50,000 acre-feet of water below the existing reservoir outlet for the upcoming 2016 irrigation season, if the 2015 drought continued.</p> <p>With new information accumulated during Roza’s emergency efforts, Reclamation and Ecology collaborated with Roza to consider the substantial change in engineering knowledge accumulated, which indicated that a larger-scale floating pumping plant could be feasible in achieving the KDRPP purposes. Reclamation and Ecology determined an SDEIS would be required to consider a new floating pumping plant alternative that would withdraw an additional 200,000 acre-feet of water (below the existing gravity outlet works) from Kachess Reservoir. This additional alternative intends to provide the same benefits to the Yakima River basin as the South and East Shore KDRPP project alternatives described in the DEIS.</p>
475	Worcester, Karen	18	See response to Common Issue 17.
475	Worcester, Karen	19	The proposed action would not, of itself, induce farming or other land use changes. It would operate only during drought years when less than 70 percent water supply is available.
475	Worcester, Karen	20	As described in the SDEIS, the Volitional Bull Trout Passage Improvements would produce economic impacts in the same manner as the other construction spending for the project. Detailed data sufficient to quantify these impacts, including construction cost estimates, were not available at the time of preparation. Because the impacts are expected to be positive and less than the construction costs for the main actions of the alternatives, quantification of these impacts is largely immaterial to the decision-making process.
475	Worcester, Karen	21	See response to Common Issue 10.
475	Worcester, Karen	22	See response to Common Issue 15.
475	Worcester, Karen	23	See response to Common Issue 8.
475	Worcester, Karen	24	Adverse impacts of changes in water temperatures are addressed in detail in section 4.6 of the SDEIS.
475	Worcester, Karen	25	Operations would not have noise impacts. Pumps are electric and noise would not impact residences or campgrounds.
475	Worcester, Karen	26	See response to Common Issue 16.
475	Worcester, Karen	27	See response to Common Issue 15.
475	Worcester, Karen	28	See response to Common Issue 8.
475	Worcester, Karen	29	See response to Common Issue 10.
475	Worcester, Karen	30	See response to Common Issue 2.

Comment Letter Number	Commenter	Comment Number	Comment Response
475	Worcester, Karen	31	Thank you for your comment.
475	Worcester, Karen	32	Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
475	Worcester, Karen	33	See response to Common Issue 16.
475	Worcester, Karen	34	See response to Common Issue 16.
475	Worcester, Karen	35	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
475	Worcester, Karen	36	Note that while Alternatives 2, 3, and 4 cause increases in annual instream flow that decrease habitat suitability in summer in the upper Yakima River reaches in drought years, Alternatives 5A, 5B, and 5C reduce summer flow in the Keechelus Reach and Easton Reach, providing a large benefit to summer-rearing salmonids. Note that the number of years in which instream flow targets are attained in the Upper Yakima River reaches would improve with all proposed alternatives compared to Alternative 1, No Action except for a 1.5% reduction in attainment in spring in the Keechelus Reach with Alternatives 5A, 5B, and 5C and a 6% reduction in attainment in summer in the Easton Reach with all alternatives (Please see Tables 4-80 and 4-81)
475	Worcester, Karen	37	Thank you for your comment.
475	Worcester, Karen	38	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
475	Worcester, Karen	39	Section 1.2 describes Reclamation and Ecology's commitment to the Integrated Plan
475	Worcester, Karen	40	The request is out of scope of this environmental review. Water conservation is an element of the Integrated Plan. An updated status of project implementation is provided in the Yakima River Basin Integrated Water Resource Management Plan Implementation Status Report (Ecology, 2017)
475	Worcester, Karen	41	See response to Common Issue 5.
475	Worcester, Karen	42	See response to Common Issue 4.

Comment Letter Number	Commenter	Comment Number	Comment Response
475	Worcester, Karen	43	YRBWEP Phases II and III are considered reasonably foreseeable future actions, and therefore for a basis for the cumulative effects assessment documented in the SDEIS. An updated status of project implementation is provided in the Yakima River Basin Integrated Water Resource Management Plan Implementation Status Report (Department of Ecology 2018OCR , 2017)
475	Worcester, Karen	44	Thank you for your comment.
476	Freeborn, Phelps	1	Thank you for your comment.
476	Freeborn, Phelps	2	See response to Common Issue 4.
476	Freeborn, Phelps	3	See response to Common Issue 3.
476	Freeborn, Phelps	4	See response to Common Issue 4.
476	Freeborn, Phelps	5	Thank you for your comment.
476	Freeborn, Phelps	6	Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
476	Freeborn, Phelps	7	Thank you for your comment.
476	Freeborn, Phelps	8	This question is outside the scope of the environmental analysis in the EIS.
476	Freeborn, Phelps	9	As outlined in the SDEIS, the proposed pumping plant would only be operational in drought years and as the reservoir is refilled following a drought.
476	Freeborn, Phelps	10	Thank you for your comment.
476	Freeborn, Phelps	11	Thank you for providing the citations and information about crop coefficients. Please note that the choice of crops is left to individual farmers, despite the different water requirements of the crops. Your information has been noted and will be included in the record for the EIS.
477	Fury, C. Steven	1	Thank you for your comment.
477	Fury, C. Steven	2	See response to Common Issue 4.
477	Fury, C. Steven	3	The project is within the ceded lands of the Yakama Nation per the Treaty of 1855. Both the Yakama Nation and the Colville Confederated Tribes have a demonstrated cultural connection to the project area. They have requested, and are involved, with the cultural evaluation of the project. We are unaware of a cultural connection held by the Snoqualmie Tribe, and they have made no similar request. It is Reclamation policy to avoid impacts and leave cultural materials in place. If that is not feasible cultural materials will be recovered scientifically in advance of construction. Recovered materials will be curated at a museum which meets federal standards. As part of Section 110 responsibilities, Reclamation is planning to implement a Cultural Resources Management Plan (CRMP) to address ongoing and future operational and land management implications to cultural resources.

Comment Letter Number	Commenter	Comment Number	Comment Response
477	Fury, C. Steven	4	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
477	Fury, C. Steven	5	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
477	Fury, C. Steven	6	KKC is not being carried forward as a stand-alone project at this time; however, KKC is a component of the action alternatives (Alternative 5).
477	Fury, C. Steven	7	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
477	Fury, C. Steven	8	Acquisition of real property interests based on design concepts for the alternatives are summarized in Section 4.15 of the SDEIS. Reclamation would comply with Federal property acquisition policies. Reclamation would survey properties before construction to determine whether acquisition is required. Reclamation would follow the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601) and the procedures described in the 2003 Reclamation Manual Directives and Standards LND 06-01 for any property or easement acquisition.
477	Fury, C. Steven	9	See response to Common Issue 2.
477	Fury, C. Steven	10	See response to Common Issue 8.
477	Fury, C. Steven	11	See response to Common Issue 3.
477	Fury, C. Steven	12	See response to Common Issue 8.
477	Fury, C. Steven	13	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)

Comment Letter Number	Commenter	Comment Number	Comment Response
477	Fury, C. Steven	14	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
477	Fury, C. Steven	15	See response to Common Issue 10.
477	Fury, C. Steven	16	This FEIS includes additional information on the home sites around Kachess Reservoir.
477	Fury, C. Steven	17	See response to Common Issue 9. The study referenced in the comment supports the conclusion that there are multiple factors affecting the value of properties surrounding Kachess Reservoir that are unrelated to the action alternatives evaluated in this SDEIS. The proposed changes in temporary fluctuations in water levels do not necessarily have a causal relationship to property values or market perceptions.
477	Fury, C. Steven	18	See response to Common Issue 9.
477	Fury, C. Steven	19	See response to Common Issue 9.
477	Fury, C. Steven	20	Senior water right holders will continue to get their allocated water as identified in current water service contracts. See FEIS, Section 2.3.3.1 Drought Relief Operations.
477	Fury, C. Steven	21	See response to Common Issue 8. As noted, Ecology will conduct an analysis of water availability, potential impairment of existing water rights, beneficial use, and potential detriment to the public interest as part of the water right permitting process
477	Fury, C. Steven	22	Disposal areas have yet to be identified; for this SDEIS analysis, Reclamation assumed the offsite location would be within 10 miles of the Keechelus Reservoir. An existing quarry near Keechelus Dam may be available for disposing of the crushed material excavated from the tunnel. Depending on construction timing, WSDOT could potentially use the material as fill for the I-90 improvement project. Reclamation would ensure that all required permits and clearances are obtained for use of any material disposal area(s).
477	Fury, C. Steven	23	KKC is not included in the Preferred Alternative.
477	Fury, C. Steven	24	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
477	Fury, C. Steven	25	Operations during the project's construction periods will need to be planned carefully to manage impacts to water users, the flip-flop operation and associated fisheries resources. Details of the temporary construction-related drawdown would be developed during a subsequent design stage, in consultation with Yakima Project users, state and federal fish and wildlife agencies and the Yakama Nation.

Comment Letter Number	Commenter	Comment Number	Comment Response
478	Kirlin, Alan	1	Reintroduction of anadromous salmon species to the Upper Yakima Basin reservoirs is a goal of the Yakima Basin Integrated Plan. After considering scenarios to add fish passage to each of the Upper Yakima Basin Dam, Cle Elum Dam and Reservoir was chosen as the first project to implement, and implementation is occurring (see BOR 2005 Phase 1 Fish Passage Study and BOR 2011 Cle Elum Dam Fish Passage Facilities and Fish Reintroduction Project). Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
478	Kirlin, Alan	2	Impacts to anadromous salmon, including Chinook and steelhead, are addressed in sections 3.6 and 4.6 of the SDEIS, specifically in sections describing fish populations and changes in habitat suitability below the dams where these species still have access.
478	Kirlin, Alan	3	Section 1.2.3 in the SDEIS notes that reservoir fish passage is one of the seven elements of the Integrated Plan's comprehensive package address ecosystem restoration, water supply, and climate change flexibility issues in the basin. Fish passage at Kachess Dam, while included in the reservoir fish passage element, is not an objective of the KDRPP and KKC projects; however KDRPP would be designed to not preclude future fish passage improvements to Kachess Dam consistent with the Integrated Plan.
478	Kirlin, Alan	4	This question is outside the scope of the environmental analysis in the EIS.
478	Kirlin, Alan	5	Prorating of Yakima Project water was necessary in 2001 (37%), 2005 (42%) and 2015 (47%). See Section 3.3.1.5 of this FEIS. See Table 4-4 of this FEIS for projected improvements in prorating percentages.
478	Kirlin, Alan	6	To promote public understanding of action, summary costs are provided in the EIS. Details are presented in supported documents referenced in the EIS. The Preferred Alternative would not be funded by taxpayers.
478	Kirlin, Alan	7	The question is not within the scope of the environmental review.
478	Kirlin, Alan	8	The proposed action would not include pumping to improve prorating above a level of 70%.
478	Kirlin, Alan	9	See response to Common Issue 4.
478	Kirlin, Alan	10	Thank you for your comment.
478	Kirlin, Alan	11	See response to Common Issue 16.
478	Kirlin, Alan	12	Thank you for your comment.
478	Kirlin, Alan	13	This question is outside the scope of the environmental analysis in the EIS.
478	Kirlin, Alan	14	Section 1.2.3 in the SDEIS notes that reservoir fish passage is one of the seven elements of the Integrated Plan's comprehensive package address ecosystem restoration, water supply, and climate change flexibility issues in the basin. Fish passage at Kachess Dam, while included in the reservoir fish passage element, is not an objective of the KDRPP and KKC projects; however KDRPP would be designed to not preclude future fish passage improvements to Kachess Dam consistent with the Integrated Plan.

Comment Letter Number	Commenter	Comment Number	Comment Response
479	Steele, Larry and Stasia	1	Thank you for your comment.
480	Vanbeek, Jeremy	1	Thank you for your comment.
481	Campbell, William	1	Thank you for your comment. See responses to Comment Letter 465.
481	Campbell, William	2	Thank you for your comment. See responses to Kachess Community Association comment letter.
482	Kirlin, Alan	1	Reintroduction of anadromous salmon species to the Upper Yakima Basin reservoirs is a goal of the Yakima Basin Integrated Plan. After considering scenarios to add fish passage to each of the Upper Yakima Basin Dam, Cle Elum Dam and Reservoir was chosen as the first project to implement, and implementation is occurring (see BOR 2005 Phase 1 Fish Passage Study and BOR 2011 Cle Elum Dam Fish Passage Facilities and Fish Reintroduction Project). Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
482	Kirlin, Alan	2	Reintroduction of anadromous salmon species to the Upper Yakima Basin reservoirs is a goal of the Yakima Basin Integrated Plan. After considering scenarios to add fish passage to each of the Upper Yakima Basin Dam, Cle Elum Dam and Reservoir was chosen as the first project to implement, and implementation is occurring (see BOR 2005 Phase 1 Fish Passage Study and BOR 2011 Cle Elum Dam Fish Passage Facilities and Fish Reintroduction Project). Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
482	Kirlin, Alan	3	Reintroduction of anadromous salmon species to the Upper Yakima Basin reservoirs is a goal of the Yakima Basin Integrated Plan. After considering scenarios to add fish passage to each of the Upper Yakima Basin Dam, Cle Elum Dam and Reservoir was chosen as the first project to implement, and implementation is occurring (see BOR 2005 Phase 1 Fish Passage Study and BOR 2011 Cle Elum Dam Fish Passage Facilities and Fish Reintroduction Project). Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
482	Kirlin, Alan	4	The selected alternative documented in the Integrated Plan Record of Decision identified restoring fish passage at Cle Elum, Kachess and Keechelus dams a Reservoir Fish Passage elements. While fish passage at Kachess or Keechelus dams are not part of this site-specific EIS, the alternatives evaluated in this EIS would not preclude future fish passage improvements at those dams.
482	Kirlin, Alan	5	Impacts to anadromous salmon, including Chinook and steelhead, are addressed in sections 3.6 and 4.6 of the SDEIS, specifically in sections describing fish populations and changes in habitat suitability below the dams where these species still have access.

Comment Letter Number	Commenter	Comment Number	Comment Response
482	Kirlin, Alan	6	Impacts to anadromous salmon, including Chinook and steelhead, are addressed in sections 3.6 and 4.6 of the SDEIS, specifically in sections describing fish populations and changes in habitat suitability below the dams where these species still have access.
482	Kirlin, Alan	7	Section 1.2.3 in the SDEIS notes that reservoir fish passage is one of the seven elements of the Integrated Plan's comprehensive package address ecosystem restoration, water supply, and climate change flexibility issues in the basin. Fish passage at Kachess Dam, while included in the reservoir fish passage element, is not an objective of the KDRPP and KKC projects; however KDRPP would be designed to not preclude future fish passage improvements to Kachess Dam consistent with the Integrated Plan.
482	Kirlin, Alan	8	Section 1.2.3 in the SDEIS notes that reservoir fish passage is one of the seven elements of the Integrated Plan's comprehensive package address ecosystem restoration, water supply, and climate change flexibility issues in the basin. Fish passage at Kachess Dam, while included in the reservoir fish passage element, is not an objective of the KDRPP and KKC projects; however KDRPP would be designed to not preclude future fish passage improvements to Kachess Dam consistent with the Integrated Plan.
482	Kirlin, Alan	9	A drought emergency was declared in 2015.
482	Kirlin, Alan	10	As noted in Section 1.3, pumping plant on Kachess Reservoir would be operated in order to recover up to 200,000 acre-feet of inactive water storage from Kachess Reservoir during drought years when prorationing is less than 70 percent supply. Sections 3.3 and 4.3 provide details on the 70 percent proration level determination
482	Kirlin, Alan	11	To promote public understanding of action, summary costs are provided in the EIS. Details are presented in supported documents referenced in the EIS. The Preferred Alternative would not be funded by taxpayers.
482	Kirlin, Alan	12	The question is not within the scope of the environmental review.
482	Kirlin, Alan	13	Providing drought relief pumping above 70 percent proration is not proposed in the alternatives.
482	Kirlin, Alan	14	Thank you for your comment.
482	Kirlin, Alan	15	See response to Common Issue 16.
482	Kirlin, Alan	16	This question is outside the scope of the environmental analysis in the EIS.
482	Kirlin, Alan	17	This question is outside the scope of the environmental analysis in the EIS.
482	Kirlin, Alan	18	As noted in Section 4.17.10 of the SDEIS, if any road deterioration merits repair, Reclamation and Ecology would coordinate with local jurisdictions, WSDOT or others as needed.
482	Kirlin, Alan	19	Thank you for your comment.
482	Kirlin, Alan	20	This question is out of the scope of review for this EIS.

Comment Letter Number	Commenter	Comment Number	Comment Response
482	Kirlin, Alan	21	Reintroduction of anadromous salmon species to the Upper Yakima Basin reservoirs is a goal of the Yakima Basin Integrated Plan. After considering scenarios to add fish passage to each of the Upper Yakima Basin Dam, Cle Elum Dam and Reservoir was chosen as the first project to implement, and implementation is occurring (see BOR 2005 Phase 1 Fish Passage Study and BOR 2011 Cle Elum Dam Fish Passage Facilities and Fish Reintroduction Project). Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
482	Kirlin, Alan	22	Reintroduction of anadromous salmon species to the Upper Yakima Basin reservoirs is a goal of the Yakima Basin Integrated Plan. After considering scenarios to add fish passage to each of the Upper Yakima Basin Dam, Cle Elum Dam and Reservoir was chosen as the first project to implement, and implementation is occurring (see BOR 2005 Phase 1 Fish Passage Study and BOR 2011 Cle Elum Dam Fish Passage Facilities and Fish Reintroduction Project). Extirpation of anadromous fish including sockeye salmon due to installation of dams without fish passage structures is described in the introductory paragraphs of section 3.6.
483	Botkin, Linnet	1	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
484	Burke, Mark	1	In response to your question regarding email addresses and the Privacy Act law and policies, please note that there is no conflict with the law or policies. If a commenter wishes the action agency to withhold their name or other personally identifiable information, they must state this prominently at the beginning of their comment. Otherwise, any personally identifiable information, such as names, addresses, and email addresses included in a comment may automatically be made available to the public. We don't redact such information unless requested.
485	Burke, Mark	1	Thank you for your comment.
486	Chan, William	1	See response to Common Issue 16.
487	Jarvis, Lyndsey	1	Thank you for your comment.
488	Marchand, Ann	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
488	Marchand, Ann	2	You raised a number of questions about the differences in wages of documented versus undocumented farm workers, including wages per hour for each type of crop. These questions are out-of-scope of the EIS because cropping decisions are made by individual farmer and not Reclamation or Ecology, but also because labor statistics such as used in the Socioeconomic section 4-21 are not relevant to the projected effects of the alternatives. Nonetheless, your comment will be included in the record for the EIS.
488	Marchand, Ann	3	You raised a number of questions about the differences in wages of documented versus undocumented farm workers, including wages per hour for each type of crop. These questions are out-of-scope of the EIS because cropping decisions are made by individual farmer and not Reclamation or Ecology, but also because labor statistics such as used in the Socioeconomic section 4-21 are not relevant to the projected effects of the alternatives. Nonetheless, your comment will be included in the record for the EIS.
488	Marchand, Ann	4	You raised a number of questions about the differences in wages of documented versus undocumented farm workers, including wages per hour for each type of crop. These questions are out-of-scope of the EIS because cropping decisions are made by individual farmer and not Reclamation or Ecology, but also because labor statistics such as used in the Socioeconomic section 4-21 are not relevant to the projected effects of the alternatives. Nonetheless, your comment will be included in the record for the EIS.
488	Marchand, Ann	5	You raised a number of questions about the differences in wages of documented versus undocumented farm workers, including wages per hour for each type of crop. These questions are out-of-scope of the EIS because cropping decisions are made by individual farmer and not Reclamation or Ecology, but also because labor statistics such as used in the Socioeconomic section 4-21 are not relevant to the projected effects of the alternatives. Nonetheless, your comment will be included in the record for the EIS.
488	Marchand, Ann	6	Thank you for your comment.
489	McDermott, Anna	1	Based on their participation , Proratable Entities would receive water during drought years when less than 70 percent water supply is available
490	Stalter, Carolyn	1	Thank you for your comment.
491	Wenstrup, Alexis	1	See response to Common Issue 4.
491	Wenstrup, Alexis	2	See response to Common Issue 4.
491	Wenstrup, Alexis	3	See response to Common Issue 4. We appreciate your inclusion of information about sustainable agriculture and ways to conserve and use water more efficiently. Your information has been included in the record for this EIS although no change was made to this FEIS in response.
492	Snow, Kolea	1	Thank you for your comment.
492	Snow, Kolea	2	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
492	Snow, Kolea	3	Thank you for your comment.
492	Snow, Kolea	4	Acquisition of real property interests based on design concepts for the alternatives are summarized in Section 4.15 of the SDEIS. Reclamation would comply with Federal property acquisition policies. Reclamation would survey properties before construction to determine whether acquisition is required. Reclamation would follow the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601) and the procedures described in the 2003 Reclamation Manual Directives and Standards LND 06-01 for any property or easement acquisition.
492	Snow, Kolea	5	See response to Common Issue 9.
492	Snow, Kolea	6	See response to Common Issue 9.
492	Snow, Kolea	7	See response to Common Issue 9.
492	Snow, Kolea	8	See response to Common Issue 9.
492	Snow, Kolea	9	Section 4.2.10 of this FEIS describes mitigation measures to address potential erosion impacts.
492	Snow, Kolea	10	See response to Common Issue 8.
492	Snow, Kolea	11	See response to Common Issue 10.
492	Snow, Kolea	12	See response to Common Issue 4.
492	Snow, Kolea	13	Reclamation and Ecology have jointly prepared the DEIS, SDEIS, and Final EIS, including responses to comments.
493	Klarich, Chuck	1	Thank you for your comment.
493	Klarich, Chuck	2	Pumping quantity varies during the refill period, but pumping will be provided to supply instream flows and other obligations as required. See Appendix F of the Final EIS for further information.
493	Klarich, Chuck	3	Alternative 4 is identified as the Preferred Alternative in this FEIS. Alternative 5, which includes KKC, is not being pursued at this time.
493	Klarich, Chuck	4	See response to Common Issue 14.
493	Klarich, Chuck	5	See Appendix F of the Final EIS for information on financial responsibilities for maintenance in all years.
493	Klarich, Chuck	6	See response to Common Issue 6.
493	Klarich, Chuck	7	See Section 1.9 of this FEIS.
493	Klarich, Chuck	8	The location of the route of the KKC North Tunnel alignment, if included in the selected alternative, would be revised during final design, at which time required permits and approvals from USFS would be obtained.
493	Klarich, Chuck	9	Thank you for your comment.
494	Link, Laura	1	Thank you for your comment.
495	Honeyford, Jim	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
496	Martin, Joel	1	See response to Common Issue 6.
497	Ryynanen, Dan	1	Thank you for your comment.
498	Busby Felix, Brianna	1	Thank you for your comment.
499	Windsor- Newman, Judith	1	Thank you for your comment.
499	Windsor- Newman, Judith	2	Thank you for your comment.
500	Possani, Laila Zaida	1	See response to Common Issue 10.
501	Aliment, Randy	1	Thank you for your comment.
502	Burns, Mike	1	Thank you for your comment.
503	Daugherty, John	1	Thank you for your comment.
503	Daugherty, John	2	See response to Common Issue 4.
503	Daugherty, John	3	See Appendix F of the Final EIS.
503	Daugherty, John	4	Sections 3.12 and 4.12 describe the implication of climate change, based on current regional projections, on reservoir operations, including refill for action alternatives.
504	Anonymous	1	Thank you for your comment.
505	Busby, Marci Dawn Whitham	1	Thank you for your comment.
506	Reed, H. Colwell	1	Thank you for your comment.
506	Reed, H. Colwell	2	Thank you for your comment.
506	Reed, H. Colwell	3	See response to Common Issue 8.
507	Knauft, Sandy and Greg	1	See response to Common Issue 9.
507	Knauft, Sandy and Greg	2	See response to Common Issue 16.
507	Knauft, Sandy and Greg	3	Thank you for your comment.
508	Aiken, Michael and Madeline	1	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
508	Aiken, Michael and Madeline	2	Thank you for your comment.
509	Poulin, Bruce	1	As described in Section 4.3.1, the historic record of 1926 to 2015 was modeled using the RiverWare hydrologic model. The modeled years include several multiyear droughts and single year droughts. Additionally, as described in Section 4.12.1.2, the RiverWare model was used to evaluate impacts of climate change on all alternatives.
510	Albulet, Licretia	1	Thank you for your comment.
510	Albulet, Licretia	2	Water will remain in Kachess Reservoir under all foreseeable conditions. See Appendix F of the Final EIS for additional detail.
511	Learned, Grant Sr.	1	Thank you for your comment.
512	Nicholson, Scott, and Prest, Gretchen	1	Thank you for your comment.
512	Nicholson, Scott, and Prest, Gretchen	2	Thank you for your comment.
512	Nicholson, Scott, and Prest, Gretchen	3	Thank you for your comment.
512	Nicholson, Scott, and Prest, Gretchen	4	WDFW's Priority Habitat and Species database has been reviewed by Reclamation to assess the presence of any freshwater mussels in Kachess Reservoir. As a result, no documentation was found. Neither of these species are recognized by the USFS and BLM as species of conservation and population viability concern. As the project is implemented project proponents will work with Federal and state agencies to consider potential impacts to mussels.
512	Nicholson, Scott, and Prest, Gretchen	5	Thank you for your comment.
512	Nicholson, Scott, and Prest, Gretchen	6	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
512	Nicholson, Scott, and Prest, Gretchen	7	Thank you for your comment.
513	Franklin, Beverly	1	Thank you for your comment.
513	Franklin, Beverly	2	See response to Common Issue 8.
514	Hanan, Morris	1	Thank you for your comment.
515	Klarich, Charles	1	Reclamation and Ecology would execute agreements with Roza Irrigation District prior to construction that will address roles and responsibilities, including financial commitments.
515	Klarich, Charles	2	A Record of Decision will be issued following the issuance of this Final EIS.
516	Johnson, Brian	1	Thank you for your comment.
517	Aigner, Rob	1	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
517	Aigner, Rob	2	Thank you for your comment.
518	Lewis, Ann	1	Thank you for your comment.
518	Lewis, Ann	2	Transportation impacts are described in Section 4.17 of the EIS.
518	Lewis, Ann	3	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).

Comment Letter Number	Commenter	Comment Number	Comment Response
518	Lewis, Ann	4	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
518	Lewis, Ann	5	See Section 3.3.1 of the SDEIS for a description of Yakima Project operations. The five reservoirs in the Yakima Project are operated in a coordinated manner to provide for surface water needs of the system as a whole; no single reservoir is designated to supply the needs of any particular area. Also See Appendix F of the Final EIS regarding maintaining supply to Yakima Project users.
518	Lewis, Ann	6	See response to Common Issue 14.
518	Lewis, Ann	7	Thank you for your comment.
519	O'Connell, Auren	1	Thank you for your comment.
520	Gienger, Kylon and Teliah	1	Thank you for your comment.
520	Gienger, Kylon and Teliah	2	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
520	Gienger, Kylon and Teliah	3	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
520	Gienger, Kylon and Teliah	4	Thank you for your comment.
520	Gienger, Kylon and Teliah	5	Thank you for your comment.

Comment Letter Number	Commenter	Comment Number	Comment Response
521	Windsor-Newman, Judith	1	See response to Common Issue 9.
521	Windsor-Newman, Judith	2	Thank you for your comment.
521	Windsor-Newman, Judith	3	Thank you for your comment.
521	Windsor-Newman, Judith	4	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
521	Windsor-Newman, Judith	5	Thank you for your comment.
521	Windsor-Newman, Judith	6	Thank you for your comment.
522	Misocky, Jill	1	Thank you for your comment.
522	Misocky, Jill	2	See response to Common Issue 4.
522	Misocky, Jill	3	Thank you for your comment.
522	Misocky, Jill	4	See response to Common Issue 9.
522	Misocky, Jill	5	See response to Common Issue 3.
522	Misocky, Jill	6	Thank you for your comment.
522	Misocky, Jill	7	See response to Common Issue 4.
523	Reed, Colwell	1	Thank you for your comment.
523	Reed, Colwell	2	Thank you for your comment.
523	Reed, Colwell	3	Thank you for your comment.
523	Reed, Colwell	4	Thank you for your comment.
523	Reed, Colwell	5	Thank you for your comment.
523	Reed, Colwell	6	See response to Common Issue 10.
524	Wanechek, Connie	1	Thank you for your comment.
525	Judith A. Mallon	1	See response to Common Issue 3.

Comment Letter Number	Commenter	Comment Number	Comment Response
525	Judith A. Mallon	2	Thank you for your comment.
525	Judith A. Mallon	3	See response to Common Issue 4.
525	Judith A. Mallon	4	See response to Common Issue 9.
525	Judith A. Mallon	5	See response to Common Issue 9.
525	Judith A. Mallon	6	Project-related impacts to wildlife have been evaluated consistent with NEPA and SEPA and are documented in Section 4.8 of this FEIS.
525	Judith A. Mallon	7	As noted in Section 4.17.10 of the SDEIS, if any road deterioration merits repair, Reclamation and Ecology would coordinate with local jurisdictions, WSDOT or others as needed.
525	Judith A. Mallon	8	Thank you for your comment.
525	Judith A. Mallon	9	See response to Common Issue 17.
525	Judith A. Mallon	10	As described in Section 4.3.2 of the SDEIS, Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. This assumes the full 200,000 acre-feet, which is a maximum pumping scenario. Reclamation would manage the operation of all Yakima Project reservoirs to refill Kachess Reservoir after a drought while meeting Project obligations. See Appendix F of the Final EIS for further information.
526	Lynn Ahlers	1	Thank you for your comment.
527	Taylor Hazard	1	Thank you for your comment.
528	Jeff Parry	1	Thank you for your comment.
529	Paul and Koleen Cook	1	Thank you for your comment.
529	Paul and Koleen Cook	2	See response to Common Issue 8.
530	Maria Burke	1	Thank you for your comment.
531	Andrew Burke	1	Thank you for your comment.
532	Charles Jung	1	Thank you for your comment.
532	Charles Jung	2	The anticipated impacts to environmental resources are described in Chapter 4 of this FEIS.
532	Charles Jung	3	Droughts in the Yakima Basin vary in length, with some droughts lasting a single year and others lasting multiple years. Reclamation would consult with the participating districts in the first year of a drought to determine whether additional supply should be fully used in that year, or some of the water should be held back for a possible subsequent drought year. Once the water from KDRPP is fully used, a return to normal or wet conditions will be needed in order to refill the inactive pool.
532	Charles Jung	4	See response to Common Issue 9.

Comment Letter Number	Commenter	Comment Number	Comment Response
532	Charles Jung	5	See response to Common Issue 4.
532	Charles Jung	6	The volitional fish passage channel would convey all flow leaving Little Kachess up to 100 cfs into Big Kachess. The waters in the volitional fish passage channel will remain the same native headwaters that flow through the Narrows and into Big Kachess. The entrance to the volitional fish passage channel will be comprised of the same alluvium that the Narrows Channel is comprised of now. The entrance to the volitional fish passage channel will be anywhere from 100 feet away to 2,600 feet away from the existing entrance to the Narrows channel, depending on the water surface elevation in Big Kachess when KDRPP and the volitional fish passage channel is in operation. Therefore, there are no known concerns associated with fish being able to find and enter the volitional fish passage channel. The upstream passage of fish into Box Creek Canyon is an existing, separate and independent issue from the volitional fish passage channel at the Narrows.
532	Charles Jung	7	Thank you for your comment.
533	Lance Newman	1	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
533	Lance Newman	2	Thank you for your comment.
534	Billie Marquiss	1	See response to Common Issue 8.
534	Billie Marquiss	2	See response to Common Issue 17.
534	Billie Marquiss	3	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
535	Shawn McQuiston	1	See response to Common Issue 10.
536	James Mallon	1	Thank you for your comment.
536	James Mallon	2	Thank you for your comment.
536	James Mallon	3	Thank you for your comment.
536	James Mallon	4	Thank you for your comment.
536	James Mallon	5	Thank you for your comment.
537	Jeff Parry	1	Thank you for your comment.
537	Jeff Parry	2	Thank you for your comment.
537	Jeff Parry	3	Thank you for your comment.
537	Jeff Parry	4	Thank you for your comment.
538	Judith Windsor-Newman	1	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.

Comment Letter Number	Commenter	Comment Number	Comment Response
538	Judith Windsor-Newman	2	Thank you for your comment.

SDEIS Form Letter 1

Name	Name	Name
Adams, Alexis	Gordon, Maurice	Oswald, Emma
Agnew, Theresa	Graham, Emily	Owens, Cliff
Ahlers, Carl	Grande, Elizabeth	Owens, Jaxon
Ahlers, John	Grantham, Jesse	Owens, Joann
Ahlers, Lynn	Green, Lisa	Owens, JP
Aigner, Kimberly	Green, Sarah	Owens, Rachael
Aiken, Shannon	Grimes, Darren	Owens, Stephanie
Aikens, Michelle	Gruber, William	Padget, Joseph
AlAzzam, Ahmad	Gruits, Laura	Pagel, Maximilian
Albulet, Michelle	Guilfoyle, Josh	Palmer, Christine
Albulet, Mihai	Guzman, Terry	Palmer, Douglas
Alexander, Michael	Hagan, Frank	Palmer, Lewis
Aliment, Randy	Haistings, Rae Ann	Pappas, James
Allott, Sessi	Hajduk, Jonathan	Pappas, Tina
Anderson, Kasper	Hall, Bonnie	Paredes, Jessic

Name	Name	Name
Anderson, Phillip	Halvorson, Melissa	Parker, Elizabeth
Applin, Raini	Hamilton, Alistair	Parker, Jennifer
Archev, Chris	Hamilton, Sara	Parker, Kevin
Ardea, Brigitte	Hamm	Parrett, Mark
Aspinall, Emma	Hammond, Bryant	Pasin, Jim
Auckland, Caraline	Hammond, Melissa	Pass, Cynthia
Avey, Tricia	Hammond, Nancy	Patnode, Drew
Babunovic, Emile	Hangartner, Mikaela	Pawluskiewicz
Bahhage, Monir	Hansberry, Tina	Payne, Renee
Bailey, Hailly	Hanvoid, Chris	Penner, Jonathan
Baily, Alanda	Harlow, Devin	Perez, Amber
Baily-Sun, Erin	Harris, Kirk	Perrone, Nathaniel
Baker, Sam	Harrison, Trevor	Perry, Mikaela
Baldwin, Angel	Harvey, Kristen	Pessolano, Craig
Ballard, Kay	Haslund, Leif	Peterson, Jennifer
Banks, Morgan	Hayes, Shan	Pettit, Gerald
Baron, Trace	Hayne, Shelby	Petzoldt, Cameron
Barrett, Scott	Haysom, Jeremy	Pieser, Derek
Beach, Jason	Hazard, Dr. Keifer	Pistorese, Linda

Name	Name	Name
Beardsley, John	Hazard, Emily	Poe, Cherri
Beaudoin, Paul	Hazard, Morgan	Possani, Laila Zaidi
Beck, Michelle	Hazard, Nicholas	Potter, Lauren
Beekley, Gina	Hazard, Taylor	Powell, Brad
Beers, Sarah	Heil, Jeralyn	Pruett, Brett
Bensen, Steven	Hellene, Sadera	Purcell, Samantha
Benward, Amber	Henderson, Rachel	Puryear, Alicia Marie
Berger, Richard	Hendry, Courtney	Rabideau, Chase
Berline, Michael	Henne, Erik	Randolf, Daniel
Bernhardt, Kathryn	Henrichsen, Tessa	Rao, Amy
Berry, Anna Lauren	Hernandez, Karla	Rat, Sorina
Berry, Jennifer	Hickman, Nicole	Rayfield, Patti
Bettcher, Cerara	Hilfer, Stephanie	Rayfield, Tom
Bickford, Alice	Hill, Francis	Rebman, Matthew
Billings, Darren	Hinton, Leonard	Record, Ben
Binder, Kurt	Hochstein, Rachel	Reddick, Miranda
Blair, Letizia	Hodorowski, Brenda	Reece, Conner
Bluestein, Benjamin	Holland, Susan	Reed, Paul
Bocchetti, Aaron	Home, Nancy	Reed, Paul

Name	Name	Name
Bold, Shawna	Hoots, David	Reeves, Christian
Bookter, Teresa	Howell, Abbey	Reeves, Emily
Boudreau, Lucinda	Huber, Stephanie	Reeves, Jeremy
Braaten, Aaron	Hummel, Kathleen	Reeves, Travis
Brasser, Justin	Hunter, Mary Ellen	Reil, Dawn
Brauworth, Jason	Hurley	Reinertsen, Conner
Brewer, Lynn	Hurley, Sonja	Repp-Faith
Broehl, Mitchell	Hutson, Jeannine	reuther, Geoffrey
Bronson, Andria	Huynh, Michelle	reuther, Geoffrey
Broussard, Paula	Illstrup, Sharon	Reynold, Kim
Brown, Kim	Jackson, Rachael	Reynolds, DeAnna
Brown, Travis	Jacobson, Lavelle	Rice, Nancy
Brummond, Carol	Janecke, Shannyn	Richards, Derek
Burke, Maria	Jarvis, James	Ripley, Brittanie
Burke, Mary	Jarvis, Kelsey	Rippe, Eric
Burman, Jay	Jensen, Erick	Risher, Ronda
Burns, Sean	Jensen, Gail	Rivas, Phillip
Butchart, Janet	Jensen, Kevin	Rivera, Michelle
Byrd, Rebecca	Jensen, Kristin	Rixon, Shelley

Name	Name	Name
Cain, Kyler	Jensen, Linda	Roddewig, Craig
Callis, Abigail	Johnson, Dulce	Rogers, Treda
Callis, Elizabeth	Johnson, Kathy M.	Rohan, Mike
Campbell, Bill	Johnson, Martha	Rosen, Geoff
Campbell, Canny	Jones, Jackie	Rostron, Kaylin
Campbell, Craig	Jongeward, Emilee	Ryen, Lillian
Campbell, Karen	Jorgensen, Ursula	Ryynanen, Cindy
Campbell, Lyssa	Judge, Tom	Ryynanen, Dan
Campbell, Nick	Junchmes, Molly	Sabo, Derek
Canas, Shawna	Karn, Todd	Sabo, Kristi
Cardone, Nancy	Kaufer, Jeff	Saday, Jihan
Carl, Jeffrey	Kauffman, Matthew	Salyer, Dana
Carl, Sarah	Kearny, Katherine	Salyer, Rachell
Carmichael, Deborah	Keller, Taryn	Sampalis, Nicholas
Carmody, Thomas	Kerslake, David	Sampson, Isabella
Carolan, Quinn	Kersten, Emily	Sanford, Kristain
Carter, Adam	Keser, Jason	Sapios, Kathleen
Carter, Donna	Kiefer, Margaret	Sather, Tom
Castaneda, Kalani	Kismarton, Susan	Saunders, Brenda

Name	Name	Name
Castillo, Yoseline	Kitchell, Angus	Saunders, Stephanie
Cavanaugh, Jessica	Kitchell, Dr. Robert	Scappini, Jay
Cavelia, Jan	Kitchell, Ellie	Schaeftbauer, Sammi
Cavenaugh, Jeanne	Kitchell, Fraser	Schauss, David
Chamberlain, Zack	Kitchell, Murphy	Schlentz, Holly
Charles, Clifford	Kitchell, Sarah	Schmedeke, Alesha
Chellew, Nikki	Klebanoff, Carolyn	Schmidt, Alicia
Childs, Krista	Klebanoff, Mark	<u>Schorn, Payton</u>
Christie, Betsy	Klein, Chad	Schuyleman, Christi
Christie, Kerri	Klein, Cinnamon	Schwandt, Dale
Christman, Tiffany	Knbalcom, Kent	Schwartz, Michael
Chu, Amy	Koehn, Trevor	Seguin, Kerry
Clark, Christi	Kolbrick, David	Seymour, Scott
Clark, Katy	Kolbrick, Paige	Shaw, Alison
Clark, Theresa	Kolbrick, Ryan	Shimeall, Nancy
Clarke, Ronald	Kolde, Judith	Shiple, Gwenda
Clemente, Lori	Komarnitsky, Michael	Shumaker, Laury
Clinger, Summer	Kraus, Chrissy	Simmons, Katherine
Cobb, Heather	Krause, Julianne	Smith, Angela

Name	Name	Name
Cole, Elena	Kretschman, Rita	Smith, Delaney
Cole, Max	Kujath, Karen	Smith, Walter
Conner, Eric	Kutschia, Klaus	Snow, Kelly
Conner, Sarah	Lafferty, Jeff	Snyder, Candi
Cook, Koleen	Laird, Matt	Snyder, Maggie
Cooke, Helen	Lake, Drew	Solomon, Shannon
Cooper, Jonathan	Lampshire, Kevin	Sosnowski, Corinne
Correa, Darci	Lancaster, Michael	Standley, James
Cotton, Michelle	Landen, RandB	Stark, Jaylene
Courage, Sean	Larson, Bill	Steffen, Sarah
Court, Danelle	Larson, Chris	Stephens, Duncan
Coy, Alexander	Larson, Jessica	Sternen, Darci
Crews, Kevin	Larson, Todd	Stevenson, Melyssa
Crilly, Jennifer	Le, Mrs. Tien	Stice, Jr., James
Crim, John	Lederman, Rachael	Stillings, Melanie
Cruth, Ryan	Lee, Katie	Storch, John
Cuddie, Gavin	Leeder, Farrington	Stout, Andi
Cunningham, Cassandra	Lees, Greg	Stubbs, Colleen
Curd, Kevin	Lehner, Tim	Suckow, Jessica-Ray

Name	Name	Name
Cushman, Kelly	Lehrman, Kayla	Sukert, Brianna
Cutler, Courtney	Lehrman, Nancie	Sumi, Mason
Dallman, Amanda	Leptich, Lisa, M.	Sumi, Matthew
Damm, Joylynn	Lese, Natalya	Sutherland, Jennifer
Dang, Johnny	Lestelle, Cory	Sylvester, Weston
Daugherty, Nancy	Lewis, Kristi	Talbott, Mrs. Rudi
Davis, Blake	Lewis, Ruby	Tarasevich, Janice
Davis, Holly	Libby, Stephanie	Tarzaban, Cameron
Davis, Sherry	Littlefield, Katie	Taylor, Adam
Davis, Teresa	Lonchari, Erin	Tecca, Crystal
Davydenko, Valerity	Long, Ronald	Templin, Matt
Dawes, Alyssa	Lonnquist, Hayley	Terry, Kathyryn
Deaver, Chuck	Lovre, Christopher	Teske, Helen
Delachica, Amy	Lovre, Elaine	Thaxton, Stephen
DeLaHousaye, Paula	Lovre, Jeff	Thorman, Lisa
Delarosa, Nicole	Lowe, Heidi	Thorman, Trisha
DeWitt, Emily	Lowrey, Robert	Tillett, Amanda
Deyette, Kevin	Lurie, Gale, D	Todd, Maisie
Diaz de Leon, Michelle	Lusier, Sarah	Tolentino, Christopher

Name	Name	Name
Diaz, Doris	MacDonald, Stephanie	Torres, Lindsey
Dire, Heather	Machholz, Jeanette	Tracy, Sarah
Doland, Tara	Mackey, Willaim	Trantina, Steve
Doles, Diane	MacLeod, Malcolm	Trujillo, Leticia
Dornan, Kathleen	Maggs, Vance	Tsao, Aileen
Dornan, Madelyn	Mallard, Scott	Tsuneoka, Junichi
Dounis, Anthony	Mallory, Joseph	Turner, Henry
Draaisma, Maja	Mandelkorn, Laura	Tutino, Alexandria
Dressler, Aaron	Mankus, Joanne	Tweter, David
Driskell, Stephanie	Manolache, Bogdan	Ubil, Ashley
Duclos, Timothy	Marie-Vannatta, Sherann	Unruh, Dr. Janie
Duncanson, Henry	Martin, Justin	Upton Melissa
Duncanson, Kay	Matsuda, Rachel	Vaccaro, Regina
Duncanson, Maxine	Mayo, Therese	Vallee, Nicole
Dunkel, Sarah	McCallum, Valerie	Van Buskirk, Pamela
Eckert, Henry	McConnell, Dr. Iain	van der Hoeven, Karla
Effer, Keith	McDonald, Karidwyn	Van Winkle, Cody
Egger, Ashley	McElroy, Dona	VanBeek, Kathleen
Egger, Chad	McNallan, Joseph	VanGaver, Natalie

Name	Name	Name
Eggleston, David	McNallan, Joseph	Vanmeter, Zack
Elkins, Colette	McNally, Shelby	Vaughn, Michael
Ellison, Cody	McNulty, Rachel	Veremchuck, Lidiya
Elsing, Chris	McPherson, Mary	Vernon, Allison
England, Alex	McQuiston	Vice, Ali
Erickson, Kama	Meas, Alexander	Vij, Vidur
Evanger, Brayden	Mele, Alexandra	von Flotow, Walter
Evans	Mellon, Laura L.	Von Wald, Kim
Fahey, Nicholas	Mendez, Gordy	Vroman, Kristi
Farquar, Leisa	Mendoza, Grace	Waas, Erich
Fehrenbach, Veronica	Mendoza, Jessica	Wallace, Elliott
Fevergeon, Matt	Mesick, Colby	Wallace, Megan
Finke, Dr. Janet	Meyers-Rall, Danielle	Waller, Heather
Fischer, Curtis	Miller, Clinton	Wantanabe, Shannon
Flamiatos, Lucinda	Miller, Ryan	Wass, Kim
Ford, Michelle	Millz, Kris	Waters, Timothy, Jr.
Fountain, J	Mitchell, Erin	Wattenbarger, Kevin
Fountain, Jean	Mitchell, Shanalee	Watts, Claire
Fountain, Jean & Tim	Moldoveanu, Anca	Weber, Nora

Name	Name	Name
Fountain, Jeffrey	Monroe, Jake	Weber, Victoria
Fountain, Makyla	Moore, Andrew	Wegner, Genny
Fountain, Mrs. J.M.	Moore, Jennifer Sloop	Wehowski, Anna
Fountain, Nikki	Moore, Misty	Weirauch, Jason
Fountain, Tim	Moore, Monty	Wenstrup, Alexis
Franklin, Beverly	Moore, Vicki	Wenstrup, Paula
Freeberg, Jennifer	Morgan, Bill	Werner, Wendy
Freeman, Cassi	Morgan, Sue	West, Holly
Frye, Carll	Morris, Don	Wheeler, Christopher
Frye, Doug	Morris, Loree	Wheeler, Viktoria
Frye, Robyn	Morris, Sheila	Whitfield, Eileen
Fudge, Mary	Morrison, Dr. Lisa	Whittaker, Megan
Fudge, Michael	Moslo, Rebecca	Wicks, Jared
Gallagher, Jennifer	Motofi, Aaron	Wildinson, Parker
Galom, Jennifer	Moulton, Jadon	Wilkerson, David
Gehrmann, Braden	Mudwilder, Linda	Wilkinson, Kennedy
Geiger, Laurie	Muir, Robert	Wilkinson, Landon
Geiger, Todd	Murphy, Brian	Wilkinson, Richelle
Geiger, Vanessa	Murphy, John	William, Justin

Name	Name	Name
Gest, Erick	Murphy, Kerry	Williams, Tarek
Gest, Neil	Myers, Dr. Lafe	Williams, Tina
Giaudrone, Edward	Myers, Ryan	Willits, Aron
Giaudrone, James	Netzky, Arianna	Wilson, Sidney
Giaudrone, Suzanne	Neuswanger, Dr. Jason	Winston, Anastasia
Gienger, Chelann	Newton, Whitney	Woerner, Dr. Jeffry
Gienger, Kylon	Nguyen, Paige	Wolter, Thomas
Gienger, Lonnie	Nielsen, Rose	Woods, Vickie
Gienger, Teliah	Nieman, Danielle	Woodward, Frances
Giese, Petrina	Nolan, Patrick	Woodwell, Maura
Gilbert, Trevor	North, Rick	Worley, Nolan
Gile, Melissa	O'Connell, Cathleen	Wright, Kendall
Giovenale, Susan	O'Connell, Lachelle	Young, Heather
Gloyd, Caren	Odman, Faith	Zacharias, Matthew
Golden, Jim	Oh, Dr. Shenton	Zak, Justin
Gonzales, Josette	Olmon, Jennifer	Zink, Paul
Gorchels, Chris	Olmos, Aaron	Zolper, Alec
Gorder, Jonathan	Olson, Kense	Zyskowski, Kathryn
Gordon, Barbra	Oneal, Aaron	

Name	Name	Name
Gordon, Madeline	Orcutt, Christina	

Comment #	Comment Response
1	Thank you for your comment.
2	Thank you for your comment.

SDEIS Form Letter 2

Name	Name	Name
Albulet, Mihai	Frye, Robyn	Ryynanen, Cindy
Burke, Austin	Johnson, Christine	Woodcock, Amanda
Delegans, Alexandra	Kitchell, Carolyn	
Frye, Carll	McQuiston, Shawn	

Comment #	Comment Response
1	Thank you for your comment.
2	The purpose and need for the proposed action are described in the EIS Executive Summary and in Section 1.3.
3	The purpose and need for the proposed action are described in the EIS Executive Summary and in Section 1.3.
4	See response to Common Issue 4.
5	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomics assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
6	See response to Common Issue 2.
7	See response to Common Issue 9.

Comment #	Comment Response
8	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
9	See response to Common Issue 16.
10	See response to Common Issue 10.
11	NEPA allows refinement of the proposed action to get to a preferred alternative. Impacts were fully disclosed in the SDEIS and FEIS, and mitigation measures will be stated in the Record of Decision.
12	The DEIS and SDEIS both state in Section 4.3.2 that Kachess Reservoir would refill to normal operating levels in 2 to 5 years after a drought. The mention of a 20-year cycle in the DEIS (and SDEIS) is the replacement time of pumps and associated equipment.
13	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
14	See Appendix F of the Final EIS for information on the timing and conditions of pumping operations, including both drought-relief and refill operations.
15	Under Reclamation's guidance and direction, a task force of Reclamation, Roza and consultant experts conducted a value analysis study in the summer of 2015. At the time of this study, Eastern Washington was under an Emergency Drought Declaration by the Governor. Subsequent to this Study, Roza embarked on the design of an emergency, temporary floating pumping plant. When the drought was declared over in December of 2015, Roza discontinued advancing the temporary emergency floating pumping plant project, and the work through the additional design and analysis performed in late 2015, the feasibility of a floating pumping plant was verified resulting a decision was made to add this alternative into the EIS documentation. See Section 2.8.1.3 of this FEIS
16	Under Reclamation's guidance and direction, a task force of Reclamation, Roza and consultant experts conducted a value analysis study in the summer of 2015. At the time of this study, Eastern Washington was under an Emergency Drought Declaration by the Governor. Subsequent to this Study, Roza embarked on the design of an emergency, temporary floating pumping plant. When the drought was declared over in December of 2015, Roza discontinued advancing the temporary emergency floating pumping plant project, and the work through the additional design and analysis performed in late 2015, the feasibility of a floating pumping plant was verified resulting a decision was made to add this alternative into the EIS documentation. See Section 2.8.1.3 of this FEIS
17	See Appendix F of the Final EIS for information on the timing and conditions of pumping operations, including both drought-relief and refill operations.
18	See responses to Common Issues 8 and 12.
19	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.

Comment #	Comment Response
20	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
21	See response to Common Issue 15.
22	Figure 4-2 in this Final EIS illustrates the shoreline area under 200,000 acre feet drawdown scenario.
23	[Still under development]
24	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
25	See response to Common Issue 9.
26	See response to Common Issue 9.
27	See response to Common Issue 8.
28	See response to Common Issue 8.
29	The question is not within the scope of the environmental review.
30	See response to Common Issue 17.
31	No permanent habitat loss is predicted for listed fish species including bull trout. As outlined in Section 4.9 of the SDEIS, recent surveys have indicated that suitable habitat occurs throughout much of the areas surrounding the project alternatives, but the area was not found to be currently occupied by spotted owls. Historically owls have occupied areas near the Kachess east shore and they have never been detected in the south shore area. The proposed projects would impact suitable habitat. Pre-construction surveys would be conducted to confirm if this area remains unoccupied. Project impacts would be considered to have no potential effects on northern spotted owls if pre-construction surveys verify that no owls are present within the threshold distances for disturbance or harm.
32	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
33	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.

Comment #	Comment Response
34	During construction Kachess reservoir would release flows early in the season to meet demands in the System. The goal would be to release Kachess water but not “waste” any water. This would accelerate Kachess usage so that construction could begin as early as possible in the late summer or early fall. Kachess flow would then likely be low in the fall. This would impact mini-flip-flop so that the Keechelus reach would not be open for spawning during construction.
35	Thank you for your comment.
36	Thank you for your comment.

SDEIS Form Letter 3

Name	Name	Name
Aigner, Robert	Gienger, Teliah	P, Linda
Armstrong, Angie	Greben, Paul and Galina	Pappas, Tina
Bacon, Britta	Hanvold, Chris	Pistorese, Brent
Baldwin, Keith and Margaret	Hughes, Ashley	Robinson, Craig
Batteiger, Debbie	Jelovich, Jodi	Rosen, Ross
Burke, Maria	Jordan, Patty	Seguin, John
Burke, Mark	Kearny, Katherine and Ryan	Seguin, Kerry
Diener, Janet and Doug	Kim, Paul	Seguin, Paige
Erickson, Cheri	McIntyre, Danielle	Watts, Jerry

Comment #	Comment Response
1	Thank you for your comment.

Comment #	Comment Response
2	The NEPA adequacy of the Programmatic EIS is not under consideration in this environmental review. This EIS was tiered to the Programmatic EIS but this FEIS provides a site specific analysis of the KDRPP and KKC alternatives.
3	See response to Common Issue 4.
4	Reclamation has identified the Yakama Nation and the Colville Confederated Tribes as Tribes with a cultural connection with the project area and they are consulted with on a continual basis on cultural resources issues. The Yakama Nation and the Umatilla Tribes have potential Indian Trust Assets (ITAs) water rights. Reclamation continues to work with these Tribes in addressing potential impacts to resources of tribal concern. The Snoqualmie Tribe has not been identified as having a cultural connection to the project area, and do have any ITAs, and have not requested to be consulted.
5	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
6	Under Reclamation's guidance and direction, a task force of Reclamation, Roza and consultant experts conducted a value analysis study in the summer of 2015. At the time of this study, Eastern Washington was under an Emergency Drought Declaration by the Governor. Subsequent to this Study, Roza embarked on the design of an emergency, temporary floating pumping plant. When the drought was declared over in December of 2015, Roza discontinued advancing the temporary emergency floating pumping plant project, and the work through the additional design and analysis performed in late 2015, the feasibility of a floating pumping plant was verified resulting a decision was made to add this alternative into the EIS documentation. See Section 2.8.1.3 of this FEIS.
7	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
8	The description of alternatives was redefined in the SDEIS. The KKC project is not presented in this SDEIS as a stand-alone alternative as described in the DEIS; instead, it was included as a component of a KDRPP alternative. Reclamation and Ecology will continue to analyze KKC for other benefits. Of the two alternative KKC alignments (north tunnel and south tunnel) considered in the DEIS, the south tunnel was determined to be unfeasible because of geologic explorations and Washington State Department of Transportation construction activities near Interstate-90 (I-90); however, the KKC north tunnel remains under consideration as a component of a KDRPP alternative. See Sections 1.5.2 and 2.6.
9	See response to Common Issue 8.
10	See response to Common Issue 8.

Comment #	Comment Response
11	The public comment periods met or exceeded NEPA and SEPA requirements. Reclamation and Ecology conducted public scoping for the Draft EIS. Reclamation and Ecology issued the DEIS in January 2015. The public comment period for the DEIS closed 60 days later on March 10, 2015. After considering the comments received during that comment period, Reclamation and Ecology reopened the comment period for an additional 60 days. The second comment period ended June 15, 2015. Reclamation conducted numerous community outreach events and provided updates on its website during preparation of the SDEIS. In addition, Reclamation provided extensive public notice of availability of the SDEIS and encouraged public comment. The Final EIS presents a description of outreach conducted.
12	Comment noted. "Reservoir" was used since the DEIS (and SDEIS) discuss a managed surface water system, consistent with terminology used by the Bureau of Reclamation. Specifically: Reservoir is defined as "[a] body of water impounded by a dam and in which water can be stored. Artificially impounded body of water. Any natural or artificial holding area used to store, regulate, or control water. Body of water, such as a natural or constructed lake, in which water is collected and stored for use." (https://www.usbr.gov/projects/glossary.php#R)
13	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.
14	The 2013 "Yakima River Basin Resource Management" law (2SSB 5367) set the vision for the forest and authorized the state Board of Natural Resources to enroll the property as the Teanaway Community Forest under the Community Forest Trust Program. The 2013 state authorizing legislation specifies that if the 214,000 acre feet of water is not developed by 2025, the TCF would be returned to the common school trust. See Section 1.8.2 of the SDEIS for additional details.
15	A cost comparison for all alternatives (including Alternative 4 - KDRPP Floating Pumping Plant, which was not included in the DEIS) is provided in Section 2.7.2 of the SDEIS. This FEIS includes updated costs for Alternative 4. The socioeconomic assessment in the SDEIS provides an update to what was presented in the DEIS and presents the broader socioeconomic implications of the project.
16	Figure 4-2 in this Final EIS illustrates the shoreline area under 200,000 acre feet drawdown scenario.
17	Design of fish passage is consistent with applicable design guidance for fish passage facilities, and has been coordinated with WDFW.
18	ESA Section 7 consultation with US Fish and Wildlife Service and National Marine Fisheries Service is ongoing. Appropriate mitigation measures for T&E fish species to prevent adverse impacts to T&E species, if warranted, will be determined in consultation with the Service and NMFS, as explained in section 4.9.10 of the SDEIS. Section 4.6.10 and 4.9.10 of the SDEIS present specific mitigation measures proposed to mitigate impacts to fish, including bull trout. Further, volitional fish passage improvements at the Kachess Narrows has been integrated into the proposed action specifically to facilitate and encourage resident bull trout migration through the Narrows during drought relief pumping and refill (see Section 2.3.5).
19	See response to Common Issue 10.
20	See response to Common Issue 9.
21	See response to Common Issue 8.
22	See Appendix F of the Final EIS.
23	Still under development.
24	The question is not within the scope of the environmental review.

Comment #	Comment Response
25	See response to Common Issue 17.
26	Specific quantities and management of excavated and fill material for this feature would be further refined as part of final design, if KKC is included in the selected alternative.
27	As stated in section 4.6, "Short-term exceedances of State surface water quality standards for turbidity may occur during and immediately following runoff events (see Section 4.4.4.2, Surface Water Quality). Increased turbidity would cause negative impacts on fish that visually locate prey and may alter existing predator-prey relationships in shallow shoreline areas (Gregory and Levings, 1998; Hansen et al., 2013)." State of Washington water quality criteria for freshwater areas supporting salmonid rearing, such as Lake Kachess, are not to exceed turbidity levels of 5 NTU, which if exceeded for days to weeks can interfere with fish foraging and growth.
28	No permanent habitat loss is predicted for listed fish species including bull trout. As outlined in Section 4.9 of the SDEIS, recent surveys have indicated that suitable habitat occurs throughout much of the areas surrounding the project alternatives, but the area was not found to be currently occupied by spotted owls. Historically owls have occupied areas near the Kachess east shore and they have never been detected in the south shore area. The proposed projects would impact suitable habitat. Pre-construction surveys would be conducted to confirm if this area remains unoccupied. Project impacts would be considered to have no potential effects on northern spotted owls if pre-construction surveys verify that no owls are present within the threshold distances for disturbance or harm.
29	Section 4.14 of the DEIS addresses impacts on Recreation, including to residents and visitors to the study area. This FEIS has been updated to include a discussion of the socioeconomic impacts arising from impacts to recreation.
30	There is very little or no private property that would need to be acquired for the Preferred Alternative. See Section 4.15.17 regarding property acquisition. Reclamation would survey private properties prior to construction and would acquire any needed easements in accordance with of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 4601), as amended, 49 CFR Part 24, and other applicable laws and regulations. The DEIS and SDEIS disclose reasonable property impacts based on alternatives design concepts. Actual real property acquisition will be based on refined design of a selected alternative.
31	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.
32	As discussed in Section 4.4 of the SDEIS, both Keechelus and Kachess Reservoir are on the 303(d) Category 5 list for PCBs in fish tissue. The PCB levels in fish tissue were similar in both reservoirs. No other contaminants in Keechelus or Kachess Reservoir are on the category 5 list (i.e., polluted waters that require a TMDL or water quality improvement project). Because both reservoirs are listed with similar levels, the transfer of water from Keechelus to Kachess would like not affect the PCB concentrations in fish tissue in Kachess Reservoir.

Comment #	Comment Response
33	During construction Kachess reservoir would release flows early in the season to meet demands in the System. The goal would be to release Kachess water but not “waste” any water. This would accelerate Kachess usage so that construction could begin as early as possible in the late summer or early fall. Kachess flow would then likely be low in the fall. This would impact mini-flip-flop so that the Keechelus reach would not be open for spawning during construction.
34	Thank you for your comment.

SDEIS Form Letter 4

Name	Name	Name
[illegible], Judy	Greeger, Lili	Olson, Jamie
[illegible], Seth	Griffith, Olivia	Olson, Mike
Adams, Alexis	Grinnell, Roy	Ondik, Kayla
Adams, Emmalee	Grissom, Daniel	Opel, Kurt
Adams, Sean	Gross, Kelsey	Oswald, Gary
Adeir, Rachel	Hall, David	Ottinger, Evan
Aguilar, Bowie	Hall, Teresa	Owens, Joann
Aguilar, Karen	Halwachs, Carrera	Owens, Joann
Aigner, Rob	Hamilton, Alistair	Owens, Joann
Aiken, Madeline	Hamilton, Grace	Owens, Kayla
Aiken, Madeline	Hamilton, Laura	Owens, Mekai
Aiken, Michael	Hamilton, Sara	Padgett, Susan

Name	Name	Name
Aiken, Mike	Hammerstrom, Iliana	Paez, Omar
Aiken, Mike	Hammons, Emily	Paprite, Sydney
Aiken, Mike	Hanan, Mary	Parsons, Marvin
Aliment, Randy	Handle, J	Passy, Belle
Allen, David	Hansen, Bailey	Patterson, Margaret
Allenhough, Dave	Hansen, Reegan	Peacor, Meg
Anderson, Amna	Hansen, Ryan	Pelee, Lyneta
Anderson, Anna	Hardin, Emma	Peters, McKenna
Anderson, Keith	Hardtla, Tyrell	Peterson, Tami
Anderson, Keith	Harr, Mathew	Petry, Larry
Anderson, Larry	Harris, Ellen	Phillips, John
Anderson, Susan	Harrison, Jessica	Phillips, Makayla
Angrisano, Robert	Hart, Elizabeth	Phillips, Patty
Annis, Karen	Haugen, Geraldine	Pierce, Gail
Anthony, Kayla	Hawk, Chris	Pierce, L.M.
Anthony, Kiri	Hayden, Russ	Pinter, Jenna
Aper, Andrew	Haynes, Michael	Pitts, Donta
Baker, Chris	Hazard, Taylor	Placek, Brandon
Baker, Hallie	Hazelwood, Mary	Placek, Jessica

Name	Name	Name
Baker, Michael	Heintz, Chris	Popp, Mikayla
Baker, Shriley	Hendry, Stefan	Popplenell, Steve
Baker, Yvonne	Henry, David	Porter, Shane
Balliet, Mary	Heric, Dave	Possani, Laila
Baner, Martin	Herman, Angela	Postolit, Victoria
Barber, Brent	Herman, Shelby	Powers, Sandy
Beach, JoAnne	Hersey, Jeffery	Powers, William
Bean, Tammy	Hink, Lindsey	Prest, Gretchen
Beauchamp, Jackie	Hoben, Tyler	Preston, Catrina
Beauchene, Luke	Hooks, Julius	Price, Icaya
Becker, Brooke	Horne, Nancy	Prusha, Cory
Becker, Dennis	Houghton, Taylor	Prusha, Nikki
Beekley, Doyle	Houses, Christie	Pucci, Anna
Berge, Katie	Howard, Amber	Pugel, Stephen
Berge, Terri	Howard, Denise	Purci, Gerry
Berline, emily	Howard, Troy	Rait, David
Berline, Peggy	Hudgens, Michael	Rait, Geraldine
Bod, Jen	Hudgins, Zoe	Rary, Alexa
Bonnell, Paul	Hughes, Randall	Rasera, Dante

Name	Name	Name
Book, Brad	Hulberte, Ethan	Ratliff, Abby
Boren, David	Hume, Matt	Reckaun, Regina
Boren, Nick	Hurst, Collyn	Redd, Kyle
Bowling, Bobby	Hutchinson, Jessica	Reed, Colwell
Bowling, Camryn	Huynh, Heidi	Reeves, Brad
Bowman, Tyler	Jackson, Mike	Reeves, Christine
Boynton, Carter	Jacqueline	Reeves, Harold
Brabham, Kate	Jaegerman, Jeanelle	Reeves, John
Brady, Alaina	Jasper, Kristina	Reeves, Kathryn
Braly, John	Jennings, Albert	Reily, Paul
Braly, Rita	Jeong, Chris	Reitz, Anna
Brandt, Gordon	Johansen, Derek	Reynolds, Jeff
Branworth, Aaron	Johnson, David	Richter, Neil
Branworth, Taylor	Johnson, Joel	Rivera, Lexy
Braunworth, Marci	Johnson, Nancy	Rohrbaugh, Ansley
Braunworth, Raylon	Johnson, Shawn	Roletto, Peggy
Brethack, Melanie	Jonas, Brad	Roletto, Richard
Brodie, Sean	Jordan, Justin	Rosen, Ross
Broeckling, Henry	Joseph, Fred	Rowland, Rebecca

Name	Name	Name
Broeckling, Joan	June, Ehevlie	Runyon, Scott
Broeckling, Michelle	Kalgaonek, Kaustabh	Russell, Kayla
Brown, Alison	Kammeier, Erin	Russell, Mark
Brown, Hannah	Kartes, Jessica	Ryan, Paige
Brown, Michael	Kartes, Teresa	Ryan, Paige
Brown, Travis	Kask, Tammara	Ryynanen, Dan
Brunner, Barbara	Kask, William	Ryynanen, Tyler
Brunner, Brian	Kelly, Shane	Ryynaner, Cindy
Bullock, Joseph	Kenloomis, Kyle	Sandoval, Jordan
Burke, Andrew	Kerrey, Jon	Sandoval, Nathan
Burke, Maria	Kimmel, Gayle	Sannes, Sam
Burke, Mark	King, Dylan	Sauer, Kevin
Burleson, Wendy	Kinney, Sarah	Sauer, Kevin
Burnett, Betty	Kitchell, Carolyn	Scheuffele, Dana
Burnett, Kurtis	Knauff, Mary	Schlutt, Claire
Burns, Mike	Knauss, Hannah	Schoener, Linda
Busby, Marci	Knavff, Gary	Schreck, Megan
Busby, Marci	Knavff, Sandy	Schwartz, Zachary
Buyel, Carell	Knavft, Sandy	Schydle, Sara

Name	Name	Name
Cabrona, Alex	Kongsaeng, Chalida	Seguin, John
Cadwoleder, Wade	Korach, Malachi	Seguin, Kerry
Campbell, Bill	Koval, Alex	Senior, Viktoriya
Campbell, Connor	Koval, Vera	Serov, Vasiliy
Campbell, Kylee	Krueger, Kraig	Sevedge, Ryan
Campell, Karen	Kulikovskaya, Anna	Severson, Andrea
Carigen, Angela	Kulikovskaya, Roman	Shaw, Megan
Carlson, John	Kulikovskaya, Svetlana	Sheldon, Jeanne
Carlson, Shawn	Kundtsen, Kate	Sheridan, David
Carmody, Tom	Landen, Bonnie	Simmons, Ben
Carpenter, Tristan	Landen, Dick	Simmons, Noah
Casebolt, Jamie	Langendorfen, Kurt	Sivertson, Conner
Cather, Connor	Lanler, Megan	Slanner, Al
Cavanaugh, Ray	Larange, Carter	Smith, Curtis
Cernick, Debbie	Lawrence, Alan	Smith, Steve
Cha, Austin	Lawtin, Nancy	Smitle, Derm
Christofferson, Jacob	Le, Courtney	Snelson, Wyatt
Christofferson, Tara	Learned SR, Grant	Snyder, Kylee
Clark, Casey	Lee, Mary	Sparks, Amy

Name	Name	Name
Clements, Kaylon	Lee, Randy	Sparks, Ryan
Cline, Charlene	Lee-Smith, Robin	Spence, Rick
Cline, Dave	Lehto, Gabriel	Spence, Sue
Coby, Gail	Lester, Meagan	Stachowiak, Michele
Conklin, Kyle	Lewis, Ann	Steed, Victoria
Cook, Koleen	Lewis, Hayden	Steiner-Dodge, Jasmine
Cooper, Janine	Lewis, Katie	Stevens, Natalie
Cooper, Nathan	Liberda, Rick	Stevens, Ryan
Courage, Sean	Liberda, Tammi	Stieglitz, Ben
Cowenz, Gary	Link, Laura	Stieglitz, Jenn
Craig, Kathy	Litovkin, Audrey	Stone, Karen
Craig, Michael	Loftus, Jake	Stone, Penny
Crassman, Jeremy	Loftus, Jeff	Streby, Mike
Credene, Maclayne	Loftus, Stage	Strickland, Norman
Crickman, Rachel	Lomakin, Andrew	Sweeney, Emma
Crum, Miranda	Lomakin, Reuben	Syders, Faith
Dallman, Amanda	Lomakin, Tatyana	Sykes, Kelsie
Darney, Ben	Lund, Lexy	Syme, Clarissa
Davenport, Mikah	Lund, Stan	Taasevigen, Edward

Name	Name	Name
Day, Melinda	Lux, Edward	Taasevigen, Margaret
DeBord, Julia	Lux, Lisa	Taise, Dianne
Delegans, Alexandra	Machlin, Kyle	Taise, Jonas
Delegans, George	MacKinam, Cheri	Tavenner, Starr
Dill, Joe	Madding, Troy	Taylor, Trenton
DiPace, Chloe	Main, Christina	Thayer, Jody
Donohue, Chase	Malcom, Ryan	Thayer, Todd
Donovan, Tracey	Malcom, Shannon	Thomas, Lynne
Douglas, Colten	Mallon, Judith	Thomas, Sean
Downer, Margaret	Mallonee, Eileen	Tilley, Nick
Draaisma, Erik	Mallory, Joe	Tilton, Shiaiyn
Draaisma, Maja	Mankew, Mick	Timmerman, Bianca
Driscoll, Olivia	Mankus, Ashley	Tobin, Lauren
Drumm, Randall	Manus, Arden	Tollie, Nikki
Dulin, Andrew	Marconi, Olivia	Toman, Meuney
Duncanson, Harold	Marian, Aaron	Toman, Wendy
Duncanson, Kay	Marquiss, Billie	Town of So. Cle Elum
Durrett, Abby	Marquiss, William	Trapp, Robert
Eble, Justin	Marshall, Anna	Trimm, Alison

Name	Name	Name
Edde, Mike	Martin, Joel	Trimm, Bill
Edde, Mike	Martin, Sierra	Trygstad, Erin
Egberg, Cayla	Martinez, Tommy	Tubbs, Ginny
Engberg, Gregory	Martinez, Zoey	Turner, Al
England, Dustin	Mase, Rebecca	Turner, Luke
Ewen, Katie	Masters, Stephanie	Uriola, Kendra
Fabulae, Anastasia	Masterson, Caryon	Vaderwall, Jacob
Falsis, Lindsey	Matthai, Debbie	Valentine, Faith
Fasand, Renee	Matts, Mark	VanSickle, Cindi
Faubas, Alec	Maybo, Claudette	Vaughan, William
Faucher, Donovan	Maybo, J. Sam	Vaughn, William
Felipe-Ramos Gerardo	McDermott, Gail	Vedenava, Diana
Felix, Brianna	McGonegle, Time	Verhelst, Isabelle
Ferguson, Carol	McHenry, Traci	Verhelst, Natasha
Ferguson, Dan	McLain, Kenneth	Wainwright, Shirley
Fernunson, Martin	McLenaghan, Kevin	Wallace, Brenna
Fishburn, Sam	McNeil, Maggie	Wanechek, Chanty
Fitts, Dereck	McShane, Cathie	Wanechek, Connie
Fitts, Dereck	Meaden, Hayden	Ward, Bernice

Name	Name	Name
Flint, Alexis	Meiseyena, Olga	Wasell, Mary
Fodness, Carlin	Mensing, Jackie	Waterman, Anita
Fodness, Colleen	Miles, Brett	Watts, Gayle
Fornaby, Rebecca	Millman, Kelly	Watts, Jerry
Forsell, Kati	Misochy, Billy	Webb, Connor
Forsell, Kurt	Misochy, Jill	Webb, Jada
Fountain, Jean	Misochy, Jill	Westendorf, Amanda
Fountain, Jean	Molnar, Seth	Westermann, Ralph
Fountain, Tim	Molnar, Seth	Whitham, Melvena
Franklin, Ben	Monahan, Bree	Willete, Bree
Freeman, Jeffrey	Monroe, Keri	Willis, Mikayla
Freeyan, Cassi	Moore, Colton	Windsor-Newman, Judith
Frye, Ajay	Moore, Montana	Windsor-Newman, Judith
Fuda, Gia	Moore, Monty	Witonsky, Chloe
Fury, Denis	Mueller, Cassidy	Wold, Kensall
Fury, Denis	Mulder, Kathy	Wold, Lisa
Fury, Gail	Mulder, Tom	Wolff, Karen
Fury, Steve	Mulqueeney, Brett	Wood, Chris
Fyluh, Oleg	Mulqueeney, Christine	Wood, Sabrina

Name	Name	Name
Gaodnirda, Tiffany	Mulqueoney, Dave	Wood, Sam
Garcia, Nicholas	Mulqueoney, Erin	Wyman, Kurt
Garcia, Samuel	Mulqueoney, Kara	Yeager, Dorian
Gerber, Shannon	Mulqueoney, Tatum	
Gibbs, Gabby	Murphy, Mike	
Gienger, Chelann	Myers, Nicholas	
Gienger, Kylon	Naibert MD, David	
Gienger, Kylon	Nellis, Travis	
Gienger, Lonnie	Nelson, Shelley	
Gienger, Shelley	Nelson, Taryn	
Gienger, Sky	Nelson-Hand, Chayna	
Gienger, Teliah	Newcomb, Vaughn	
Gienger, Teliah	Nicholson, Scott	
Gillingham, Lora	Nielsen, Susan	
Gilmore, Daniel	North, Rick	
Gilmore, Julie	Northup, Sara	
Gogan, Heather	Norton, Janet	
Gold, Gerald	Nygren, Tammy	
Gold, Norma	O'Brien, Lourene	

Name	Name	Name
Gonzalez, Jordan	O'Connel, Auren	
Goodsite, Betsy	O'Connel, Lachelle	
Gorchels, Chris	O'Connel, Lachelle	
Gorchels, Kay	Oday, Lisa	
Grayseth, Teresa	Oliver, Andrew	
Greeger, Bob	Olonoras, Jonas	

Comment #	Comment Response
1	Thank you for your comment.
2	If the Preferred Alternative is selected, Roza Irrigation District and potentially other participating proratable irrigation districts would fund the project.

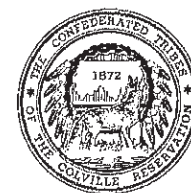
RECUV 5/29/18



The Confederated Tribes of the Colville Reservation

History/Archaeology Program
 P.O. Box 150, Nespelem, WA 99155

(509) 634-2693
 FAX: (509) 634-2694



4 May 2018

Ms. Candace McKinley
 Environmental Program Manager
 Bureau of Reclamation
 Columbia-Cascades Area Office
 1917 Marsh Road
 Yakima, WA 98901-2058

HA# U15-411
 18.0218

RE: Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance (KDRPP/KKC) Projects Supplemental Draft Environmental Impact Statement, Kittitas and Yakima counties, Washington

Dear Ms. McKinley:

We are continuing consultation with your agency regarding various elements of the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance (KDRPP/KCC) Projects. Please be advised that your proposed undertaking lies within the traditional territories of the Wenatchi Tribe, one of the twelve Tribes that make up the Confederated Tribes of the Colville Reservation (also known as the Colville Confederated Tribes or CCT), which is governed by the Colville Business Council (CBC). The CBC has delegated to the Tribal Historic Preservation Officer (THPO) the responsibility of representing the CCT with regard to cultural resources management issues throughout the traditional territories of all of the constituent tribes under Resolution 1996-29. This area includes parts of eastern Washington, northeastern Oregon, and the Palus (Palouse) territory in Idaho.

We have received a copy of the Supplemental Draft Environmental Impact Statement (SDEIS) pertaining to these projects for our review and comment. We offer the following comments for records:

- We again request that additional historical background on the Wenatchi Tribe, inclusive of the history of the Wenatshapam Fishery Reserve designated under the 1855 Treaty with the Yakima, be incorporated into subsection 3.18.2 of the SDEIS. We recommend Shutler's (2011), *Taking the Bitter with the Sweet: Wenatchi Fishing Rights* in the journal *Environmental Law* 41:981-1026, as a readily available and succinct source that may be fruitfully used to supplement this subsection. 1
- Cultural resources are fairly broadly defined within section 3.18. In subsection 3.18.1, the SDEIS states that, "For cultural resources, an effect occurs when the proposed project would disrupt or impact a prehistoric or historical archaeological site or a property of historical interest or cultural significance to a community or ethnic or social group. These effects are adverse if they would occur to historic properties." In the Glossary section of 2

the SDEIS, on page GL-3, an historic property is defined as, “Any building, site, district, structure, or object (that has archaeological or cultural significance) included in, or eligible for inclusion in, the National Register.” It is the position of the CCT that adverse effects can occur to the range of cultural resources as more broadly defined defined in section 3.18.

2

- In subsection 3.18.3, we request that the sentence, “Once a preferred action alternative is selected, and precisely defined, supplemental surveys of the KDRPP APE would likely have to be performed, along with tribal consultation” be amended to read, “Once a preferred action alternative is selected, and precisely defined, supplemental surveys of the KDRPP APE *will* be performed, along with tribal consultation.”

3

- You have provided two different Kittitas place names, or two versions of the same Kittitas place name, for Lake Kachess: Hah-chesch and Hah-chee-luxsh based on a personal communication in 2017 from Jessica Lally of the YCRP. Are these alternative and equivalent terms? Is there additional evidence of the historic or contemporary use of this name to refer to Lake Kachess?

4

- In subsection 4.18.1, the SDEIS distinguishes between three types of cultural resources: historic properties, cultural items under NAGPRA, and resources of tribal concern. We have two comments regarding this language and these distinctions:

- Your typology of cultural resources does not account for those resources which have not yet been evaluated regarding their eligibility for listing on the National Register of Historic Places (NRHP). It is the position of the CCT that potential historic properties that have not yet been evaluated in terms of their eligibility for listing on the NRHP be treated as eligible for listing, until proven otherwise. We request that you address impact indicators for these types of cultural resources.
- Please provide a definition in the Glossary for the term “resources of tribal concern.”

5

- In subsection 4.18.10, please change the first sentence from “Reclamation would complete additional field surveys and to identify cultural resources as project designs are refined” to “Reclamation *will* complete additional field surveys and *continue* to identify cultural resources as project designs are refined.”

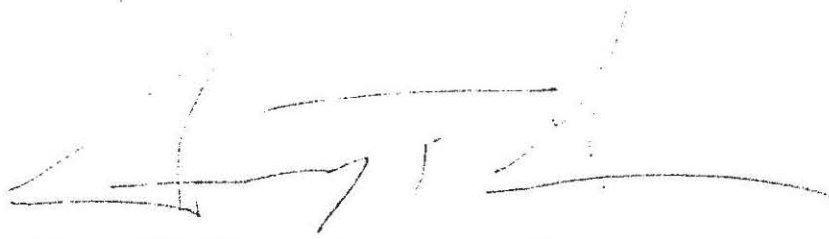
7

- In reference to subsection 4.18.10, the CCT supports the collaborative development of a Cultural Resources Management Plan in consultation with all affected and interested tribes.

8

Thank you for consulting with the Confederated Tribes of the Colville Reservation. Please note that these comments are based on information available to us at the time of the project review. We reserve the right to revise our comments as information becomes available. If you have any questions or concerns, please contact Karen Capuder at (509) 634-2876 or karen.capuder@colvilletribes.com. If you wish to speak with me, contact me at (509) 634-2695.

Sincerely,



Guy Moura, Tribal Historic Preservation Officer

cc: Chron

File (KMC)

Rob Whitlam, PhD, Department of Archaeology and Historic Preservation



Dera, Karen <kdera@usbr.gov>

Fwd: [EXTERNAL] KDRPP SDEIS Comment Letter

1 message

McKinley, Candace <cmckinley@usbr.gov> : ed, Jul 11, 2018 at 3:38 PM
To: Gwendolyn Christensen <gchristensen@usbr.gov>, Julia Long <MORQJ#XV5w>, "Dera, Karen" <kdera@usbr.gov>, Deborah Van Meter <dvanmeter@usbr.gov>

----- Forwarded message -----

From: **Tom Ring** <7om_Ring@yakama.com>
Date: Wed, Jul 11, 2018 at 3:29 PM
Subject: [EXTERNAL] KDRPP SDEIS Comment Letter
To: "NNEW#XV5w" <NNEW#XV5w>, Candace McKinley <FPFNLQOH#XV5w>
Cc: Tom Ring <7om_Ring@yakama.com>, Phil Rigdon <Phil_Rigdon@yakama.com>, Everett Isaac <Everett_Isaac@yakama.com>, Dave Fast <Dave_Fast@yakama.com>, Melissa Hannigan <Melissa_Hannigan@yakama.com>, Jeff Schuster <MfSchuster@att.net>, Yvonne Colfax <<vonne_Colfax@yakama.com>

Ms McKinley,

Attached please find Yakama Nation Department of Natural Resources comment letter on the KDRPP SDEIS.

TRP

--
Candy McKinley
Environmental Program Manager
Bureau of Reclamation
Columbia-Cascades Area Office
1917 Marsh Road
<akima, WA 98901

509/575-5848 x232
509/379-0780 cell

Kachess Drought Letter.pdf
299K



Confederated Tribes and Bands
Of the Yakama Nation

Established by the
Treaty of June 9, 1855

July 11, 2018

Ms. Candace McKinley
Environmental Program Manager
Bureau of Reclamation
Columbia-Cascades Area Office
1917 Marsh Road
Yakima WA., 98901-2058
Email: kkbt@usbr.gov

Re: Yakama Nation Department of Natural Resources Comments on
Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess
Reservoir Conveyance (KDRPP/KKC) –Supplemental Draft Environmental
Impact Statement

Dear Ms. McKinley:

I am writing as Superintendent of the Yakama Nation Department of Natural Resources to provide comments on the KDRPP/KKC Supplemental Draft Environmental Impact Statement. I incorporate prior comments by the Yakama Nation on KDRPP and on the Integrated Plan into this letter.

The Yakama Nation has participated in the development of the Yakima Basin Integrated Plan since its inception and the Yakama Tribal Council has adopted resolutions in support of the plan. We support KDRPP as a component of the YBIP provided it is implemented in a fashion that furthers the goals of YBIP to improve both water supply for agriculture and instream flow and habitat for fish and other aquatic life. Implementation of YRBWEP must not impair the Yakama Nation’s Treaty and other rights and not adversely affect the Yakama Nation’s ability to fully use its existing water rights including irrigation deliveries and instream flows in subsequent years following water short years. In keeping with this, the SDEIS makes the following important commitment (p.2-17).

1

“In keeping with the goals of the Integrated Plan, under the Proposed Action during Kachess Reservoir refill Reclamation would operate the Yakima Project to ensure spring (March through June) flows are at least what they would be under current operating conditions without KDRPP.”

We note that while the EIS discusses other fish species in Chapter 3 and in the sections on KKC, the discussion of potential impacts on fish associated with the preferred alternative is limited to Bull Trout and Steelhead. Given that the goal of YBIP is restoration of harvestable surpluses of

2



all native species of fish and other aquatic life throughout their historic range, the discussion in Chapter 4 should be expanded to include Chinook, Sockeye, Coho, and other species to which the Yakama Nation has a Treaty Right and which may be affected by changes in the flow regime associated with the preferred alternative. Yakama Nation DNR staff looks forward to working with Reclamation, Ecology, and participating portables to ensure that KDRPP and other YBIP components deliver on the promise to benefit all resources, instream and out.

2

The Yakama Nation notes that it has a Treaty fish right including a water right with a time immemorial priority date for fish and other aquatic life and, among other rights, a Treaty water right for irrigation to the fullest extent allowed under applicable law and court rulings. The Nation has a right at any time under its adjudicated surface water rights to make a request for water authorized for its Treaty water right for fish and other aquatic life. Any water rights or use of water described or listed in this SEIS are subject to regulation, reduction, and cessation in the future as necessary to satisfy and protect senior rights including the Yakama Nation's rights. The Nation otherwise also reserves the right to assert any defense or remedy to protect the Nation's Treaty or other rights. By not commenting on summaries or descriptions of specific water rights or specific structures or operations, the Yakama Nation does not concede or admit to any description in this SEIS but reserves the right to comment later.

3

The following are comments to specific statements in the SEIS:

Page ES-viii (suggested additions highlighted)

This should be changed to include reference to and the right to participate for other participating proratable entities including the United States as trustee for the Yakama Nation as follows: Reclamation and Ecology each propose to fund, design, construct, operate, and maintain some or all of the Proposed Action or to authorize Roza and other participating proratable entities to fund, design, construct, operate, and maintain some or all of the Proposed Action. Participating proratable entities may include the United States, Bureau of Indian Affairs, as trustee for the Yakama Nation and water users within the Wapato-Satus Unit of the Wapato Irrigation Project.

4

Page ES-x

This should be changed to read as follows:

The pumping plant would be used to deliver up to 200,000 acre-feet of water during drought years to participating downstream Yakima Project irrigation districts, including Kittitas Reclamation District, Roza, and Wapato Irrigation Project. Reclamation and Ecology define a drought year as a year when water supply falls below 70 percent of proratable water entitlements. KDRPP would contribute to increasing prorationing up to 70 percent. Project proponents-participants would use the pumping plant during drought years and could possibly use it in following years as the reservoir refills to a level above the existing gravity outlet.

5



Kennewick Irrigation District has also expressed interest in participating in KDRPP.

Page ES-xi

Under Mitigation include the following bullet

- Monitor outflows from Kachess and other reservoirs and Yakima River flows to ensure that operation of KDRPP does not impair senior rights either by reducing Total Water Supply Available or adversely affecting instream flows needed to maintain fish and other aquatic life.

6

Section 1.2.1 (page 1-3). This references the fact that the Bureau of Reclamation has the duty to operate the Yakima Project “according to treaty obligations of the United States pertaining to the Yakama Nation’s Treaty of 1855, delivering the Yakama Nation’s ‘time immemorial’ water right according to court orders.” However, the subsequent list of “water entitlements” fails to fully reference the water right of the Nation for Treaty fish and other aquatic life. The Nation’s Treaty water right for fish and other aquatic life is the most senior right in the Basin with a time immemorial priority date. Both the federal court and the state court in *Ecology v. Acquavella* have issued a number of rulings involving the Treaty water right for fish and other aquatic life. Listing all of these rulings is beyond the scope of this comment letter, but the Yakama Nation reserves all rights and remedies established in the Treaty and subsequent legal rulings. The proratable and non-proratable irrigation rights referenced in the draft SEIS are junior to the Treaty water right for fish and other aquatic life. The SEIS fails to reference this in its list of rights.

7

Page 1-3

Edit the following passage as indicated.

Additionally, Reclamation operates the Yakima Project according to treaty obligations of the United States pertaining to the Yakama Nation Treaty of 1855, delivering the Yakama Nation’s ~~“time immemorial”~~ adjudicated time-immemorial priority date water right for fish and other aquatic life according to court orders.

8

Page 1-17

Correct the date on following statement.

A companion bill is expected in the U.S. House of Representatives in fall 2017.

9

Page 1-18

Correct the following statement.

The Washington State Legislature has yet to pass a final 2017-2019 State Capital Construction Budget, but it is expected in early 2018 or sooner.

10



Page 1-20

Are there any lands in Yakima County within the areas affected by the proposed action? If not, change the following.

Local Agencies

Kittitas and Yakima
Counties

Critical Areas Ordinance,
Shoreline Master Program

Granting of approval for actions on private
land within the Counties shoreline
jurisdiction.

11

Section 1.4 If the proposed project is built, the Nation supports the right to be able to participate and obtain a share of the newly available irrigation water.

12

Page 2-2

Suggested change:

The current plan also includes improvements to ~~tribal water supply systems~~ the Wapato Irrigation Project, enhancement of the Toppenish Creek Corridor, and an irrigation demonstration project for the Yakama Nation to enhance tribal economic, fish, wildlife, and cultural resources.

13

Add the following bullet after the listed bullets:

The following YRBWEP Phase II projects are ongoing:

- 3 foot pool raise at Cle Elum Reservoir (correct the following section that characterizes the CEPR as a YRBWEP Phase III project).

14

Suggested change

~~Yakama Nation~~ Wapato Irrigation Project System Improvements and Yakama Nation Demonstration Project are in progress and will improve irrigation efficiencies.

15

Page 2-4

Make the following changes:

Store as much water as possible up to the reservoir system's full active capacity of about 1 million acre-feet from the end of the irrigation season through early spring subject to providing target flows, pulse flows, and any other water necessary to maintain fish and other aquatic life under the Yakama Nation's Time Immemorial Treaty water rights.

16



Page 2-78

Is Franklin County a typo here? Should this say Kittitas?

4.22 Environmental Justice	
Franklin County would experience high and adverse human health or environmental impacts	

17

Section 3.3.1.3. The EIS refers to the target flows and states that “Reclamation has been directed by the Federal Court to consider fisheries in project operations, giving instream flows priority over storage.” The discussion of the federal court rulings ignores the state court rulings involving the Yakama Nation Treaty water right for fish and other aquatic life in *Ecology v. Acquavella*. The *Acquavella* court has also ruled that the Yakama Nation has a Treaty water right for fish and other aquatic life. The Orders, are for example, quite clear about the role of the System Operations Advisory Committee (SOAC) as well as the Bureau of Reclamation. SOAC’s duties and rights are more than to just provide “feedback” on fish related flows but to provide advice to BOR on the water needed for fish life. It is up to SOAC with BOR to determine flows on an annual basis to protect fish and other aquatic life. BOR must do more than just “consider” the Treaty water right for fish and other aquatic life but, rather, has the “responsibility” to provide water to maintain fish life at all life stages. The Treaty water right for fish and other aquatic life is the senior water right in the Basin and must be satisfied before any other water right.

18

Page. 4-19. The Nation reserves the right to object to any operation that may reduce water supply for the Nation’s irrigation supply delivered through Wapato Irrigation Project

Section 1.2.1 and Table 2-9. In addition to all flows or other descriptions listed in this document the Yakama Nation reserves the right to ask for flows to which it is entitled under its Treaty water right for fish and other aquatic life notwithstanding anything referenced or listed in the SEIS.

19



Page 3-67

The passage below is not likely correct. Whereas flows below Parker may not be directly affected after storage control, changes in reservoir operations and carryover storage may affect outmigration flows below Parker. The extended study area should extend to the mouth of the Yakima River. Note that Section 3.3 describes the extended study area as “the Yakima River basin as a whole”. Section 3.6 should be changed to match 3.3.

The extended study area is the Yakima River basin, which encompasses all areas of potential downstream effects. This area extends from the existing Kachess and Keechelus outlet works downstream to the Wapato Irrigation Diversion just upstream of Sunnyside Dam in Parker, Washington, which is the lowermost point in the Yakima River basin where water regime influences would be experienced (Figure 1-1).

20

Page 3-72

It is worth noting that the oligotrophic condition of the reservoirs is due, at least in part, to the loss of marine nutrients that returning adult anadromous fish historically contributed to the lakes.

Hiebert (1999) found nutrient levels to be low in Kachess Reservoir, and Mongillo and Faulconer (1982) determined that both reservoir subbasins are relatively unproductive (oligotrophic).

21

Page 3-79

Suggested edit:

Flows steadily increase downstream of Sunnyside Dam (which is in the middle reach at about RM 104) in the summer as a result of irrigation return flows from groundwater sources and surface drains; the increase becomes more pronounced between Zillah and Granger (RM 88 to RM 83).

Flows again drop at Prosser Dam, where much of the return flow is diverted.

22

Page 3-80

Suggested edit to clarify which Kachess River is being described:

Kachess River

Habitat in the reach of the Kachess River downstream of Kachess Dam is affected by Kachess Reservoir operations, which create flows that differ from the natural steamflow regime. During winter months (October to March), flow is reduced and less variable; in spring (April to June), flow is reduced; and in summer (July to September), flow is greatly increased (Reclamation and Ecology, 2012). The Kachess River below the dam is a relatively short (0.9 mile) reach that is a lesser priority for improving river flow because of other objectives in the Integrated Plan (Reclamation and Ecology, 2011f).

23

Page 3-80

Table 3-18 would greatly benefit from a map showing reaches and river miles and a better verbal descriptions of the reaches. At Roza, for example, summer flows reaching Roza Dam are increased upstream of the dam due to project operations, but often reduced below the dam due to diversions. Summer flows in the Wapato Reach above Sunnyside dam are increased due to operations, but greatly reduced from natural levels below Sunnyside Dam.

24



Page 3-85

Correction:

The reintroduction of sockeye into Cle Elum Reservoir began in 2009 when the Yakama Nation released 1,000 ~~pairs of~~ adult sockeye.

Correction: Although the EIS correctly reports the DART information, the actual returns were never as low as the 13 reported in the DART. Apparently the DART was not updated with the higher number.

In 2013, the first offspring of the adults originally transported to Cle Elum Reservoir returned to Roza Dam, where they were collected and transported to Cle Elum Reservoir (Yakama Nation Fisheries, 2014a). Since the reintroduction period began (2009), the number of sockeye that have passed Roza Dam has varied annually, ranging from 13 to 3,949 fish and an average of 942. (Columbia River DART, 2017).

Page 3-170

The following section is misleading and should be changed. The Wenatchapam are one of the 14 tribes and bands covered by the Yakama Nation's Treaty of 1855. See excerpt below.

The extended study area is also within the traditional territory of the Wenatchi, one of the Confederated Tribes of the Colville Reservation (Colville Confederated Tribes) (Miller 2017); descendants of the Wenatchee (also known as the Wenatshapam) are also found in the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation).

TREATY WITH THE YAKIMA, 1855.

June 9, 1855. | 12 Stat., 951. | Ratified Mar. 8, 1859. | Proclaimed Apr. 18, 1859.

Articles of agreement and convention made and concluded at the treaty-ground, Camp Stevens, Walla-Walla Valley, this ninth day of June, in the year one thousand eight hundred and fifty-five, by and between Isaac I. Stevens, governor and superintendent of Indian affairs for the Territory of Washington, on the part of the United States, and the undersigned head chiefs, chiefs, headmen,

and delegates of the Yakama, Palouse, Piquouse, Wenatshapam, Klikatat, Klinquit, Kowwas-say-ee, Li-ay-was, Skin-pah, Wish-ham. Shyiks, Ochechotes, Kah milt-pah, and Se-ap-cat, confederated tribes and bands of Indians, occupying lands hereinafter bounded and described and lying in Washington Territory, who for the purposes of this treaty are to be considered as one nation, under the name of "Yakama," with Kamaiakun as its head chief, on behalf of and acting for said tribes and bands, and being duly authorized thereto by them.

Source: <https://www.fws.gov/pacific/ea/tribal/treaties/Yakima.pdf>

25

26

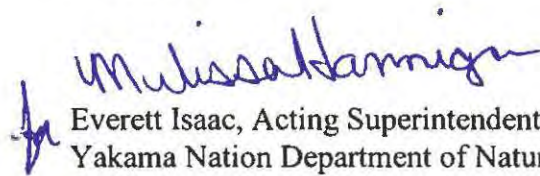


Confederated Tribes and Bands
Of the Yakama Nation

Established by the
Treaty of June 9, 1855

Yakama Nation DNR appreciates the opportunity to comment on this important work and looks forward to working together implementing YBIP in the coming years.

Sincerely,


Everett Isaac, Acting Superintendent
Yakama Nation Department of Natural Resources



K2KConvey , BOR UCA <sha-uca-k2kconvey@usbr .gov >

[EXTERNAL] CSRIA SDEIS Comments--Roza Proposed Action for
Kachess Inactive Storage Project

1 message

dolsenecon@aol.com <dolsenecon@aol.com>
To: kkbt@usbr.gov

Mon, Jun 11, 2018 at 5:49 PM

June 11, 2018

Please see CSRIA comments on SDEIS K&K Projects: CSRIA supports Roza Irrigation District Proposed Action for Kachess Inactive Storage Project.

D.O.

Darryll Olsen, Ph.D., Board Representative
Columbia-Snake River Irrigators Association
509-783-1623

Columbia-Snake River Irrigators Association Information Memorandum

DATE: June 11, 2018

TO: Ms. Candance McKinley, Environmental Program Manager
USBR-Yakima, WA

FROM: Darryll Olsen, Ph.D., CSRIA Board Representative

SUBJECT: Comment on Draft Supplemental EIS for Kachess-Keechelus Projects:
CSRIA Supports Roza Irrigation District Proposed Action for
Kachess Floating Inactive Storage Pumping Plant

CSRIA fully supports the Roza Irrigation District's lead role for engineering, development, funding, and operations for the Supplemental Draft EIS proposed action, the Kachess Floating Inactive Storage Pumping Plant. As stated in the SDEIS:

- *For full implementation of the propose action, Roza proposes to fund, design, construct, operate, and maintain a pumping plant at Kachess Reservoir (SDEIS, 1.4 Proposed Action, P-1-11).*

In particular, with a lead role for funding, CSRIA would expect the associated amount of additional (instream) water supply, about 150,000-200,000 acre-ft., to be available for diversion at the Roza Irrigation District headworks, for distribution within the Roza District.

CSRIA is available for further comments, as requested from the lead EIS agencies.

3030 W. Clearwater, Suite 205-A, Kennewick, WA, 99336
509-783-1623, FAX 509-735-3140 DOlsenEcon@AOL.com



State of Washington
**Department of Fish and
 Wildlife**

South Central Region 3 – 1701 S. 24th Ave., Yakima WA 98902-
 5720 Phone: (509) 575-2740, Fax (509) 575-2474

June 22, 2018

Ms. Candy McKinley
 Environmental Program Manager
 Bureau of Reclamation
 1917 Marsh Road
 Yakima, WA 98901-2058

Ms. Danielle Squeochs, PhD, LHg, PE
 Technical Projects Manager
 Washington Department of Ecology
 1250 West Alder Street
 Union Gap, WA 98903

RE: Review and comment of DSEIS for Kachess Drought Relief Pumping Plant and
 Keechelus Reservoir-to-Kachess Reservoir Conveyance

Dear Ms. McKinley and Ms. Squeochs:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the Draft Supplemental Environmental Impact Statement (DSEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus-to-Kachess Conveyance (KKC). WDFW staff have attached the review comments.

We strongly support the Yakima Basin Integrated Plan (YBIP) and implementation of KDRPP, the first large scale water supply project. The YBIP is delivering on its promise to make significant investments in fish passage and habitat protection and restoration. Immediate or early investments included the purchase of the Teanaway Community Forest, the on-going Cle Elum Pool Rise and Cle Elum Fish Passage projects, and funding for Bull Trout Enhancement (BTE) projects, and others. Without these investments, or the cooperation and collaboration that has been created through the YBIP, opportunity for fish restoration would be delayed or lost.

The YBIP is built on the premise of a balance between fish restoration and increased water supply for out-of-stream use. KDRPP construction is essential to maintaining the appropriate and agreed upon balance between securing additional water supply and fish restoration. Accepting tradeoffs regarding local project specific impacts in exchange for an overall improvement to fish and wildlife species and habitat in the entire Yakima Basin is fundamental to our approach to the YBIP.

1

Our interest centers around ensuring there is adequate performance and certainty related to protecting bull trout populations in the upper Yakima Basin and ensuring that fish and wildlife species are enhanced by the YBIP. At the same time it is critical to protect especially vulnerable fish and wildlife populations, such as Lake Kachess Bull Trout. Protecting the limnology and productivity of Lake Kachess, bull trout fish passage at The Narrows between Kachess Lake and Little Kachess Lake, and providing bull trout access into spawning tributaries, are critical to ensuring a successful water supply outcome while not harming the fish restoration goals of the YBIP.

We look forward to working closely with Reclamation and Ecology to provide additional support as we progress through public review of the SDEIS through the National Environmental Policy Act (NEPA) process to make KDRPP implementation a success. We also hope that our comments prepare us for the conversations we will be having regarding mitigation required for these projects during the Hydraulic Project Approval process.

If you have questions regarding our attached comments, please call Perry Harvester at (509) 457-9314. If you have immediate needs, please feel free to contact me directly at (509) 457-9325.

Sincerely,

Mike Livingston
WDFW- South-Central Washington Region 3 Director

1

**WDFW Final Review Comments
For the Draft SEIS for
KDRPP and KKC**

Comment Number	Page Number	Section #, Figure #, or Table #	Commenter Initials	Comment	Response (Resource Author)
1.	1-13 2-21	1.5.3 2.3.6	STK	BULL TROUT ENHANCEMENT Upper Yakima Basin bull trout populations are precarious at best. Normally WDFW could be skeptical of siting a new out of stream water supply project on top of these very vulnerable populations. However, the YBIP, Bull Trout MOU, and Bull Trout Enhancement Package (BTE) are the best and possibly the only chance for the long term survival of these populations. The YBIP has delivered on the promise of the Bull Trout MOU, investing about \$1,000,000 per year toward bull trout recovery actions in the upper Yakima Basin. These BTE actions are part of the balanced package of YBIP that includes KDRPP. We support the package of KDRPP and BTE actions. We would like to see the investments return through implementation of the BTE.	2
2.	2-14 2-21 2-55 4-153 4-159 4-163 4-167 4-172 4-182 4-208 4-355	2.3.2.8 2.3.6 2.6.1.2 4.7.4.1 Table 4-88 Table 4-90 Table 4-92 4.7.10 4.8.2 4.8.10 4.9.10 4.26	SD	TERRESTRIAL IMPACTS NEED TO BE MITIGATED The SEIS identifies impacts to habitat and does not consistently mitigate for them. While we believe the Yakima Basin Integrated Plan does improve fish and wildlife habitat overall, direct impacts should be mitigated.	3
3.	4-5	4.2.4.2 Volitional bull trout passage improvements subsection	STK	IMPACTS TO BULL TROUT PASSAGE The 3rd para of this section states “the new drawdown conditions would be unlikely to change conditions there because the Little Kachess basin becomes separated from the main reservoir at elevation 2,223 ft. and little additional drawdown would occur in Little Kachess basin.” As described in this section, “the river between the two lake basins would incise down through sediment that has accumulated in the past 100 years ... until it reaches its former natural channel. If this incision prediction is true, the river that flows when the reservoir elevation lowers to 2223 and below could incise down to the elevation of the flow control weir on the volitional fish passage structure at the downstream end of the Narrows. The incision has already occurred lower than the former natural channel from current operations.	4



K2KConvey , BOR UCA <sha-uca-k2kconvey@usbr .gov >

[EXTERNAL] YBFWRB Input on KDRPP & KCC SDEIS

1 message

Alex Conley <aconley@ybfwrb.org>
To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Mon, Jul 2, 2018 at 12:18 PM

Please accept the attached comment letter on the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir-to-Kachess Reservoir Conveyance (KCC) projects.

Sincerely,

Alex Conley

Executive Director

Yakima Basin Fish & Wildlife Recovery Board

aconley@ybfwrb.org

(509) 453-4104


1200 Chesterly Drive, Suite 280

Yakima, WA 98902

Website: www.ybfwrb.org

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 YBFWRB comment on KDRPP Supplemental EIS.pdf
993K



YAKIMA BASIN
FISH AND WILDLIFE
RECOVERY BOARD

June 21, 2018

Ms. Candace McKinley
Bureau of Reclamation
Columbia-Cascades Area Office
1917 Marsh Road
Yakima, WA 98901-2058

Dear Ms. McKinley,

Thank you for the opportunity to provide this comment letter on the *Kachess Drought reliefumping Plant and Keechelus Reservoir to Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement* (draft EIS). 1

I write on behalf of the Yakima Basin Fish and Wildlife Recovery Board (the Board). The Board was created by 21 county and city governments and the Yakama Nation to promote the recovery of at-risk fish and wildlife species in the Yakima Basin. In 2012, the Yakima Basin Fish & Wildlife Recovery Board brought local and regional partners together to complete the Yakima Bull Trout Action Plan (BTAP), which was updated in early 2018. The Board also convenes regular meetings of the Yakima Bull Trout Working Group (the Working Group), which brings together representatives from the many agencies and Non-Profit partners who are engaged in bull trout conservation actions. 2

As outlined in the draft EIS, the proposed actions have the potential to impact the Gold Creek, Kachess River and Box Canyon populations of federally-listed bull trout (*Salvelinus confluentus*). We would like to highlight that the BTAP identifies a suite specific and implementable actions that are designed to improve the abundance and viability of these at-risk bull trout populations. Many of these actions are also described in the Bull Trout Enhancement framework included as Appendix C in the draft EIS. 3

We would welcome the opportunity to work with Reclamation and Ecology to further develop and implement these priority actions. Please do let us know if you would like to discuss any of these actions with our staff and/or convene the Working Group to review bull trout specific actions that may be implemented in conjunction with the actions identified in the draft EIS. 4

Sincerely,


Adam J. Fyall
Chairman

1200 Chesterly Drive, Suite 280, Yakima, WA 98902
Phone (509) 453-4104 Email: info@ybfwrp.org Web: www.ybfwrp.org



Dera, Karen <kdera@usbr.gov>

Fwd: USFWS Comments on the KDRPP & KKC Supplemental DEIS

1 message

McKinley, Candace <cmckinley@usbr.gov>

Thu, Jul 12, 2018 at 6:58 AM

To: Gwendolyn Christensen <gchristensen@usbr.gov>, Julia Long <jlong@usbr.gov>, "Dera, Karen" <kdera@usbr.gov>

----- Forwarded message -----

From: **Lewis, Stephen** <stephen_lewis@fws.gov>

Date: Wed, Jul 11, 2018 at 4:08 PM

Subject: USFWS Comments on the KDRPP & KKC Supplemental DEIS

To: Candace McKinley <cmckinley@usbr.gov>, "Craig, Jim" <jim_l_craig@fws.gov>, Kate Terrell <kate_terrell@fws.gov>, "Dale Bambrick - NOAA Federal (dale.bambrick@noaa.gov)" <dale.bambrick@noaa.gov>, michael.livingston@dfw.wa.gov, Scott.Kline@dfw.wa, John

Easterbrooks <EASTEJAE@dfw.wa.gov>, pgarveydarda@fs.fed.us, teresatucker@fs.fed.us

Cc: Eric Rickerson <eric_rickerson@fws.gov>, Jeff Krupka <jeff_krupka@fws.gov>, Gregg Kurz <gregg_kurz@fws.gov>, "Franks, Sierra" <sierra_franks@fws.gov>, Judy Neibauer <judy_neibauer@fws.gov>, sean.gross@noaa.gov

Attached are the U.S. Fish & Wildlife Service's comments on the SDEIS for the Kachess Drought Relief Pumping Plant and the Keechelus Reservoir to Kachess Reservoir Conveyance. As you will see, many of these comments reiterate our concerns pertaining to the original DEIS, but also focus on the project alternatives, water quality and quantity, bull trout passage at Kachess Reservoir, and wildlife connectivity.

Please feel free to contact us if you need any clarification regarding these comments.

S-

--

Stephen T. Lewis
 Hydropower and Energy Coordinator
 US FISH AND WILDLIFE SERVICE
 CENTRAL WASHINGTON FIELD OFFICE
 215 MELODY LANE STE 103
 WENATCHEE, WA 98801-8122
 phone: (509) 665-3508 Ext. 2002
 e-mail: Stephen_Lewis@fws.gov

"If a road has no obstacles, it probably doesn't lead to anywhere." S. Lewis

--



United States Department of the Interior




FISH AND WILDLIFE SERVICE
Washington Fish and Wildlife Office
 Central Washington Field Office
 215 Melody Lane, Suite 103
 Wenatchee, WA 98801

JUL 1 0 2018

In Reply Refer To:
 01EWF00-2018-CPA-0047

Memorandum

To: Environmental Program Manager, Bureau of Reclamation
 Yakima, Washington

From:  State Supervisor, Washington Fish and Wildlife Office
 Lacey, Washington

Subject: U.S. Fish and Wildlife Service Comments on the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement

The U.S. Fish and Wildlife Service (Service) appreciates the opportunity to review and comment on the April 2018 Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir-to-Kachess Reservoir Conveyance (KKC) projects. KDRPP and KKC will herein be collectively known as the "Projects." The Projects are components of the Yakima River Basin Integrated Water Resource Management Plan (Integrated Plan). The SDEIS was prepared jointly by the Bureau of Reclamation (Reclamation) and the Washington State Department of Ecology (Ecology), Office of Columbia River. The Service commented previously on the Draft Environmental Impact Statement for the Projects on June 18, 2015. In this letter we provided numerous comments related to project sequencing, bull trout, fish passage, and wildlife connectivity.

The Proposed Action for this SDEIS is to fund, design, construct, operate, and maintain a floating pumping plant on Kachess Reservoir in order to recover up to 200,000 acre-feet of inactive water storage from Kachess Reservoir during drought years when prorationing is less than 70 percent. This water would otherwise remain in Kachess Reservoir at an elevation below the existing gravity outlet works. The Proposed Action would also include construction and maintenance of a volitional fish passage structure at the downstream end of the Narrows which is located between the upper and lower Kachess reservoirs. Reclamation and Ecology each

propose to fund, design, construct, operate, and maintain some or all of the Proposed Action or to authorize the Roza Irrigation District to fund, design, construct, operate, and maintain some or all of the Proposed Action.

The SDEIS also evaluates a No Action Alternative and five action alternatives to restore and enhance instream flows and aquatic habitat for fish, including enhancements for bull trout; improving water supply reliability during drought years; improving the ability of water managers to respond and adapt to potential effects of climate change; and contributing to the vitality of the regional economy and riverine environment in the Yakima River Basin. Reclamation's Preferred Alternative (Proposed Action) is Alternative 4 – KDRPP Floating Pumping Plant.

There are three main action modifications in this SDEIS that were not in the DEIS:

- The addition of the floating pumping plant in Kachess Reservoir;
- The inclusion of fish passage (volitional) between the two lakes of Kachess Reservoir when drawn down; and
- The elimination of the south tunnel option for the Keechelus-to-Kachess conveyance tunnel.

The following are the Service's comments on the Project's SDEIS that are intended to ensure compatibility with elements of the Integrated Plan and our pending Endangered Species Act (ESA) section 7 consultation with Reclamation on the operation and maintenance of the Yakima Irrigation Project (YIP). These comments have been closely coordinated with the Service's Mid-Columbia Fish and Wildlife Conservation Office and we have incorporated their comments from a June 4, 2018 technical memorandum.

COMMENTS ON THE SDEIS

Project Alternatives

As referenced above in this document, the Service commented on the DEIS on June 18, 2015. Please refer to these comments when completing the FEIS for the Projects. Those comments are summarized here and provide further insight on the evolution of the project alternatives and the Service's ESA section 7 consultation with Reclamation.

The Service is currently conducting an ESA section 7 consultation with Reclamation on the operation and maintenance of the YIP. Reclamation's Biological Assessment (BA) for that consultation contains discrete actions and mitigation measures designed to minimize the impact of the YIP on bull trout. The Service has repeatedly stressed that appropriate implementation sequencing of the Integrated Plan elements along with the ongoing operations and maintenance of the YIP is essential to minimizing risks to ESA listed fish and wildlife resources in the Yakima Basin. The Service listed bull trout under the ESA coterminously in 1999, designated critical habitat for bull trout in 2010, and published a Final Recovery Plan in 2015. The Final Recovery Plan goals include protecting spawning and rearing habitat and insuring connectivity to forage, migration, and overwintering habitat so that populations have access to cold, clean, complex, and connected habitat within their perspective core areas. The

Yakima Basin is described as one core area and one critical habitat unit. Please ensure implementation of the actions and alternatives contained in the BA does not conflict with the Recovery Plan, the Yakima Bull Trout Action Plan (BTAP), implementation of conservation measures contained in the SDEIS, Integrated Plan, and the Bull Trout Enhancement Plan (BTEP).

1

Construction, operation, and maintenance of new tunnel corridors and pumping plants, as well associated changes in reservoir operations will continue to have extensive environmental impacts even though modifications have been proposed in the SDEIS. Although elimination of the south tunnel alternative for the KKC will likely reduce impacts to species under our purview, the north tunnel option will still have impacts to terrestrial resources. The Proposed Action, with the development of the floating pumping plant, is an example of new impacts that are additive to ongoing YIP operational impacts. Those impacts are discussed below in *Specific Comments on the SDEIS* section.

The implementation, sequencing, and frequency of use the Projects and their relationship to the recovery of listed species are still unclear. The BTEP is attached to the SDEIS, but does not appear to be incorporated into the Proposed Action with the exception of a vague reference to the programmatic requirements for volitional passage improvements for bull trout in Kachess Reservoir. The Proposed Action appears to be at a more advanced stage of development whereas the actions in the BTEP are more conceptual in nature, thus complicating our full understanding of potential effects of this action. There is not sufficient assurance in the SDEIS and BTEP that bull trout actions and monitoring projects will be implemented that adequately compensate for the appreciable negative effects of these water supply operations and developments. The timeline for the implementation of these enhancements is not specified to a great enough resolution in the SDEIS to ensure their associated benefits are realized before the damaging effects of the water development alternatives in the SDEIS occurs. This lack of clarity has been reiterated to Reclamation on several occasions during conference calls with the Service and other resource agencies regarding these enhancements.

2

The SDEIS attempts to resolve this sequencing issue by proposing a four-phased approach for year one construction of the KDRPPP. These phases include preconstruction, upland construction, marine construction, and reservoir floor construction. However, it is unclear when year one of construction would occur. Additionally, the scope and magnitude of the tasks involved in these four phases also appear too extensive to be completed in one year and are contingent upon the elevation of the reservoir. For example, the construction of the Narrows volitional fish passage roughened channel would be initiated in year one and completed in subsequent years when the reservoir is drawn down during drought relief pumping. There is no indication as to when drought relief pumping would occur in order to fully realize the benefit of this measure for bull trout. There is also no mention when Box Canyon Creek passage improvements would be initiated during this four-phased approach, if at all. Your current YIP Operations and Maintenance Biological Assessment identifies and describes that passage improvements will be occurring for Box Canyon. For consistency and clarity, we recommend that Reclamation specify in the FEIS the sequencing of all new actions and alternatives (i.e., water development and enhancement measures) contained in all

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pertinent documents including the SDEIS, IP, and BTEP to ensure the success of their implementation and to show how they would be implemented within the scope of current operations associated with the YIP. Sequencing current actions and future actions described in the Proposed Action will provide clarity regarding the duration and magnitude of effects. Positive and negative impacts to ESA species and critical habitat, including the timing, duration, and location of actions should be part of the sequencing descriptions.

3

Aquatic Resources

Bull Trout Connectivity in the Yakima Core Area

Connectivity between populations of bull trout in the Yakima Basin is one of the most important aspects required for bull trout recovery and in providing a functioning core area. Physical and biological connectivity have been drastically challenged in the Yakima Core Area. This is evidenced by the current lack of passage at reservoir dams, turbulent flows, temperature barriers, and the lack of passage to spawning areas and prey base. Core areas across the range of bull trout show multiple migratory patterns. Monitoring conducted in core areas adjacent to the Yakima Core Area has shown use of stream, river, and lake habitats by fish from both a single local population and from many local populations. Re-establishing connectivity to foraging, migration, overwintering, and spawning/rearing habitats above and below Yakima Basin reservoirs should be the priorities for reducing impacts resulting from the Projects. Reclamation should make a stronger effort in this proposed action toward providing upstream and downstream connectivity before implementing alternatives that cause increased reservoir drawdowns and altered flow releases that create barriers to year round use of habitat by multiple life history stages of bull trout and their prey.

4

Bull Trout Fish Passage at Kachess Reservoir

The issue of impaired fish passage at certain elevations between the two sections of Kachess Reservoir when drawn down was not recognized in the 2015 DEIS. It emerged as a significant issue late in 2015 and we recognize Reclamation's efforts to address it. After several Integrated Plan fish passage subcommittee meetings, Reclamation and its engineers appeared to be developing a solution to this passage issue. What emerged from this effort was the roughened channel concept which appears in this SDEIS as the *2017 Kachess Narrows Fish Passage Concept Technical Memorandum*. We tentatively agreed with this roughened channel concept as it has several advantages over a fish collection barge and extended length denil fishway. Even though the memorandum has more detail than is available in the SDEIS, it merely provides detail on the construction of this facility and not on the operation, maintenance, or pre and post construction monitoring to decipher its effectiveness. Demonstrating effectiveness is key to the ability to consider the roughened channel as an adequate conservation measure to reduce operational effects to fish passage within Kachess Reservoir. We provide additional comments on these items below in the *Specific Comments on the SDEIS* section. Please continue to coordinate with the Service as the engineering designs and plans for the construction, operation, maintenance, and effectiveness monitoring evolve for this fish passage facility.

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The issue of impeded tributary passage for bull trout into Box Canyon Creek, a tributary of Kachess Reservoir, is not addressed in the Proposed Action. Impeded passage occurs on a semi-regular basis and has required remedial action on several occasions to facilitate adult bull trout passage into the creek. These efforts, for which volunteers are always necessary, have been marginally successful and have only focused on passing adult bull trout during a portion of the spawning migration, not the full migration period or other life history stages. The Box Canyon population continues to struggle with only three bull trout redds documented last year and a recent snorkel survey conducted by WDFW indicates a low number of juvenile and subadult bull trout. During the development of the Integrated Plan, the Service has been clear that any project to extract more water from Kachess Reservoir must include permanently addressing the passage problem at the mouth of Box Canyon Creek, as this is a problem which would almost certainly be exacerbated by an additional drawdown of the reservoir. The omission of a passage solution for Box Canyon Creek from the DEIS and SDEIS is not acceptable to the Service. It is not sufficient that a solution be included solely in the BTEP, rather it should be considered part of the KDRPP proposal since it exacerbates impediments to passage into the tributaries as well. Chapter four of the SDEIS presents an extensive analysis of the increase in frequency and duration of low pool conditions resulting from the operation of KDRPP and the potential effect on tributary passage, yet no solution is presented to resolve the fish passage issue at the mouth of Box Canyon Creek, Kachess River, or other tributaries that may provide foraging opportunities. The associated effects are illustrated very clearly in Table 4.4 of the SDEIS. We strongly recommend that any of the alternatives in the SDEIS entailing the construction and operation of the proposed KDRPP include a provision for bull trout passage as specified in the BTEP, and include additional monitoring of use reservoir use by juveniles and or subadults to understand effects to all life history stages.

6

Terrestrial Resources

Wildlife Connectivity

We commend Reclamation for eliminating the south tunnel option of the KKC pipeline. The elimination of this tunnel option of the KKC pipeline appears to be based on geologic necessity and will likely benefit wildlife resources from a long term perspective. The south tunnel option would have interfered with the Snoqualmie Pass corridor for wildlife habitat linkages and overall ecological connectivity across the Cascade Range. While it appears that the north tunnel alignment has lower wildlife habitat value and a higher degree of fragmentation due to land clearing and current levels of human activity and noise, it is also within close proximity to the Swamp Lake wetland complex which provides substantial and diverse wetland habitats for deer, heron waterfowl, small mammals, reptiles, amphibians, cavity-nesting birds, raptors, and songbirds. Similar to our comments on the DEIS, the SDEIS also superficially evaluates potential effects on ecological connectivity for the north tunnel option of the KKC pipeline. The lack of impact indicators related to wildlife movement for the north option still exemplifies how inconsistent the wildlife effects analysis appears to be in this document. The variety and density of terrestrial resources is often greatest along fragmented habitats which exhibit a high degree of edge effect. Many species make regular use of edge habitats for feeding due to higher herbaceous productivity and larger invertebrate populations. Depending on the scope and magnitude of a fragmented habitat, a greater

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number of species may inhabit the first 10 meters of a woodland edge. Refer to the I-90 wildlife monitoring program near Gold Creek and Keechelus Lake to see most recent documentation of the use of the wildlife corridors nearby.

In our previous comments on the DEIS, we noted many references to Connectivity Emphasis Areas included in the I-90 Snoqualmie Pass East highway improvement project. As you are aware, the I-90 Snoqualmie Pass East project is an outstanding example of a thorough and sophisticated connectivity analysis. The SDEIS again evaluates potential Project effects on ecological connectivity, especially effects on wildlife and threatened and endangered species, in terms of the proportion of affected acres in the project area relative to the total acres present. We requested in our comments on the DEIS that a spatially explicit analysis be conducted to determine the proximity of acres of habitat affected and their importance to habitat linkages. The current effects analysis also fails to consider the proximity of project effects to Connectivity Emphasis Areas. To make an accurate assessment of the north tunnel option, we again request that spatially explicit analyses be conducted. For example, portals associated with the KKC will be constructed and operated close to edge habitats and near the Swamp Lake wetland complex. Habitat removal during portal construction and disturbance during operation may result in avoidance behavior by wildlife. These types of spatially explicit and context-dependent effects on ecological connectivity are not analyzed in the SDEIS. Please provide this type of analysis.

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SPECIFIC COMMENTS ON THE SDEIS

1.) *Major Conclusions (page ES-xvi)*: The Service could not find any modelling results in the SDEIS for the frequency or duration of time Kachess Reservoir falls below a channel inflection point in the Narrows as the reservoir recedes. This elevation is important as a waterfall forms that is impassable for fish and prevents movement between the two lakes of the reservoir. It is the primary reason that a roughened channel concept is needed for fish passage. This elevation is given alternately as 2,200 or 2,208 feet (above MSL). Similarly, the elevation when the two lakes form is given as 2,220, 2,224, and 2,226 feet in several sections of the SDEIS. Based on our review, 2,220 feet is where the two lakes begin to separate and 2,226 feet is where Kachess Reservoir tributaries begin to have fish connectivity problems. Lastly, 2,204 feet is the absolute limit for no fish passage through the Narrows. Please clarify these numbers in the SDEIS to ensure accurate modelling results in the document and the ability to determine the degree of impacts to bull trout and its designated critical habitat. This information will also help to determine effects at both the Narrows and at the outlet of the upper or Little Kachess portion of the Reservoir. The Service also expects that passage is impeded at the outlet of the upper lake due to limited depth and resulting temperature alterations. Passage barriers also occur at the mouth of the Kachess River. The Service recommends that priority be given to connecting the reservoir to bull trout spawning habitat in the Kachess River.

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2.) *Figure 1-2 Kachess Reservoir Schematic Hydraulic Profile (page 1-7)*: The proposed KDRPP drawdown in this figure equates to approximately an 80 foot water elevation drop in the Big Kachess lake portion of the Kachess Reservoir. Please provide an analysis of

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how this elevation drop will affect upstream fish passage alternatives at the Narrows segment of Kachess Reservoir and downstream fish passage alternatives at Kachess Dam considering the slow nature of refill at this reservoir as evidenced by refill rates that have taken hundreds of days or multiple springs to refill.

- 3.) Section 1-4 Proposed Action (page 1-10): This section states, “The Proposed Action would also include volitional fish passage at the downstream end of the Narrows which is located between the upper and lower Kachess lakes.” In order to assess effects to species under the purview of the Service, please include in the FEIS specific engineering designs, impact analysis, and elevational aspects related to Reclamation’s concept for volitional fish passage at the Narrows. 9

- 4.) Section 2.3.5 Volitional Bull Trout Passage Improvements (page 2-18): Since the proposed volitional bull trout passage improvements entail a roughened channel, we recommend adhering to the following principles: a.) natural steep channels provide a design template for “nature-like fishways”; b.) bed morphology is a major component of energy dissipation; c.) appropriate bed morphology depends on slope, target species, and hydrology; and d.) risk increases the further the project deviates from any adjacent natural channel conditions. In that spirit, please provide detailed elevational numbers pertaining to the Kachess Reservoir Narrows flow bifurcation weir for the roughened channel in order to decipher its effectiveness during high flow events. Also, please provide detailed velocity information for the roughened channel to determine the compatibility of this fish passage concept with bull trout capabilities. Lastly, Section 2.3.5 only describes the construction of the volitional bull trout passage improvements at Kachess Reservoir. Please add further description regarding the operation, maintenance, and effectiveness monitoring of this proposed fish passage improvement. 10

- 4.) Section 2.3.5 Volitional Bull Trout Passage Improvements (page 2-18): Since the proposed volitional bull trout passage improvements entail a roughened channel, we recommend adhering to the following principles: a.) natural steep channels provide a design template for “nature-like fishways”; b.) bed morphology is a major component of energy dissipation; c.) appropriate bed morphology depends on slope, target species, and hydrology; and d.) risk increases the further the project deviates from any adjacent natural channel conditions. In that spirit, please provide detailed elevational numbers pertaining to the Kachess Reservoir Narrows flow bifurcation weir for the roughened channel in order to decipher its effectiveness during high flow events. Also, please provide detailed velocity information for the roughened channel to determine the compatibility of this fish passage concept with bull trout capabilities. Lastly, Section 2.3.5 only describes the construction of the volitional bull trout passage improvements at Kachess Reservoir. Please add further description regarding the operation, maintenance, and effectiveness monitoring of this proposed fish passage improvement. 11

- 5.) Section 2.5.1.1 Pump Barge and Pumping Plant (page 2-35): Based upon our review of comments made on the DEIS in 2015, it is still apparent that project operations for KDRPP need further explanation in the FEIS as to how the lower Kachess River below the dam will not be dewatered in the event the pumps are operated continuously for two or more years outside the typical irrigation season. If the pumps were only operated during the irrigation season, and then turned off while the reservoir elevation is below the gravity outlet, the Kachess River would be completely dewatered. In addition to describing operations of KDRPP outside of the irrigation season, the FEIS should describe contingency measures that will be in place to prevent complete dewatering of the Kachess River in the event of pump failure or maintenance activities that require pump shutdown. 12

- 6.) Table 2-9 Summary Comparison of Impacts (page 2-66) and Table 4-4 Summary Impacts for Surface Water Resources (page 4-17): There is an apparent formatting error for these two tables. The same summary statistics in Table 2-9 can be found in Table 4-4. Please correct this discrepancy. 13

- 7.) Summary Comparison of Impacts, Table 2-9 (page 2-67): This table is confusing and would benefit from presenting the number of days bull trout would reasonably be able to access the referenced tributaries based upon the proposed alternatives. 14

- 8.) Box Canyon Creek (page 3-75): This section mentions that there is a barrier falls located at river mile 1.6 and yet there is no discussion of the bull trout passage impediment located at the confluence of Box Canyon Creek. This is an example of how baseline conditions can be further degraded with implementation of the Proposed Action. Please include information regarding the lack of bull trout passage into Box Canyon Creek from Kachess Reservoir and how the Proposed Action would further degrade the current condition. 15
- 9.) Table 3-21. Species Federally Listed or Proposed for Listing that Potentially Occur in the Primary Study Area and Extended Study Area (page 3-104): This table is confusing and we recommend the Primary Study Area and Extended Study Area be combined into one study area. 16
- 10.) Section 3.9.2 Listed Species and Critical Habitat (page 3-105): Please clarify in this section that the barred owl is a competitor of the spotted owl, not a predator. The barred owl typically outcompetes the spotted owl in terms of establishing and defending territories. Barred owls may displace spotted owls from suitable habitat, being both slightly larger and more aggressive. Hybridization between the species is also known to occur, which is another threat to the spotted owl. 17
- 11.) Section 3.9.3.1 Kachess Reservoir Subpopulation (page 3-111): The discussion in this section implies that tributary access may be a limiting factor for the Kachess Reservoir bull trout subpopulation. This is only partially correct. The Proposed Action and future operation of the Kachess Reservoir will further limit tributary access for bull trout and the text in this section should be changed accordingly to accurately represent the impacts of impeded passage on this population. 18
- 12.) Section 4.4 Surface Water Quality (page 4-77): The amount and quality of water in the Yakima Core Area for bull trout is currently impacted by Reclamation's actions as well as forest management, agriculture, and recreational development. How Reclamation conveys water continues to affect the condition, quality, quantity, and the velocity of water in bull trout habitat. While implementing new alternatives and actions associated with the SDEIS, the Service would like to see priority given to improvements in the quality, quantity, and velocities in such a way as to improve and restore habitat qualities that meet the Primary Constituent Elements described for bull trout critical habitat. The flow regimes associated with current Reclamation operations currently have impacts to bull trout and their critical habitat. The Service recommends that conservation measures should be identified prior to implementation of new alternatives or actions that may exacerbate or reduce water quality, quantity, and flow in a manner that negatively affects use of spawning, rearing, and foraging habitat, as well as connectivity. 19

Water conservation is a component of the YIP ongoing operations. Please consider implementing YIP conservation actions prior to the implementation of the additional drawdown of the Kachess Reservoir. Previous Reclamation analysis has described that 170,000 acre feet of water can be conserved through the Enhanced Water Conservation

YIP element. Improvements associated with this element should be in place before additional impacts beyond the ongoing operations of the YIP are applied.

- 13.) Section 4.6.3 Alternative 1 – No Action: Kachess Reservoir (page 4-119): Failure to address the passage problems at tributaries such as Box Canyon, Kachess River, and at the Narrows between the upper and lower Kachess Lakes under the No Action Alternative is unacceptable to the Service. The No Action alternative will result in continued bull trout passage issues. Analysis of the impacts associated with the lack of passage should be presented in the FEIS. 20
- 14.) Section 4.6.4.2 Operation KDRPP East Shore Pumping Plant Facilities (page 4-129): Please include bull trout as a fish species affected by the further reductions and fluctuations in operational elevations that would negatively influence remaining invertebrate species, particularly in nearshore shallow-water habitats. Reclamation should also include the prey species of bull trout as affected species. 21
- 15.) Section 4.6.6.2 Operation, Kachess Reservoir (page 4-140): Please provide additional hydrodynamic and bioenergetics analysis to decipher the impacts of withdrawing large amounts of surface water from Kachess Reservoir on bull trout. Daphnia, a prey species for fish, are available during spring (April-June) in Kachess than Keechelus reservoirs. Unlike Keechelus Reservoir, the density of Daphnia in Kachess Reservoir within the metalimnion and hypolimnion is relatively high compared to the epilimnion. The Service maintains that placement of the pump heads should be deeper in the water column to maintain predator prey relationships. Please provide an appropriate analysis that looks at location of the pump heads at multiple elevations into the metalimnion to reduce effects to the bull trout preybase along with predator prey interactions between large and small predators. 22
- 16.) Section 4.9.6 Alternative 4 – KDRPP Floating Pumping Plant (Northern Spotted Owl) (page 4-200): Even though Alternative 4 may have less impacts due to a lower occurrence of vegetative clearing, noise generated during construction for access roads, outlet works and other facilities landward of the reservoir will still be evident. The analysis in the SDEIS is insufficient to determine if this level of impact will force spotted owls from habitat adjacent to these activities. If spotted owls leave territories, barred owls will likely move into these vacated habits since they are more tolerable of human activity. Please adhere to designated spotted owl pre-construction survey protocols to verify presence or absence of owls within the designated area of impact for Alternative 4 as well all of the Projects' alternatives. 23

SUMMARY COMMENTS

The Service recommends that the SDEIS be revised to acknowledge the linkage to current operational effects that could exacerbate any new actions or operations. It should also be revised to acknowledge that subsequent NEPA and ESA analysis of most BTEP actions would be required. Conservation measures to reduce effects should be synchronized for further reduction in effects. The Service recommends that the document provide a sequence of 24

actions that reduce multiple or long term effects caused by ongoing and new actions to the YIP. Additionally, the Service asks for additional information about reservoir elevations and passage barriers at outlets of lakes and mouths of rivers and tributaries, and alternative pump head location for conducting effects analysis and minimizing the effects of the actions. Finally, the Service requests that fish passage projects that improve connectivity to spawning, rearing habitats, foraging, migration, and overwintering habitats both above and below the reservoir dams be implemented prior to or concurrent with Project implementation.

We appreciate the opportunity to provide input on the SDEIS for the proposed Projects and look forward to continued coordination with Reclamation on the development and implementation of the Integrated Plan. Please contact Steve Lewis, Fish and Wildlife Biologist by phone at 509-665-3508 ext. 2002, or by e-mail at Stephen_Lewis@fws.gov for questions regarding the comments contained herein. Specific questions regarding the development and implementation of the Integrated Plan should be referred to Jim Craig, Project Leader by phone at 509-548-7573, or by e-mail at jim_1_craig@fws.gov.

cc:

USFWS, Leavenworth, WA (J. Craig)
USFWS, Leavenworth, WA (K. Terrell)
NOAA-Fisheries, Ellensburg, WA (D. Bambrick)
WDFW, Yakima, WA (M. Livingston)
WDFW, Yakima, WA (S. Kline)
WDFW, Yakima, WA (J. Easterbrooks)
USFS, Wenatchee, WA (P. Garvy-Darda)



Dera, Karen <kdera@usbr.gov>

Fwd: [EXTERNAL] Roza SDEIS comment letter

1 message

McKinley, Candace <cmckinley@usbr.gov>

Wed, Jul 11, 2018 at 4:00 PM

To: "Dera, Karen" <kdera@usbr.gov>, Julia Long <jlong@usbr.gov>, Deborah Van Meter <dvanmeter@usbr.gov>

----- Forwarded message -----

From: **Revell, Scott** <srevell@roza.org>

Date: Wed, Jul 11, 2018 at 3:02 PM

Subject: [EXTERNAL] Roza SDEIS comment letter

To: Candace McKinley <CMckinley@usbr.gov>

Cc: Wendy Christensen <GChristensen@usbr.gov>

Scott Revell

District Manager

Roza Irrigation District

srevell@roza.org

(509) 840-2721 cell

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Candy McKinley
Environmental Program Manager
Bureau of Reclamation
Columbia-Cascades Area Office
1917 Marsh Road
Yakima, WA 98901

509/575-5848 x232

509/379-0780 cell



July 11, 2018

U.S. Bureau of Reclamation
 Attn: Ms. Candace McKinley
 Environmental Program Manager
 1917 Marsh Road
 Yakima, WA 98901-2058

Re: Comments on Supplemental Draft Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance Projects

Dear Ms. McKinley,

Roza Irrigation District (Roza) has reviewed the April 2018 Supplemental Draft Environmental Impact Statement (SDEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and the Keechelus Reservoir-to-Kachess Reservoir Conveyance (KKC, and collectively with the KDRPP, Projects). Implementation of the KDRPP is of the utmost importance to Roza, as the livelihoods of irrigators within Roza's service area are dependent on obtaining a more reliable source of water from the Yakima Project during drought years. Roza is prepared to fully fund, construct, operate, and maintain the Proposed Action, Alternative 4 – Floating Pumping Plant (Proposed Action).

Roza receives water from the Bureau of Reclamation's Yakima Project. Roza delivers such water to 72,000 irrigable acres within its service area. Irrigators within Roza's service area rely upon a stable source of water from the Yakima Project to grow and produce their crops, including tree fruit, hops, wine and juice grapes, corn, and row crops, as well as maintain pasture land to support a large dairy industry. The total crop value in the District approaches \$1 billion. The crops produced by farmers provide a fresh food supply to both domestic and foreign markets. Therefore, a steady and reliable source of Yakima Project water is vital to Roza's entire service area.

Recent droughts have demonstrated that Roza's water supply from the Yakima Project may be inadequate to support crop production in water short years. Without a stable water supply from the Yakima Project, the agricultural industry within Roza's service area—and throughout the rest of the Yakima Basin—will suffer. Because Roza's water supply from the Yakima Project is proratable, Roza has received as little as 37% of its water entitlement in water short years.

When Roza receives a reduced amount of its water entitlement, Roza must shut down (i.e. cease water deliveries) for weeks at a time mid-season and weeks early at the end of the irrigation season. As a result, farmers receive an inadequate amount of water needed for their crops. This is

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particularly true with respect to 70%+ of Roza's 72,000 acres, which are planted with crops that require water in September—including apples, hops, wine grapes and juice grapes.

Roza has already spent tens of millions of dollars over three-plus decades to implement water conservation measures. These conservation measures allow Roza to operate its canals to run at much lower flows than originally designed. Roza has also been the largest lessee of senior water rights over the past several drought years. Despite conservation measures and leased water, Roza has still been forced to severely restrict deliveries during drought years.

Steep prorationing of water supplies not only results in lost crop production—and thus lost revenue—in water short years, but also may lead to the need to replace and replant crops. Crops such as apples can cost up to \$50,000 per acre to replace, blueberries up to \$25,000, hops up to \$25,000, and wine grapes up to \$15,000. Washington State Department of Agriculture estimates that losses and added expenses as a result of the 2015 drought were \$77 million within Roza's service area. Although costs of pursuing the Proposed Action may be high, such costs will be offset by the losses of the production value of crops and the costs of replacing trees and vines that will be avoided through development of the Proposed Action.

Based upon our review of the SDEIS's analysis of the socioeconomic consequences of the Proposed Action (Section 4.21), we believe that the SDEIS may substantially underestimate the importance of agriculture in the Yakima Valley, and the socioeconomic benefits of the Proposed Action to the agricultural industry and the economy within Roza's service area and throughout the Yakima Basin for at least three reasons.

First, the economic analysis is based on a four county area, which includes Kittitas, Benton, Yakima, and Franklin Counties. We think that the inclusion of Franklin County may be over-inclusive. We are concerned that, by including Franklin County, the SDEIS may have diluted or underestimated the economic importance of agriculture in the areas primarily served by Yakima Project water.

Second, the SDEIS's economic analysis is based on 2012 data. *See* SDEIS at 3-178, 4-319. It is our understanding that the contributions of agriculture to the Yakima Basin economy have greatly increased over the last few years, and therefore, the SDEIS may be underestimating the economic importance of agriculture. In turn, this may result in Reclamation underestimating the potential economic consequences of pursuing the no-action alternative. We request that this information be updated in the final environmental impact statement.

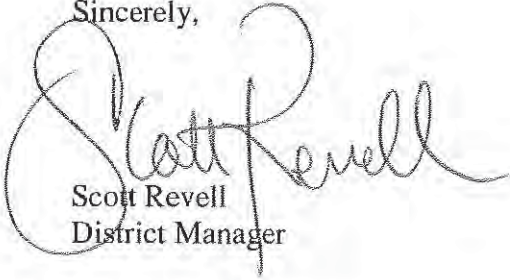
Third, the economic analysis appears to provide an inadequate explanation of the negative economic impacts of the 2015 drought. As stated above, the short-term and long-term effects of the 2015 drought on the agricultural community were more significant than described in the SDEIS. For each of these reasons, the potential costs to the agricultural community of *not* pursuing the Proposed Action, as well as the economic benefits of the Proposed Action, are much greater than described in the SDEIS.

The Proposed Action will enhance water security in water short years. We believe that the Proposed Action is vital to protecting the economy in the Yakima Basin, so much so that Roza is prepared to fund, construct, operate and maintain the Proposed Action. Without the Proposed Action, Roza, farms served by Roza, and the broader community will continue to suffer from both the uncertainty of water resources and the impacts of the lack of water resources. The Proposed Action would allow Roza (and potentially others) to access up to 200,000 acre-feet of water in

water short years, and would give water users peace of mind when it comes to water short years. This will provide Roza with more flexibility to respond to water short years and will help protect the area's economy and people's livelihoods.

Thank you for the opportunity to provide input.

Sincerely,

A handwritten signature in black ink that reads "Scott Revell". The signature is written in a cursive style with a large, looping initial "S".

Scott Revell
District Manager

cc: Roza Board of Directors
File



July 5, 2018

U.S. Bureau of Reclamation
 Attn: Ms. Candace McKinley
 Environmental Program Manager
 1917 Marsh Road
 Yakima, WA 98901-2058

Received in Mailroom
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 Yakima, Washington

Re: Comments on Supplemental Draft Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance Projects

Dear Ms. McKinley:

The Port of Benton has reviewed the April 2018 supplemental draft environmental impact statement (SDEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and the Keechelus Reservoir-to-Kachess Reservoir Conveyance. The Port supports the Proposed Action, Alternative 4 – Floating Pumping Plant (the “Proposed Action”), as it will benefit both the environment and the economy in the Yakima Basin and beyond during drought years.

Agriculture forms the basis of our economy as it is one of the largest industries in the area. The jobs provided by agricultural activities sustain many local families and contribute significantly to our rural way of life and rural character.

There are hundreds farms with over 28,000 irrigated acres which are located in both the Port of Benton and the Roza Irrigation District, and such farms rely upon a stable source of water from the Yakima Project to maintain their crops. Processing those crops occurs within the Port of Benton. The Roza and Sunnyside Valley Irrigation Districts deliver Yakima Project water to such farms. The farms in the area rely upon Yakima Project water to grow and produce such as apples, tree fruits, grapes, blueberries, forage crops, hops as well as a large dairy industry.

The agricultural community is a vital aspect of the economy of the immediate area, the region and beyond. The crops produced by farms provide a fresh food supply to both domestic and foreign markets. Collectively, the annual revenue from farms in the Port of Benton is measured in hundreds of millions of dollars.

Recent droughts have demonstrated that water supply from the Yakima Project may be inadequate in water short years to support crop production. Because the water supply from the Yakima Project to the Roza Irrigation District is proratable, the irrigation districts are susceptible to reduced irrigation water allocations during drought years.

1

Without a stable and adequate water supply from the Yakima Project, the agricultural industry within the basin, and throughout the rest of the Yakima Basin, will suffer. This, in turn, damages the entire economy of the County and the region. For example, due the drought in 2015, the Washington State Department of Agriculture estimated economic losses of up to \$30 million dollars in the portion of the Roza Irrigation District which is situated in the Port of Benton alone.

1

Based upon our review of the SDEIS's analysis of the socioeconomic consequences of the Proposed Action (Section 4.21), we believe that the SDEIS may substantially underestimate the importance of agriculture in the Yakima Valley and the socioeconomic benefits of the Proposed Action to the agricultural industry and the economy within the District, and throughout the Yakima Basin for at least three reasons.

2

First, the economic analysis is based on a four county area, which includes Kittitas, Benton, Yakima, and Franklin Counties. We think that the inclusion of Franklin County may be over-inclusive. We are concerned that, by including Franklin County, the SDEIS may have diluted or underestimated the economic importance of agriculture in the areas primarily served by Yakima Project water.

3

Second, the SDEIS's economic analysis is based on 2012 data. *See* SDEIS at 3-178, 4-319. It is our understanding that the contributions of agriculture to the Yakima Basin economy have greatly increased over the last few years, and therefore, the SDEIS may be underestimating the economic importance of agriculture. In turn, this may result in Reclamation underestimating the potential economic consequences of pursuing the no action alternative. We request that this information be updated in the final environmental impact statement.

4

Third, the economic analysis appears to provide an inadequate explanation of the negative economic impacts of the 2015 drought. As stated above, the short term and long term effects of the 2015 drought on the agricultural community were more significant than described in the SDEIS. For each of the these reasons, the potential costs to the agricultural community of *not* pursuing the Proposed Action, as well the economic benefits of the Proposed Action, are much greater than described in the SDEIS.

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The Port supports the Projects because the Projects will enhance water security in water short years. We believe that the Projects are vital to protecting the economy in the Yakima Basin. Without the Projects, farms located in and around the Port, and the broader community will continue to suffer from both the uncertainty of water resources and the impacts of the lack of water resources.

6

Thank you for the opportunity to provide input.

Sincerely,



SCOTT D. KELLER, PPM®
Executive Director



Dera, Karen <kdera@usbr.gov>

Fwd: [EXTERNAL] KRD Comments for the Kachess Drought Relief Pumping Plant

1 message

McKinley, Candace <cmckinley@usbr.gov> Thu, Jul 12, 2018 at 6:56 AM
To: Julia Long <jlong@usbr.gov>, "Dera, Karen" <kdera@usbr.gov>, Gwendolyn Christensen <gchristensen@usbr.gov>

----- Forwarded message -----

From: **Kevin Eslinger** <kevin@krdistrict.org>
Date: Wed, Jul 11, 2018 at 4:39 PM
Subject: [EXTERNAL] KRD Comments for the Kachess Drought Relief Pumping Plant
To: CMckinley@usbr.gov

Dear Ms. McKinley,

Please find attached the Kittitas Reclamation District (KRD) Comments on the Supplemental Draft Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance Projects.

Thank you,

Urban Eberhart

Secretary Manager

Kittitas Reclamation District

--

Candy McKinley
Environmental Program Manager
Bureau of Reclamation
Columbia-Cascades Area Office
1917 Marsh Road
Yakima, WA 98901



Kittitas Reclamation District

P.O. Box 276
 Ellensburg, WA 98926
 Phone: (509) 925-6158 Fax: (509) 925-7425

July 11, 2018

U.S. Bureau of Reclamation
 Attn: Ms. Candace McKinley
 Environmental Program Manager
 1917 Marsh Road
 Yakima, WA 98901-2058

Re: Comments on Supplemental Draft Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance Projects

Dear Ms. McKinley,

Kittitas Reclamation District (“KRD”) has reviewed the April 2018 supplemental draft environmental impact statement (SDEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and the Keechelus Reservoir-to-Kachess Reservoir Conveyance (KKC, and collectively with the KDRPP, Projects). The KRD strongly supports the implementation of the Yakima Basin Integrated Plan, and specifically, the implementation of Proposed Action, Alternative 4 – Floating Pumping Plant (the “Proposed Action”) by Roza Irrigation District. The Proposed Action will benefit both the environment and the economy in the Yakima Basin and beyond during drought years.

A steady and reliable source of Yakima Project water is vital to KRD’s water users. The KRD is the 6th largest irrigation district in Washington State. The KRD’s 330 miles of canals and laterals service approximately two thirds of all the irrigated agricultural acres in Kittitas County. The Yakima Project water is the primary source of irrigation water for 59,122 acres of farm and ranch land in Kittitas County, Washington. These farms rely upon a stable source of water from the Yakima Project to maintain their crops. In particular, the farms within the KRD’s service area rely upon Yakima Project water to grow and produce apples, pears, cherries, corn, wheat, oats, barley, sunflowers, potatoes, beans, blueberries, Timothy hay, alfalfa hay, and livestock pasture. The crops produced by farmers provide a fresh food supply to both domestic and foreign markets.

KRD has a long term goal of increasing the efficiency of its irrigation water delivers to lands within its district boundaries that are entitled to receive irrigation water. As previously outlined in KRD’s June 12, 2015 comment letter on the KDRPP and KKC Projects Draft Environmental Impact Statement, KRD has undertaken modifications to its irrigation delivery system to increase system efficiency and the enhance fish flows in various creeks and streams.

Recent droughts have demonstrated that KRD's water supply from the Yakima Project may be inadequate in water short years to support crop production. Without a stable water supply from the Yakima Project, the agricultural industry within KRD, and throughout the rest of the Yakima Basin, will suffer. Because KRD's water supply from the Yakima Project is proratable, in water short years we have received less than fifty percent of our water entitlement, which then results in farmers receiving an inadequate amount of water needed for their crops. Steep prorationing of water supplies not only results in lost crop production, and thus lost revenue, in water short years, but also may lead to the need to replace and replant crops. Crops such as apples and blueberries cost up to \$50,000.00 per acre to replace if they fail, hops cost up to \$20,000, and wine grapes up to \$15,000. Because of the 2015 drought, farmers within the KRD lost an estimated \$11,420,507.55.¹

1

Although costs of pursuing the Proposed Action may be high, such costs will be offset by the losses of the production value of crops and the costs of replacing crops that will be avoided through development of the Proposed Action. The Proposed Action is specifically designed to enhance water supplies available to KRD and other proratable irrigation districts when less than a full water supply is available. Specifically, the Proposed Action will ensure that in most if not all water short years, KRD (should it elect to participate in the project) and other participating irrigation districts will receive up to 70% of their full supply. The Proposed Action will create an opportunity for KRD, if it eventually elects to participate in the project, to lengthen the irrigation season and the period of operation in its service area.

Based upon our review of the SDEIS's analysis of the socioeconomic consequences of the Proposed Action (Section 4.21), we believe that the SDEIS may substantially underestimate the importance of agriculture in the Yakima Valley and the socioeconomic benefits of the Proposed Action to the agricultural industry and the economy throughout the Yakima Basin for at least three reasons.

2

First, the economic analysis is based on a four county area, which includes Kittitas, Benton, Yakima, and Franklin Counties. We think that the inclusion of Franklin County may be over-inclusive. We are concerned that, by including Franklin County, the SDEIS may have diluted or underestimated the economic importance of agriculture in the areas primarily served by Yakima Project water.

3

Second, the SDEIS's economic analysis is based on 2012 data. *See* SDEIS at 3-178, 4-319. It is our understanding that the contributions of agriculture to the Yakima Basin economy have greatly increased over the last few years, and therefore, the SDEIS may be underestimating the economic importance of agriculture. Specifically, in the KRD since 2010, the amount of apple production has increased by 61%. In turn, this may result in Reclamation underestimating the potential economic consequences of pursuing the no action alternative. We request that this information be updated in the final environmental impact statement.

4

Third, the economic analysis appears to provide an inadequate explanation of the negative economic impacts of the 2015 drought. As stated above, the short term and long term effects of

5

¹ Washington State Department of Agriculture, Interim Report: 2015 Drought and Agriculture (December 2015) (Publication No. AGR PUB 104-495), p. 22, Figure 1.

the 2015 drought on the agricultural community were more significant than described in the SDEIS. For each of these reasons, the potential costs to the agricultural community of *not* pursuing the Proposed Action, as well as the economic benefits of the Proposed Action, are much greater than described in the SDEIS.

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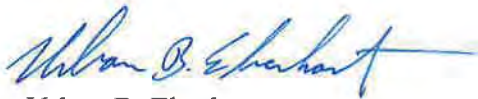
The Proposed Action will enhance water security in water short years throughout the Yakima Basin. We believe that the Proposed Action is vital to protecting the economy in the Yakima Basin, as well as fish flows.

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For these reasons, KRD is supportive of the Proposed Action and is supportive of Roza Irrigation District as the operator of the Proposed Action. Moreover, KRD has consistently expressed interest in the possibility of buying into the KDRPP project in the future, and continues to be interested in this possibility.

Thank you for the opportunity to provide input.

Sincerely,



Urban B. Eberhart
Secretary Manager
Kittitas Reclamation District



K2KConvey, BOR UCA <sha-uca-k2kconvey@usbr.gov>

[EXTERNAL] Comment Letter from Benton County Commissioners for July 11, 2018 Comment Period

1 message

Jerrod MacPherson <Jerrod.MacPherson@co.benton.wa.us>
To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Tue, Jul 10, 2018 at 11:30 AM



Jerrod B. MacPherson, Planning Manager

Benton County Planning Department

P.O. Box 910

1002 Dudley Avenue

Prosser, WA 99350

(509) 786-5612

www.co.benton.wa.us

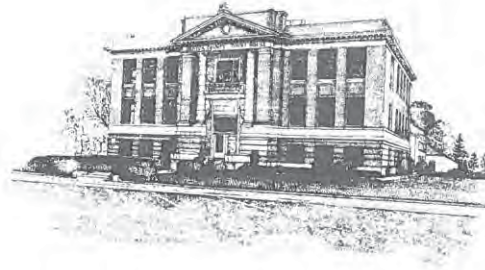
NOTICE OF PUBLIC DISCLOSURE: This e-mail account is public domain. Any correspondence from or to this email account may be a public record. Accordingly, this email, in whole or in part, may be subject to disclosure pursuant to RCW 42.56, regardless of any claim of confidentiality or privilege asserted by an external party.

Jerome Delvin
 District 1
 Shon Small
 District 2
 James Beaver
 District 3

**Board of County Commissioners
 BENTON COUNTY**

David Sparks
 County Administrator

Loretta Smith Kelty
 Deputy County Administrator



July 10, 2018

United States Bureau of Reclamation
 ATTN: Candace McKinley, Environmental Program Manager
 1917 Marsh Road
 Yakima, Washington 98901-2058

Re: Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance Projects Supplemental Draft Environmental Impact Statement

Dear Ms. McKinley:

Benton County has reviewed the April 2018 Supplemental Draft Environmental Impact Statement (SDEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and the Keechelus Reservoir-to-Kachess Reservoir Conveyance (KtoK). The County supports the Proposed Action, Alternative 4 – Floating Pumping Plant (the “Proposed Action”), as we believe it is the alternative that will best benefit both the environment and the economy in the Yakima Basin during drought years.

Despite continued economic diversification across many sectors, agriculture remains the underpinning of the Basin’s economy from the upper Kittitas Valley all the way to the confluence here in the Tri-Cities. The jobs provided by agricultural activities sustain many local families and contribute significantly to the culture and character of Benton County.

1

Recent droughts have demonstrated that water supply from the Yakima Project may be inadequate in water-short years to support crop production at usual and expected levels. This is true despite continued conservation and efficiency efforts. As such, a varied, complementary, and comprehensive strategy is required, one that includes the bigger and more ambitious water supply projects like KDRPP and KtoK.

While we support the general findings of the SDEIS and the direction of the Proposed Action, there are two items we would like to point out:

1. The economic analysis is based on a four-county area – Benton, Franklin, Kittitas, and Yakima. While the local economies of Benton and Franklin counties are inextricably tied together, Franklin County’s water use is not tied to the Yakima Project in any substantive way that we are aware of. We suggest that the inclusion of Franklin County in the analysis

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- might have dilutive effect, causing the analysis to underestimate the economic importance of agriculture in the areas primarily served by Yakima Project water.
2. The economic analysis takes inadequate account of the negative economic impacts of the 2015 drought, the most recent such event on record. The short and long-term effects of the 2015 drought on the agricultural community were more significant than described in the SDEIS.

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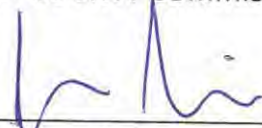
The economic benefits of the Proposed Action, as well as the potential costs to the agricultural community of *not* pursuing the Proposed Action, create for us both optimism and concern. As such, Benton County supports KDRPP and KtoK because the Projects will enhance water security in water-short years. We believe that the Projects are vital to protecting the economy in the County specifically and the Yakima Basin in general. Without the Projects, our community will continue to suffer from both the uncertainty of water resources and the impacts of the lack of water resources in water-short years heading into a future where such years might be occurring with greater frequency.

4

Thank you for the opportunity to provide input on this important matter.

Sincerely,

BOARD OF COUNTY COMMISSIONERS



Jerome Delvin, Chairman



Shon Small



Jim Beaver



K2KConvey , BOR UCA <sha-uca-k2kconvey@usbr .gov >

[EXTERNAL] KDRPP SDEIS Comment Letter - Port of Grandview

1 message

Mary Barnett <office@portofgrandview.org>

Wed, Jul 11, 2018 at 12:05 PM

To: KKBT@usbr.gov, cmckinley@usbr.gov

Cc: Scott Revell <srevell@roza.org>, Mary Barnett <office@portofgrandview.org>, Jim Sewell <jim@portofgrandview.org>, Richard Shenyer <richard@portofgrandview.org>, Ron Grow <ron@portofgrandview.org>

See attached letter.

Thank you,

Mary Barnett

Administrative Assistant | Port of Grandview

P.O. Box 392 | 1313 W. Wine Country Rd., #101


Grandview, Washington 98930

Office: 509.882.9975 | Cell: 509.832.0065

Office Hours: Mon. thru Thurs., 9 a.m.–1 p.m.

office@portofgrandview.org | www.portofgrandview.org



 Letter - Roza Kachess Comment Letter Signed.pdf
1645K



July 10, 2018

U.S. Bureau of Reclamation
 Attn: Ms. Candace McKinley
 Environmental Program Manager
 1917 Marsh Road
 Yakima, WA 98901-2058

Re: Comments on Supplemental Draft Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance Projects

Dear Ms. McKinley:

The Port of Grandview has reviewed the April 2018 supplemental draft environmental impact statement (SDEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and the Keechelus Reservoir-to-Kachess Reservoir Conveyance. The Port supports the Proposed Action, Alternative 4 – Floating Pumping Plant (the “Proposed Action”), as it will benefit both the environment and the economy in the Yakima Basin and beyond during drought years.

Agriculture forms the basis of our economy as it is one of the largest industries in the area. The jobs provided by agricultural activities sustain many local families and contribute significantly to our rural way of life and rural character.

There are hundreds of farms, with tens of thousands of irrigable acres located immediately around the Port of Grandview, and such farms rely upon a stable source of water from the Yakima Project to maintain their crops. Processing those crops occurs within the Port of Grandview. The Roza, Sunnyside Valley and Grandview irrigation districts deliver Yakima Project water to such farms. The farms in the area rely upon Yakima Project water to grow and produce crops such as apples, tree fruits, grapes, blueberries, forage crops, and hops, as well as a large dairy industry.

The agricultural community is a vital aspect of the economy of the immediate area, the region and beyond. The crops produced by farms provide a fresh food supply to both domestic and foreign markets. Collectively, the annual revenue from farms around the Port is measured in hundreds of millions of dollars.

Recent droughts have demonstrated that water supply from the Yakima Project may be inadequate in water short years to support crop production. Because the water supply from the Yakima Project to the irrigation districts is proratable, the irrigation districts are susceptible to reduced irrigation water allocations during drought years.

P.O. Box 392 • GRANDVIEW, WA 98930 • 509-882-9975

Member: Washington Public Ports Association

Without a stable and adequate water supply from the Yakima Project, the agricultural industry within the basin and throughout the rest of the Yakima Basin will suffer. This, in turn, damages the entire economy of the county and the region. For example, due to the drought in 2015, the Washington State Department of Agriculture estimated economic losses of up to \$77,000,000 in the Roza Irrigation District alone.

1

Based upon our review of the SDEIS's analysis of the socioeconomic consequences of the Proposed Action (Section 4.21), we believe that the SDEIS may substantially underestimate the importance of agriculture in the Yakima Valley, and the socioeconomic benefits of the Proposed Action to the agricultural industry and the economy within the District and throughout the Yakima Basin, for at least three reasons.

2

First, the economic analysis is based on a four-county area, which includes Kittitas, Benton, Yakima, and Franklin Counties. We think that the inclusion of Franklin County may be over-inclusive. We are concerned that, by including Franklin County, the SDEIS may have diluted or underestimated the economic importance of agriculture in the areas primarily served by Yakima Project water.

3

Second, the SDEIS's economic analysis is based on 2012 data. See SDEIS at 3-178, 4-319. It is our understanding that the contributions of agriculture to the Yakima Basin economy have greatly increased over the last few years, and therefore, the SDEIS may be underestimating the economic importance of agriculture. In turn, this may result in Reclamation underestimating the potential economic consequences of pursuing the no action alternative. We request that this information be updated in the final environmental impact statement.

4

Third, the economic analysis appears to provide an inadequate explanation of the negative economic impacts of the 2015 drought. As stated above, the short term and long term effects of the 2015 drought on the agricultural community were more significant than described in the SDEIS. For each of these reasons, the potential costs to the agricultural community of *not* pursuing the Proposed Action, as well the economic benefits of the Proposed Action, are much greater than described in the SDEIS.

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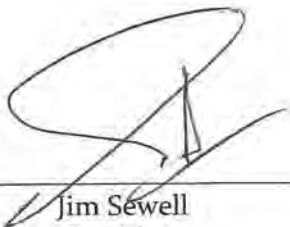
The Port supports the Projects because the Projects will enhance water security in water short years. We believe that the Projects are vital to protecting the economy in the Yakima Basin. Without the Projects, farms located in and around the Port and the broader community will continue to suffer from both the uncertainty of water resources and the impacts of the lack of water resources.


6

Thank you for the opportunity to provide input.

Sincerely,

Port of Grandview Board of Commissioners


Jim Sewell
President


Richard Shenyer
Secretary


Ron Grow
Investment Officer



Dera, Karen <kdera@usbr.gov>

Fwd: [EXTERNAL] KDRPP-KKC SDEIS Letter

1 message

McKinley, Candace <cmckinley@usbr.gov>
To: Julia Long <jlong@usbr.gov>, "Dera, Karen" <kdera@usbr.gov>

Thu, Jul 12, 2018 at 4:21 PM

----- Forwarded message -----

From: **Dana Hunter - NOAA Federal** <dana.hunter@noaa.gov>
Date: Thu, Jul 12, 2018 at 10:45 AM
Subject: [EXTERNAL] KDRPP-KKC SDEIS Letter
To: "McKinley, Candace A" <CMckinley@usbr.gov>, GTEB461@ecy.wa.gov

Attachment:

Comments on the Supplemental Draft Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Projects

Please direct any questions or concerns regarding this letter to Sean Gross, Columbia Basin Branch, at sean.gross@noaa.gov or (509) 962-8911 ext. 806.

Thank you,

Dana Hunter

Administrative Assistant
Columbia Basin Branch Office
NOAA Fisheries*
304 South Water Street, Suite 201
Ellensburg, Washington 98926
Office: [509\) 962-8911](tel:(509)962-8911) ext. 801
Fax: [509\) 962-8544](tel:(509)962-8544)
dana.hunter@noaa.gov
*Contractor - Leading Solutions, LLC



www.westcoast.fisheries.noaa.gov

~~~~~

Candy McKinley  
Environmental Program Manager  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901

509/575-5848 x232  
509/379-0780 cell



**KDRPP-KKC\_SDEIS\_Letter\_2018-07-12\_Final.pdf**  
247K



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
 NATIONAL MARINE FISHERIES SERVICE  
 West Coast Region  
 1201 NE Lloyd Boulevard, Suite 1100  
 Portland, Oregon 97232-1274

July 12, 2018

Candace McKinley  
 Environmental Program Manager  
 Columbia–Cascades Area Office  
 U.S. Bureau of Reclamation  
 1917 Marsh Road  
 Yakima, WA 98901-2058

Thomas Tebb  
 Director  
 Office of the Columbia River  
 Washington State Department of Ecology  
 1250 West Alder Street  
 Union Gap, WA 98903-0009

Re: Comments on the Supplemental Draft Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Projects

Dear Ms. McKinley and Mr. Tebb:

The National Marine Fisheries Service (NMFS) has reviewed the supplemental draft environmental impact statement (SDEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir-to-Kachess Reservoir Conveyance (KKC) Projects, which are two of many projects that together comprise the Yakima Basin Integrated Plan (YBIP).

NMFS has enthusiastically participated in the Integrated Plan (IP) because it is a collaborative effort with the potential to greatly improve fisheries resources and water supplies in the Yakima Basin. NMFS' primary interest in these projects is their potential to affect Mid-Columbia River steelhead, Chinook salmon, and coho salmon for which NMFS has jurisdiction through the Endangered Species Act, Magnuson-Stevens Fishery and Conservation Management Act, Federal Power Act, and the Fish and Wildlife Coordination Act.

NMFS has supported the concepts underlying the KKC and KDRPP projects based on an understanding that KKC would benefit fish and KDRPP would provide emergency irrigation water while avoiding significant impacts to fish. The benefits and impacts of these projects depend on how they will be operated.

Numerous studies and reports, authored by the U.S. Bureau of Reclamation (Reclamation), the Yakama Nation, and others, have recognized that the operation of the Yakima Irrigation Project has adversely affected salmon and steelhead by altering instream flows throughout the basin. Key impacts to these species have resulted from the water storage and delivery system reducing river flows during the winter and spring, which reduces rearing habitat and increases mortality of juvenile fish as they migrate downstream. Construction of KKC–KDRPP will provide Reclamation with the ability to further control river flows, which could result in benefits or impacts, depending on how these facilities are operated.

The SDEIS is an improvement over the DEIS in describing expected operations of KKC–KDRPP. However, more refined operational rules and water accounting are needed to ensure transparency and demonstrate that salmon and steelhead will not be harmed by the project.

1

The YBIP identifies increased spring flows as an objective of the YBIP in most river reaches that may be affected by KDRPP refill operations, and identifies increased winter minimum flows as an objective in several of the same reaches. Without sufficient safeguards for fish, the KDRPP could cause harm by reducing winter and spring flows in these reaches during post-drought refill years.

The SDEIS includes a key commitment to protect spring flows:

In keeping with the goals of the IP, under the Proposed Action during Kachess Reservoir refill, Reclamation would operate the Yakima Project to ensure spring (March through June) flows are at least what they would be under current operating conditions without KDRPP. Current operating conditions vary by year depending on hydrologic conditions (SDEIS, 2.3.3, p. 2–17).

2

Fully implementing this commitment in the regulated reaches of the Yakima Basin will go a long way toward ensuring that operation of the KDRPP does not negatively impact salmon and steelhead, because spring flow volumes and timing are critical to their survival.

Despite the commitment above, the hydrologic information in the SDEIS (i.e., Tables 4-28, 4-30, 4-32, and 4-34) indicates that operation of KDRPP would decrease spring flows in at least some cases. The SDEIS also indicates that winter flows will be reduced in some cases (e.g., Table 4-22). These results demonstrate the need for additional development of transparent operating rules to protect important instream flows.

3

We recommend that Reclamation and Ecology work with stakeholders to further develop operating rules, water accounting procedures, and mitigation (if necessary) that explicitly consider the effect of KDRPP operations on existing commitments such as:

- Title XII minimum flows and conservation water volumes
- Cle Elum Pool Raise storage
- Winter and spring flow targets included in Reclamation’s 2015 Biological Assessment
- Proratable deliveries.

4

NMFS understands that Reclamation and its partners have committed in principle to protecting these existing water uses. However, developing clear mechanisms to ensure that these protections are implemented transparently is important.

Based on our current understanding of the KDRPP project, it is not clear to NMFS how much winter flows will be reduced by operating the project during refill years. Reductions in winter flows at key locations are expected to be detrimental, so we need to better understand how and where flows may be reduced. To the degree that such reductions are harmful to steelhead or salmon, we expect that mitigation of some sort will be provided. We are open to considering a variety of mitigation alternatives, including partial subordination of hydropower production at Roza Dam.

NMFS wishes to reaffirm our support for the goals of the IP and emphasize that it is necessary to work closely with Reclamation, Washington State Department of Ecology, and other stakeholders to better configure the proposed operations of the KKC and KDRPP projects to meet the goals of the IP. Please direct any questions or concerns regarding this letter to Sean Gross, Columbia Basin Branch, at [sean.gross@noaa.gov](mailto:sean.gross@noaa.gov) or (509) 962-8911 ext. 806.

Sincerely,

A handwritten signature in blue ink, appearing to read "F. O'Neil" or similar, written over the printed name.

Michael Tehan  
Assistant Regional Administrator  
Interior Columbia Basin Area Office





K2KConvey, BOR UCA <sha-uca-k2kconvey@usbr.gov>

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## [EXTERNAL] Supplemental Draft Environmental Impact Statement-Kachess Drought Relief Pumping Plant Comment

1 message

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**Brown, David** <David.Brown@yakimawa.gov>  
To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Fri, Jul 6, 2018 at 11:57 AM

Ms. McKinley,

Please find attached the City's comment letter on *Supplemental Draft Environmental Impact Statement-Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance*. Hard copy to following the mail

David Brown

City of Yakima

Interim Assistant Public Works Director



[www.wawarn.org](http://www.wawarn.org)

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 **SDEIS Pump Plant.pdf**  
64K



**Water / Irrigation Division**  
Working Together Toward Excellence in Service and Quality

2301 Fruitvale Blvd.  
Yakima, WA 98902

July 6, 2018

**(Also Sent Via Email to: [kkbt@usbr.gov](mailto:kkbt@usbr.gov))**

Bureau of Reclamation Columbia-Cascades Area Office  
Attn: Ms. Candace McKinley, Environmental Program Manager  
1917 Marsh Rd.  
Yakima, WA 98901-2058

**RE: Supplemental Draft Environmental Impact Statement-Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance**

Dear Ms. McKinley:

This comment letter is sent on behalf of the City of Yakima in connection with the above-referenced Supplemental Draft Environmental Impact Statement ("SDEIS"):

The City of Yakima is within the Yakima Basin project and have senior, junior (May 1905 proratable) and post 1905 water rights. The citizens of Yakima rely on the Bureau of Reclamation reservoirs for much of their annual supply, including the Kachess and Keechelus reservoirs. All of the reservoirs are critical to the Total Water Supply Available ("TWSA") yearly calculations that are used to determine supply availability to the water users in the Yakima Basin.

The City of Yakima has been actively involved in the Yakima Basin Integrated Plan and support the Plan and its objectives. The City of Yakima encourages projects and policies that provide increased access to water supplies, either through new storage, or through enhanced access to existing supplies. Even though the City of Yakima will not receive any direct benefit from the proposed actions outlined in the Supplemental Draft EIS ("SDEIS"), we fully support the proposed actions, as long as such changes and modifications to the reservoirs and water deliveries do not adversely affect water users ability to fully use their existing water rights, including deliveries for subsequent years; nor increase the cost to the City of Yakima from additional Reclamation operations.

It is the City of Yakima's understanding, not only from the draft SDEIS, but from communications from Reclamation and other parties, that the pump station and pipeline will be operated in such a manner as to not adversely affect the ability of other water right holders to access and use their historic water rights. Any costs for these operations will be borne by Roza Irrigation District and others who are direct beneficiaries of the new reservoir operations.

We request that Reclamation, and others involved with the proposal, keep the City of Yakima advised of details of the proposed plan, including definitive operational plans. Since the

David E. Brown Interim Assistant Public Works Director  
(509) 575-6204  
[david.brown@yakimawa.gov](mailto:david.brown@yakimawa.gov)

operational plan is not part of the SDEIS, the City of Yakima requests the opportunity to comment and participate on the plan as it is being developed to ensure the operational costs do not adversely impact Yakima water users.

1

We thank you in advance for your attention and the opportunity to comment.

Sincerely,



David Brown

David E. Brown Water/Irrigation Manager  
(509) 575-6204 Fax (509) 575-6187  
dbrown@ci.yakima.wa.us



K2KConvey, BOR UCA <sha-uca-k2kconvey@usbr.gov>

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## [EXTERNAL] Comments on Kachess

1 message

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**Finkenbinder, Megan (AGR)** <MFinkenbinder@agr.wa.gov>

Wed, Jul 11, 2018 at 5:01 PM

To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Cc: "Sandison, Derek (AGR)" <DSandison@agr.wa.gov>, "Tebb, G. Thomas (ECY)"

<GTEB461@ecy.wa.gov>

Good afternoon Ms. McKinley,

Attached please find comments from the Washington State Department of Agriculture on the Supplemental Draft Environmental Impact Statement Kachess Drought Relief Pumping Plant, Kittitas County and Yakima County, Washington.

Thank you,  
Megan

*Megan Finkenbinder*

Executive Assistant to the Director

[mfinkenbinder@agr.wa.gov](mailto:mfinkenbinder@agr.wa.gov)

360.902.1887



### WSDA SOCIAL MEDIA LINKS





STATE OF WASHINGTON  
DEPARTMENT OF AGRICULTURE  
*P.O. Box 42560 • Olympia, Washington 98504-2560 • (360) 902-1800*

July 11, 2018

Ms. Candace McKinley  
Environmental Program Manager  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

RE: Supplemental Draft Environmental Impact Statement Kachess Drought Relief Pumping Plant, Kittitas County and Yakima County, Washington

Dear Ms. McKinley:

The Washington State Department of Agriculture (WSDA) has reviewed the April 2018 Supplemental Draft Environmental Impact Statement (SDEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir-to-Kachess Conveyance (KtoK) Projects. WSDA supports the Proposed Action, Alternative 4 – Floating Pumping Plant, given that it should help mitigate the impacts of drought on both the environment and the agricultural economy in the Yakima Basin far into the future.

Agriculture is the dominant industry in the Yakima basin, providing approximately \$3.4 billion to the state economy each year. That economic driver is in peril during drought years, as the Yakima Basin is the most drought prone river basin in the state with 7 declared droughts since 1977. Each of these droughts caused significant economic impact in the valley and across the state. In 2015, WSDA completed its first analysis of the economic impact of drought on Washington agriculture. The value of that impact was \$77 million, and the majority of the impact occurred in the Yakima Basin.

The Yakima River Basin Integrated Water Resource Management Plan (Integrated Plan) was developed to address the sum total of water resource and aquatic resource needs of the basin. The plan is providing for fish passage at all existing water reservoirs, improved habitat, and a renewed commitment to water conservation. The plan also provides for improving water supplies for domestic, municipal, and agricultural uses as well as for instream flow. KDRPP represents the first major water supply project undertaken as part of the integrated plan.

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Ms. McKinley  
July 11, 2018  
Page 2

WSDA appreciates the efforts of the Bureau of Reclamation and Ecology in addressing the water needs in the Basin, as well as the active participation by the agricultural water managers (Roza Irrigation District and the Roza-Sunnyside Board of Joint Control) in supporting solutions that address multiple water resource needs. Again, we support implementation of Alternative 4 (Floating Pumping Plant) as a means of partially accomplishing the objectives of the integrated plan and appreciate the opportunity to provide comment on the SDEIS.

Sincerely,

A handwritten signature in blue ink, appearing to read "Derek I. Sandison".

Derek I. Sandison  
Director

cc: Mr. Thomas Tebb



K2KConvey, BOR UCA <sha-uca-k2kconvey@usbr.gov>

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## [EXTERNAL] Kennewick Irrigation District Comments

1 message

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**Joe Brogan** <joe.brogan@foster.com>

Tue, Jul 10, 2018 at 1:58 PM

To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Cc: "Charles Freeman (CFreeman@kid.org)" <CFreeman@kid.org>

**RE: Kennewick Irrigation District's Comments on the *Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance SDEIS***

Ms. McKinley,

Please see the attached comment letter submitted on behalf of the Kennewick Irrigation District. An original will be postmarked today and will follow via U.S. Mail.

Best regards, Joe Brogan

Joseph (Joe) A. Brogan

**ATTORNEY**

**FOSTER PEPPER** PLLC

1111 Third Avenue, Suite 3000

Seattle, WA 98101

[joe.brogan@foster.com](mailto:joe.brogan@foster.com)

Tel: 206-447-6407

Fax: 206-749-1935

[foster.com](http://foster.com)

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FOSTER PEPPER PLLC

Direct Phone (206) 447-6407  
 Direct Facsimile (206) 749-1935  
 joe.brogan@foster.com

July 10, 2018

Ms. Candace McKinley  
 Environmental Program Manager  
 Bureau of Reclamation  
 Columbia-Cascades Area Office  
 1917 Marsh Road  
 Yakima, WA 98901-2058

RE: Kennewick Irrigation District's Comments on the *Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement* ("SDEIS"), dated April 2018

Dear Ms. McKinley:

This firm represents the Kennewick Irrigation District ("KID") on a range of water supply and water right matters. KID respectfully submits the following comments on the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement ("SDEIS").

## I. Background

KID is pleased to partner with the U.S. Department of the Interior, Bureau of Reclamation ("BOR"), the Washington State Department of Ecology ("Ecology"), irrigation districts, and other stakeholders in pursuit of actions to implement water management actions benefitting both fisheries and irrigation in the Yakima River basin. KID previously communicated its desire to partner with BOR and Ecology in the discussion and development of alternatives to implement the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to Kachess Reservoir Conveyance (KDRPP/KKC) Projects as part of the Integrated Plan. *See* Exhibit A, KID Election to Participate, June 7, 2016. KID has been an active participant in the Yakima Basin Integrated Plan and is supportive of all projects within the Basin that improve water supply, either through new storage or improved use of existing supplies. Making the Yakima Basin water supplies sustainable for the next 100 years is an important endeavor and should be realized without negatively affecting existing water users.

## II. Operational Concerns

KID has previously communicated a list of comments and questions to BOR and Ecology representatives regarding the potential implementation of the Proposed Action. (June 21, 2018 email from KID to BOR and Ecology). KID, BOR and Ecology addressed some of these comments and questions in a phone conference on June 21, 2018. However, a number of KID's comments and questions were not fully answered or addressed at that time. Accordingly, KID

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provides the following list of comments and questions concerning the Proposed Action. As a co-participant in the KDRPP/KKC Projects, KID respectfully requests answers to these important questions *prior to* issuance of the FEIS and Record of Decision.

1. Is it true that only runoff into the Kachess Reservoir above the volume of 239,000 AF (total current active volume of Kachess Reservoir) will be eligible for refilling Kachess in a prorationed year? 2
2. During refill years, how is the TWSA portion of runoff calculated? 3
3. Who is responsible for pumping the TWSA water below the elevation of the current outflow structure (Elev. 2192.75), during refill years? 4
4. Can KDRPP be pumped in water years where the prorationed supply is above 70% (i.e., in refill years) to provide for no reduction in TWSA or carryover storage? 5
5. What guarantee is there that pumping in refill years to protect TWSA will be paid for or available? 6
6. What is the proposed pumping power costs estimated to be in all years pumping is projected in the modeling? Who pays for this power cost? 7
7. The SDEIS section 4.16 identifies approximately 30 MW being required for the pump station. Has this increased electrical demand and subsequent generating capacity been reviewed for sustainability through the lifespan of the proposed project? 8
8. It is unclear from the SDEIS how costs associated with the project, both construction and ongoing O, M, & R, will be distributed amongst Reclamation, Ecology, Roza and prorationable entities. Please explain in detail the different construction, operations, maintenance and replacement alternatives that are being evaluated, and how that affects both participating and non-participating entities. In addition, what contractual relationships are proposed for those prorationable entities that elect to participate? What portion of the 200,000 AF does each participating entity receive? 9
9. What volume of water will be available to each participating entity, both instantaneous and annual quantities? How is available inactive storage water determined in multiyear drought and refill years? 10
10. Is water pumped from KDRPP guaranteed to be delivered to Roza and/or the prorationable entities on a bucket-for-bucket basis? Is there additional incidental carriage water that will be required to meet that basis for delivery? If so what is the volume of that water for deliveries both above and below Parker? What impact does of this have on TWSA? 11

Page 4-18 Table 4-4 Water Supply Summary of Impact: The table indicates that all action alternatives will provide a change in proration of 4 additional years 70% proration reached; 2 years proration dropped below 70%; and up to 22% improvement in proration levels. Does prorating improve for only those districts that buy into KDRPP? What assumptions are used to determine who is benefitting?

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11. **Page 4-19 All Action Alternatives:** “When Kachess Reservoir is refilling after a drought under all action alternatives there is a potential for a slight reduction (2 to 4 percent) in water supply for proratable irrigation districts. In 2 of the 90 years modeled, the water supply was reduced slightly below 70 percent during refill (to 66 to 68 percent).” Any reduction in water supply for proratable entities is unacceptable. Please explain in detail why this water supply reduction occurs, and how the impact to the proratable entities will be mitigated.

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12. **Page 4-22 Alternative 2:** Same as 4-19.

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13. **Page 4-25 Kachess Reservoir:** “Based on the modeling completed, under Alternative 2, the pool elevation in Kachess Reservoir would be below the outlet elevation of 2,192.75 feet in 34 out of 90 years modeled and for a mean duration of 183 days during these years. Current reservoir operations do not draw the reservoir below the outlet elevation.” Please explain the operating and pumping plan to provide flows out of a drawn down Kachess Reservoir to other basin water uses when the elevation is below the outlet elevation of 2,192.75 feet.

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14. **Page 4-25 and 4-26, Alternative 2, including Figure 4-3:** “Figure 4-3 illustrates the difference in Kachess Reservoir levels between Alternatives 1 and 2 from November 1991 to October 2009, which includes drought, refill, and normal years. During multiyear drought conditions such as those in 1992 to 1994, Reclamation would draw the reservoir down as much as 80 feet below the existing outlet elevation. Following a multiyear drought comparable to that of 1992 to 1994, reservoir levels would recover to normal operating levels 2 years later when followed by a wet year such as 1996. In a single-year drought, such as occurred in 2001, the reservoir would be drawn down to 50 feet below the existing outlet elevation. Full recovery would not have been achieved until 2008, because of a series of dry years (2003 and 2004) and a subsequent drought (in 2005). During the 2005 drought year, the reservoir level would be 40 feet below the existing outlet elevation. The historical record of droughts indicates Kachess Reservoir would refill in 2 to 5 years following a drought.” It is concerning that refill after a drought would take 2 to 5 years, and in the case of the 2001 drought, 7 years. Please explain in detail, river operations and Roza operations that would occur during the refill years (e.g. 1995, 1996, 2002, 2003, 2004, 2006, and 2007). Please explain, in detail, how

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river operations and Roza operations would impact carry-over storage and TWSA, and what plans are in place to mitigate other water users for negative impacts.

15. **Page 4-29 Keechelus Reservoir:** “Keechelus Reservoir levels under Alternative 2 would be lower than those under Alternative 1 because Reclamation would release more water from Keechelus Reservoir after a drought to refill Kachess Reservoir as quickly as possible (this is independent of whether KKC is constructed). Simulations indicate that Keechelus Reservoir levels would be lower than those of Alternative 1 in 44 out of 90 modeled years and for a mean duration of 225 days during those years.” Please elaborate on how the system is operated in post-drought years, and why it appears that more water is being spilled from Keechelus to help meet downstream demands and to help refill Kachess by reducing releases from Kachess that would have occurred under Alternative 1. Please explain how lower water levels in Keechelus Reservoir would impact TWSA, and what mitigation is proposed to offset reduced water supply for proratable entities.

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16. **Page 4-37, Table 4-20 Rimrock Reservoir:** Please elaborate on how, in a median prorated year, that the annual minimum pool elevation of Rimrock Reservoir would decrease by 61 feet in Alternative 2 compared to the no action scenario. Please explain how system operations would require Rimrock Reservoir to be operated in this manner, and what impacts would occur to all water users. Explain how this table differs from the narrative on page 4-35, which states that “Rimrock Reservoir minimum pool elevations would be up to 9 feet higher in prorated years and up to 3 feet higher in refill years.”

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17. **Page 4-40 and Appendix E, Figure E-4, Alternative 2:** “The small change in streamflow downstream from Parker gage on the Yakima River would occur as Kachess Reservoir refills after a drought. The change would occur in winter and spring.” Flows over Parker Gage prior to storage control, and particularly flood flows in winter and spring that immerse the floodplain areas in the Wapato Reach are an important contributor to water supplies in the lower Yakima River in the summertime when flows over Parker are at target. These flows contribute to the lower river water supply, and should be mitigated. Please explain, in detail, how impacts to water supplies due to these lower flows over Parker gage in the winter and spring will be mitigated.

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18. **Page 4-50 Alternative 5A:** “When Kachess Reservoir is refilling after a drought year there is the potential for a slight reduction (1 to 4 percent) in water supply for proratable irrigation districts. In two of the 90 years modeled, the water supply was reduced slightly below 70 percent (to 66 to 69 percent) for Alternative 5A.” Any reduction in water supply for proratable entities is unacceptable. Please explain how this reduction in water supply for the proratable entities will be mitigated.

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19. **Page 4-51 and 4-52, Alternative 5A, including Table 4-38 and Figure 4-5:** “Table 4-38 and Figure 4-5 summarize modeled Kachess Reservoir levels under Alternative 5A. Both the degree of drawdown and the time elapsed from drawdown to full refill would vary, depending on the degree, duration, and frequency of drought. For example, during a multiyear drought similar to that of 1992 to 1994, the reservoir level would eventually be drawn down to 80 feet below the existing minimum pool level, with recovery 2 years later, if the second year of refill was a wet year, as was the case in 1996. In a single-year drought such as 2001, the reservoir would be drawn down to 40 feet below existing minimum pool levels, with full recovery delayed by a second drought (as modeled, in 2005) and not achieved until a wet year (2006, as modeled). During the second drought year (2005, as modeled), the reservoir level would be 40 feet below the existing minimum pool level.” It is concerning that refill after a drought even with KKC included would take 2 years after the 1994 drought, and in the case of the 2001 drought, 6 years. Please explain in detail, river operations and Roza operations that would occur during the refill years (e.g. 1995, 1996, 2002, 2003, 2004, and 2006). Please explain, in detail, how river operations and Roza operations would impact carry-over storage and TWSA, and what plans are in place to mitigate other water users for negative impacts.

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20. **Page 4-56, 4-57 and 4-58, Keechelus Reservoir, Tables 4-43 and 4-44 and Figure 4-6:** “Under Alternative 5A Keechelus Reservoir levels would be lower following a drought than under Alternative 1 because more water would be withdrawn in the first 2 or 3 post-drought years to allow the fastest possible refilling of Kachess Reservoir. As shown in Table 4-43 and Figure 4-6, the peak water levels in Keechelus Reservoir would be reduced by 10 to 25 feet and the lowest level reduced by as much as 15 feet during the post-drought refilling years. Keechelus Reservoir levels would still be within its current operating range.” As we understand it, the whole concept behind KKC was that Keechelus Reservoir typically received more runoff than the reservoir could hold (a refill ratio of 1.5:1), while Kachess Reservoir had more storage available than runoff typically available (a refill ratio of 0.9:1). KKC would take excess flows that could not be stored in Keechelus and would use them to help refill Kachess. Please elaborate on how the system is operated in post-drought years, and why it appears that water is being spilled from Keechelus to help refill Kachess, lowering the level of Keechelus in the process. Please explain how lower water levels in Keechelus Reservoir would impact TWSA, and what mitigation is proposed to offset reduced water supply for proratable entities.

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21. **Page 4-73 and Table 4-68, Yakima River Flow at Parker, Alternative 5A:** “A small decrease in streamflow downstream of Parker gage on the Yakima River would occur as Kachess reservoir refills after a drought. The change would occur during winter and spring, when flows in the Yakima River are high relative to summer months. The overall reduction in streamflow from Parker gage downstream would be about 1 percent. The

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change in streamflow downstream of Parker gage is summarized in Table 4-68.” As addressed above, flows over Parker Gage prior to storage control, and particularly flood flows in winter and spring that immerse the floodplain areas in the Wapato Reach are an important contributor to water supplies in the lower Yakima River in the summertime when flows over Parker are at target. These flows contribute to the lower river water supply, and should be mitigated. Please explain, in detail, how impacts to water supplies due to these lower flows over Parker gage in the winter and spring will be mitigated.

22. **Page 4-74 and 4-75, Table 4-69 and Table 4-70, Parker Flow, Alternative 5A:** “Flows in the Wapato Reach (at Parker) under Alternative 5A would be within 1.6 percent of Alternative 1 flow exceedances for all seasons. Summer median and high flows would be higher while other flows would be slightly lower. Modeled seasonal flows are tabulated in Table 4-69. Wapato Reach (Parker) low-flow exceedances during nonprorated years would be higher by 9 percent or 37 cfs under Alternative 5A compared with Alternative 1. During prorated years, median flows would increase by 7 percent or 71 cfs under Alternative 5A compared with Alternative 1. During refill years, high flows would decrease by 5 percent or 239 cfs under Alternative 5A compared to Alternative 1. Modeled Wapato Reach (Parker) flows for the types of years are tabulated in Table 4-70.” As addressed above, flows over Parker Gage prior to storage control, and particularly flood flows in winter and spring that immerse the floodplain areas in the Wapato Reach are an important contributor to water supplies in the lower Yakima River in the summertime when flows over Parker are at target. These flows contribute to the lower river water supply, and should be mitigated. Also, please explain how summer median and high flows over Parker would be higher under this alternative. Please explain how median flows over Parker would increase by 7 percent over no action alternative in prorated years.

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23. **Page 4-77, Mitigation Measures:** “Implementation of Alternatives 2 through 5 would have a positive impact on water supply, which is consistent with the goals of the Proposed Action. Instream flows would remain within current operations, so no mitigation would be needed.” This statement appears to only be true if considering water supply for those entities that take excess water from KDRPP, which at this point may only be Roza Irrigation District. However, other districts that do not participate in KDRPP are at risk of reduced water supplies, as stated on page 4-19 and 4-50 of this SDEIS. Furthermore, in refill years, the SDEIS shows on Figure 4-3 and Figure 4-6 that periods will occur where water levels will fall below the existing pool level of Kachess Reservoir (elev. 2192.75), which indicates that KDRPP will need to be utilized to pump water from the lake to meet the needs of all downstream water users, even in non-drought years (see years 2002 and 2003, for example). It is unacceptable that the SDEIS does not address these issues, and does not provide a detail operating plan for KDRPP and Roza

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that shows exactly where the water is going and how it is being managed, especially in refill years. Mitigation to ensure no harm to water supplies for other water users must be part of the discussion of KDRPP, and should be addressed in the SDEIS. Please explain, in detail, the operating plan for KDRPP and Roza that includes water management in refill years, and the proposed mitigation to ensure no harm to water supplies for other water users.

24. KID is referenced in the Executive Summary of the SDEIS as “may also participate,” however, Section 4.3.1 Methods and Impact Indicators bullet 3 on page 4-17 states “deliveries to proratable water users along the Yakima and Naches rivers who agree to participate in KDRPP, assumed for the EIS to be KR D, Roza, and WIP.” However, KID received a letter from BOR and Ecology dated June 7, 2016 asking KID to check a box that indicated if KID will or will not participate in KDRPP. KID responded to the letter in a timely fashion, checking the “will participate” box, with additional comments that final participation in KDRPP is contingent upon the results of ongoing studies including the KDRPP SDEIS. Subsequently, KID participated in bi-weekly KDRPP update meetings as if participating in the project, while expecting to have the impacts of participating in KDRPP disclosed in the SDEIS document, which unfortunately did not occur. If KID elects to participate in one of the action alternatives, potential impacts will not have been considered due to this omission. This oversight in the SDEIS document has left it unclear to us to what level each entity is participating in the action alternatives. Please provide additional information for each participating entity (proratable entities) specific to instream flow impacts and increased diversions. In addition, if KID were to participate, what volume of water could KID expect to be available for delivery in each drought scenario?

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25. Please provide daily flow data in the Wapato Reach.

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### III. Deficiencies in DSEIS Analysis

The following comments identify deficiencies in the SDEIS related to disclosure of potential adverse environmental impacts. The Washington Supreme Court, reaffirming the relevance of NEPA case law, consistently has emphasized that SEPA states even stronger environmental protection policies than NEPA. *ASARCO Inc. v. Air Quality Coalition*, 92 Wn.2d 685, 709, 601 P.2d 501 (1979); *Leschi Improvement Council v. Washington State Highway Comm’n*, 84 Wn.2d 271, 280, 525 P.2d 774 (1974). The identification, analysis and disclosure of potential environmental impacts must occur at the earliest stage in the SEPA process. See *Barrie v. Kitsap County*, 93 Wn.2d 843, 613 P.2d 1148 (1980). If information is lacking and cannot be obtained, and agency must disclose that fact and explain why it cannot be readily obtained. WAC 197-11-080(1). The failure to adequately disclose the significant environmental impacts of a proposal renders an EIS inadequate.

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A. The SDEIS Improperly Defers the Analysis and Full Disclosure of Environmental Impacts to the Mitigation Phase.

SEPA is an action-forcing statute that demands a rigorous and full disclosure of potential adverse environmental impacts of a proposal. *See* RCW 43.21C.010. By contrast, the SDEIS improperly defers the initial study and disclosure of certain elements of the environment, including earth, water resources and wildlife, to *after issuance of the SEIS* to determine whether potential significant adverse impacts may occur. For example, the SDEIS' lack of adequate treatment of potential significant adverse impacts to wetlands and wetland buffers is particularly evident. The SDEIS improperly defers the study and disclosure of direct impacts to wetlands to the permitting stage alone. SDEIS at 4-149. While some modeling results are indicated, the SDEIS states "[e]stimated impacts on wetlands are not based on formal wetland delineations or functional assessment; thus, the actual extent of wetlands may vary once on-the-ground studies are conducted." The document does not disclose why wetland reconnaissance-level, or similar field information, cannot be obtained for purposes of this disclosure. *See* WAC 197-11-080(1).

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B. The SDEIS is Based on Incomplete or Inadequate Modeling Information.

Through thorough review of the modeling of the lower Yakima River that BOR has been conducting over the past couple of years, it was identified that certain assumptions were being built into the modeling that were incorrect. One such assumption was that fifty percent of the water being diverted by Roza Irrigation District from KDRPP and other drought relief sources would be returned to the Yakima River as return flows. Through discussions with the Roza manager it was found that this assumption is not correct, as Roza would in fact be returning very little water to the river as operational spill in drought conditions where they would be utilizing water developed through the various Integrated Plan projects to elevate their supply to seventy percent. As a result, this erroneous assumption has been removed from the modeling for the Integrated Plan, and the model has been updated to reflect accurately how Roza and other IP participants will be managing water supplies. As of now BOR has not shared the most recent modeling results, and the subsequent potential impacts related to climate change scenarios. This latest update to the model is not included in the SDEIS analysis, as it was stated at the June 21<sup>st</sup> meeting that the modeling used for the SDEIS is stand alone.

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Through review of this SDEIS document, it is evident that the erroneous assumption that Roza would return fifty percent of its additional drought relief diversions from KDRPP back to the river remains in the modeling used in the SDEIS. This erroneous assumption likely explains why the SDEIS claims on pages 4-74 and 4-75 that summer median and high flows over Parker would be higher under this alternative, and median flows over Parker would increase by 7 percent over no action alternative in prorated years. It is crucial that the modeling on which the information given in the SDEIS is based upon is complete and adequate enough to analyze the environmental and operational impacts of the KDRPP and KKC projects. Incorrect assumptions should be removed from the modeling to give impacted parties assurances that the information

July 10, 2018

Page 9

provided in the SDEIS is accurate and adequate enough to evaluate and disclose the potential impacts on water supply and basin hydrology that could occur from the action alternatives. Although it is unlikely that the change in modeling will show an adverse impact to the Wapato Reach during a proration year while KDRPP is operating, the current analysis shows a negative effect to water supplies during refill years and it is likely with updated modeling that this negative effect would still be present. It is imperative that accurate modeling is reflected so as to provide assurance that no negative impacts to water supplies occurs without adequate mitigation.

30

The KID thanks BOR and Ecology for the opportunity to submit comments on the SDEIS. KID would welcome the opportunity to meet with BOR and Ecology as early and as frequently as possible to address the above-referenced comments prior to finalization of the Supplemental Final Environmental Impact Statement (SFEIS).

Please contact Charles Freeman, Manager, KID, at (509) 586-6012, to arrange a mutually convenient time to meet on these critical regional water supply issues.

Yours Truly,

FOSTER PEPPER PLLC



P. Stephen DiJulio  
Joseph Brogan  
Counsel for Kennewick Irrigation District

cc: Hon. Governor Jay Inslee  
Hon. Senator Maria Cantwell  
Hon. Senator Patty Murray  
Hon. Rep. Dan Newhouse  
KID Board  
KID Manager



# EXHIBIT A

# RECLAMATION

*Managing Water in the West*



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

CCA-1121  
PRJ-3.00

JUN 7 2016

Mr. Chuck Freeman, Manager  
Kennewick Irrigation District  
P.O. Box 6900  
Kennewick, WA 99336

Subject: Invitation to Participate – Kachess Drought Relief Pumping Plant (KDRPP)

Dear Mr. Freeman:

As sponsors of the Yakima River Basin Integrated Water Resource Management Plan (Integrated Plan), the Bureau of Reclamation and the Washington State Department of Ecology (Ecology) are joint-leads in preparing a supplemental draft environmental impact statement (SDEIS) to continue to evaluate KDRPP as a component of the Integrated Plan.

Reclamation and Ecology are requesting formal notification of your intent to participate on KDRPP for advancement as a component of the larger Integrated Plan, contingent on results of ongoing studies and environmental analyses. Intent to participate does not denote a financial obligation at this time, however details of specific schedules and cost will be defined as the project proceeds. In the future, owners/operators of the KDRPP facility will determine the future involvement of those districts not willing to state at this time an intent to participate.

The proposed KDRPP project would allow participating districts to access up to 200,000 acre feet of currently inaccessible stored water in Kachess Reservoir below existing outlet works and to utilize this water to improve water supply for proratable users during periods of drought. The KDRPP project may be operated to allow participating districts to call on that stored water, but will not provide more than 70 percent of a proratable water supply entitlement as defined in S.2012 Energy Policy Modernization Act of 2016 (see enclosed SEC. 10325. Authorization of Phase III of Yakima River Basin Water Enhancement Project).

Please mark the appropriate box below and return by Monday, June 27, 2016.

- Kennewick Irrigation District **will not** participate in KDRPP.
- Kennewick Irrigation District **will** participate in KDRPP as defined in draft YRBWEP Phase III legislation. Details TBD.

Please provide any additional comments here: *See attached*

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**Please respond to:** Ms. Teresa Merriman, Project Manager  
Bureau of Reclamation  
1917 Marsh Road  
Yakima, WA 98901-2058  
509-575-5848, extension 262 (voicemail); 509-454-5650 (fax);  
[tmerriman@usbr.gov](mailto:tmerriman@usbr.gov) (email)

Thank you very much for your assistance. We appreciate your interest and look forward to hearing from you.

Sincerely,



Dawn A. Wiedmeier  
Area Manager  
Columbia-Cascades Area Office  
Bureau of Reclamation

G. Thomas Tebb  
Director  
Office of Columbia River  
Washington Department of Ecology

Enclosure

Identical letter sent to persons on next page.

Additional Comments:

KID participation in KDRPP is contingent upon the results of ongoing studies, including but not limited to the lower Yakima River modeling, the KDRPP SEIS, and other ongoing and future studies and legal analyses that will help KID to determine the best and most feasible projects to protect and mitigate the district's water supplies. Many questions remain unanswered regarding KID's use of called upon storage to supplement diminished return flow based water supplies during water short years.



K2KConvey, BOR UCA <sha-uca-k2kconvey@usbr.gov>

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**[EXTERNAL] Kittitas County Comment Letter on Kachess Drought Relief Pumping Plant & Keechelus Reservoir to Kachess Reservoir Conveyance Supplemental Draft EIS Response**

1 message

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**Mandy Buchholz** <Mandy.Buchholz@co.kittitas.wa.us>  
To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Tue, Jul 10, 2018 at 4:48 PM

Hello!

Please find attached the Comments the Board of County Commissioners Signed today during a Regular Meeting.

Thank you!

*Mandy Buchholz, CMC*

**Deputy Clerk of the Board II | Kittitas County Commissioners Office**

**205 West Fifth Street Suite #108**

**Ellensburg, WA 98926**

**509-962-7508 (Office)**

**509-962-7679 (Fax)**

**<http://www.co.kittitas.wa.us/>**




**“Try to be a Rainbow in Someone’s Cloud” ~ Maya Angelou**

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Notice: Email sent to Kittitas County may be subject to public disclosure as required by law.  
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Kittitas County, Washington

**BOARD OF COUNTY COMMISSIONERS**

District One  
Cory Wright

District Two  
Laura Osiadacz

District Three  
Obie O'Brien

July 9, 2018

Ms. Candace McKinley  
Environmental Program Manager  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

**RE: Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement Response**

Dear Ms. McKinley:

Kittitas County Board of Commissioners (BOCC) has commented previously on the Draft Environmental Impact Statement in 2015. Those comments are still valid in that there has been no response to issues raised. In addition, we have new concerns with the SDEIS. We are also on record in full support of the Yakima Basin Integrated Plan. The position in the past and restated here is that the elements of the plan need to work together in order to gain the order of magnitude needed to address the water and environmental issues in our common future.

The selection of the Kachess Floating Pumping Plant as the preferred alternative is less than ideal. Within that selection are multiple applications to be considered. Where is the inlet and outflow to be located? Who will benefit and at what contribution levels? Statements that Rosa Irrigation District will bear the entire cost and gain all the benefit of the water does not address the needs of Kittitas County, yet the impacts of the pump down will be felt by Kittitas residents and the visitors from all over Washington who recreate around Kachess reservoir. Additionally in following years after a pump down the reservoir will take time to refill. That may affect water availability for local farmers. Again the entire YBIP that includes the KKC for refill of Kachess is needed to avoid creating one problem while addressing another. When each element of the YBIP is viewed individually they all fall short by the economics or effectiveness of the proposal. However, when taken as a whole the plan can work to address the need for changes in storage and disposition of water as our climate models indicate that more precipitation may be coming to the Cascades and the Yakima River Basin, but in the form of warmer rain and less snow pack than what we rely upon now.

Many of the citizens of the Kachess Reservoir (Lake) have been sending their concerns to us at the BOCC. We do not have authority in this decision and so we submit our comments and recognize theirs in this reply.

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4

The impact of a pump down of an additional 80 feet is called out in this report by noting that “there may be negative impacts on the quality and quantity of domestic wells in the area”. The stated response is that “a selection of wells will be monitored and mitigated as needed”. No one knows whose well will be monitored or what will the mitigations entail. We suggest that All Wells in the area be proactively mitigated by drilling them to a depth that will insure continued access to potable water as is required by Public Health. These mitigations should be completed before the pumping plant is activated.

5

The local Fire District (FD4) has concerns that when the water level is drawn down an additional 80 feet there will be no ability to draw water for active fire suppression. A mitigation for the Fire District could be adding a well or storage tank of sufficient volume that will address fire suppression needs. Other options may exist but will it be the role of DOE or Rosa to fulfil the mitigations? A better definition of mitigation and timing for a proactive program is needed.

6

During construction and primary operation of a pumping plant very heavy materials will need to be transported to the site on Kittitas County roads. Our roads in the area are not built to carry that level of service and will sustain serious damage. Will proactive mitigation compensate for upgrading the roads in the area? Will the roads need to be improved to a much higher carrying capacity before construction begins?

7

When the pumping plant is operating there is concern that diesel generators will be needed to power the electric pumps. The noise of generators cannot be controlled to the point that the surrounding residents anywhere on the lake will not be inundated. The better plan would be to upgrade the electrical service to the pump site so as to remove the need for diesel generators entirely. The pump noises will be difficult to control. Therefore a better option is to place the pumps on land so that buildings can attempt to control the sound levels.

8

Concern has been raised that once pumping starts it will continue. How long will this scenario play? The SDEIS mentions that the start is triggered by notice that the irrigators will receive less than 70% their allotment. Will the pump start at the notice or when curtailment is to begin? What is the cutoff? Will environmental health of the area be considered equally as the needs of Rosa irrigators?

9

Agriculture in Kittitas County affects almost every resident who lives here. Many family members of farmers work “in Town”. Many businesses provide services to farmers, shippers, and partners of our agricultural community. Water is required to continue to operate in all parts of the Yakima River Basin.

Millions of dollars have been invested in restoring the wetlands, spawning beds, and removal of fish barriers to meet the obligations signed into treaty rights with the Yakama Nation and Ten Confederated Tribes. The Bull Trout, already listed as threatened, that live in the waters of the Kachess will be further harmed with a deep drawdown. The SDEIS suggests a mitigation plan to cut a 25 foot channel to assist the Bull Trout but with an 80 foot draw down, the difference of 55 feet is unlikely to be mitigated enough.

10



The preceding are some of the concerns of the Kittitas Board of County Commissioners and what we have been hearing from our constituents. Included below is the comment on the 2015 Draft DEIS.

Thank you again for the opportunity to provide comments on the SDEIS. We hope you find our comments helpful and we look forward to working collaboratively to achieve the goals of the KKFP, KKC, and the overall YBIP. Please feel free to contact us if you have any questions.

Respectfully Submitted,



Laura Osiadacz  
Chairman



Obie O'Brien  
Vice-Chairman



Cory Wright  
Commissioner



K2KConvey , BOR UCA <sha-uca-k2kconvey@usbr .gov >

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[EXTERNAL] KDRPP/KKC SDEIS comment

1 message

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Clancy Flynn <cflynn@columbiairrigation.com>  
To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Wed, Jul 11, 2018 at 9:02 AM

Candace,

Please consider the attached document as CID's comment on the KDRPP/KKC SDEIS.

Thank you,

Clancy Flynn, District Manager

Columbia Irrigation District

10 E Kennewick Ave

Kennewick, WA 99336

Phone: 586-6118

Fax: 586-0485

[www.columbiairrigation.com](http://www.columbiairrigation.com)



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# COLUMBIA IRRIGATION DISTRICT

10 EAST KENNEWICK AVENUE KENNEWICK, WASHINGTON 99336

OFFICE: (509) 586-6118 FAX (509) 586-0485

WWW.COLUMBIARRIGATION.COM

11 July 2018

Ms. Candace McKinley  
Environmental Program Manager  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901-2058

Dear Ms. McKinley,

Columbia Irrigation District (CID) would like to respectfully provide comment on the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement (SDEIS).

In principle CID supports any project that will conserve water or mitigate the effects of droughts within the Yakima River basin. CID would like the entire river system to be protected and made sustainable for all water users in perpetuity and welcomes ideas to that end from all parties that have a stake in the system. CID has a senior, non-proratable, water right and it is the last major diversion from the Yakima River. Therefore, any change to the flows upstream are of major concern to our operations because even though there are target flows in place to help us meet our instantaneous entitlement we have previously been impacted negatively during short water scenarios.

CID has concerns that, even though this project on paper might be viewed as having no impact to our water right because of target flows and our senior water right status, changes will make it operationally difficult to deliver full allotment to our users. In 2015, a short water year, CID had to take actions to install flashing boards to the dam, acquire permits and hire a contractor to clear a channel to our diversion. Even with all these actions CID still did not receive our full instantaneous entitlement even

though the target flows were achieved under the current TWSA calculations. Please respond to the following concerns:

- 1) How will TWSA be calculated in refill years?
- 2) Are the USBR and Washington State Dept. of Ecology prepared to offer CID any form of mitigation to respond to negative impacts, foreseen and unforeseen, this project may have on CID and its patrons? If so, what specifically will be done?

CID welcomes meetings for further discussions with USBR and Ecology regarding the SDEIS and our comments. Thank you for the opportunity to comment on this matter. Please contact me to arrange a time to discuss this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Clancy Flynn', is written over the printed name.

Clancy Flynn, District Manager

Columbia Irrigation District

10 E Kennewick Ave

Kennewick, WA 99336

Phone: 586-6118

Fax: 586-0485

[cflynn@columbiairrigation.com](mailto:cflynn@columbiairrigation.com)



K2KConvey , BOR UCA <sha-uca-k2kconvey@usbr .gov >

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## [EXTERNAL] KDRPP/KKC Projects SDEIS

1 message

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Prilucik, Jacob <PrilucJ@wsdot.wa.gov>  
To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Wed, Jul 11, 2018 at 8:16 AM


Candace,

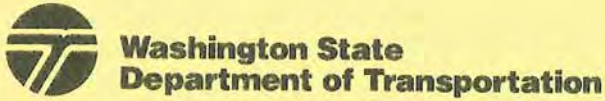
Our comment letter regarding the above-mentioned proposal is attached and a hard copy is in the US Mail. Let me know if you have any questions, thanks.

**Jacob Prilucik**

(509) 577-1635 – prilucj@wsdot.wa.gov

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South Central Region  
2809 Rudkin Road  
Union Gap, WA 98903-1648  
509-577-1600 / FAX: 509-577-1603  
TTY: 1-800-833-6388  
www.wsdot.wa.gov

July 10, 2018

Bureau of Reclamation  
Columbia-Cascades Area Office  
1817 Marsh Road  
Yakima, WA 98901-2058

Attention: Candace McKinley, Environmental Program Manager

Subject: (KDRPP/KKC) Projects SDEIS  
Kittitas and Yakima Counties, Washington

We have reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir-to-Kachess Reservoir Conveyance (KKC) projects. We originally commented on the Draft Environmental Impact Statement (DEIS) in our letter to the Bureau of Reclamation dated March 10, 2015. Those comments remain valid.

Thank you for the opportunity to review and comment on this proposal. If you have any questions regarding our comments, please contact Jacob Prilucik at (509) 577-1635.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul Gonseth".

Paul Gonseth, P.E.  
Planning Engineer

PG: jjp

cc: SR 90, File #1 (2015)  
Harry Nelson, Area 1 Maintenance Superintendent  
Brian White, Assistant Regional Administrator  
Andrew Byrd, Region Project Engineer  
Jamil Anabtawi, Region Utilities Engineer  
Bill Sauriol, Region Environmental Program Manager



Dera, Karen <kdera@usbr.gov>

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## Fwd: [EXTERNAL] EPA Comments on the DSEIS for Ka

1 message

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**McKinley, Candace** <cmckinley@usbr.gov>

Wed, Jul 11, 2018 at 4:17 PM

To: Deborah Van Meter <dvanmeter@usbr.gov>, Julia Long <jlong@usbr.gov>, Gwendolyn Christensen <gchristensen@usbr.gov>, "Dera, Karen" <kdera@usbr.gov>

----- Forwarded message -----

From: **Mbabaliye, Theogene** <Mbabaliye.Theogene@epa.gov>

Date: Wed, Jul 11, 2018 at 3:48 PM

Subject: [EXTERNAL] EPA Comments on the DSEIS for Ka

To: "McKinley, Candace" <cmckinley@usbr.gov>

Candace,

Attached please find the EPA comments on your DSEIS for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Projects. A hard copy of the same comments is being sent to your Office in Yakima under separate cover using the US Postal Service and should arrive soon. In the meantime, please let us know if you have questions about our comments for assistance.

Again, thank you for the opportunity to review your SDEIS and look forward to reviewing the final EIS for the projects when available.

Theo Mbabaliye, Ph.D.  
US EPA Region 10  
1200 6th Ave., Suite 155, OERA-140

Seattle, WA 98101-3140  
Phone: (206) 553-6322

--

Candy McKinley  
Environmental Program Manager  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, WA 98901

509/575-5848 x232  
509/379-0780 cell



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

1200 Sixth Avenue, Suite 155  
Seattle, WA 98101-3140

OFFICE OF  
ENVIRONMENTAL REVIEW  
AND ASSESSMENT

July 11, 2018

Candace McKinley, Environmental Program Manager  
Bureau of Reclamation  
Columbia-Cascades Area Office  
1917 Marsh Road  
Yakima, Washington 98901-2058

Dear Ms. McKinley:

In accordance with Section 309 of the Clean Air Act and the National Environmental Policy Act, the U.S. Environmental Protection Agency has reviewed the Bureau of Reclamation's Draft Supplemental Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Projects (EPA Project Number: 13-0036-BOR/CEQ No. 20180063) in Kittitas and Yakima Counties, Washington.

The DSEIS evaluates potential environmental impacts associated with activities to construct, operate and maintain the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance projects. After the initial analysis of these projects in the 2015 Draft EIS, new circumstances and information led to the decision to analyze the projects further and disclose the most current environmental impacts. We note the supplemental analyses propose a floating pumping plant alternative for the KDRPP and a northern route for the KKC, evaluated as a component of the KDRPP. The DSEIS, similar to the DEIS, does not identify a preferred alternative.

The EPA continues to support the overall goals of the proposed projects to provide more reliable and sustainable water resources for uses in the Yakima River basin, while protecting the other environmental resources in this area. We are pleased to note that coordination with the other resource management agencies and tribes affected by the projects continues, and we support this effort due to the various agency roles in assisting with a range of issues analyzed in the SDEIS.

We believe the proposed Floating Pumping Plant alternative analyzed in the SDEIS can minimize the projects' environmental impacts. This alternative would require the least ground disturbance (i.e., 9 acres as opposed to 65 acres under the other alternatives) and allow for support facilities to be located within already impacted areas. One of this alternative's components, 5c, would involve minimal ground disturbance as well (21 acres, significantly less than the other options estimated to disturb up to 77 acres). In addition, we appreciate the inclusion of information in the SDEIS on seismic and slope stability risks and information on the mitigation measures to be taken to reduce impacts.


Because the anticipated construction and operation activities under the other alternatives analyzed in this SDEIS are similar to those presented in the DEIS, we recommend referring to our March 10, 2015 comments on the DEIS for information regarding the issues that we believe are important to address in the NEPA analysis for these proposed projects. We understand the Final EIS will include responses to our comments on both the DEIS and SDEIS, and we recommend the Final EIS also include the preferred alternative.

Based on our review of the SDEIS, we have no objections to the additional alternative proposed and have assigned a rating of a Lack of Objections (LO) to the SDEIS. An explanation of this rating is attached for your reference.

3

Thank you for the opportunity to review this SDEIS. We look forward to reviewing the Final EIS when available. If you have questions about our comments, please contact Theo Mbabaliye of my staff at (206) 553-6322 or by electronic mail at [mbabaliye.theogene@epa.gov](mailto:mbabaliye.theogene@epa.gov), or contact me at (206) 553-1841 or by electronic mail at [nogi.jill@epa.gov](mailto:nogi.jill@epa.gov).

Sincerely,



Jill A. Nogi, Manager  
Environmental Review and Sediment Management Unit

Enclosure:

1. US Environmental Protection Agency Rating System For Draft Environmental Impact Statements

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

Environmental Impact of the Action

**LO – Lack of Objections**

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

**EC – Environmental Concerns**

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

**EO – Environmental Objections**

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

**EU – Environmentally Unsatisfactory**

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

Adequacy of the Impact Statement

**Category 1 – Adequate**

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

**Category 2 – Insufficient Information**

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

**Category 3 – Inadequate**

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

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



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## [EXTERNAL] Kachess Drought Relief Pumping Plant SDEIS Comments

1 message

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**HPOA-Board HyakHomeOwnersAssociationBoard**  
<HPOABoard@hotmail.com>  
To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Wed, Jul 11, 2018 at 1:01  
PM

Dear Ms. McKinley:

On behalf of the Hyak Property Owners Association Board of Directors please accept the attached comment letter on the Kachess Drought Relief Pumping Plant SDEIS into the record.

1

Regards,  
James Sammet  
HPOA Board of Directors Member  
425-999-2953

---

 **DRPP SDEIS Comment Letter\_ HPOA\_07.11.2018.pdf**  
598K



Submitted via email to [kkbt@usbr.gov](mailto:kkbt@usbr.gov)

Ms. Candace McKinley  
Environmental Program Manager  
Bureau of Reclamation / Columbia-Cascades Area Office  
1917 March Road  
Yakima, WA 98901-2058

**RE: Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir to Kachess Reservoir Conveyance (KKC) Supplemental Draft Environmental Impact Statement (SDEIS)**

Dear Ms. McKinley:

Please accept these comments/questions regarding the KDRPP SDEIS on behalf of the Board of Directors of the Hyak Home Owners Association (HPOA Board). The HPOA Board represents the home owners association for Hyak Estates located at the base of the Hyak Ski Area at Snoqualmie Pass. The HPOA Board represents an association of over 300 property owners within Hyak Estates. The HPOA Board and the residents of Hyak Estates have a direct interest in the KDRPP and KKC projects and the subject SDEIS and have previously provided comment on the 2015 DEIS.

2

**2018 SDEIS Comments:**

1. Alternatives: The HPOA Board only supports Alternative 1, "No Action" and opposes all other active alternatives presented in the SDEIS.
2. Background of Proposed Action: The SDEIS states that the Yakima Basin Integrated Water Resource Management Plan (Integrated Plan) includes the following components:
  - Reservoir fish passage
  - Structural and operational changes
  - Surface water storage
  - Groundwater storage
  - Habitat/watershed protection and enhancement
  - Enhanced water conservation
  - Market reallocation

3

4

This SDEIS only address the first and second bullet above and ignores all other components of the integrated plan. The structural and operation changes proposed in the stand alone KDRPP project (the proposed action) only access the natural pool of Lake Kachess and does not address the need for additional surface water storage, ground water storage, habitat protection and enhancement and water conservation, and only addresses market



reallocation in terms of the water pumped from the natural pool of the lake that will only benefit the Rosa Irrigation District (ROSA).

- a. Please explain what Reclamation's plan is to address all of the components of the Integrated Plan as the KDRPP relates to each component of the Plan?
3. Reclamation's Purpose and Need: The stated purpose of the SDEIS is to "provide more sustainable water resources for agricultural, municipal, and domestic needs, while also helping to restore ecological functions and the health of the riverine environment in the Yakima River basin". The SDEIS puts forward a plan to drain additional water from the natural pool of Lake Kachess to benefit only ROSA.
- a. How does the proposed floating pump on Lake Kachess improve the health of the riverine environment?
  - b. How does the proposed floating pump on Lake Kachess provide more sustainable water resources for municipal needs if the water removed from the natural pool will be for the sole use of the ROSA?
  - c. How does the proposed floating pump on Lake Kachess provide more sustainable water for domestic needs when the wells surrounding the lake may go dry and the water pumped will only be used for ROSA's purposes?
  - d. What is Reclamation's plan to accurately address items a to d above?
4. Failure to consider all viable alternatives: The DEIS and the SDEIS only consider two alternatives: drain a natural lake to benefit downstream irrigators with junior water rights or don't drain the lake. No other alternatives are considered to meet the irrigation security needs of the ROSA farmers. The EIS process is supposed to consider all alternatives to achieve the purpose and need. This SDEIS does not consider any other viable alternatives such as conservation of existing irrigation resources including mitigation for irrigation system losses due to leakage and evaporation, instituting conservation irrigation systems and crop selection as examples of many possible alternatives. It also does not consider the decreasing snowpack storage within the watershed and ways in which to increase snowpack storage and forest health. There is research being conducted at the University of Washington that suggest with proper forest management practices snow-pack storage can be significantly increased which would benefit water storage within the basin. These types of alternatives must also be considered.
- a. How does the DEIS and SDEIS meet the requirement to consider a range of reasonable alternatives which is required by NEPA?
  - b. What is Reclamations plan for considering all reasonable alternatives?
  - c. What is Reclamation's plan, as required in the NEPA process, to list and provide a full explanation, including data, references, and review procedure for excluding each alternative not considered?



5. SDEIS Proposed Action: The Proposed Action will pump the natural pool of Lake Kachess to 80-ft below the gravity outfall of the dam. This action only takes water from the natural pool and does not consider how to increase surface water storage which is a component of the Integrated Plan. In addition the proposed action no longer includes the KKC project. The 2015 DEIS linked the KDRPP and KKC projects due to the financial analysis and the fact that it would take years to re-fill Lake Kachess without the KKC project. It seems the SDEIS only considers the benefits of the KDRPP in the first year of drought.

13

a. Without the KCC project how does the financial analysis show a benefit in years 2 to 8 while the lake re-fills and the pumping plant has to operate continuously?

It is also a misconception to consider the water below the gravity outfall of the dam to be “in-active storage” because this is the approximate natural lake elevation and should be considered part of the natural habitat. Labeling the natural pool as in-active storage and using the natural pool does not meet the objective of the integrated plan to improve surface water storage – it only takes existing water.

14

b. Please explain how surface water storage is improved in the 2<sup>nd</sup> drought year and beyond if the Lake is unable to be refilled?

15

6. Project Costs: Alternative 4 is the “proposed option” and has a variance of -30% to +50% is difficult to interpret in terms of the stated cost of \$282,000,000 estimate for the KDRPP-FPP. Given the uncertainty surrounding the estimate, it would be far preferable to show the actual estimates in numerical terms including the probability of the variance of achieving these costs should also be stated ; e.g.

|                         |                         |                          |
|-------------------------|-------------------------|--------------------------|
| Low Estimate            | Projected Estimate      | High Estimate            |
| 197,400,000 (z% chance) | 282,000,000 (y% Chance) | 423,000,000 (X % Chance) |

16

The Bull Trout Volitional Passage is stated in the text (Page 2-60) to cost \$23,000,000 (preliminary estimate) but is not included in the above costs but should be as it will be a required element. That would bring the high cost to \$444,000,000.

This does not include the large mitigation costs of private well failure mitigation, campground restoration and mitigation, negative impact on private property values, fire risk hazard increase, fire suppression cost increase, and many others mentioned in the SDEIS. The budget presentation is inadequate, misleading, and incomplete.

a. How will Reclamation adequately address all costs associated with the project?

7. Impact on Campers and recreational users at Lake Kachess The Lake Kachess has over 23,000 annual campground visitors and 11,000 annual boaters that will be negatively affected by pumping down the natural lake without the ability to re-fill the lake for years. On page ES-Xii, the following suggestions are given to address recreational use of the lake “Extend boat ramps at Kachess Reservoir...if feasible, and construct new east shore ramp that would be available at all reservoir levels.

17

a. Under what conditions would extending those ramps be feasible or not feasible?



This should be addressed in the SDEIS as it is an effect on recreation users that cannot be defined unless it is known if existing boat ramps is feasible.

- b. What analysis of the lake geography has been done to suggest is extending any of the ramps for use during a KDRPP-FPP drawdown is truly feasible or not?

17

The Lake within and below the natural pool elevation has very steep banks and it should be determined during the EIS process if in fact this is feasible.

- 8. Increased forest vulnerability and Fire Hazard. The vegetation and wetlands (Page 2-70) and densely forested watershed (Page 3-98) will, according to the SDEIS suffer with reduced water levels in Lake Kachess. This will mean stressed trees and other foliage in a single drought year, and in multiple years of pump operation dead trees due to lack of water and insect vulnerability.

The Snoqualmie Pass Fire and Rescue agency has the primary responsibility for fire and emergency medical services in the Lake Kachess and Lake Keechelus areas. This fire district has repeatedly raised concerns about increased risk due to wildfires, reduced capacity to suppress fires (due to lowering of the lake and removal of a source of water for firefighting), the increased incidence of accidents and injuries due to construction activity, and need for public education and communication strategies necessitated by KDRPP and KKC projects.

This proposal fails to adequately address the added fire risks due to climate change which is reducing snow packs storage which is clearly shown by existing data including WSDOT snowpack data from Snoqualmie Pass. This plan exacerbates that fire risk because it will decrease the health of forests surrounding the Lake and will make water available by pumping for fire suppression almost impossible to retrieve during a full pumping draw-down and from wells going dry. The SDEIS identifies damage to the natural environment that will be caused by the proposed action.

18

If, as a result of a KDRPP draw down and forests die who will be responsible for removing the dead trees to prevent further destruction from wildfires which could end up extending all the way to Snoqualmie Pass?

- 9. Refilling Lake Kachess. The SDEIS states that the KDRPP-FPP is the "proposed action" and Reclamation and Ecology have not identified a "preferred alternative." This represents a major departure from the previous DEIS, which indicated a KKC conveyance project and a KDRPP project must be considered as a "single action and cannot be separated." The logic of that position was that emptying Lake Kachess in an artificial and unprecedented manner, would require a refill mechanism (e.g., KKC).

19

- a. Please explain how the KDRPP-FPP proposed action no longer needs to be linked to the KKC project in order to refill the lake despite no change in the stated goal of the KDRPP to pump 200,000 acre-feet from the natural lake for ROSA?
- b. Please explain how Reclamation can promote the proposed action despite the detailed hydrology that the 2015 DEIS was based on that purposed that the KKC was required as a refill mechanism without which Lake Kachess would like not refill for 20 years?

20





- c. Please explain in detail what changed between 2015 and 2018 that now allows a refill prediction of 2-8 years when the 2015 prediction was 20 years or more? 21
- d. Which report should be relied on? 2015 KKC is required as a part of KDRPP, or 2018 KDRPP doesn't need KKC and will refill 2-4 times faster than previously predicted?
- e. How can the public be expected to make informed comments with such seemingly inconsistent hydrology predictions? Can either report be relied upon? 22

11. Funding: Page ES-viii: The SDEIS states the Bureau of Reclamation will “fund...some or all, or authorize Roza to fund” the KDRPP-FPP. This statement inadequately informs Washington citizens...as well as Roza farmers...of their likely obligations for financial support of the KDRPP-FPP. 23

- a. When will the ultimate source of funding be determined and by whom? 24
- b. If public funds are utilized to benefit a handful of private businesses in a singular water district, will that district be required to repay those funds? 25
- c. If public funds are used for the project, will the public be offered another comment period or another process by which voters can express if they approve of spending half a billion dollars on a water project that benefits only a select group of private interests? 26
- d. How can the public be expected to adequately comment on the SDEIS without knowledge of whether or not public funds will be utilized? 27

17. Mitigation: “Volitional Bull Trout Passage Improvements are proposed as a part of the KDRPP...” This statement and others give the impression that the proposed action will improve passage and habitat for Bull Trout and perhaps even “enhance” the bull trout population. This is an inaccurate depiction of what will be a significant negative impact on the Lake Kachess bull trout population.

The Bull Trout Volitional Passage project is described on Page 2-67, Table 2.9. The “steep slope conditions” between Big Kachess Lake and Little Kachess Lake will occur when the water level is approximately 2,208 elevation and the pumping operation begins. These “steep slope” conditions will occur an additional 6,225 days if KDRPP-FPP is installed, this will mean 34 additional years (out of 90 modeled), and an average of 183 days a year, when Bull Trout Passage will be completely dependent on the Volitional Passage. 28

In some years (e.g., conditions such as occurred between 2001 – 2008) the pumping station will be in continuous operation which will require continual use of the Volitional Passage. Eight years of steep slope conditions, requiring 8 years of Bull Trout dependence on the volitional passage, represents 2-3 spawning cycles which could result in the destruction of the Bull Trout Population in the Lake. No evidence is provided that the Volitional Passage is effective, has been demonstrated in other Bull Trout populations or has completed a “proof of concept” test.

The volitional passage is not included in the budget costs, it cannot be assumed to be part of the project going forward. Another concern is the lack of water flowing into tributaries of Little Kachess Lake, which will be the water needed to charge the volitional passage. The SDEIS states the tributary water disappears at the end of the year...when the water will be 29



needed in the passage. There is no description of the length of the passage (the length and Southern outlet are never described in text, numeric, or schematic terms).

29

- a. In years where streams disappear the Volitional Passage will have to be operated by pumping. Without addressing this the mitigation plan is incomplete. What are Reclamations Plans to address this issue in the proposed mitigations?

The Bull Trout find their way to spawning tributary by a complex but not-well-understood physiology of chemo and geo receptors. This returns them to the spawning tributary, and eventually spawning bed, where they started life. Creating a volitional passage means the Bull Trout will have to find an artificial tributary that did not exist when they were young and locate it several miles from where the "narrows" and "steep shelf" originated their life cycle.

30

The project as proposed will negatively affect and ESA listed species (Bull Trout) and its habitat which is not allowed under law unless all the affects can be mitigated.

- a. What research has been done to suggest the Bull Trout will use the Volitional Passage?

31

- b. How will Reclamation mitigate negative effects on the Bull Trout Population if the Volitional Fish Passage Structure fails to operate as intended?

32

- c. What fraction of the resident endangered Bull Trout population in Lake Kachess is estimated will be killed under the proposed alternative and all the active alternatives? What fraction of loss is allowable under law and the EPA? How will the active alternatives and the proposed alternative meet these legal requirements? How will this be mitigated?

33

18. USFWS Biological Opinion: The USFWS is conducting a Biological Opinion on the existing Yakima watershed with respect to the current operation of existing dams and irrigation districts and is not expected to be published until sometime in the fall of 2018.

- a. Why was the SDEIS prepared and released PRIOR to the USFWS Biological Opinion?

34

- b. Will another SDEIS be issued incorporating the study? How will the Biological Opinion be incorporated in the EIS process and will there be opportunity for additional public comment?

19. Geology & Stability of the Lake Kachees Dam and surrounding steep slopes: The existing dam at Lake Kachess is an earthen structure which may be impacted by long periods of drawdown and the SDEIS discusses the steep terrain under the current water line in some areas and suggests that landslides may occur.

- a. What studies have been done to determine what impact years of low water and drying of the earthen dam will have on its structural integrity?

35

- b. What topography is available of Lake Kachess below the current low water line?

36

- c. What studies have been done to determine areas within the lake that are most susceptible to landslides?

37



- d. How will these potential landslides be mitigated and what impact will they have on the operations of the KDRPP? 38
- e. What impact would landslides have on water quality, public safety and bull trout habitat and population? 39
- f. What is Reclamation's plan for conducting these study and will and additional SDEIS be prepared? 40

20. Negative financial impacts to Kittitas County: The implications of negative impact on private property values go beyond the directly affected citizens. A reduction in property values affects the tax base of the county, including schools and fire departments, and will reduce available resources to provide essential services. This is acknowledged in SDEIS Page 4-326 as follows: *"while effects on property values would most directly affect property owners, the wider community would also experience effects."* In other words, private property owners, fire departments, schools, city and county governments, and others would also be negatively impacted. Also with the Lake drawn down to levels where it becomes unusable or less desirable for recreation there will a decrease in tourist visits to the Lake Kachess campground, a reduction in business in surround communities, and a reduction in sales taxes collected which will further negative impacts to the community and public at large while benefiting ROSA.

41

- a. Please explain how a publically funded project that benefits private land owners and irrigators and negatively affects public funding and hurts local businesses is in the best interest of the Citizens of Kittitas County and the State of Washington?

25. Water Rights: A KDRPP draw down has the probability of resulting in the existing 239,000 acre-ft of water NOT being available in subsequent years for those holding senior water rights.

42

- a. How will those with senior water rights to the existing 239,000 acre-ft of water currently stored by Kachess Dam be mitigated when that water is no longer available once Lake Kachess water level is lowered below the outlet to its dam? 43
- b. How will potable water rights of well owners be addressed if wells go dry?

### Closing Comment:

The HPOA is opposed to allowing a vital public resource to be taken to support and enhance the profits of a limited number of private businesses who have full knowledge of their lands water constraints. Reclamation and Ecology, and our elected officials should be looking for ways to preserve, protect, conserve and enhance limited natural resources rather than taking existing natural resources for a financially and environmentally unsound plan. Millions of dollars of public funds that have already been used to push this project forward that is no in the interest of the public good.

44

Under the NEPA and SEPA processes the HPOA requests that the Bureau of Reclamation and WA Department of Ecology each provide separate responses to the above comments.

45



# HPOA

*Hyak Property Owner's Association*

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The HPOA looks forward to seeing responses to these comments.

Respectfully,

James Sammet  
HPOA Board of Directors Member,  
on behalf of the entire  
HPOA Board of Directions, and HPOA

HPOA  
P.O. Box 120  
Snoqualmie Pass, WA 98068

V-Mail: 425.785.6543  
E-mail: [hpoaboard@hotmail.com](mailto:hpoaboard@hotmail.com)



**PACIFIC NORTHWEST 4-WHEEL-DRIVE ASSOCIATION  
OREGON – WASHINGTON – IDAHO**

Bureau of Reclamation

June 17, 2018

1917 Marsh Road

Yakima, Washington 98901

ATTN: Environmental Program Manager

RE: Kachess and Keechelus Supplement Draft ESI

To Whom It May Concern,

This is in response to your invitation on comments on the Kachess and Keechelus Supplement Draft ESI.

Altho' not directly related to motorized recreation my organization recognizes conservation is an important part of the overall outdoor recreational program.

Through our own education program we feel it is a key ingredient in the recipe for improving land conservation and safety – it stresses the importance of protecting “specific environment and natural resource areas”.

We feel the proposed program will enhance the specific areas and a need to proceed.

Sincerely,

A handwritten signature in cursive script that reads "Arlene Brooks".

Arlene Brooks, WA State Director

Pacific Northwest Four Wheel Drive Association

21520 S.E. 346<sup>th</sup> Street

Auburn, Washington 98092

CC: File



K2KConvey, BOR UCA &lt;sha-uca-k2kconvey@usbr.gov&gt;

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## [EXTERNAL] Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement Public Comment From Kachess Community Association

1 message

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**David Dicks** <daviddicks@me.com>

Wed, Jul 11, 2018 at 11:12 AM

To: kkb@usbr.gov

Cc: Robert Angrisano &lt;rangrisano@gmail.com&gt;

Dear Ms. McKinley,

On behalf of the Kachess Community Association I respectfully submit the following public comments regarding the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement.

1

Thank you for your attention to this important matter,

David Dicks – JD

Tatoosh Law and Policy Group  
318 1st Ave S, Suite 310  
Seattle, Washington 98104

On behalf of:

The Kachess Community Association

---

### 2 attachments

 **Kachess SDEIS Final PDF.pdf**  
546K

 **ATT00001**  
2K

To: (via e-mail)  
Ms. Candace McKinley  
Environmental Program Manager  
Bureau of Reclamation  
Columbia-Cascades Area Office  
191 7 Marsh Road  
Yakima, WA 98901-2058  
Phone: 509-575-5848, ext. 603  
Fax: 509-454-5650  
Email: kkbt@usbr.gov

**Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir  
Conveyance Supplemental Draft Environmental Impact Statement**

Dear Ms. McKinley,

On behalf of the Kachess Community Association I respectfully submit the following public comments regarding the **Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement.**

2

Thank you for your attention to this important matter,

David Dicks – JD

Tatoosh Law and Policy Group  
318 1<sup>st</sup> Ave S, Suite 310  
Seattle, Washington 98104

On behalf of:

The Kachess Community Association

*You can fool all the people some of the time, and some of the people all the time, but you cannot fool all the people all the time. - Abraham Lincoln*

## **Introduction**

Although the new SDEIS is a staggering 906 pages it is hopelessly confused and fails conclusively to comply with the procedural and substantive requirements of NEPA and SEPA. It also proposes a project that indisputably violates the Endangered Species Act.

Specifically, the SDEIS has 8 fatal flaws that will be explained in this comment letter:

- 1. Reclamation and Ecology Should Have Published all Comments and Responses to the 2015 DEIS Before Releasing the 2018 SDEIS**
- 2. The Purpose and Need Section is Internally Contradictory and illegally limits the number of alternatives that are analyzed in the draft. It also inappropriately takes a “public” SDEIS and converts it into “private” proposal by the Roza Irrigation District**
- 3. The Proposed Action is The Only Alternative Other Than the No Action Alternative**
- 4. The Project is Unauthorized by Congress and Ecology Does Not Have Funding to Implement the Project**
- 5. The Alternatives Analysis Is Far Too Limited To Comply With NEPA and SEPA**
- 6. All of the Alternatives Except the No Action Alternative Violate the Endangered Species Act**
- 7. Reclamation’s Failure to Consult under The Endangered Species Act is Illegal**
- 8. The Project Violates Water Law Generally and the Yakima Allocation Specifically**

For these reasons - and many others articulated in our prior comments and the comments of others - the SDEIS must be rejected in its current form to comply with NEPA, SEPA, and the Endangered Species Act. We believe that is an impossible task and therefore recommend that the “No Action” alternative be selected.

## **Introduction**

This SDEIS is required under both the National Environmental Policy Act (NEPA) and the Washington State Environmental Policy Act (SEPA). Under both laws agencies considering “actions significantly affecting the quality of the human environment” must prepare and issue

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an Environmental Impact Statement (EIS). 42 U.S.C. § 4332(2)(C); *Nw. Env'tl. Advocates v. NMFS*, 460 F.3d 1125, 1133 (9th Cir.2006). An EIS:

“Shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” 40 C.F.R. § 1502.1; *Nw. Env'tl. Advocates*, 460 F.3d at 1134.

Thus, the EIS is more than a mere “disclosure document.” 40 C.F.R. § 1502.1. Agencies must take a ‘hard look’ at the potential environmental consequences of the proposed action.” *Klamath–Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993 (9th Cir.2004) (citing *Churchill County v. Norton*, 276 F.3d 1060, 1072 (9th Cir.2001)). By focusing on the environmental effects of the proposed agency action, “NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct.” *Marsh*, 490 U.S. at 371, 109 S.Ct. 1851 (1989). Reclamation and Ecology are the agencies charged with the meeting these duties and they have failed to meet this burden in this DEIS.<sup>1</sup>

In the 2015 DEIS Reclamation and Ecology prepared the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Draft Environmental Impact Statement (DEIS) as a single document. It includes environmental analyses for the both the KKC and KDRPP projects. The DEIS was released to the public in January 2015 and described the no-action alternative and five action alternatives. The public comment period ended June 15, 2015.

As we noted in our comments regarding the 2015 DEIS there are were at least seven fatal flaws with that DEIS that rendered it insufficient under NEPA and SEPA. This SDEIS does nothing to resolve these insufficiencies and, in fact, creates many new problems that make the current NEPA/SEPA process even worse. This comment letter explains a series of major substantive and procedural flaws in the SDEIS and poses a series of questions that should have been addressed in the SDEIS. As required by both NEPA and SEPA, and their implementing regulations, we expect both Reclamation and Ecology to provide responses to each of the questions posed in this letter. Importantly, Reclamation and Ecology have still not satisfied this obligation with regard to the 2015 DEIS

While we agree that the Bureau of Reclamation and the Washington State Department of Ecology needed to draft a Supplemental Draft Environmental Impact Statement (SDEIS) this supplement fails to meet even the most basic requirements of NEPA, SEPA, and all of the alternatives proposed in the document (except the “no action” alternative) blatantly violates the Endangered Species Act (ESA) because of their impact on listed Bull Trout and Spotted Owls.

## **The New SDEIS**

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<sup>1</sup> Washington State’s Environmental Protection Act (SEPA) mirrors NEPA and places the same burden upon Washington State agency actions.

To understand this SDEIS one needs to understand a complex web of related processes and projects. Mr. David Ortman's comment letter to this SDEIS does an excellent job of articulating the many problems with the historical situation and the multiple conflicting mandates that burden this entire situation. (This letter incorporates his comments by reference). As the SDEIS itself explains:

*Following development of the Integrated Plan, Reclamation and Ecology prepared the Integrated Plan FPEIS to assess the environmental effects of implementing the Integrated Plan (Reclamation and Ecology, 20124). The Integrated Plan FPEIS was issued in March 2012. In July 2013, Reclamation published the Record of Decision (2013 Integrated Plan ROD) to implement the Integrated Plan in cooperation with Ecology and other Federal, State, local, and Tribal partners. The selected alternative in the 2013 Integrated Plan ROD implements the Integrated Plan. Projects associated with the seven elements will be implemented in a phased and balanced approach. The Integrated Plan three-phase strategy (10-year increments over 30 years) may combine or implement actions simultaneously. Additional project-level environmental compliance will be completed prior to implementation of specific projects and actions.*

*The action alternatives examine constructing and operating a pumping plant to access up to 200,000 acre-feet of water in Kachess Reservoir during drought years. Keechelus Reservoir-to-Kachess Reservoir Conveyance (KKC) is evaluated as a component of the KDRPP alternatives. The KKC involves constructing and operating a gravity flow tunnel from Keechelus Reservoir to Kachess Reservoir and is also a component of the Integrated Plan, but is not being pursued as a standalone project at this time. These projects are part of the Yakima Basin Integrated Water Resources Management Plan (Integrated Plan).” (SEPA Fact Sheet p. 11 of SDEIS)*

It is important to distinguish between the Integrated Plan as a political compromise document, and the Supplemental Draft Environmental Impact Statement as an environmental compliance and disclosure document. The Integrated Plan was determined as a politically appropriate synthesis of programs, taking into account the political positions of the state and federal agencies, counties and tribal representatives in the planning process organized by Ecology and Reclamation. There is no legal requirement that all viable alternatives be considered in a political planning process. There is, however, a legal requirement that all viable alternatives be considered in an environmental compliance and disclosure document required by the National Environmental Policy Act.

Previously referred to as the Kachess Reservoir Inactive Storage Project, the proposed Kachess Drought Relief Pumping Plant (KDRPP) could withdraw up to 200,000 acre-feet of lake storage water up to 80 feet below the reservoir's existing outlet works, which were designed to allow storage and supply of water equal to the average annual watershed precipitation. In other words, the lake was increased in size to store the maximum amount of water available in the watershed. The current "storage" is all the water above the natural level of the lake prior to dam construction. The current proposal would remove water below the natural level of the

lake by up to 80 feet. This means that the proposal would drain much of the original Alpine Lake.

Supposedly, the KDRPP would operate only during a Washington State-declared drought with the goal of providing, when feasible, up to 70 percent water rights to proratable users. The SDEIS now includes a new variation of the KDRPP known as the “KDRPP Floating Pumping Plant” (KDRPP FPP) which was not analyzed or even proposed in the 2015 DEIS. This was proposed by the Roza Irrigation District. Apparently, it was the addition of this new KDRPP FPP (the new Proposed Action) which convinced Reclamation and Ecology that they needed to supplement the 2015 DEIS.

All of the Pumping Plant proposals also could include the addition of Keechelus Reservoir-to-Kachess Reservoir Conveyance project (KKC), which is intended to help refill Lake Kachess in the years following a drought by sending water from Lake Keechelus via tunnel to Lake Kachess. In addition, each of the Pumping Plant alternatives could operate without the KKC (although that would greatly increase the amount of time needed to refill the lake and significantly increase environmental damage). Finally, Reclamation and Ecology have abandoned the formerly proposed South Tunnel Alignment of the KKC because it was impractical and too expensive.

### **Fatal Flaw # 1 – Reclamation and Ecology Should Have Published all Comments and Responses to the 2015 DEIS Before Releasing the 2018 SDEIS**

According to the 2018 SDEIS:

*Reclamation and Ecology have reviewed all comments on the DEIS, developed a new floating pumping plant alternative, collected additional scientific data as necessary, and evaluated new findings. The new alternative and new findings have been documented in the [Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance Supplemental Draft Environmental Impact Statement](#) (SDEIS) released to the public April 13, 2018. The SDEIS will not contain comment letters received on the DEIS; instead, letters and response to comments from both the DEIS and SDEIS will be in a final environmental impact statement.” ES-xvii*

If Reclamation and Ecology have already reviewed all the comments from the previous DEIS why did they fail to release the comments and responses in the almost 3 years since the DEIS comment period closed? This puts the public at a substantial disadvantage to understand the need for and reasoning behind the publication of the SDEIS. The required comment period for this SDEIS is, therefore, flawed because Reclamation and Ecology have vast amounts of information that are not in the public domain. To make matters worse the SDEIS acknowledges that the comments raised issues that led in part to the decision to issue the SDEIS. (ES-xv) At a minimum the agencies should extend the current public comment period and publish the 2015 public comments and responses. This would put the public on semi-equal footing with the decision maker in terms of understanding the implications of the project, the changed

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circumstances, and new information (stemming from public comments on the 2015 DEIS) that led to the decision to publish a SDEIS.

*How do the agencies justify their decision not to publish the comments and responses to the 2015 DEIS in this SDEIS?*

## **Fatal Flaw # 2 - The Purpose and Need Section is Internally Contradictory**

The Purpose and Need section of an EIS is critical because it frames the entire discussion about the proposed project and leads to potential project alternatives. In this situation there are three Purpose and Need sections for three different “project proponents” and there is only one way to meet all of their goals: Selecting the “Proposed Action” as the “Preferred Alternative”.

### **Reclamation’s Purpose and Need**

According to the SDEIS:

*Reclamation’s purpose and need for action is to provide more sustainable water resources for agricultural, municipal, and domestic needs, while also helping to restore ecological functions and the health of the riverine environment in the Yakima River basin.*

*Specifically, Reclamation needs to analyze, implement, and fund as authorized, the site- specific projects identified here in accordance with the 2013 Integrated Plan ROD. Reclamation may fund, design, construct, operate, and maintain some or all of the Proposed Action, if authorized to do so pursuant to Section 4007 of the Water Infrastructure Improvements for the Nation Act or other law which provides similar authorization.*

How can reclamation participate financially in the project is not authorized by Congress? The statement above confirms that Reclamation may only “fund, design, construct, operate, and maintain some or all of the Proposed Action, if authorized to do so pursuant to Section 4007 of the Water Infrastructure Improvements for the Nation Act or other law which provides similar authorization.” How can Reclamation make financial commitments when the necessary authorization does not exist under Federal Law?

How can Reclamation wear both the project proponent hat and the regulatory hat if Congress does not authorize them to act as a project proponent?

The SDEIS further states: “Alternatively, any other project proponent may choose to fund the project independently; in which case, Reclamation then needs to respond to them as applicant and to determine whether to authorize, as necessary, any such entity to design, construct, operate and maintain certain projects, as necessary, related to the two objectives set forth in the Integrated Plan: (1) access water that is currently not accessible in the Kachess Reservoir to improve the water supply and reduce prorationing, and (2) improve water supply flexibility and storage between Kachess and Keechelus reservoirs.”

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## Ecology's Purpose and Need

*Ecology's purpose for the action is to participate in the Integrated Plan and fund (not more than 50 percent) of the plan, and promote timely and effective implementation of associated projects in an aggressive pursuit of water supply solutions for instream and out-of-stream uses in the Yakima River basin [Revised Code of Washington (RCW) 90.38.005].*

So, Ecology is in a slightly more legitimate position because they do have a State authorization to fund up to 50% of the Integrated Plan. Unfortunately, they do not have not ability to promise funds on their own without acts of both the Governor and the Legislature.

*How does Ecology intend to fund the plan?*

*Why would Ecology fund a project that has no benefit to the ecology of Washington State destroys an alpine lake and violates SEPA, NEPA, and the Endangered Species Act by extirpating listed Bull Trout?*

## Roza and Proratable Entities' Purpose and Need

*Roza and the Proratable Entities' purpose for the action is to access up to 200,000 acre-feet of water from Kachess Reservoir during drought years, as they need to improve water supply and reduce prorationing, whenever feasible, and improve flexibility to respond to the uncertainties of climate change. To participate in the Proposed Action, Roza and/or the Proratable Entities would need to seek all necessary authorizations. This document was prepared by Reclamation and Ecology, but Roza and/or other Proratable Entities may adopt this document for their own purposes.*

At least this section of the Purpose and Need section is honest. Roza wants the water and they are willing to pay for it. This, however, takes this entire process in a very different direction as apparently this has pivoted from a "public project" led by Reclamation and Ecology to a Roza Irrigation District project hidden behind the veil of public agencies and the Integrated Plan. Reclamation and Ecology participating in a Project Action that is in effect a proposal from Roza to take 200,000 acre-feet of water from an Alpine Lake, draining the lake by 80 feet, causing untold hardships, ruining a major Federal camp ground, extirpating a Threatened species listed under the ESA, etc? How can this be justified?

- We understand why Roza wants this outcome but please explain how that result can possibly be in the public interest?
- It is obvious that the Purpose and Need section is internally contradictory. Ecology has one goal, Reclamation a different goal, and Roza a third. How can they be reconciled?

Legally, this proposal is dead on arrival as an analogous case decided by the 9<sup>th</sup> Circuit is on point here. In *National Parks & Conservation Association v. Bureau of Land Management*, 606 F.3d 1058 (9th Cir. 2010) Landowners and conservation group brought suit against the Bureau of Land Management (BLM) over a proposed public-private land swap adjacent to Joshua Tree National Park to allow a private company to build and operate a landfill. The court determined that the BLM's considerations leading to the land swap were deficient, disallowing the exchange. The case upheld the necessity of a transparent process. The court looked to whether the BLM considered reasonable alternatives to the accepted landfill project. An agency has some discretion in selecting alternatives. However, the alternatives considered cannot be unduly narrow. In this case, the court looked to whether the goals were those of the BLM or those of Kaiser (the landfill developer). The court determined that alternatives other than Kaiser's landfill should have been reasonably considered in the BLM's purpose and need statement; however, the statement was so narrowly written it excluded any option other than a landfill. The court affirmed the district court's decision, stating that the BLM put Kaiser's needs before the public's in the determination of purpose and need and failure to consider a reasonable range of alternatives.

This SDEIS is even worse than the situation with BLM above. In this situation there are three Purpose and Need sections for three different "project proponents" and there is only one way to meet all of their goals: Selecting the "Proposed Action" as the "Preferred Alternative".

As the 9<sup>th</sup> Circuit wrote this is a clear violation of NEPA:

*The BLM's definition of the project's purpose will necessarily affect the range of alternatives considered, because when "the purpose is to accomplish one thing, it makes no sense to consider the alternative ways by which another thing might be achieved... Our holdings in Friends and Carmel-By-The-Sea forbid the BLM to define its objectives in unreasonably narrow terms. The BLM may not circumvent this proscription by adopting private interests to draft a narrow purpose and need statement that excludes alternatives that fail to meet specific private objectives, yet that was the result of the process here. The BLM adopted Kaiser's interests as its own to craft a purpose and need statement so narrowly drawn as to foreordain approval of the land exchange. (P. 1070)*

Here Reclamation and Ecology have adopted Roza's interests in just the same way that the BLM adopted Kaiser's interest. This was deemed improper by the 9<sup>th</sup> Circuit and just like in the case above by crafting the purpose and need section so narrowly Reclamation and Ecology "forordain" the selection of the Floating Pumping Plant. This will also be deemed illegal.

### **Fatal Flaw #3 - The Proposed Action is The Only Alternative Other Than the No Action Alternative**

Although the SDEIS claims to evaluate true alternatives it is evident that the only real alternative to no action is the new Floating Pumping Plant which not surprisingly is defined as the "Proposed Action". This Proposed Action is a new term that was not included in the DEIS.

Although, legally there is a potential distinction between the Proposed Action and what may be selected as the Preferred Alternative, this SDEIS seems to conflate the two terms and reveals that the agencies have already made up their mind that the Floating Pumping Plant is in fact the Preferred Alternative.

According to the SDEIS:

*“The Proposed Action for this SDEIS is to fund, design, construct, operate, and maintain a floating pumping plant on Kachess Reservoir in order to recover up to 200,000 acre-feet of inactive water storage from Kachess Reservoir during drought years when prorationing is less than 70 percent supply. This water would otherwise remain in Kachess Reservoir at an elevation below the existing gravity outlet works. The Proposed Action would also include volitional fish passage at the downstream end of the Narrows which is located between the upper and lower Kachess reservoirs. Reclamation and Ecology each propose to fund, design, construct, operate, and maintain some or all of the Proposed Action or to authorize Roza to fund, design, construct, operate, and maintain some or all of the Proposed Action.*

*The Proposed Action implements the Kachess Inactive Storage project identified in the 2012 Integrated Plan FPEIS to provide additional water supply from the Kachess Reservoir during a State-declared drought. Since 2012, the KDRPP has undergone additional refinement and design.*

*In the DEIS, the KDRPP proposal focused on a shoreline pumping plant with deep tunnel intake. Since then, Roza identified an additional design for the KDRPP proposal. Based upon this, the agencies have decided to include a floating pumping plant as the Proposed Action, and to analyze the shoreline pumping plant design alternatives considered in the DEIS as alternatives. The alternatives considered also include KKC, which was identified in the Integrated Plan FPEIS as the Keechelus-to-Kachess Pipeline. Although the floating pumping plant is the Proposed Action, Reclamation and Ecology have not yet identified a Preferred Alternative. Reclamation would need to issue a ROD documenting the selected alternative and approving the construction of the pumping plant on Kachess Reservoir, over which the agency has jurisdiction. The agency would provide any necessary permits, agreements, or other approvals, review design, oversee construction, coordinate and manage water releases from Kachess Dam and deliveries to downstream users, and possibly enter into water, power, and transmission contracts.*

*Ecology may need to take actions implementing regulations, participating financially, and issuing permits as required for implementation of the selected alternatives. The changes described above require additional SEPA review in this SDEIS.”(ES-viii)*

This is an embarrassing attempt to finesse a superficial distinction. There is no reason that Reclamation and Ecology would have spent three years, vast amounts of money, and added a new Project Proponent (Roza) to study a Proposed Action (proposed by Roza) that they are not going to select as the Preferred Alternative. The Floating Pumping Plant is both the Proposed

Action and the illegally predetermined Preferred Alternative. This is flatly banned by both NEPA and SEPA.

More evidence of the pre-determination can be found in the Purpose and Need section discussed above. This section suddenly includes a new player and a new “Propose and Need for the Action” that was not in the 2015 DEIS and is apparently the basis for this new SDEIS. In this instance the SDEIS does not even attempt to distinguish between the Proposed Action and Preferred Alternative:

*Reclamation and Ecology each propose to fund, design, construct, operate, and maintain some or all of the Proposed Action or to authorize Roza to fund, design, construct, operate, and maintain some or all of the Proposed Action. Reclamation expects that the ROD would determine which entity would carry out each of these functions. Reclamation, Ecology, and Roza are each referred to herein as a “project proponent” and, collectively, as “project proponents.”* ES – viii (Emphasis added)

This is a remarkable paragraph. On the one hand, the Bureau and Ecology claim that they have not selected a Preferred Alternative and on the other they say they each propose to “*fund, design, construct, operate, and maintain some or all of the Proposed Action or to authorize Roza to fund, design, construct, operate, and maintain some or all of the Proposed Action.*” They continue by stating that the ROD will determine which entity would carry out each of these functions. Finally, they state that *Reclamation, Ecology, and Roza are each referred to herein as a “project proponent” and, collectively, as “project proponents.”* ES – viii (Emphasis added).

This is clearly predecisional and is a blatant NEPA and SEPA process violation.

Worse still, at a practical level how is it possible to generate and opinion on the project if we do not even know who would “fund, design, construct, operate, and maintain some or all of the Proposed Action”?

Knowing who is in charge of implementing the project is a threshold piece of information and even this is not clarified in the SDEIS. The sheer number of actors, combinations of actions and combinations of a potential funding mosaic make the number of potential results virtually infinite. The point of the SDEIS, and NEPA and SEPA in general, is to define what the environmental consequences from a project are. It is antithetical to the letter and spirit of NEPA and SEPA to provide a hypothetical scenario with a virtually infinite number of possibilities from which the public can only guess at.

#### **Fatal Flaw #4 – Reclamation does not have Authorization from Congress to Implement or Fund The Project and Ecology Does Not Have Funding to Implement the Project**

The SDEIS says the ROD will “determine which entity would carry out each function” but Reclamation does not currently have authorization from Congress to fund this project and by



definition has not developed an appropriations strategy? Either their potential commitment is illegal or it simply designed to confuse the public.

Similarly, how can Ecology commit to any of the functions without the funding necessary to carry them out. At best, Ecology would need to request and receive funding from the legislature and governor next year during the 2019 legislative session to receive the necessary funding. Does that mean the FEIS and ROD will not be finalized until Spring of 2019, after the legislative session, assuming Ecology gets funding from the Legislature?

The Bureau and Ecology are not known for making such bold and unauthorized statements. It seems, therefore, far more likely that the real story here is that Roza has agreed in non-public meetings to fund and operate the new floating pumping plant. If this is the case this entire SDEIS should be shelved and a new “private proponent” led Draft EIS should be prepared by Roza.

In effect the SDEIS is simply an entirely new DEIS, poorly disguised as a SDEIS in order to avoid compliance with statutory requirements and deny the public necessary information to evaluate the “new alternative” not previously contemplated. The SDEIS proposes an entirely new alternative not contemplated or researched in the DEIS. The public has no way of evaluating this alternative relative to the prior DEIS as Reclamation and Ecology have intentionally refused to publish or respond to prior comments that led to the issuance of the SDEIS.

### **The Major Conclusions Section**

The major conclusions section of the Executive Summary validates this theory about what this proposal really is: a backdoor effort to build the Floating Pumping Plant. As the SDEIS states:

“Based upon the analysis of impacts to these resources in Chapter 4, major conclusions of the SDEIS are as follows:

- *Change in Water Supply: Action alternatives would improve water supply to proratable water users by up to 22 percentage points in the worst single-drought years, raising the proration percentage to about 53 percent of entitlement. This would be a substantial benefit to water supply because it would offer substantial progress toward the Integrated Plan’s 70 percent proration goal.*
- *Change in Reservoir Levels: Under all the action alternatives, Reclamation would operate Keechelus Reservoir to help Kachess Reservoir refill following a drought. This action would result in slightly lower mean Keechelus Reservoir pool levels, with a maximum incremental reservoir drawdown of 18 feet in late summer (in 1996) compared to No Action. Under all action alternatives, Kachess Reservoir would be drawn down by as much as 80 feet below existing minimum pool conditions.*

*Listed Species:*

- *Based on modeled water surface elevations, under Alternatives 2, 3 and 4, there would be an increase in days where Kachess Reservoir water surface elevation would drop below 2,200 feet (the evaluation at which Big and Little Kachess reservoirs separate and begin to affect fish passage, particularly for Bull Trout). These impacts to passage of bull trout would be mitigated by the Volitional Bull Trout Passage Improvements. Alternatives 5A, 5B, and 5C would result in an increase in days of flows in Keechelus Reach of the Yakima River that are suitable for Middle Columbia River steelhead outmigration. All alternatives would result in noise impacts to northern spotted owls, but are not expected to harm or injure northern spotted owls, or impact their habitat.*
- *Regional Economic Impacts and Benefits: The socioeconomic effects of the action alternatives arising from changes in water supply available for agriculture would be beneficial, resulting in a net gain in regional economic activity relative to No Action."*

So Roza gets the water and the supposed economic benefits and the environment, the community, and the public at large lose. It's that simple. It is also a terrible idea and illegal.

#### **Fatal Flaw # 5 – The Alternatives Analysis is Far Too Limited to Comply with NEPA and SEPA**

It gets worse. Under National Environmental Policy Act (NEPA) agencies considering "major Federal actions significantly affecting the quality of the human environment" must prepare and issue an Environmental Impact Statement (EIS). 42 U.S.C. § 4332(2)(C); Nw. Env'tl. Advocates v. NMFS, 460 F.3d 1125, 1133 (9th Cir.2006). The EIS:

"shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 40 C.F.R. § 1502.1; Nw. Env'tl. Advocates, 460 F.3d at 1134.

Thus, the EIS is more than a mere "disclosure document." 40 C.F.R. § 1502.1. Agencies must take a 'hard look' at the potential environmental consequences of the proposed action." Klamath-Siskiyou Wildlands Ctr. v. BLM, 387 F.3d 989, 993 (9th Cir.2004) (citing Churchill County v. Norton, 276 F.3d 1060, 1072 (9th Cir.2001)). By focusing on the environmental effects of the proposed agency action, "NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct." Marsh, 490 U.S. at 371, 109 S.Ct. 1851 (1989). Reclamation and Ecology fail to meet this burden in this DEIS.<sup>2</sup>

In the first landmark NEPA case, Calvert Cliffs' Coordinating Committee, Inc. v. Atomic Energy Commission, the U.S. Court of Appeals for the D.C. Circuit highlighted the importance of these requirements and noted that they seek:

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<sup>2</sup> Washington State's Environmental Protection Act (SEPA) mirrors NEPA and places the same burden upon Washington State agency actions.

*[T]o ensure that each agency decision maker has before him and takes into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and the cost benefit analysis. Only in that fashion is it likely that the most intelligent, optimally beneficial decision will ultimately be made. 449 F.2d 1109 (D.C Cir 1971).*

The SDEIS purports to evaluate:

*Alternative 1 - No Action Alternative*

*Alternative 2 – KDRPP East Shore Pumping Plant;*

*Alternative 3 – KDRPP South Pumping Plant;*

*Alternative 4 - (Proposed Action) – KDRPP Floating Pumping Plant;*

*Alternative 5A – KDRPP East Shore Pumping Plant with KKC North Tunnel Alignment;*

*Alternative 5B – KDRPP South Pumping Plant with KKC North Tunnel Alignment;*

*Alternative 5C – KDRPP Floating Pumping Plant with KKC North Tunnel Alignment.*

In reality it only really evaluates the Proposed Action and No Action. In doing so it doesn't even attempt to meet the legal requirements for an alternatives analysis.

NEPA section 102(2)(C) requires an EIS to discuss “alternatives to the proposed action.”-The CEQ, in its implementing regulations, emphasizes alternatives as the “heart” of the EIS.- CEQ’s regulations provide detailed directions on the contents of the alternatives discussion in an EIS. Specifically, agencies shall:

*(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.*

*(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.*

*(c) Include reasonable alternatives not within the jurisdiction of the lead agency.*

*(d) Include the alternative of no action.*

*(e) Identify the agency’s preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.*

*(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.*

Another important principle outlined in the CEQ regulations is that all reasonable alternatives must be discussed. This comports with NEPA’s central purpose of fostering informed decision-making. Thus, it is not surprising that many NEPA challenges revolve around whether the agency considered a reasonable range of alternatives, with courts holding that the existence of reasonable but unexamined alternatives renders an EIS inadequate.

Courts also look to the goals, needs, and purposes defined for the project in determining whether the alternatives discussion is reasonable. While giving deference to the agencies, courts are wary when agencies narrowly define the purpose or scope of an action. For example, when considering the scope of reasonable alternatives in an EIS, the Seventh Circuit stated that “[o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing ‘reasonable alternatives’ out of consideration (and even out of existence).”

Courts also look to the complexity of the action in considering whether the amount of detail in the alternatives section is sufficient. Agencies are directed to “present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” “The touchstone for [a court’s] inquiry is whether an EIS’s selection and discussion of alternatives fosters informed decision-making and informed public participation.” This SDEIS conclusively fails to meet this standard

SEPA has similar requirements to evaluate alternatives WAC 197-11-442(2) requires Ecology to:

*Discuss impacts and alternatives in the level of detail appropriate to the scope of the nonproject proposal and to the level of planning for the proposal. Alternatives should be emphasized. In particular, agencies are encouraged to describe the proposal in terms of alternative means of accomplishing a stated objective (see WAC 197-11-060(3)). Alternatives including the proposed action should be analyzed at roughly comparable level of detail, sufficient to evaluate their comparative merits (this does not require devoting the same number of pages in an EIS to each alternative). [underline added]*

The Washington Supreme Court has found that “The environmental significance of the nonproject action creates the obligation to examine alternatives to the nonproject action. . . . SEPA requires an examination of reasonable alternatives to the nonproject action.” *Citizens Alliance to Protect Our Wetlands v. City of Auburn*, 126 Wn.2d 356, 366 (1995). In *Blair et. al. v. City of Monroe*, CPSMHB 14-3-0006c, Final Decision and Order (Sept. 19, 2014), the Central

Puget Sound Regional Growth Management Hearings Board considered the scope of review under WAC 197-11-442(4). There the Board found that the City of Monroe had failed to adequately comply with SEPA review requirements (SEPA is to function “as an environmental full disclosure law,” *Blair* at 22. “[t]he range of alternatives considered in an EIS must be sufficient to permit a reasoned choice.” *SWAP v. Okanogan County*, 66 Wn. App. 439, 444 (1992).

Thus, both NEPA and the Washington State Environmental Policy Act (SEPA) require consideration of all reasonable alternatives. Under both laws an EIS must include a detailed statement and analysis of all “reasonable alternatives” to the proposed action. This SDEIS fails this test.

Finally, it should be noted that the severely restricted alternatives analysis in both the 2015 DEIS and the 2018 SDEIS stem from the fact that the proposed projects are part of a broader political compromise solution known as the Yakima Basin Integrated Plan (YBIP) developed by the YRBWEP Workgroup (Workgroup). Because of this, it is not surprising that the Reclamation and Ecology did not want to consider other ways to achieve the desired fish enhancements and increases in water storage and flows – those options were not part of the mandate of the YBIP.

Whatever one thinks of the YBIP it is clear that it includes the KKC and KDRPP and does not include other alternatives that could meet the same underlying objectives but were not agreed upon by the Workgroup in the YBIP. Reclamation and Ecology’s inclusion of other public officials and stakeholders interested in and affected by Yakima Basin water shortage problems is perhaps laudable. It does not, however, relieve either agency from complying with the statutory requirements of state and federal law.

They SDEIS takes this predetermination even further by inviting a new proposal by Roza (the floating pumping plant) and names it the “Proposed Action” and includes Roza as a “Project Proponent”. This means that in effect there are only two alternatives the floating pumping plant or no action.

#### Key Questions for Reclamation and Ecology

*Why were more alternatives not considered?*

*Are the alternatives considered actually real alternatives or are Alternative 4 and the no action alternative really the only alternatives?*

*Why wasn’t water conservation explicitly considered as an alternative?*

*Why was Kecheelus not evaluated for a drought relief pumping plant with a canal or pipeline diversion directly from Kecheelus to Easton? This alternative would accomplish the same objectives in a significantly less environmentally harmful and dramatically less costly manner.*

Why were alternative storage locations not considered?

## Fatal Flaw #6 - All of the Alternatives Except the No Action Alternative Violate the Endangered Species Act

All alternatives except, no action, violate the Endangered Species Act (ESA). As the Supreme Court articulated in the landmark ESA case *TVA v. Hill*:

*It may seem curious to some that the survival of a relatively small number of three-inch fish among all the countless millions of species extant would require the permanent halting of a virtually completed dam for which Congress has expended more than \$100 million. . . . We conclude, however, that **the explicit provisions of the Endangered Species Act require precisely that result.**” “One would be hard pressed to find a statutory provision whose terms were any plainer than those in § 7 of the Endangered Species Act. . . . **The language admits of no exceptions.** *TVA v. Hill**

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The DEIS admits in multiple locations that the draining of Lake Kachess will lead to the killing of listed Bull Trout. Killing of listed Bull Trout is illegal without an incidental take permit (ITP) which requires a Habitat Conservation Plan (HCP). There has been no discussion of a HCP or ITP in this setting.

As the SDEIS states:

*Based on modeled water surface elevations, under Alternatives 2, 3 and 4, there would be an increase in days where Kachess Reservoir water surface elevation would drop below 2,200 feet (the evaluation at which Big and Little Kachess reservoirs separate and begin to affect fish passage, particularly for Bull Trout). These impacts to passage of bull trout would be mitigated by the Volitional Bull Trout Passage Improvements. Alternatives 5A, 5B, and 5C would result in an increase in days of flows in Keechelus Reach of the Yakima River that are suitable for Middle Columbia River steelhead outmigration. All alternatives would result in noise impacts to northern spotted owls, but are not expected to harm or injure northern spotted owls, or impact their habitat.*

This means that the Bull Trout cannot migrate to their spawning grounds which is obviously “take” under the ESA and jeopardizes the species continued existence.

The plan attempts to mitigate for this damage to Bull Trout by proposing an untested and speculative Volitional Fish Passage Project. The Bull Trout Volitional Passage project is described on Page 2-67, Table 2.9. The “steep slope conditions” between Big Kachess Lake and Little Kachess Lake will occur when the water level is approximately 2,208 elevation and the pumping operation begins. These “steep slope” conditions will occur an additional 6,225 days if KDRPP-FPP is installed, this will mean 34 additional years (out of 90 modeled), and an average of 183 days a year, when Bull Trout Passage will be completely dependent on the Volitional Passage.

In some years (e.g., conditions such as occurred between 2001 – 2008) the pump...and therefore the channel...will be in continuous operation. Eight years of steep slope conditions, requiring 8 years of Bull Trout dependence on the volitional passage, represents 2-3 spawning cycles. ***In other words, the entire population of Lake Kachess Bull Trout will be destroyed if the volitional passage is not effective.*** No evidence is provided that the volitional passage is effective, has been demonstrated in other Bull Trout population support activities, has completed a “proof of concept” test, or is in any way assured to be successful to preventing destruction of the Lake Kachess Bull Trout population.

Finally, the Bull Trout find their way to spawning tributary by a complex but not-well-understood physiology of chemo and geo receptors. This returns them to the spawning tributary, and eventually spawning bed, where they started life. Creating a volitional passage means the Bull Trout will have to find an artificial tributary that did not exist when they were young and locate it several miles from where the “narrows” and “steep shelf” originated their life cycle.

To make matters worse, the Bull Trout Enhancement plan seems to allow killing the population in Kachess (dredging a channel between big and little Kachess but ignoring the side stream Box Creek where the trout actually are) but mitigating with improved populations elsewhere. P1-13 notes “While bull trout enhancement was included in the DEIS, specific BTE projects are not included in the Proposed Action, therefore not carried forward as part of this SDEIS.”

What fraction of the resident endangered Bull Trout population in Lake Kachess is estimated will be killed under the Proposed Alternative and all the action alternatives?

This is simply not how the ESA works. Here we have a known major impact on listed species and an unproven, speculative, and at best limited technological proposal minimize some unknown percentage of the negative impact.

*The No Action Alternative is the only legal alternative and should be selected.*

### **Fatal Flaw # 7 Failure to Consult under The Endangered Species Act**

In addition to the massive substantive impacts that will undeniably impact Bull Trout and Spotted Owls, Reclamation has inexplicably disregarded the Federal Agency process mandated under the ESA. Section 7 of the ESA requires federal agencies to consult with either the United States Fish and Wildlife Service or National Marine Fisheries Service to ensure that any action authorized or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of the species. ESA § 7, 16 U.S.C. § 1536. This process requires the Services to prepare a biological opinion that includes a finding as to whether the proposed action is likely to jeopardize the continued existence of an endangered or threatened species or its habitat. 50 C.F.R. § 402.14.

Although the current SDEIS acknowledges repeatedly that there will be substantial negative impacts to ESA listed species including Bull Trout and the Northern Spotted Owl (among others) and the habitat of these species, it fails to quantify those impacts adequately. This failure stems from the fact that the Reclamation has not initiated a Section 7 Consultation under the ESA. The SDEIS does state that such a Consultation will occur in the future but the lack of a concrete understanding of the impacts on listed species makes the selection of a preferred alternative arbitrary and capricious. It is exactly of this reason that both the NEPA and ESA regulations encourage simultaneous NEPA review and ESA Section 7 consultations.

In fact, Reclamation's own NEPA regulations state:

NEPA activities should be coordinated with other environmental requirements so that their requirements are, when possible, met *concurrently rather than consecutively*. This specifically includes FWCA, CWA, NHPA, ESA, and other environmental review laws and Executive orders. P 3-10, 3-11. (emphasis added).

The NEPA Guidelines state further:

To the fullest extent possible, agencies shall prepare draft environmental impact statements *concurrently with and integrated with environmental impact analyses* and related surveys and studies required by...the Endangered Species Act...." 40 C.F.R. § 1502.25. (emphasis added).

The "studies" required by section 7 are those needed for consultation on any federal action that may affect ESA-listed species. 16 U.S.C. § 1536(b), (c).

ESA section 7(c) states that the action agency's biological assessment, a precursor to a biological opinion, "may be undertaken as part of a Federal agency's compliance with the requirements of Section 102 of the [NEPA]." 16 U.S.C § 1536(c)(1). Again, what is plainly intended is that the action agency's consultation duties regarding its proposed action may be coordinated with its NEPA review of that action. Similarly, FWS's regulations regarding section 7 state: "consultation ...procedures under section 7 may be consolidated with interagency cooperation procedures required by other statutes, such as [NEPA]." 50 C.F.R. § 402.06.

Again, Reclamation's own NEPA regulations state:

*Special attention should be given to the integration of NEPA and the ESA. Section 7(a)(2) of the ESA requires consultation with the Service and/or NOAA-NMFS for any Reclamation action which may affect a species federally listed as threatened or endangered (listed species). This consultation process may result in the Service and/or NOAA-NMFS issuing a biological opinion containing actions to be undertaken to avoid jeopardizing a species or to reduce the level of take associated with the proposed action. Reclamation shall, to the fullest extent possible, integrate ESA and NEPA analyses and schedules." (Bureau of Reclamation's NEPA Handbook Section 3.15.1) (emphasis added).*



The failure to consult is especially troubling because this is the second time that Reclamation has failed to conduct an ESA consultation. The first time came in the Programmatic EIS for the entire YRBIP process. In that document Reclamation stated:

*Reclamation has concluded that consultation under Section 7 of the Endangered Species Act is not required at this time because preparation of the PEIS and selection of a preferred alternative would have no effect on listed species in the action area. Reclamation has discussed this conclusion with both the Service and NMFS, and neither agency found any fault with Reclamation’s reasoning which led to the no effect determination. See Appendix G for a summary of the correspondence. Consultation would be conducted for individual projects that may affect listed species or critical habitat and that Reclamation would fund, authorize, and/or carry out under the Integrated Plan in the future.” PEIS 6.2.2.*

Reclamation’s failure to consult with USFWS and NOAA is inexcusable and has led to an incomplete evaluation of the true impacts on endangered species and potential mitigation for these impacts.

#### Key Questions for Reclamation and Ecology

*Why wasn’t a Section 7 consultation completed before the DEIS was published?*

*Why wasn’t a Section 7 Consultation completed before the SDEIS was published?*

*How does Reclamation believe it meets its own NEPA regulations or the CEQ regulations regarding threatened and endangered species?*

*How can the NEPA decision maker or the public fully understand the impacts on listed species without input from the ESA expert agencies USFWS and NOAA?*

*Given that Reclamation and the USFWS are both part of the Department of Interior how can the lack of a Section 7 consultation be justified?*

*How can Reclamation contend that there is “no effect on listed species” in the PEIS and then acknowledge there will be significant effects upon listed species and habitat in the SDEIS.*

#### **Fatal Flaw # 7 – The DEIS repeatedly relies on vague and hypothetical mitigation measures**

One essential ingredient of an EIS is to identify adverse environmental impacts and then discuss the steps that will be taken to mitigate unavoidable adverse environmental consequences. The projects evaluated in the DEIS have numerous environmental consequences that will require extensive mitigation. The requirement that an EIS contain a detailed discussion of possible

mitigation measures flows both from the language of the NEPA and, more expressly, from CEQ's implementing regulations for NEPA.

Implicit in NEPA's demand that an agency prepare a detailed statement on “any adverse environmental effects which cannot be avoided should the proposal be implemented,” 42 U.S.C. § 4332(C)(ii), is an understanding that the EIS will discuss the extent to which adverse effects can be avoided and mitigated for. See D. Mandelker, NEPA Law and Litigation § 10:38 (1984).

The Supreme Court considered the duty to mitigate under NEPA in Robertson v. Methow Valley Citizens Council (109 S.Ct. 1835). In that case the plaintiffs challenged a Forest Service permit for a ski resort in a national forest. The Court held that the requirement that an agency discuss mitigation measures is implicit in “NEPA's demand” and CEQ regulations. The omission of a “reasonably complete discussion” of mitigation measures would undermine NEPA's action-forcing functions. Without such a discussion, the Court added, neither the agency nor other interested groups or individuals, could properly evaluate the severity of the adverse effects of the action. That is exactly the problem with this SDEIS.

On January 14, 2011, the White House Council on Environmental Quality (“CEQ”) finalized guidance entitled “Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact.” The guidance is intended to make federal agencies more accountable for mitigation measures that they identify in conducting National Environmental Policy Act (“NEPA”) reviews of proposed actions.

CEQ seeks better implementation of mitigation commitments by making them express, measurable, and viable. According to CEQ, NEPA and decision documents should “carefully specif[y]” any relied-upon mitigation “in terms of measurable performance standards or expected results, so as to establish clear performance expectations.” CEQ also asks agencies to disclose and assess potential funding shortfalls upfront in the NEPA analysis and explore adaptive management or specific mitigation alternatives if the selected mitigation does not succeed.

The proposed mitigation in the SDEIS doesn't even come close to meeting this standard. The mitigation proposed in the current SDEIS is far too general and hypothetical, and even undermines the mitigation already being implemented by WSDOT under the Interstate 90 FEIS. Therefore, it fails to meet the NEPA/SEPA threshold to provide the decision maker or the public with a full understanding of the environmental consequences of any of the alternatives under consideration and to

As noted above one glaring example centers around Bull Trout, a threatened species in Lake Kachess. The plan calls for reducing the level of the lake by an additional 82.75 vertical feet. This draw down will prevent the fish from spawning in Box Canyon by creating an 82 ft high cliff impediment. Yet, there is no plan to mitigate this loss of habitat and reduction in population of the threatened species. The Gold Creek bull trout are distinct from Lake Kachess Bull Trout.

Over 5 miles, 2 dam structures, and Kecheelus Ridge separate the populations. Therefore, the Gold Creek bull trout mitigation plan cannot affect the Lake Kachess bull trout population.

Therefore, the proposed mitigation plan, which only affects Lake Kecheelus, cannot mitigate this loss. The DEIS alludes to vague considerations for mitigation of bull trout habitat destruction and population decline, but does not provide definitive or even viable proposals with cost estimates, which is particularly important in this case because the harmful effects are so dramatic and potentially impossible to mitigate such as 82' cliffs in spawning gateways.

In another example, the SDEIS accurately states the Kachess Lake aquifer will be depleted and private wells may be compromised or fail entirely ( DEIS 1-19). The only accommodation will be for "...Reclamation to develop appropriate mitigation strategies" if water levels and wells are adversely impacted. This *we will figure it out later* approach which permeates much of the SDEIS is simply inadequate under NEPA and SEPA and supporting regulations. The DEIS does not provide any indication of what mitigation efforts would be considered or appropriate. It is essential that these mitigation efforts be identified in advance, the likelihood of their need to be implemented also identified in advance, and that these estimates be quantitative, based upon scientific evidence.

### **Forest and Wetlands Will Be Impacted**

The vegetation and wetlands (Page 2-70) and densely forested watershed (Page 3-98) will, according to the SDEIS suffer with reduced water levels in Lake Kachess. This will mean stressed trees and other foliage in a single drought year, and in multiple years of pump operation dead trees due to lack of water and insect vulnerability. The Snoqualmie Pass Fire and Rescue agency has the primary responsibility fire and emergency medical services in the Lake Kachess and Lake Keechelus areas. This state agency has repeatedly raised concerns about increased risk due to wildfires, reduced capacity to suppress fires (due to lowering of the lake and removal of a source of water for firefighting), the increased incidence of accidents and injuries due to construction activity, and need for public education and communication strategies necessitated by KDRPP and KKC projects. Despite numerous and repeated expressions of concern and requests to meet with the responsible Fire Departments, Reclamation has ignored and rejected these requests. This is a clear violation of the NEPA and SEPA process and renders the current SDEIS incomplete and unacceptable.

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### **Private Wells Will Be Dewatered**

The negative impact of lowering the water level of Lake Kachess on private wells (ES-xi) is documented, with the conclusion that significant numbers of wells will be "dewatered." It is unacceptable to tell citizens that their water supply will likely disappear, and then offer a remedy of "monitor and mitigate." Well failures ("dewatering") will likely occur in October/November when Lake Kachess is at its lowest level, this is also shortly before snow arrives and access to homesites becomes difficult. The possibility of losing water at this time,

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without an in-place action plan for making homeowners whole, is unacceptable. A comprehensive strategy composed of proven techniques that can be implemented immediately upon need is required in this SDEIS. We ask that this comprehensive strategy, its details, costs, and operational features, be described in detail, and citizens be provided with this information along with an appropriate comment period, prior to issuing a FDEIS or ROD.

### **Federal Campground Will Be Ruined**

The impact on 23,000 annual visitors and 11,000 annual boaters at USFS Lake Kachess Campground will be devastating. Page 2-6 indicates the lake could be drawn down 80 feet “as early as June in severe drought years.” [NOTE: The campground typically opens on Memorial Day Weekend...June 1.] In other words, the campground would not open, possibly for a number of years. To date there has been no effort at communicating with the individuals, families, and organizations that use this campground, some with decades of continuous annual use. The possibility of drastically reduced access to this treasured recreational facility has never been communicated to its users, let alone the possibility that it would close and not re-open for a year or more. The impact on USFS Lake Kachess Campground is but one, but a very important example of the need for a different and better approach. We ask that the past users of USFS Lake Kachess Campground be pro-actively contacted and informed of the potential impact on Lake Kachess, and that they be provided an opportunity for public comment. It is clear the current SDEIS has failed to accomplish this essential public information obligation, and that a subsequent SDEIS correct this failure.

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The current SDEIS precludes public comment on specific mitigation measures and by extension does not allow the public or the NEPA/SEPA decision maker to truly understand the implications of the proposed action. That is a violation of SEPA and NEPA.

*How can the SDEIS propose to “take” a Federal camp ground to begin with?*

*How can the USFS allow this without a thorough mitigation plan?*

*Why is the USFS a “cooperating agency” when the action will ruin their own campground.*

### **Fatal Flaw # 8 – The Alternatives Violate Water Law Generally and the Yakima Allocation Specifically**

Although the SDEIS acknowledges the proper law regarding rights to water in the Yakima basin it proposes to violate that law directly.

*The following water entitlements in the Yakima River basin include senior water rights, proratable water rights, and junior water rights:*

- *Senior water rights (referred to as nonproratable) existed prior to the development of the Yakima Project, and are served in the order of their priority dates; they have precedence over proratable and junior rights.*

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- *Proratable water rights share the priority date that the United States obtained for the Yakima Project. Proratable entitlements share equal priority, as they have a common priority date, and their water deliveries are subject to proration (reduced proportionately) in years when the water supply is insufficient to meet demand based on the court doctrine of Total Water Supply Available (TWSA). TWSA is estimated by Reclamation annually based on forecasted runoff, forecasted return flows, and storage contents.*

- *Junior water rights were established after the Yakima Project, and have priority dates after May 10, 1905. When there is insufficient water, the first deliveries to be curtailed are those with junior water rights in the order of their priority dates. (Section 1.2.1)*

Many property owners on the east side of Lake Kachess have senior water rights for their wells. According to the SDEIS, these wells will run dry if the lake is pumped down.

How is it possible that prorated junior water rights holders of the Roza irrigation district can dewater those Kachess wells which have senior water rights? The answer: it is not possible as it is flatly illegal.

How will those with senior water rights to the existing 239,000 acre-ft of water currently stored by Kachess Dam be mitigated when that water is no longer available once Lake Kachess water level is lowered below the outlet to its dam?

Who will pay to provide senior water rights holders with the water they have a right to?

How will it affect the senior water rights holders' own farming operations and/or enjoyment of their property?

How can the Bureau and Ecology allow a taking of private rights where:

- 1) the recipient of the taking is a private, not public entity,
- 2) no condemnation has occurred,
- 3) no compensation is contemplated
- 4) owners of the rights have been denied due process?

## **Conclusion**

This project should not happen because it is a bad idea and has massive negative impacts on natural resources and the local community. This project will not happen because it is flatly illegal. As was noted earlier, the draining lake Kachess by 80 feet to supply water to proratable irrigators is a component of the Integrated Plan. The problem is that as part of the Integrated Plan it simply cannot survive the NEPA and SEPA requirements to evaluate a reasonable range of alternatives (not to mention the direct impact on ESA listed species). Essentially, Reclamation and Ecology are caught on the horns of a dilemma. If they do not implement the

Kachess Pumping Plant project they are not implementing the Integrated Plan and if they do attempt to implement the Kachess Pumping Plant project they are violating NEPA, SEPA, and the ESA and are not acting in the public interest.

As was noted earlier, it is important to distinguish between the Integrated Plan as a political compromise document, and the Supplemental Draft Environmental Impact Statement as an environmental compliance and disclosure document. The Integrated Plan was determined as a politically appropriate synthesis of programs, taking into account the political positions of the state and federal agencies, counties and tribal representatives in the planning process organized by Ecology and Reclamation. There is no legal requirement that all viable alternatives be considered in a political planning process. There is, however, a legal requirement that all viable alternatives be considered in an environmental compliance and disclosure document required by the National Environmental Policy Act and Washington State's Environmental Policy Act.

The advice provided to Reclamation and Ecology by the YRBWEP Workgroup does not supplant the requirement that Reclamation and Ecology themselves consider environmental alternatives when making decisions about major actions significantly affecting the quality of the environment. Reclamation and Ecology may not delegate that decision-making authority to others, or accept a workgroup recommendation without comparing that recommendation against other alternative courses of action. That delegation, however, is exactly what Reclamation and Ecology did in the 2015 DEIS and have done again in this 2018 SDEIS. This level of "predetermination" and failure to independently evaluate reasonable alternatives to the Kachess Pumping Plant Project contained in the Integrated Plan leads to a "black letter law" violation of NEPA and SEPA is fatal to both 2015 DEIS and the 2018 SDEIS.

Ultimately the Kachess Pumping Plant project is doomed because there is no way for it to comply with the most basic provisions of Federal and State environmental laws.



K2KConvey, BOR UCA <sha-uca-k2kconvey@usbr.gov>

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**[EXTERNAL] Supplemental Draft Environmental Impact Statement-  
Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-  
Kachess Reservoir Conveyance**

1 message

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**Rhonda Dietrich** <rdietrich@hnw.law>

Mon, Jul 9, 2018 at 3:50 PM

To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Cc: Larry Martin <lmartin@hnw.law>

Ms. McKinley,

Please see the attached letter prepared by Mr. Marn. The original letter will follow in today's U.S. regular mail.

Thank you!



**Rhonda Dietrich, Legal Assistant**

p. 509.248.6030 f. 509.453.6880  
[rdietrich@hnw.law](mailto:rdietrich@hnw.law)

405 E. Lincoln Avenue, Yakima, WA 98901  
[halversonNW.com](http://halversonNW.com)

\*My work hours are Monday through Friday from 7:30 AM to 4:00 PM\*

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Halverson Northwest Law Group P.C.



**LEM Itr 7-9-18 to BOR re Supplemental Draft EIS 6-27-18 (SVID YTID SMID NSID,  
WSIC).pdf**

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Raymond G. Alexander  
J. Jay Carroll  
Alan D. Campbell++  
Paul C. Dempsey\*\*  
James S. Elliott  
Yuridia Equihua  
Robert N. Faber  
F. Joe Falk, Jr.+  
Mark E. Fickes  
Carter L. Fjeld  
Brett N. Goodman  
Frederick N. Halverson+  
Lawrence E. Martin\*  
Terry C. Schmalz+  
Linda A. Sellers  
Michael F. Shinn  
Juliana M. Van Wingerden  
Stephen R. Wintree+

\*Also OR Bar Member  
\*\*Also State Bar of CA Member  
+Of Counsel  
++Retired

July 9, 2018

*(Also Sent Via Email to: [kkbt@usbr.gov](mailto:kkbt@usbr.gov))*

Bureau of Reclamation Columbia-Cascades Area Office  
Attn: Ms. Candace McKinley, Environmental Program Manager  
1917 Marsh Rd.  
Yakima, WA 98901-2058

**RE: Supplemental Draft Environmental Impact Statement-Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance**

Dear Ms. McKinley:

This comment letter is sent on behalf of the following entities (collectively, "Irrigation Providers") entities and in connection with the above-referenced Supplemental Draft Environmental Impact Statement ("SDEIS"):

1. Sunnyside Valley Irrigation District/ Sunnyside, Washington
2. Yakima-Tieton Irrigation District/ Yakima, Washington
3. Selah-Moxee Irrigation District/ Moxee, Washington
4. Naches-Selah Irrigation District/ Naches, Washington
5. West Side Irrigating Company/ Ellensburg, Washington

The above-named Irrigation Providers are within the Yakima Basin project and have mainly "senior" water rights, but also a portion of "junior" or "proratable" water rights. The Irrigation Providers rely on the Bureau of Reclamation reservoirs for much of their annual supply, including the Kachess and Keechelus reservoirs. All of the reservoirs are critical to the Total Water Supply Available ("TWSA") yearly calculations that are used to determine supply availability to the water users in the Yakima Basin.

The Irrigation Providers have been actively involved in the Yakima Basin Integrated Plan and support the Plan and its objectives. The Irrigation Providers encourage projects and policies that provide increased access to water supplies, either through new storage, or through enhanced access to existing supplies. Even though the above-named Irrigation Providers will not receive any direct benefit from the proposed actions outlined in the Supplemental Draft EIS ("SDEIS"), they fully support the proposed actions, as long as such changes and modifications to the reservoirs and water deliveries do not adversely affect the Irrigation Providers' ability to fully use their existing water

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rights, including deliveries for subsequent years; nor increase the cost to the respective Irrigation Providers from additional Reclamation operations.

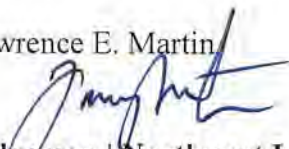
It is the Irrigation Providers' understanding, not only from the draft SDEIS, but from communications from Reclamation and other parties, that the pump station and pipeline will be operated in such a manner as to not adversely affect the ability of other water right holders to access and use their historic water rights. Any costs for these operations will be borne by Roza Irrigation District and others who are direct beneficiaries of the new reservoir operations.

We request that Reclamation, and others involved with the proposal, keep the Irrigation Providers advised of details of the proposed plan, including definitive operational plans. Since the operational plan is not part of the SDEIS, the Irrigation Providers request the opportunity to comment and participate on the plan as it is being developed to ensure the operational costs do not adversely impact the Irrigation Providers.

We thank you in advance for your attention and the opportunity to comment.

Sincerely,

Lawrence E. Martin



**Halverson | Northwest Law Group P.C.**

*Attorneys for:*

Sunnyside Valley Irrigation District (SVID)

Yakima-Tieton Irrigation District (YTID)

Selah-Moxee Irrigation District (SMID)

Naches-Selah Irrigation District (NSID)

West Side Irrigating Company (WSIC)

1



K2KConvey, BOR UCA &lt;sha-uca-k2kconvey@usbr.gov&gt;

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**[EXTERNAL] FW: Supplemental Draft Environmental Impact Statement-Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance**

1 message

---

**Rhondda Dietrich** <rdietrich@hnw.law>

Wed, Jul 11, 2018 at 1:42 PM

To: "kkbt@usbr.gov" &lt;kkbt@usbr.gov&gt;

Cc: Larry Martin &lt;lmartin@hnw.law&gt;

Mc. McKinley,

I am attaching an additional letter prepared by Mr. Marn regarding Ellensburg Water Company, who joins in with the comments and letter dated July 9, 2018, which was previously emailed (below) and mailed to you. Please note, the original letter will follow in today's U.S. regular mail.

Thank you!

**Rhondda Dietrich, Legal Assistant**

direct. 509.577.7803 fax. 509.453.6880  
halversonNW.com

---

**From:** Rhondda Dietrich

**Sent:** Monday, July 9, 2018 3:51 PM**To:** 'kkbt@usbr.gov' <kkbt@usbr.gov>**Cc:** Larry Martin <lmartin@hnw.law>**Subject:** Supplemental Draft Environmental Impact Statement-Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance

Ms. McKinley,

Please see the attached letter prepared by Mr. Marn. The original letter will follow in today's U.S. regular mail.

Thank you!



Rhondda Dietrich, Legal Assistant

p. 509.248.6030 f. 509.453.6880  
[rdietrich@hnw.law](mailto:rdietrich@hnw.law)

405 E. Lincoln Avenue, Yakima, WA 98901  
halversonNW.com

\*My work hours are Monday through Friday from 7:30 AM to 4:00 PM\*

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Halverson Northwest Law Group P.C.



**LEM draft ltr to BOR re Supplemental Draft EIS 7-11-18 (EWC).pdf**

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 Paul C. Dempsey\*\*  
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 Juliana M. Van Wingerden  
 Stephen R. Winfree+

\*Also OR Bar Member  
 \*\*Also State Bar of CA Member  
 +Of Counsel  
 ++Retired

July 11, 2018

*(Also Sent Via Email to: kkb1@usbr.gov)*

Bureau of Reclamation Columbia-Cascades Area Office  
 Attn: Ms. Candace McKinley, Environmental Program Manager  
 1917 Marsh Rd.  
 Yakima, WA 98901-2058

**RE: Supplemental Draft Environmental Impact Statement-Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance**

Dear Ms. McKinley:

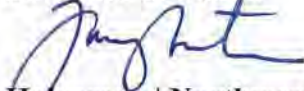
I am sending this letter on behalf of Ellensburg Water Company (“EWC”) in regards to the above referenced Supplemental Draft Environmental Impact Statement (“SDEIS”). Ellensburg Water Company has reviewed the SDEIS and joins in with the comments and letter dated July 9, 2018, which was sent on behalf of other Irrigation Providers in the Yakima Basin (SVID, YTID, SMID, NSID, and WSIC).

Ellensburg Water Company is a senior water right holder in the Yakima Basin and supports the proposed plan outlined in the SDEIS, with the understanding that the proposed actions will not adversely affect Ellensburg Water Company’s ability to fully use their existing water rights.

I thank you for your attention and the opportunity to comment.

Sincerely,

Lawrence E. Martin



**Halverson | Northwest Law Group P.C.**  
 Attorneys for:  
 Ellensburg Water Company (EWC)

cc: Ellensburg Water Company

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March 2019



K2KConvey, BOR UCA <sha-uca-k2kconvey@usbr.gov>

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## [EXTERNAL] KDRPP and KKC SDEIS

1 message

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**Emilie Blevins** <emilie.blevins@xerces.org>

Wed, Jul 11, 2018 at 4:08 PM

To: kkbt@usbr.gov

Cc: Sarina Jepsen <sarina.jepsen@xerces.org>

Attn: Ms. Candace McKinley, Environmental Program Manager

Ms. McKinley,

I have attached comments from the Xerces Society for Invertebrate Conservation with regards to the KDRPP and KKC SDEIS Comment Period. Please do not hesitate to be in touch should you have any questions.

Best,

Emilie

**Emilie Blevins**

Conservation Biologist

Endangered Species Program

Tel: (503) 232-6639 ext. 124



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Stay in touch: [xerces.org](http://xerces.org) [Xerces blog](#) [E-newsletter](#) [Facebook](#) [Twitter](#) [Instagram](#)

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 **Xerces\_SDEIS\_LakeKachess.pdf**  
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Attn: Ms. Candace McKinley  
Environmental Program Manager  
US Bureau of Reclamation  
1917 Marsh Road  
Yakima, WA 98901

Re: Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir  
Conveyance Supplemental Draft Environmental Impact Statement

Ms. McKinley,

In response to the public comment period for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance SDEIS, the Xerces Society for Invertebrate Conservation would like to provide the agency with information on species of native shellfish (freshwater mussels) found within the proposed project site.

Native species of freshwater mussels are important members of the aquatic community in Washington's rivers, lakes, and streams. They provide valuable ecosystem services; as filter-feeders, they can substantially improve water quality and clarity. Mussels also support and improve fish habitat and are a valuable food source for other species. Freshwater mussels are relatively long-lived (reaching 10-100 years of age) and generally sessile. Activities that harm freshwater mussel beds or habitat (which includes many perennial aquatic ecosystems) may require years for recolonization and recovery to pre-impact abundance. Unfortunately, freshwater mussels are also among the most imperiled species globally. Recent research by Xerces Society staff and coauthors<sup>1</sup> has shown that western species like the western pearlshell, western ridged mussel, and floaters are declining in distribution. For example, our analysis indicated that Oregon and western floaters have declined in distribution by 26%.

The Xerces Society, in partnership with the Confederated Tribes of the Umatilla Indian Reservation, maintains a database of freshwater mussel records for western North America. This database includes records for three species of freshwater mussel reported from the area: the Oregon floater and western floater (from Lake Kachess), and the western pearlshell (from an unspecified area near but east of the lake).

Species such as the Oregon floater and western floater can reach high densities in aquatic habitat, particularly along banks and shorelines where softer sediments accumulate. For example, one study reported finding as many as ~275 mussels/m<sup>2</sup>. These animals are impacted by drawdown and dewatering of habitat, particularly because mussels have poor ability to track rapidly declining water levels and because preferred habitat or suitable environmental

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<sup>1</sup> Blevins, E., S. Jepsen, J. Brim Box, D. Nez, J. Howard, A. Maine, and C. O'Brien. 2017. Extinction risk of western North American freshwater mussels: *Anodonta nuttalliana*, the *Anodonta oregonensis/kennerlyi* clade, *Gonidea angulata*, and *Margaritifera falcata*. *Freshwater Mollusk Biology and Conservation* 20:71–88.

conditions may not occur at depths that remain inundated following drawdown. Floater mussels are likely to occur at high density in parts of the project area based on citizen observations of “hundreds” of dead mussels visible on exposed shores following past drawdowns.

Western pearlshell can also reach high densities in perennial rivers and streams, with estimates as high as 400 mussels/m<sup>2</sup> reported in one Oregon river. This species is similarly impacted by declining water levels, as well as reduced connectivity of aquatic habitat because the species depends upon the presence of salmon or trout (including, potentially, Bull Trout, based on a field observation) to complete metamorphosis from a larval to juvenile stage. If water management reduces connectivity of habitat or alters fish use of habitat, it may also impact recruitment and health of western pearlshell populations. The exact location of western pearlshell reported near Lake Kachess is unknown, but the species could occur in perennial streams that are currently connected to the lake.

Although western freshwater mussels are neither state nor federally listed as endangered or threatened, the western pearlshell has been identified as a Washington state “Species of Greatest Conservation Need” in the 2015 State Wildlife Action Plan. Additionally, the Washington Administrative Code [WAC 220-660-030 (30) and WAC 220-660-030 (55)] refers to shellfish (inclusive of freshwater shellfish) under definitions for fish life and habitats essential to fish life. Further, WAC 220-660-100 (2a-b), in discussion of “Fish life concerns” refers to shellfish and the potential for damage to shellfish and their habitat. Under WAC 220-660-050 (2) regarding “Fish life concerns”, “HPAs [Hydraulic Project Approvals] help ensure construction and other work is done in a manner that protects fish life.”

Freshwater mussels known to occur within the project area are not addressed in the current Supplemental Draft EIS, yet drawdown activities will likely result in impacts to existing mussel beds [see review in Blevins, E., L. McMullen, S. Jepsen, M. Blackburn., A. Code, and S. H. Black. 2017. *Conserving the Gems of Our Waters: Best Management Practices for Protecting Native Western Freshwater Mussels During Aquatic and Riparian Restoration, Construction, and Land Management Projects and Activities*. 108 pp. Portland, OR: The Xerces Society for Invertebrate Conservation. (Available online at <https://xerces.org/conserving-the-gems-of-our-waters/>)].

Freshwater mussels and the potential for impacts should be discussed and incorporated into the final SEIS, as well as into existing management decisions related to the lake to ensure that mussel populations are not extirpated from Lake Kachess or connected waterbodies. Should an HPA be issued for this or any future project at Lake Kachess, impacts to freshwater mussels should also be addressed and mitigated for to ensure that freshwater mussels and the benefits that they provide the lake and downstream waters are maintained.

Respectfully,

Emilie Blevins, MS  
Freshwater Mussel Lead, Conservation Biologist  
Xerces Society for Invertebrate Conservation

1





K2KConvey, BOR UCA &lt;sha-uca-k2kconvey@usbr.gov&gt;

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## [EXTERNAL] Comments on the SDEIS for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance

1 message

---

Wendy McDermott <wmcdermott@americanrivers.org>  
To: "kkbt@usbr.gov" <kkbt@usbr.gov>

Wed, Jul 11, 2018 at 5:09 PM

Hello,

1 Please find attached joint comments on the Draft Supplemental Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance prepared and submitted by American Rivers, Trout Unlimited, and The Wilderness Society.

Thank you,

Wendy

Wendy D. McDermott

Director, Rivers of Puget Sound-Columbia Basin

P.O. Box 1234

Bellingham, WA 98227

206-213-0330 ext. 1

[www.AmericanRivers.org](http://www.AmericanRivers.org)

[Instagram](#) | [Facebook](#) | [Twitter](#)



Take action for America's Most Endangered Rivers® of 2018: [www.AmericanRivers.org/MostEndangeredRivers](http://www.AmericanRivers.org/MostEndangeredRivers)





July 11, 2018

Candace McKinley, Environmental Program Manager  
Bureau of Reclamation, Columbia Cascades Area office  
1917 Marsh Road  
Yakima, WA 98901-2058

Ms. Danielle Squeochs, PhD, LHg, PE  
Technical Projects Manager  
Washington Department of Ecology  
1250 West Alder Street  
Union Gap, WA 98903

Submitted via email to [kkbt@usbr.gov](mailto:kkbt@usbr.gov)

**RE: Comments on the Supplemental Draft Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance**

Dear Ms. McKinley and Ms. Squeochs:

2

Please accept this letter as the joint comments of American Rivers, Trout Unlimited, and The Wilderness Society on the Draft Supplemental Environmental Impact Statement (SDEIS) for the Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir-to-Kachess Conveyance (KCC).

In the Yakima River basin, our organizations have worked with government at all levels, the Yakama Nation, irrigation districts and a variety of other interests to address ecosystem restoration, fishery improvements, and water supply, all under conditions of current and anticipated climate variability. We agree on actions that will make the agricultural economy more reliable, build the growing recreational economy, restore ecosystems and a healthy fishery, and address long-standing commitments made to the Yakama Nation. The result is the Yakima River Basin Integrated Water Resource Management Plan (Integrated Plan), a phased, multi-decade plan that lays out a suite of solutions to complex problems.

3

Combined with significant water conservation, water marketing, and other water management efforts, KDRPP will substantially contribute to the water supply goals of

3 cont

the Integrated Plan. We support the decision to make KDRPP the first major reservoir water supply action undertaken through the Integrated Plan. Implementing KDRPP is important for maintaining balance among the Integrated Plan's seven elements and will move forward the water supply projects needed to meet the requirements under the Teanaway land acquisition. While KDRPP's construction and operations will have environmental impacts, strong mitigation measures can be undertaken to address these impacts, and the continued success of the Yakima Basin Integrated Plan has had and will continue to have far reaching benefits to fish and wildlife, habitat availability and quality, and to fulfilling Yakama Nation tribal treaty rights.

4

We are submitting comments on the KDRPP-KKC SDEIS to respond to changes since the 2015 Draft Environmental Impact Statement (DEIS) and to the Proposed Action and alternatives. Such changes include an alternative for a floating pumping, development of the Bull Trout Enhancement Memorandum of Understanding (BTEMOU), and a proposal for volitional bull trout passage at the Narrows in Kachess Reservoir.

In March 2015, American Rivers, Trout Unlimited and The Wilderness Society submitted comments on the DEIS. At the time, we supported both the KDRPP south pumping plant and KKC projects because of the potential for these projects to contribute to improving water supplies and fisheries. We withdraw our previous support of a land-based pumping project and instead support the SDEIS' Proposed Action (Alternative 4), installation of a floating pumping plant that would discharge to the existing outlet channel, minimizing shoreline habitat disruption during both construction and operation.

We also withdraw previous support the Keechelus Reservoir-to-Kachess Reservoir Conveyance as a standalone project or as a component of the KDRPP alternatives. While this structure is intended to allow unassisted (gravity flow) transport of water from Keechelus Reservoir to refill Kachess Reservoir following its drawdown and to reduce summer high flow conditions in the upper Yakima River, its benefits are not sufficient for these purposes at this time. In the absence of facilitating adequate delivery of water to refill Kachess Reservoir, the KKC does not adequately contribute to meeting water supply goals or maintaining suitable reservoir habitat (as dictated by water levels). The KKC will alter flows downstream of the Keechelus Dam, which benefit the rearing and spawning of salmonids in the Yakima River, but the costs and uncertainties of the project are too great. We agree with Bureau of Reclamation (Reclamation) and Department of Ecology (Ecology) in their stated need for continued analysis of the KKC for other costs and benefits.

In our March 2015 letter, we also supported the associated Bull Trout Enhancement (BTE) framework, believing that it is necessary not only for mitigating the impacts of KDRPP/KKC but also meeting broader bull trout restoration goals in the Yakima Basin. We continue to strongly support the BTE actions described in Appendix C of the SDEIS and the implementation of the BTEMOU (Appendix A).

5 While our organizations support the SDEIS' Proposed Action, we offer the following comments for improving the analyses and information presented in the SDEIS and request that the Final Environmental Impact Statement (FEIS) and Record of Decision address these issues:

General Comments:

6

- KDRPP is a water supply project, not a project designed to improve environmental conditions in the Yakima River Basin. It is, however, part and parcel of the Yakima Basin Integrated Plan which provides significant environmental and other benefits for the Yakima Basin. As a water supply project, project design, elements and mitigation should ensure that it will not make environmental conditions worse, specifically for bull trout, steelhead and salmon.

7

- The SDEIS lays out mitigation actions, but does not provide a commitment to undertake these mitigation measures nor does it specify what agency will be responsible for implementation. Section 2.3.6 of the SDEIS states: "Final decisions on who is responsible for implementing mitigating measures and/or reporting on them will be described in either the FEIS or ROD." In the FEIS or ROD, we request that:
  - The mitigation measures be clearly identified and described with enough specificity that it will be possible to tell that they have been implemented;
  - Mitigation measures be based on performance standards;
  - Commitment to implementation is specified; and
  - The party responsible for implementing and/or reporting on the measures be identified.

8

- Given that the KDRPP project is nestled within Reclamation's multi-reservoir Yakima Project<sup>1</sup>, it will not be operated in a vacuum. However, the SDEIS does not provide a full description of how the KDRPP project will be integrated into the reservoir operations, water deliveries, and instream flow targets and obligations. How KDRPP will affect water accounting in determining Total Water Supply Available (TWSA), what class water year is anticipated, and meeting instream flow targets is left as an open question. While the SDEIS may not be the appropriate vehicle for determining answers to these issues, the answers will affect the impacts of the project. Some of the impacts of the project are likely to be mitigated or exacerbated by future operations and accounting. Operational issues include:
  - Many of the impacts of the KDRPP project are a result of the time it may take to refill the reservoir after a drought drawdown. To a significant

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<sup>1</sup> The Yakima Project dams and reservoirs are Bumping Lake, Clear Creek, Tieton, Cle Elum, Kachess, and Keechelus. See <https://www.usbr.gov/projects/index.php?id=400>.

8 cont

degree, the time needed for refill depends on the operation of both Kachess Reservoir and the other Yakima Project reservoirs. Tuning the operations and water deliveries of the Yakima Project as a whole to speed refill to at least normal minimum pool, were not examined as part of the SDEIS. The FEIS and ROD should consider changes to the Yakima Project operations and water delivery that speed refill and reduce impacts as mitigation for KDRPP.

9

- Impacts to salmon and steelhead in the Kachess River downstream of the reservoir, and to a lesser extent, downstream of its confluence with the Yakima River, are dependent on flows released from the reservoir. In a year, or years, following a drought drawdown, operations should not make conditions worse for salmon and steelhead, especially for critical spring and winter flows. SDEIS (2-17) includes an important commitment to protect spring flows:

*In keeping with the goals of the Integrated Plan, under the Proposed Action during Kachess Reservoir refill Reclamation would operate the Yakima Project to ensure spring (March through June) flows are at least what they would be under current operating conditions without KDRPP. Current operating conditions vary by year depending on hydrologic conditions.*

This commitment should extend to winter flows, and the accounting for how KDRPP may affect year by year operations in meeting this commitment should be described.

#### Bull Trout

10

- Bull trout, which are protected under the Endangered Species Act, in Kachess Reservoir are adversely impacted by current reservoir operations, especially when the reservoir is drawn down by limiting access to tributary habitat, such as Box Canyon Creek, and in passage through the Narrows – the divide between historic Big Kachess and Little Kachess Lakes. The KDRPP project will add to the existing impacts by increasing the time the reservoir is drawn down. Issues related to bull trout that should be addressed in an FEIS and/or ROD include:

- While the SDEIS identifies mitigation measures, it does not provide a commitment to those mitigation measures nor does it identify the agency responsible for implementation. Commitment and responsible party should be identified clearly in the FEIS or ROD.

11

- The Bull Trout Enhancement Memorandum of Understanding is referenced in the SDEIS, but which parts of the BTEMOU are to be implemented as mitigation is unclear. We recognize that several projects within the BTE is outside the Kachess watershed and we support these broader measures especially where direct mitigation in Kachess is not reasonably achievable. Reclamation and Ecology's commitment to implementing the BTEMOU in its entirety should be explicit.

- 12 ○ Volitional bull trout passage at the Narrows section is a proposed mitigation measure in the SDEIS, which we strongly support. Because the passage measure is essential mitigation for impacts to bull trout, it should be framed as performance standards, rather than simply construction actions. Specifically, construction of a roughened channel at the Narrows is appropriate, but the mitigation measure should be passage effective for specific life stages, rather than simply construction of a channel that may or may not be effective. Similarly, any tributary passage, should specify a performance standard.
- 13 ○ Bull trout access to habitat in Box Canyon Creek is impeded in low water and drought years when Little Kachess is drawn down and impacts will likely be greater when KDRPP is fully operational. We were disappointed to see that mitigation measures for bull trout access to Box Canyon Creek were not included in the range of alternatives in the SDEIS. The FEIS should include Box Canyon Creek mitigation measures.
- 14 ○ Because construction of the Narrows passage channel is dependent on reservoir levels/operation, bull trout could be negatively impacted in the years immediately following implementation of the KDRPP (i.e., when the reservoir is lowered to address water supply issues, but the passage channel has not yet been constructed). Mitigation measures should be developed to address impacts during the interim period before permanent passage is constructed.

#### Steelhead and Salmon

- 15 • Salmon and steelhead in Kachess River downstream of Kachess Reservoir may be affected by modified flow, especially in the years when Kachess is refilling after a drought drawdown. The FEIS and ROD should make explicit a commitment that flow conditions will not be worse in the Kachess River for salmon and steelhead as a result of KDRPP. The current statement in Section 2-17 applies only to spring flow, and should be extended to winter flows as well.
- 16 • Environmental flows at specific points in the Yakima River system are determined by the water year class. How KDRPP will affect a determination of water year class, especially in years where Kachess is being refilled after a drought drawdown, should be specified.

#### Geotechnical Issues

- 17 • Impacts of dredging and hardening (i.e., scour protection) of the reservoir bottom, as well as anchoring of the floating barge and pumping plant on benthic habitat should be identified.
- 18 • The SDEIS does not indicate the state of geotechnical knowledge of Kachess Reservoir's slopes that will be exposed when dewatered. When KDRPP is fully

18 cont

utilized, are there potential slope stability/landslide and erosion impacts to the newly exposed steep lake shoreline should be known and mitigated for?

#### Hydrology and Water Supply

19

- There is a lack of knowledge of the effects of drawdown on reservoir productivity, food webs, and proliferation of invasive plants species. We support continued study of these interactions and impacts.

20

- Impacts to groundwater and wells around Kachess has been a significant concern for area residents. While monitoring and taking “appropriate mitigation measures” is called for in the SDEIS, greater specificity in the monitoring regime, and the potential mitigation measures is needed in the FEIS and ROD

21

- Impacts on the ability of local fire departments to pump water from Kachess when needed has been raised as a concern of local residents. This issue should be evaluated and provision for effective access to fire water supplies specified in the FEIS and ROD.

22

American Rivers, Trout Unlimited, and The Wilderness Society appreciate the opportunity to provide comments on the Draft Supplemental Environmental Impact Statement for the Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Conveyance. Our organizations support the Yakima Basin Integrated Plan and the SDEIS’ Proposed Action. Lastly, we applaud the current efforts by Reclamation, Ecology, Kittitas Reclamation District and Roza Irrigation District to support the ongoing Tributary Supplementation Project and encourage all parties to continue to work together as KDRPP moves forward.

Sincerely,

Wendy McDermott  
Director, Puget Sound Columbia Basin Programs  
American Rivers

Lisa Pelly  
Director, Washington Water Project  
Trout Unlimited

Kitty Craig  
Washington State Deputy Director  
The Wilderness Society





K2KConvey, BOR UCA <sha-uca-k2kconvey@usbr.gov>

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## [EXTERNAL] Lake Kachess

1 message

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**Scotttsumner** <Scotttsumner@comcast.net>  
To: kkbtt@usbr.gov

Thu, Jul 12, 2018 at 10:44 AM

Please find signed comment from the following Hyak Residents:

Scott Thomas Sumner  
Diane Mary Sumner  
731 Hyak Drive East  
Snoqualmie Pass, WA 98068

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### 3 attachments

 **filename-1.pdf**  
264K

 **ATT00001**  
1K

 **HPOA KDRPP SDEIS Comment Letter 07.11.2018.doc**  
83K



Submitted via email to [kkbt@usbr.gov](mailto:kkbt@usbr.gov)

Ms. Candace McKinley  
Environmental Program Manager  
Bureau of Reclamation / Columbia-Cascades Area Office  
1917 March Road  
Yakima, WA 98901-2058

**RE: Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir to Kachess Reservoir Conveyance (KKC) Supplemental Draft Environmental Impact Statement (SDEIS)**

Dear Ms. McKinley:

Please accept these comments/questions regarding the KDRPP SDEIS on behalf of the Board of Directors of the Hyak Home Owners Association (HPOA Board). The HPOA Board represents the home owners association for Hyak Estates located at the base of the Hyak Ski Area at Snoqualmie Pass. The HPOA Board represents an association of over 300 property owners within Hyak Estates. The HPOA Board and the residents of Hyak Estates have a direct interest in the KDRPP and KKC projects and the subject SDEIS and have previously provided comment on the 2015 DEIS.

**2018 SDEIS Comments:**

1. Alternatives: The HPOA Board only supports Alternative 1, "No Action" and opposes all other active alternatives presented in the SDEIS. 1
2. Background of Proposed Action: The SDEIS states that the Yakima Basin Integrated Water Resource Management Plan (Integrated Plan) includes the following components:
  - Reservoir fish passage
  - Structural and operational changes
  - Surface water storage
  - Groundwater storage
  - Habitat/watershed protection and enhancement
  - Enhanced water conservation
  - Market reallocation

This SDEIS only address the first and second bullet above and ignores all other components of the integrated plan. The structural and operation changes proposed in the stand alone KDRPP project (the proposed action) only access the natural pool of Lake Kachess and does not address the need for additional surface water storage, ground water storage, habitat protection and enhancement and water conservation, and only addresses market reallocation in terms of the water pumped from the natural pool of the lake that will only benefit the Rosa Irrigation District (ROSA).

- a. Please explain what Reclamation's plan is to address all of the components of the



Integrated Plan as the KDRPP relates to each component of the Plan? **2**

3. Reclamation's Purpose and Need: The stated purpose of the SDEIS is to "provide more sustainable water resources for agricultural, municipal, and domestic needs, while also helping to restore ecological functions and the health of the riverine environment in the Yakima River basin". The SDEIS puts forward a plan to drain additional water from the natural pool of Lake Kachess to benefit only ROSA. **3**

a. How does the proposed floating pump on Lake Kachess improve the health of the riverine environment?

b. How does the proposed floating pump on Lake Kachess provide more sustainable water resources for municipal needs if the water removed from the natural pool will be for the sole use of the ROSA? **4**

c. How does the proposed floating pump on Lake Kachess provide more sustainable water for domestic needs when the wells surrounding the lake may go dry and the water pumped will only be used for ROSA's purposes? **5**

d. What is Reclamation's plan to accurately address items a to d above? **6**

4. Failure to consider all viable alternatives: The DEIS and the SDEIS only consider two alternatives: drain a natural lake to benefit downstream irrigators with junior water rights or don't drain the lake. No other alternatives are considered to meet the irrigation security needs of the ROSA farmers. The EIS process is supposed to consider all alternatives to achieve the purpose and need. This SDEIS does not consider any other viable alternatives such as conservation of existing irrigation resources including mitigation for irrigation system losses due to leakage and evaporation, instituting conservation irrigation systems and crop selection as examples of many possible alternatives. It also does not consider the decreasing snowpack storage within the watershed and ways in which to increase snowpack storage and forest health. There is research being conducted at the University of Washington that suggest with proper forest management practices snow-pack storage can be significantly increased which would benefit water storage within the basin. These types of alternatives must also be considered. **7**

a. How does the DEIS and SDEIS meet the requirement to consider a range of reasonable alternatives which is required by NEPA? **8**

b. What is Reclamations plan for considering all reasonable alternatives? **9**

c. What is Reclamation's plan, as required in the NEPA process, to list and provide a full explanation, including data, references, and review procedure for excluding each alternative not considered? **10**

5. SDEIS Proposed Action: The Proposed Action will pump the natural pool of Lake Kachess to 80-ft below the gravity outfall of the dam. This action only takes water from the natural pool and does not consider how to increase surface water storage which is a component of the Integrated Plan. In addition the proposed action no longer includes the KKC project. **11**



The 2015 DEIS linked the KDRPP and KKC projects due to the financial analysis and the fact that it would take years to re-fill Lake Kachess without the KKC project. It seems the SDEIS only considers the benefits of the KDRPP in the first year of drought.

11

- a. Without the KCC project how does the financial analysis show a benefit in years 2 to 8 while the lake re-fills and the pumping plant has to operate continuously?

It is also a misconception to consider the water below the gravity outfall of the dam to be “in-active storage” because this is the approximate natural lake elevation and should be considered part of the natural habitat. Labeling the natural pool as in-active storage and using the natural pool does not meet the objective of the integrated plan to improve surface water storage – it only takes existing water.

12

- b. Please explain how surface water storage is improved in the 2<sup>nd</sup> drought year and beyond if the Lake is unable to be refilled?

13

- 6. Project Costs: Alternative 4 is the “proposed option” and has a variance of -30% to +50% is difficult to interpret in terms of the stated cost of \$282,000,000 estimate for the KDRPP-FPP. Given the uncertainty surrounding the estimate, it would be far preferable to show the actual estimates in numerical terms including the probability of the variance of achieving these costs should also be stated ; e.g.

|                         |                         |                          |
|-------------------------|-------------------------|--------------------------|
| Low Estimate            | Projected Estimate      | High Estimate            |
| 197,400,000 (z% chance) | 282,000,000 (y% Chance) | 423,000,000 (X % Chance) |

14

The Bull Trout Volitional Passage is stated in the text (Page 2-60) to cost \$23,000,000 (preliminary estimate) but is not included in the above costs but should be as it will be a required element. That would bring the high cost to \$444,000,000.

This does not include the large mitigation costs of private well failure mitigation, campground restoration and mitigation, negative impact on private property values, fire risk hazard increase, fire suppression cost increase, and many others mentioned in the SDEIS. The budget presentation is inadequate, misleading, and incomplete.

- a. How will Reclamation adequately address all costs associated with the project?

- 7. Impact on Campers and recreational users at Lake Kachess The Lake Kachess has over 23,000 annual campground visitors and 11,000 annual boaters that will be negatively affected by pumping down the natural lake without the ability to re-fill the lake for years. On page ES-Xii, the following suggestions are given to address recreational use of the lake “Extend boat ramps at Kachess Reservoir...if feasible, and construct new east shore ramp that would be available at all reservoir levels.

15

- a. Under what conditions would extending those ramps be feasible or not feasible?

This should be addressed in the SDEIS as it is an effect on recreation users that cannot be defined unless it is know if existing boat ramps is feasible.



- b. What analysis of the lake geography has been done to suggest is extending any of the ramps for use during a KDRPP-FPP drawdown is truly feasible or not?

15

The Lake within and below the natural pool elevation has very steep banks and it should be determined during the EIS process if in fact this is feasible.

- 8. Increased forest vulnerability and Fire Hazard. The vegetation and wetlands (Page 2-70) and densely forested watershed (Page 3-98) will, according to the SDEIS suffer with reduced water levels in Lake Kachess. This will mean stressed trees and other foliage in a single drought year, and in multiple years of pump operation dead trees due to lack of water and insect vulnerability.

The Snoqualmie Pass Fire and Rescue agency has the primary responsibility for fire and emergency medical services in the Lake Kachess and Lake Keechelus areas. This fire district has repeatedly raised concerns about increased risk due to wildfires, reduced capacity to suppress fires (due to lowering of the lake and removal of a source of water for firefighting), the increased incidence of accidents and injuries due to construction activity, and need for public education and communication strategies necessitated by KDRPP and KKC projects.

16

This proposal fails to adequately address the added fire risks due to climate change which is reducing snow packs storage which is clearly shown by existing data including WSDOT snowpack data from Snoqualmie Pass. This plan exacerbates that fire risk because it will decrease the health of forests surrounding the Lake and will make water available by pumping for fire suppression almost impossible to retrieve during a full pumping draw-down and from wells going dry. The SDEIS identifies damage to the natural environment that will be caused by the proposed action.

If, as a result of a KDRPP draw down and forests die who will be responsible for removing the dead trees to prevent further destruction from wildfires which could end up extending all the way to Snoqualmie Pass?

- 9. Refilling Lake Kachess. The SDEIS states that the KDRPP-FPP is the “proposed action” and Reclamation and Ecology have not identified a “preferred alternative.” This represents a major departure from the previous DEIS, which indicated a KKC conveyance project and a KDRPP project must be considered as a “single action and cannot be separated.” The logic of that position was that emptying Lake Kachess in an artificial and unprecedented manner, would require a refill mechanism (e.g., KKC).

17

- a. Please explain how the KDRPP-FPP proposed action no longer needs to be linked to the KKC project in order to refill the lake despite no change in the stated goal of the KDRPP to pump 200,000 acre-feet from the natural lake for ROSA?
- b. Please explain how Reclamation can promote the proposed action despite the detailed hydrology that the 2015 DEIS was based on that purposed that the KKC was required as a refill mechanism without which Lake Kachess would like not refill for 20 years?
- c. Please explain in detail what changed between 2015 and 2018 that now allows a refill prediction of 2-8 years when the 2015 prediction was 20 years or more?

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- d. Which report should be relied on? 2015 KKC is required as a part of KDRPP, or 2018 KDRPP doesn't need KKC and will refill 2-4 times faster than previously predicted? 19
- e. How can the public be expected to make informed comments with such seemingly inconsistent hydrology predictions? Can either report be relied upon? 20

11. Funding: Page ES-viii: The SDEIS states the Bureau of Reclamation will “fund...some or all, or authorize Roza to fund” the KDRPP-FPP. This statement inadequately informs Washington citizens...as well as Roza farmers...of their likely obligations for financial support of the KDRPP-FPP. 21

- a. When will the ultimate source of funding be determined and by whom? 22
- b. If public funds are utilized to benefit a handful of private businesses in a singular water district, will that district be required to repay those funds? 23
- c. If public funds are used for the project, will the public be offered another comment period or another process by which voters can express if they approve of spending half a billion dollars on a water project that benefits only a select group of private interests? 24
- d. How can the public be expected to adequately comment on the SDEIS without knowledge of whether or not public funds will be utilized? 25

17. Mitigation: “Volitional Bull Trout Passage Improvements are proposed as a part of the KDRPP...” This statement and others give the impression that the proposed action will improve passage and habitat for Bull Trout and perhaps even “enhance” the bull trout population. This is an inaccurate depiction of what will be a significant negative impact on the Lake Kachess bull trout population.

The Bull Trout Volitional Passage project is described on Page 2-67, Table 2.9. The “steep slope conditions” between Big Kachess Lake and Little Kachess Lake will occur when the water level is approximately 2,208 elevation and the pumping operation begins. These “steep slope” conditions will occur an additional 6,225 days if KDRPP-FPP is installed, this will mean 34 additional years (out of 90 modeled), and an average of 183 days a year, when Bull Trout Passage will be completely dependent on the Volitional Passage. 26

In some years (e.g., conditions such as occurred between 2001 – 2008) the pumping station will be in continuous operation which will require continual use of the Volitional Passage. Eight years of steep slope conditions, requiring 8 years of Bull Trout dependence on the volitional passage, represents 2-3 spawning cycles which could result in the destruction of the Bull Trout Population in the Lake. No evidence is provided that the Volitional Passage is effective, has been demonstrated in other Bull Trout populations or has completed a “proof of concept” test.

The volitional passage is not included in the budget costs, it cannot be assumed to be part of the project going forward. Another concern is the lack of water flowing into tributaries of Little Kachess Lake, which will be the water needed to charge the volitional passage. The SDEIS states the tributary water disappears at the end of the year...when the water will be needed in the passage. There is no description of the length of the passage (the length and Southern outlet are never described in text, numeric, or schematic terms). 27



- a. In years where streams disappear the Volitional Passage will have to be operated by pumping. Without addressing this the mitigation plan is incomplete. What are Reclamations Plans to address this issue in the proposed mitigations? 27

The Bull Trout find their way to spawning tributary by a complex but not-well-understood physiology of chemo and geo receptors. This returns them to the spawning tributary, and eventually spawning bed, where they started life. Creating a volitional passage means the Bull Trout will have to find an artificial tributary that did not exist when they were young and locate it several miles from where the “narrows” and “steep shelf” originated their life cycle. 28

The project as proposed will negatively affect and ESA listed species (Bull Trout) and its habitat which is not allowed under law unless all the affects can be mitigated.

- a. What research has been done to suggest the Bull Trout will use the Volitional Passage? 29
- b. How will Reclamation mitigate negative effects on the Bull Trout Population if the Volitional Fish Passage Structure fails to operate as intended? 30
- c. What fraction of the resident endangered Bull Trout population in Lake Kachess is estimated will be killed under the proposed alternative and all the active alternatives? What fraction of loss is allowable under law and the EPA? How will the active alternatives and the proposed alternative meet these legal requirements? How will this be mitigated? 31

18. USFWS Biological Opinion: The USFWS is conducting a Biological Opinion on the existing Yakima watershed with respect to the current operation of existing dams and irrigation districts and is not expected to be published until sometime in the fall of 2018. 32

- a. Why was the SDEIS prepared and released PRIOR to the USFWS Biological Opinion?
- b. Will another SDEIS be issued incorporating the study? How will the Biological Opinion be incorporated in the EIS process and will there be opportunity for additional public comment?

19. Geology & Stability of the Lake Kachees Dam and surrounding steep slopes: The existing dam at Lake Kachess is an earthen structure which may be impacted by long periods of drawdown and the SDEIS discusses the steep terrain under the current water line in some areas and suggests that landslides may occur. 33

- a. What studies have been done to determine what impact years of low water and drying of the earthen dam will have on its structural integrity? 34
- b. What topography is available of Lake Kachess below the current low water line? 35
- c. What studies have been done to determine areas within the lake that are most susceptible to landslides? 35



- d. How will these potential landslides be mitigated and what impact will they have on the operations of the KDRPP? 36
- e. What impact would landslides have on water quality, public safety and bull trout habitat and population? 37
- f. What is Reclamation's plan for conducting these study and will and additional SDEIS be prepared? 38

20. Negative financial impacts to Kittitas County: The implications of negative impact on private property values go beyond the directly affected citizens. A reduction in property values affects the tax base of the county, including schools and fire departments, and will reduce available resources to provide essential services. This is acknowledged in SDEIS Page 4-326 as follows: *"while effects on property values would most directly affect property owners, the wider community would also experience effects."* In other words, private property owners, fire departments, schools, city and county governments, and others would also be negatively impacted. Also with the Lake drawn down to levels where it becomes unusable or less desirable for recreation there will a decrease in tourist visits to the Lake Kachess campground, a reduction in business in surround communities, and a reduction in sales taxes collected which will further negative impacts to the community and public at large while benefiting ROSA. 39

- a. Please explain how a publically funded project that benefits private land owners and irrigators and negatively affects public funding and hurts local businesses is in the best interest of the Citizens of Kittitas County and the State of Washington?

25. Water Rights: A KDRPP draw down has the probability of resulting in the existing 239,000 acre-ft of water NOT being available in subsequent years for those holding senior water rights. 40

- a. How will those with senior water rights to the existing 239,000 acre-ft of water currently stored by Kachess Dam be mitigated when that water is no longer available once Lake Kachess water level is lowered below the outlet to its dam?
- b. How will potable water rights of well owners be addressed if wells go dry? 41

### Closing Comment:

The HPOA is opposed to allowing a vital public resource to be taken to support and enhance the profits of a limited number of private businesses who have full knowledge of their lands water constraints. Reclamation and Ecology, and our elected officials should be looking for ways to preserve, protect, conserve and enhance limited natural resources rather than taking existing natural resources for a financially and environmentally unsound plan. Millions of dollars of public funds that have already been used to push this project forward that is no in the interest of the public good. 42

Under the NEPA and SEPA processes the HPOA requests that the Bureau of Reclamation and WA Department of Ecology each provide separate responses to the above comments. 43





# HPOA

*Hyak Property Owner's Association*

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The HPOA looks forward to seeing responses to these comments.

Respectfully,

James Sammet  
HPOA Board of Directors Member,  
on behalf of the entire  
HPOA Board of Directions, and HPOA

HPOA  
P.O. Box 120  
Snoqualmie Pass, WA 98068

V-Mail: 425.785.6543  
E-mail: [hpoaboard@hotmail.com](mailto:hpoaboard@hotmail.com)



# HPOA

Hyak Property Owner's Association

V-Mail: 425.785.6543

E-mail: [hpoaboard@hotmail.com](mailto:hpoaboard@hotmail.com)

*Diane Sumner*  
Diane Sumner  
Hyak Resident

*Scott T. Sumner*  
SCOTT T. SUMNER  
HYAK RESIDENT

731 HYAK DR. E.  
SNOQUALMIE PASS, WA  
98068



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email  
A Lewis*

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**WISE USE MOVEMENT**  
*P.O. Box 17804, Seattle, WA 98127*

Received in Mailroom

VIA MAIL AND EMAIL

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July 9, 2018

Yakima, Washington

Ms. Candace McKinley  
Environmental Program Manager  
Bureau of Reclamation  
Columbia- Cascades Area Office  
1917 March Road  
Yakima, WA 98901-2058  
Kkbt@usbr.gov

Dear Ms. McKinley:

On March 6, 2015, the Wise Use Movement submitted comments on the Department of Ecology’s Office of Columbia River (Ecology-OCR) and Bureau of Reclamation’s (BuRec) SEPA and NEPA Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus “Reservoir”-to-Kachess “Reservoir” Conveyance (KKC) Draft Environmental Impact Statement (DEIS), dated January 9, 2015, developed as part of a **Yakima Political Bargain**. To date, neither Ecology-OCR nor the Bureau have provided responses to our March 6, 2015, DEIS comments.

1

Being unable to justify any of the limited alternatives presented in that DEIS, over three years later, the BuRec and Ecology-OCR have wasted even more time and taxpayer money to present yet another uneconomical and environmentally damaging Kachess Lake pumping alternative in a Supplemental Draft EIS (SDEIS), dated April 2018. While we expect that the BuRec and Ecology-OCR will each respond to each of our DEIS comments in our letter dated March 6, 2015, we also expect a response to the following Wise Use Movement comments that raise additional concerns with the SDEIS and Alternative 4 (the Proposed Action).

**GENERAL COMMENTS**

The Department of Ecology-OCR professes to operate under RCW 9038.005 (2013) “to promote the aggressive pursuit of water supply solutions,” while the BuRec operates under the Yakima River Basin Water Enhancement Project (YRBWEP), passed by Congress in 1979 (Phase I), and 1994 (Phase II), augmented with funding through the BuRec’s “WaterSmart” program. Since Congress passed YRBWEP, nearly 40 years ago, the BuRec and Ecology have wasted millions of dollars on water storage study projects in the Yakima River Basin with little to show for it.

2

~~In 1982, the BuRec and Ecology studied 35 dam sites in the Yakima River Basin.~~  
<http://news.google.com/newspapers?nid=860&dat=19820728&id=-H5UAAAIBAJ&sjid=Bo8DAAAIBAJ&pg=5454.2159561>

The BuRec's 1984 Damsite and Structure Review dam site study identified the following dam sites for additional feasibility studies:

- Bumping Lake Enlargement on the Bumping River
- Cle Elum Enlargement (Cle Elum River)
- Devil's Table on Rattlesnake Creek (alternative Mile 4 damsite)
- Forks Project on the Teanaway River
- Horsetail Project on Little Naches River
- Tieton Dam Enlargement on Tieton River
- Wymer Project on Lumuma Creek
- Status Project on Status Creek
- Simcoe Project on Simcoe Creek
- Tampico Project on Ahtanum Creek

while eliminating other potential dam sites:

- Bakeoven South Fork – Tieton River
- Casland North Fork - Teanaway River
- Cooper Lake – Cooper River
- Cowiche – South Fork Cowiche Creek
- Dog Lake - Clear Creek
- Hole in the Wall – Dry Creek
- Horseshoe Bend – Naches River
- Hyas Lake - Cle Elum River
- Little Rattler - Rattlesnake Creek
- Lost Meadow – Little Naches River
- Lower Canyon – Yakima River
- Manastash - Manastash Creek
- Mile Four - Rattlesnake Creek
- Minnie Meadows – South Fork Tieton River
- Naneum - Naneum Creek
- Pleasant Valley – American River
- Rattlesnake - Naches River
- Soda Springs – Bumping River
- Swauk – Swauk Creek
- Toppenish – Toppenish Creek
- Upper Canyon – Yakima River
- Wapatox - Naches River
- Waptus Lake – Waptus River
- Wenas - Wenas Creek

<http://www.usbr.gov/pn/programs/yrbwep/reports/phase2/damsitereview.pdf>

Since then, more taxpayer money has been wasted on more storage dam sites:

- Cabin Creek Project
- Black Rock Project
- Burbank Project
- Selah Project

Since 2006, when the Washington State Legislature gave Ecology-OCR \$200 million to “aggressively pursue” new water supplies, Ecology-OCR has continued to waste taxpayer money. The failure of Ecology-OCR has been amply documented in the attached Power Consulting, Inc., report “Department of Ecology Office of Columbia River: The Last Ten Years,” (December 3, 2016). We request that this report be included along with these comments in any FEIS.

The Wise Use Movement continues to strongly oppose more irrigation storage dams and pumping projects in the Yakima River Basin when over 200,000 acre-feet of water conservation remain to be carried out, and other alternatives such as aquifer storage, water banking, and water markets have not been implemented.

2

**More Specific SDEIS Comments Are As Follows:**

**Supplemental Draft Environmental Impact Statement**

**Mission Statements**

The actions taken by the BuRec and Ecology in the Yakima Basin over the past years do not correspond with the purported agency missions.

- Please revise these mission statements to more accurately reflect reality;

“The mission of the Bureau of Reclamation is to manage, and develop uneconomical and environmental damaging water projects for the interest of private irrigation districts.  
The mission of the Department of Ecology is to aggressively develop new water storage projects at the expense of Washington’s water quality and environment, and promote the unwise management of our air, land and water for the benefit of private irrigation districts.”

3

**Cooperating Governments and Agencies:**

- Why is the Bonneville Power Administration listed as a cooperating agency when the BPA appears to have contributed little to nothing to the SDEIS?

4

**SEPA FACT SHEET**

- Why is the State Shoreline Management Act not included on the list of Permits, Licenses, and Approvals Required for Proposal?

5

**Executive Summary**

**Introduction (p. ES-iii)**

It states that “This SDEIS also analyzes a new proposal to improve bull trout passage in Kachess “Reservoir” at the Narrows. . .”

- Please delete this sentence as the limited discussion provided in Volitional Bull Trout Passage Improvements (Sec. 2.3.5, pages 2-18 and 2-19) fails to provide sufficient detail for reviewers to evaluate this proposal.

6

**2015 KDRPP-KKC DEIS (p. ES-iv)**

- Please clarify that neither the 2015 DEIS nor the Yakima Political Bargain FPEIS provided a range of alternatives as required by NEPA and SEPA.

7

**Changes to KDRPP from DEIS (p. ES-v)**

- Please provide a link to the Bureau’s Value Analysis study prepared in June 2015, if posted on the Bureau’s Yakima Project website. If not posted, please post it.
- What was the estimated cost of the Kachess Emergency Temporary Floating Pumping Plant?
- How much of this was the Roza Irrigation District prepared to pay for?

8

**Changes to BTE from DEIS (p. ES-vi)**

BuRec and Ecology-OCR are segmenting this proposed project to avoid impact analysis.

- Why are specific bull trout enhancement (BTF) projects not included in the Proposed Action?

9

**Background of the Proposed Action (p. ES-vi)**

- Please correct the first statement in this section to explain that the Yakima Political Bargain was created by a small group self-selected by Ecology-OCR and the BuRec.
- Why did Ecology-OCR and the BuRec NOT include the cities of Ellensburg or Cle Elum?
- Why did Ecology-OCR and the BuRec fail to include any recreational or hiking groups in its Yakima Workgroup?
- Why did Ecology-OCR and the BuRec fail to include the US Forest Service in its Yakima Workgroup until after the Workgroup adopted the Yakima Political Bargain?
- Why did Ecology-OCR and the BuRec fail to identify the Yakima Workgroup members that created the Yakima Political Bargain?

10

- Please include the Yakima Workgroup members in any FEIS, with updates, as the following list is what is posted on Ecology's Office of Columbia River's website:

<https://ecology.wa.gov/About-us/Our-role-in-the-community/Partnerships-committees/Yakima-Basin-Integrated-Plan-Workgroup>

Wendy McDermott American Rivers  
 Jerome Delvin Benton County Commission  
 Seth Defoe Kennewick Irrigation District  
 Paul Jewell Kittitas County Commission  
 Urban Eberhart Kittitas Reclamation District  
 Dale Bambrick NOAA Fisheries Service  
 Scott Revell Roza Irrigation District  
 Ron Cowin Sunnyside Valley Irrigation District  
 Lisa Pelly Trout Unlimited  
 Dawn Wiedmeier US Bureau of Reclamation  
 Jeff Thomas US Fish & Wildlife Service  
 Mike Williams US Forest Service  
 Bret Walters US Army Corps of Engineers  
 Jaelyn Hancock WA Department of Agriculture  
 Tom Tebb WA Department of Ecology  
 Mike Livingston WA Department of Fish & Wildlife  
 Rick Roeder WA Department of Natural Resources  
 Dave Fast Yakama Nation  
 Phil Rigdon Yakama Nation  
 Alex Conley Yakima Basin Fish & Wildlife Recovery Board  
 Sid Morrison Yakima Basin Storage Alliance  
 Mike Leita Yakima County Commission  
 Carmen Méndez Yakima City Council  
 Rick Dieker Yakima-Teiton Irrigation District

10

**Page ES-vii**

The Wise Use Movement concurs that the current water resources infrastructure, programs, and policies in the Yakima River basin are not capable of consistently meeting the demands for fish and wildlife, irrigation, and municipal water supply because irrigation “demand” in the Yakima River basin is endless and infinite. The Yakima River basin is capable of meeting the needs for optimal fish and wildlife and municipal water supply, but not the ceaseless demand for more irrigation water.

- Please add the following sentence: “While irrigation demands cannot be met, the needs for optimal fish and wildlife and municipal water supply can be met by an aggressive combination of water conservation, water efficiency, and water marketing could provide a better balance among competing irrigation needs.”

11

Page ES-vii misstates the Yakima Plan Programmatic EIS (PEIS). This PEIS did not “determine the effects of implementing the Integrated Plan.” The DPEIS, page 2-1 states that the environmental impacts of the “Integrated Plan” are evaluated at a programmatic level. The BuRec and Ecology-OCR cannot issue a PEIS and then claim that effects of the Yakima Plan have been evaluated. The BuRec and Ecology-OCR cannot claim that the PEIS provides a comprehensive approach when the PEIS refused to include a range of alternatives other than the preferred alternative and a no-action alternative.

12

- Please delete this sentence.

**Supplemental Draft EIS Proposed Action (p. ES-viii)**

This section states that the Proposed Action for the SDEIS is “to fund, design, construct, operate, and maintain a floating pumping plant” on Kachess Lake. This is incorrect as the SDEIS does not set out a clear funding plan. Despite past statements from the Roza Irrigation District that it would bear the costs, this SDEIS now discloses that the BuRec and Ecology-OCR (i.e. taxpayers) will bear the costs for private irrigation benefits.

13

- We request that the word “fund” be deleted from the above sentence.

In addition, as with the entire Yakima Political Bargain, Ecology-OCR sought authorization from the Washington State Legislature and the BuRec continues to seek authorization for funding from Congress prior to the issuance of an adequate PEIS, or project-specific EISs. The fact that BuRec and Ecology-OCR have put forth a Proposed Action for funding, prior to compliance with NEPA/SEPA or preparing a proper benefit/cost ratio is just a signal that the BuRec and Ecology-OCR have already arrived at its decision and are merely going through the motions of selecting Alternative 4.

13

**Purpose and Need for the Action (p. ES-ix)**

It states that BuRec and Ecology each propose to fund, design, construct, operate, and maintain some or all of the Kachess Pumping Plant.

- Hasn't the Roza Irrigation District pledged to fund the floating pumping plant project?
- Why would BuRec and Ecology fund a project that the Roza Irrigation District has pledged to pay for?

14

**Reclamation's Purpose and Need (p. ES- ix)**

It states that BuRec proposes to fund, design, construct, operate, and maintain some or all of the Kachess Pumping Plant.

- How much funding is BuRec planning to provide for this project?

**Ecology's Purpose and Need (p. ES-ix)**

It states that Ecology's purpose for the action is to participate in the ["Integrated["] Plan and fund (not more than 50 percent) of the plan. . ."

- What are the projected total costs of the ["Integrated["] Plan?
- Does Ecology-OCR agree that RCW 98.38.120 would allow Ecology-OCR to fund the entire costs of the Kachess Floating Pumping Plant Project?

RCW 90.38.110 provides:

- (1) Prior to the appropriation of funding for the construction of a water supply project proposed in the integrated plan with a cost of greater than one hundred million dollars, the state of Washington water research center shall review, evaluate, and prepare comments on the cost benefit analysis prepared for the project by the department and the United States bureau of reclamation.
- (2) To the greatest extent possible, the center must use information from existing studies, supplemented by primary research, to measure and evaluate each project's benefits and costs.
- (3) The center must measure and report the economic benefits of each project subject to subsection (1) of this section, so that it is clear the extent to which an individual project is expected to result in increases in fish populations, increases in the reliability of irrigation water during severe drought years, and improvements in municipal and domestic water supply.
- (4) The center may enter into agreements with other state universities and with private consultants as needed to accomplish the scope of work.
- (5) The center may consult, as necessary, with the department of ecology and the Yakima river basin water enhancement project work group.
- (6) No more than twelve percent of any appropriations provided for the implementation of this section may be retained for administrative overhead expenses.

- How and when does Ecology-OCR intend to comply with RCW 90.38.110?

15

**Roza and Proratable Entities' Purpose and Need (p. ES-x)**

- Why does this section failure to mention any funding commitment from either Roza or other proratable entities?

16

**Alternative 2 – Volitional Bull Trout Passage Improvements (p. ES-xi)**

- Why is there mention of the length of the passage "improvements?"
- Why is there no mention of passage "improvements" at Box Canyon Creek?

17

**Mitigation (p. ES-xii)**

- How will general bull trout passage improvement activities within Keechelus Lake take place?
- Why aren't bull trout passage improvements at Box Canyon Creek in Kachess Lake included?
- Why does the BuRec and Ecology-OCR not know if extending boat ramps at Lake Kachess is feasible?

18

**Alternative 4 – Floating Pumping Plant (Proposed Action) (p. EX-xiii)**

This is now at least the third floating pumping plant proposed by Yakima irrigation districts. A floating pumping plant was constructed at Lake Cle Elum back in 1977 and promptly burned and sank. The Roza Irrigation District proposed an emergency floating pumping plant at Lake Kachess in 2015, which was never built.

- What are the additional details, including size, costs, pumping capacity, and environmental analysis carried out on these two previous floating pumping plant projects?
- Why does Alternative 4 not include the Keechelus to Kachess Conveyance pipeline? The Yakima Political Bargain assumes that this project must be carried forward (all projects move together). Does this mean that the Yakima Political Bargain is no-longer integrated?

19

**Consultation and Coordination (p. ES-xv)**

- BuRec needs to complete its ESA consultation, including a Biological Opinion on the existing Yakima Project, and issue a revised SDEIS for public review and comment.

20

**Key Issues (p. ES-xv)**

This section summaries “key issues or resources” raised during scoping. This short list is completely inadequate and ignores a vast swath of the comments received during scoping:

The BuRec and Ecology’s Scoping Summary Report for the KDRPP and KKC DEIS, March 2014, is more notable for what it refuses to evaluate:

*Surface Water Resources*

*Note: The EIS will not list all approved water conservation plans because these details are not sufficiently related to the alternatives and the potential for significant impacts. p. 34*

21

This is incorrect. All alternatives propose that BuRec deliver an additional 200,000 acre-feet of water during drought years to downstream Yakima Project irrigation districts. If these irrigation districts were to reduce their demand for irrigation water these alternatives would not be necessary. Therefore, conservation plans are a viable alternative to the proposed project and must be considered.

- For each irrigation district, please provide:
  - A description of the district
  - The date of adoption and status of any water conservation plans developed by each district
  - An inventory of water resources
  - Best management practices in place
  - The criteria for evaluating the adequacy of all water conservation plans developed

*Vegetation and Wetlands*

*Note: The EIS is not expected to contain detailed mitigation plans that include elements such as water budget, water sources, grading plans, planting plans, and/or revegetation plans. p. 34*

22

The purpose of a project specific EIS is to provide mitigation plans to address significant adverse environmental impacts.

- Why do BuRec and Ecology-OCR continue to abuse the EIS process?

*Air Quality*

*Note: The EIS will not conduct an analysis of the carbon footprint of the proposal because these details are not sufficiently related to the potential for significant impacts. p. 35*

23

Providing 200,000 acre feet of additional water during drought years would generate additional agricultural activity utilizing fossil fuels that would increase the Yakima Project’s carbon footprint.



- Please quantify these additional agricultural activity impacts.

#### Socioeconomics

*Note: The EIS will not include a detailed economic cost/benefit analysis; nor will it attempt to weigh water conservation measures versus the proposed projects. Substantial water conservation initiatives are already proposed as part of the Integrated Plan. Water conservation is understood to be part of the comprehensive solution for the Yakima Basin; conservation is not an alternative to the proposed projects. p. 35*

This is incorrect. Sec. 4.21.4.4 of the DEIS (page 4-312) provided job creation summary tables for each alternative.

- Why are the BuRec and Ecology providing job creation figures in the DEIS, but refusing to disclose the benefit/cost analysis prepared by the Washington Water Research Center?

We supported the 2013 Legislature's request that the Washington Water Research Center prepare a benefit/cost (B/C) report on the individual water storage projects in the Yakima Plan. This report, prepared by a team of experts from the University of Washington and WSU, identifies those projects in the Yakima Plan that are not economically sustainable and should be dropped from further consideration:

"Based on moderate climate and market outcomes, storage infrastructure projects implemented alone and without proposed IP instream flow augmentation result in the following estimated out-of-stream net present value and B/C ratios, none of which passes a B-C test":

- \* *Bumping Lake Expansion: Benefit/Cost (B/C) ratio of 0.18* [i.e. a return of 18 cents on the dollar]
- \* *Wymer Dam and Reservoir: B/C ratio of 0.09* [i.e. a return of nine cents on the dollar]
- \* *Cle Elum Pool raise: B/C ratio of 0.62* [i.e. a return of 62 cents on the dollar]
- \* *Keechelus to Kachess Conveyance: B/C ratio of 0.20* [i.e. a return of 20 cents on the dollar]
- \* *Kachess Drought Relief Pumping Plant: B/C ratio of 0.46* [i.e. a return of 46 cents on the dollar]

*WRC Report, pages iii and iv.*

[http://swwrc.wsu.edu/documents/2014/12/ybip\\_bca\\_swwrc\\_dec2014.pdf](http://swwrc.wsu.edu/documents/2014/12/ybip_bca_swwrc_dec2014.pdf)

It is inexcusable for Ecology-OCR and the BuRec to continue to exclude all mention or references to this Washington State Legislature directed study.

- Why does Ecology-OCR and the BuRec continue to refuse to include this study or conclusions in the DEIS and this SDEIS, or as part of the Reference material list?
- We request that this information be made part of the FEIS.

In addition, an EIS must present all reasonable alternatives, such as water conservation or water marketing.

- We request that these alternatives be added.

#### Cumulative Effects

*Note: The EIS will not reevaluate cumulative effects of the overall Integrated Plan that have been evaluated previously at a planning level in the March 2012, Yakima River Basin Integrated Water Resource Management Plan Final Programmatic EIS. The cumulative effects evaluation will instead focus on effects of the proposed projects in combination with other consequential federal, state, local, and private actions. p. 35*

The BuRec and Ecology insist that the proposed projects are an integral part of the controversial Yakima Political Bargain. The March 2012 FPEIS did not evaluate cumulative impacts at the project level.

- The DEIS must evaluate the cumulative effects of the proposed project, alternatives, and the other elements of the controversial Yakima Plan.

*The EIS will not advance alternatives for detailed analysis in the EIS that do not satisfy or approximate these adopted purposes of the proposed action. Substantial initiatives to promote water conservation, water marketing, aquifer storage, improved land management, and terrestrial and aquatic habitat improvements are already proposed for implementation as part of the Integrated Plan. Because these are understood to be part of the comprehensive solution for the Yakima Basin alongside the proposed projects, they are not considered alternatives to the proposed projects. Thus, water conservation, water marketing, alternative agriculture and cropping, aquifer*

24

25

storage, new forest designations and practices, and related suggestions likely will not receive detailed assessment in the EIS. p. 36.

This is incorrect. The BuRec and Ecology-OCR were willing to advance alternatives as part of the Cle Elum Pool Rise DEIS (Alts. 4 and 5) that do not satisfy or approximate the Congressional authorization.

- Water conservation, water marketing, alternative agriculture and cropping, aquifer storage, new National Forest designation and practices are all alternatives and, therefore, must be analyzed in a detailed fashion in the EIS.

26

### Major Conclusions (p. ES-xvi)

This section states that the proposed action would improve water supply to proratable water users, but fails to evaluate a range of alternatives. This section also concludes that under ALL the action alternatives, the KKC project would be constructed. This appears contrary to the presentation that Alternative 4 is just the floating pumping plant project.

27

- If BuRec and Ecology-OCR have already concluded (at the SDEIS stage) to build the KKC project, then this should be stated upfront in the alternatives section, not buried in the Executive Summary.

### Regional Economic Impacts (p. EX-xvi)

- As discussed above, we request the Water Resource Center's benefit/cost analysis be included in any FEIS
- Based on the BuRec and Ecology-OCR's conclusion that changes in water supply available for agriculture would be beneficial resulting in a net gain in regional economic activity, what would be the expected increase in perennial crops grown on the Roza Irrigation District?
- What other specific net gains in regional economic activity would occur?

28

### Public Review of the SDEIS (p. ES-xvi)

The Wise Use Movement continues to object to the refusal of Ecology-OCR and BuRec to hold public hearings on the SDEIS, or to hold public hearings in Western Washington where a large segment of Kachess Lake recreational users are located.

29

- Why did BuRec and Ecology-OCR refuse to hold a public hearing on this SDEIS, when Ecology-OCR held a public hearing on the Icicle Strategy PEIS?

### Sec. 1.1 (p. 1-1) Introduction

The Wise Use Movement continues to object to the SDEIS being tiered to a legally insufficient FPEIS (see discussion above).

30

### Sec. 1-2 (p. 1-1) History and Background

We continue to object to Ecology-OCR and BuRec's portrayal of Kachess Lake as "Kachess Reservoir."

- We request that the SDEIS use the US National Forest designation of "Kachess Lake."  
See: <https://www.fs.usda.gov/recarea/okawen/recreation/recarea/?recid=57595&actid=29>

This section also fails to mention that the Kachess and Keechelus watersheds are within the Okanogan-Wenatchee National Forest. In fact, this has been a persistent failure of the BuRec and Ecology to acknowledge the significant adverse environmental impacts to the Okanogan-Wenatchee National Forest.

31

- Please include this information in this section.

### Sec. 1.2.1 (p. 1-3) Yakima Project

This section gives a too-brief summary of senior water rights (nonproratable); proratable water rights; and junior water rights. Table 3-4 (p. 3-19) lists Yakima Project Irrigation District water rights.

- For each of the senior, proratable, and junior water right holder categories:
  - What are the total water rights of each of these categories?
  - How much acreage is devoted to perennial crops in each of these categories?
  - How many acre-feet of water are devoted to perennial crops in each of these categories?

32

### Sec. 1.2.2. (p. 1-3) Integrated Plan and Programmatic FEIS

This section does not accurately describe the origins of the Yakima Political Bargain. Please include the following information in this section:

In 2003, Congress passed PL 108-7 (Feb. 20, 2003), which contains Division D, Title II, Sec. 214: "The Secretary of the Interior, acting through the Bureau of Reclamation, shall conduct a feasibility study of options for additional water storage in the Yakima River Basin, Washington, with emphasis on the feasibility of storage of Columbia River in the potential Black Rock Reservoir and the benefit of additional storage to endangered and threatened fish, irrigated agriculture, and municipal water supply. There are authorized to be appropriated such sums as may be necessary to carry out this Act."

The BuRec finished this study in Dec. of 2008, and found that Black Rock and two versions of a Wymer dam project failed to have a positive benefit/cost ratio, and refused to even include Bumping as an alternative:

<https://www.usbr.gov/pn/studies/yakimastoragestudy/reports/eis/final/volume1.pdf>

Ecology then set out to conduct a separate study (Ecology #09-11-012 - June 2009), which included a new Bumping Lake and Wymer dam, but did not include a Kachess pumping plant project. Ecology deemed this 2009 study an "Integrated Water Resources Management," and includes most of the "elements" later approved by the Yakima Workgroup, which did not begin meeting until 2009.

This is ample proof that Ecology designed the "Yakima Political Bargain" during the mid-2000s, presented it in a final 2009 report, and then created the Yakima Workgroup to support, carry out, and lobby for its implementation.

- As an advisory body to the BuRec, why wasn't the Workgroup group chartered under the Federal Advisory Committee Act?

### Sec. 1.2.3 (p. 1-4) "Integrated" Plan – A Package of Seven Elements

As mentioned in the above comments to ES-p. vi,

- Please correct the first statement in this section to explain that the Yakima Political Bargain was created by a small group self-selected by Ecology-OCR and the BuRec
- Why did Ecology-OCR and the BuRec NOT include the cities of Ellensburg or Cle Elum?
- Why did Ecology-OCR and the BuRec fail to include any recreational or hiking groups in its Yakima Workgroup?
- Why did Ecology-OCR and the BuRec fail to include the US Forest Service in its Yakima Workgroup until after the Workgroup adopted the Yakima Political Bargain?
- Why did Ecology-OCR and the BuRec fail to identify the Yakima Workgroup members that created the Yakima Political Bargain in the SDEIS?
- Please include the Yakima Workgroup members in any FEIS, with updates.

For each of these seven elements please provide a status of what a decade of the Yakima Political Bargain has accomplished:

1. "Reservoir" Fish Passage.
  - Please clarify that fish passage at Lake Cle Elum was authorized by Congress in 1994, nearly a quarter of a century ago. What is the status of fish passage at Kachess and Bumping Dams?
2. Structural and Operational Changes.
  - Please update the status of the Roza and Chandler power plant subordination.
3. Surface Water Storage.
  - Please update the status of all surface water storage projects, including re-regulation reservoirs.
4. Groundwater Storage.

- Please update the status of all groundwater storage projects.
5. Habitat/Watershed Protection and Enhancement.
    - The State of Washington spent approximately \$100 million to acquire and establish the Teanaway Community Forest. What is the status of the 15,000 acres of Shrub-Steppe Habitat Enhancement acquisition? What is the status of the 10,000 of Forest Habitat Enhancement? What is the status of Wilderness Area and Wild and Scenic River Designations?
  6. Enhanced Water Conservation Phase.
    - Please update the status of water conservation savings achieved as part of the 1979 Phase I Yakima River Basin Water Enhancement Project (YRBWEP); the 1994 Phase II Water Conservation Program; and any additional water conservation savings achieved from the Yakima Political Bargain.
  7. Market Reallocation.
    - Please update the status of water market reallocation (water banks, or water trusts), and the conservation savings achieved as part of the 1979 Phase I Yakima River Basin Water Enhancement Project (YRBWEP); the 1994 Phase II Water Conservation Program; and any additional water reallocation water conservation savings achieved from the Yakima Political Bargain.

35

**Sec. 1.2.4 (pages 1-5 and 1-6) “Integrated” Plan Implementation**

- This section states that the Yakima Political Bargain would be implemented in 10-year increments over 30 years). Please clarify the nature of these 10-year increments. Does this mean that the first increment covers 2012-2022? Which specific projects are proposed for the first 10-year increment? Based on the seven elements listed above, please describe the accomplishments of the Yakima Political Bargain, besides the \$100 million purchase of the Teanaway property during this time period.
- This section also states that in 2013, the Washington Legislature passed the Yakima Policy Bill 2SSB 5367. This section, as well as Sec. 1.8.2, completely fails to mention the fact that the Washington Legislature refused to hand the Department of Ecology-OCR a blank check for the billions of dollars required for the Yakima Political Bargain. Please include RCW 90.38.110 in this section as follows:

36

Construction of a water supply project—Prior review by the state of Washington water research center. (Expires July 1, 2025.)

(1) Prior to the appropriation of funding for the construction of a water supply project proposed in the integrated plan with a cost of greater than one hundred million dollars, the state of Washington water research center shall review, evaluate, and prepare comments on the cost benefit analysis prepared for the project by the department and the United States bureau of reclamation.

(2) To the greatest extent possible, the center must use information from existing studies, supplemented by primary research, to measure and evaluate each project's benefits and costs.

(3) The center must measure and report the economic benefits of each project subject to subsection (1) of this section, so that it is clear the extent to which an individual project is expected to result in increases in fish populations, increases in the reliability of irrigation water during severe drought years, and improvements in municipal and domestic water supply.

(4) The center may enter into agreements with other state universities and with private consultants as needed to accomplish the scope of work.

(5) The center may consult, as necessary, with the department of ecology and the Yakima river basin water enhancement project work group.

(6) No more than twelve percent of any appropriations provided for the implementation of this section may be retained for administrative overhead expenses.

(7) This section expires July 1, 2025.

*RCW 90.38.110.*

37

- We also request that the FEIS also include the Washington Water Research Center’s 2014 study report and its conclusions, as follows:

38

• *Net benefits for out-of-stream use of individual water storage projects implemented with no other projects implemented are negative, with some exceptions under the most adverse climate and water market conditions.*

Based on moderate climate and market outcomes, storage infrastructure projects implemented alone and without proposed IP instream flow augmentation result in the following estimated out-of-stream net present value and B/C ratios, **none of which passes a B-C test:**

- o Bumping Lake Expansion: Cost = \$452.3 million; **B/C ratio of 0.18.**
- o Cle Elum Pool raise: Cost=\$16.3 million; **B/C ratio of 0.62.** Under the most adverse climate scenario and moderate market conditions, a **B/C ratio is 1.35.** It is also the most likely of the storage projects to satisfy a B-C test under moderate climate based on the sum of out-of-stream and instream use value.
- o Keechelus to Kachess Conveyance: Cost \$138.2 million; **B/C ratio of 0.20.**
- o Kachess Drought Relief Pumping Plant: Cost \$195.8 million; **B/C ratio of 0.46.** Under the most adverse climate considered, Keechelus to Kachess Conveyance and Kachess Drought Relief Pumping Plant together provide net benefits of \$6 million and a **B/C ratio of 1.02.**
- o Wymer Dam and Reservoir: Cost =\$1,331.2 million; **B/C ratio of 0.09.**

*Pages iii-iv; Table 7, page 63.*

*[https://swwrc.wsu.edu/documents/2014/12/ybip\\_bca\\_swwrc\\_dec2014.pdf](https://swwrc.wsu.edu/documents/2014/12/ybip_bca_swwrc_dec2014.pdf)*

- We also request the WRC’s 2014 benefit/cost analysis report be added to the References section.

**Figure 1-2 (p. 1-7)**

- We request that the volitional bull trout passage between Little and Big Kachess Lakes be shown on this drawing.
- Can the BuRec lower Big Kachess Lake to 2,192.75 ft. (minimum low pool) without impacting bull trout passage between Little and Big Kachess Lakes?
- How often has the BuRec lowered Big Kachess Lake to 2,192.75 feet?

**Sec. 1.7 (pp. 1-14 to 1-16) National and State Environmental Policy Act Review Process**

Ecology-OCR has issued the SDEIS under the State Environmental Policy Act (SEPA) for “funding, design, construction, operation, and maintenance of a floating pumping plant on Kachess ‘Reservoir’ . . . in order to recover up to 200,000 acre-feet of inactive water storage from Kachess ‘Reservoir’ during drought years when prorationing is less than 70 percent supply (page 2-1). In addition, the SDEIS states that it is tiered to the Yakima Plan Final Programmatic EIS (FPEIS) (Reclamation and Ecology, 2012) (page 1-15). Ecology-OCR cannot tier the SDEIS to the FPEIS because the FPEIS fails the most basic requirement of the State Environmental Policy Act (SEPA). Under RCW 43.21C.030(c)(iii), agencies must include in a detailed statement for major actions significantly affecting the quality of the environment alternatives to the proposed action. WAC 197-11-440(5)(c) requires agencies to describe reasonable alternatives. Instead, the FPEIS, other than the no-action alternative, considered only a “Yakima Political Bargain” obtained from a small group of Ecology-OCR and BuRec handpicked organizations engaged in political tradeoffs across the entire Yakima River Basin. This “Yakima Political Bargain” stands out as the real “objective” of Ecology-OCR and the BuRec, not the purported objectives that are given to provide political cover for the vast, unconsidered impacts on the physical and human environment of the Yakima River Basin, demanded by the parties who negotiated the “Yakima Political Bargain” without consideration of a full range of alternatives.

This failure to comply with the central mandate of SEPA will lead to adverse environmental impacts because alternatives were not included and not analyzed. WAC 197-11-442(4) provides that the lead agency is not required under SEPA to examine all conceivable policies, designations, or implementation measures as part of an EIS’s discussion of alternatives for a comprehensive plan, community plan, or other areawide zoning or for shoreline or land use plans. However, the “Yakima Political Bargain” is none of these things. Rather, WAC 197-11-442(2) requires Ecology to:

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... discuss impacts and alternatives in the level of detail appropriate to the scope of the nonproject proposal and to the level of planning for the proposal. Alternatives should be emphasized. In particular, agencies are encouraged to describe the proposal in terms of alternative means of accomplishing a stated objective (see WAC 197-11-060(3)). Alternatives including the proposed action should be analyzed at roughly comparable level of detail, sufficient to evaluate their comparative merits (this does not require devoting the same number of pages in an EIS to each alternative). [underline added]

The FPEIS did none of this and, therefore, under SEPA, the SDEIS cannot be tiered to a legally inadequate FPEIS. The Washington Supreme Court has found that “The environmental significance of the nonproject action creates the obligation to examine alternatives to the nonproject action. . . SEPA requires an examination of reasonable alternatives to the nonproject action.” *Citizens Alliance to Protect Our Wetlands v. City of Auburn*, 126 Wn.2d 356, 366 (1995). In *Blair et. al. v. City of Monroe*, CPSMHB 14-3-0006c, Final Decision and Order (Sept. 19, 2014), the Central Puget Sound Regional Growth Management Hearings Board considered the scope of review under WAC 197-11-442(4). There the Board found that the City of Monroe had failed to adequately comply with SEPA review requirements (SEPA is to function “as an environmental full disclosure law,” *Blair* at 22. “[t]he range of alternatives considered in an EIS must be sufficient to permit a reasoned choice.” *SWAP v. Okanogan County*, 66 Wn. App. 439, 444 (1992). For the FEIS to be adequate, the City must consider alternative designations for the Property and/or alternative locations within the City for additional GC development. *Citizens Alliance v. City of Auburn*, 126 Wn.2d 356, 365 (1995). *Blair* at 23.

In *City of Shoreline et. al. v. Snohomish County*, CPSMHB Coordinated Case Nos. 09-3-0013c and 10-3-0011c, Corrected Final Decision and Order (May 17, 2011), the Board entered a determination of invalidity due to an inadequate analysis of reasonable alternatives to a proposed action. The Board found that “The record provided in this case contains a number of plans which, though not perhaps formally proposed, might have formed the basis for one or more EIS alternatives resulting in lower environmental costs.” *City of Shoreline* at 56-57. (“[L]imiting the analysis only to (a) the land use and zoning requested by the Intervenor and (b) the no action alternative, without considering any alternative scenarios, deprived County officials of the information necessary to determine whether a reasonable change in use of Point Wells could be achieved with less environmental impact.” *City of Shoreline* at 57 (*emphasis added*)). SEPA does not excuse failing to consider alternatives beyond the Yakima Grand Bargain itself.

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Of relevance to the SDEIS, the 2012 FPEIS states: “Economic impacts to existing users could be substantially reduced by improving water supplies to 70 percent of proratable water rights” and is listed as a FPEIS purpose and need (FPEIS, pages i and ii). The FPEIS failed to address a range of alternatives such as other percentages (e.g. 60 percent) or reducing perennial crops in proratable irrigation districts or reducing water delivery to non-proratable districts during drought years or establishing an aggressive water conservation, water efficiency, and water marketing system. Alternative methods or programs of meeting water demand are required to be identified and analyzed so that decision makers can be informed PRIOR to making a decision.

In this SDEIS, Ecology-OCR (and the Bureau) considers the decision (to proceed with the single Yakima Political Bargain alternative presented in the FPEIS) to have already been made. Therefore, contrary to SEPA, the SDEIS does not identify any alternatives to withdrawing 200,000 acre-feet from Kachess Lake. In the case of both the FPEIS and the SDEIS, Ecology has not complied with SEPA requirements for the consideration of alternatives. The only other “alternatives” considered, but eliminated from detailed study, are merely other tunnels, and other methods of extracting Kachess Lake water found in the YRBWEP Phase 1 (SDEIS, pages 2-60 to 2-63). The SDEIS jumps from the inadequate FPEIS straight into the project level floating pumping plant proposed action, with nary a thought of addressing water supply issues in the Yakima Basin by any other means. SEPA (and NEPA) requires the consideration of a range of reasonable alternatives so decision makers can make an informed decision. Before Ecology and the Bureau run off to fund a misguided floating pumping plant project, decision makers need to address alternatives that do not fall within the Yakima Political Bargain.

Because National Environmental Policy Act (NEPA) regulations similarly require that the alternatives section “is the heart of the environmental impact statement” (40 CFR §1502.14), for the reasons described above, the FPEIS is also inadequate under NEPA. The FPEIS failed to comply with NEPA or SEPA by refusing to analyze any alternatives other than a pre-selected controversial Yakima Political Bargain and a no-action alternative. This SDEIS further compounds this failure by refusing to analyze reasonable alternatives to a Kachess Lake pumping plant.

- Neither the BuRec nor Ecology should adopt or incorporate by reference the FPEIS, particularly Chapter 2.

**Sec. 1.8.1 (p. 1-17) Federal**

- Please add the following to provide a clear understanding of the scope and intent of S. 714 to authorize the entire Yakima Political Bargain:  
 “According to the summary of S. 714: ‘(Sec. 5) The bill directs Interior to “ implement the Integrated Plan as Phase III of the Yakima River Basin Water Enhancement Project”’  
<https://www.congress.gov/bill/115th-congress/senate-bill/714>

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This section states that YRBWEP was authorized by Congress in 1979. P.L. 96-162 authorized and directed the Secretary of Interior to conduct a feasibility study of the Yakima River Basin Water Enhancement Project, which shall include an analysis by the United States Geological Survey of the water-supply data for the Yakima River Basin.

- Please provide references to all studies and reports that the United States Geological Survey has prepared to analyze the water-supply data for the Yakima River basin under YRBWEP Phase I, Phase II, and the Yakima Political Bargain, including this SDEIS, as required by P.L. 96-162.

**Sec. 1.8.2 (pp. 1-17 to 1-18) Washington State Authorization**

As noted above in comments on Sec. 1.2.4, this section on Washington State Authorization is incomplete. Section 5057 of Engrossed Substitute Senate Bill 5035 (2013) was passed by a Washington Legislature concerned about the BuRec and Ecology manipulation of benefits values from the controversial Yakima Political Bargain.

- In our 2015 DEIS comments, we requested that the following be added to this section:

“In 2013, the Washington State Legislature (Section 5057, ESSB 5035) required the Washington State Legislature’s Water Research Center to prepare a separate benefit-cost analysis on Yakima Plan elements by December 15, 2014.”

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In addition, 40 CFR § 1502.23 provides:

“If a cost-benefit analysis relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences.”

- Why have Ecology-OCR and the BuRec again refused to disclose important sections of ESSB 5035 (RCW 98.38.110) or comply with 40 CFR § 1502.23?

**Sec. 1.9.1 (p. 1-18) Water Rights**

This section states that Reclamation manages and operates the Yakima Project in accordance with Federal and State law, court orders, and court decisions as set forth in Section 1.2.1 of this SDEIS.

• Please delete this sentence as Section 1.2.1 does not set forth in detail the laws, court orders, or decisions. The stated project purpose is to provide the Roza Irrigation District access to an additional 200,000 acre-feet of water from Kachess Lake (Ex. Summary, page ES-v). However, a search of the SDEIS does not find any mention or reference to the Federal District Court 1945 Consent Decree. The absence of any discussion of the 1945 Consent Decree is concerning, because it sets out the Yakima River Basin allocation of water during drought conditions. The Consent Decree defines the “Total Water Supply Available” (TWSA) as:

“That amount of water available in any year from natural flow of the Yakima River, and its tributaries, from storage in the various Government reservoirs on the Yakima River watershed and from other sources, to supply the contract obligations of the United States to the Yakima River and its tributaries, heretofore recognized by the United States.”

*Civil Action No. 21, Federal District Court of Eastern Washington (1945 Consent Decree).*

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Kachess Lake water would be part of “storage in a government reservoir,” and could also be considered “other sources.” The 1945 Consent Decree requires that Senior Districts be allotted water first in a drought year.

- We request that any FEIS discuss the 1945 Consent Decree and the claim that Senior water right holders would have on Kachess Lake water superior to any claim by the Roza Irrigation District (or the Kittitas Reclamation District, the Wapato Irrigation Project, or the Kennewick Irrigation District).

**Sec. 1.9.2 (p. 1-19) Water Contracts**

- Please provide the status of the total repayments made to date to recover costs of the BuRec’s Yakima Project.
- Please provide the status of repayments made by each Yakima irrigation district to recover costs of the BuRec’s Yakima Project.
- Please provide a table listing the cost per acre feet of water delivery to each of the Yakima irrigation districts during the 2015, 2016, and 2017.
- What are delivery and cost recovery contract time lengths?
- How frequently are contracts re-negotiated?

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**Sec. 1.10 (p. 1-19) Permits, Consultations, and Approvals**

- Why isn’t the US Forest Service included in Table 1-2 (p. 1-19)? Does BuRec and Ecology-OCR intend to continue to ignore the US Forest Service in this process?

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**Sec. 2.1.1 (p. 2-2) YRBWEP Phase II**

The YRBWEP Phase II Conservation Advisory Group and BuRec completed a “Basin Conservation Plan” in 1998. After twenty years, the SDEIS mentions only three projects: A Sunnyside lateral improvement project to conserve 6,565 acre-feet when construction is completed and operational in 2032; Kittitas Reclamation District activities, which would conserve 48,500 acre-feet annually with no completion date given; and the Yakama Nation Wapato Irrigation Project System Improvements and Demonstration Project with no acre-feet savings or completion date given.

\* Is this correct that these are the only three YRBWEP Phase II conservation projects to come on line in the next 17 years?

\* What conservation projects were identified in the 1998 Basin Conservation Plan?

\* What was the total conservation acre-feet savings identified in the 1998 Basin Conservation Plan?

\* What is the total acre-feet of water conservation savings identified in the 1998 Basin Conservation Plan that has been accomplished to date?

\* What specific accomplishments have occurred with the Yakama Nation Wapato Irrigation Project System Improvements and Demonstration Project authorized by Congress in 1994?

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This section completely fails to describe the requirements or lack of accomplishments of YRBWEP Phase II, passed by congress nearly a quarter-century ago. This section claims that the total quantity of conserved water from “completed and on-going conservation projects” is 69,066 acre-feet.

- Please provide a table that lists the following:
  - The number of acre-feet of actual water conservation per year achieved due to YRBWEP Phase I (1979).
  - The number of acre-feet of actual water conservation per year achieved due to YRBWEP Phase II (1994).
  - The number of acre-feet of actual water conservation per year achieved due to the Yakima Political Bargain Phase III (i.e., Enhanced water conservation element) since 2012
  - The number of acre-feet of actual water conservation per year achieved due to irrigation district projects, not funded by YRBWEP Phase I, II, or III.



- Please include the following summary of YRBWEP Phase II in any FEIS:

### Water Conservation Studies

#### 1966 - 1979

Efforts to construct a new Bumping Lake dam in the Yakima River Basin have been the source of dam enlargement studies including in 1966, 1979 and 2006. Two enlargement alternatives, a 458,000 acre-foot reservoir and a smaller 200,000 acre-foot reservoir have been proposed.

#### 1979 – Yakima River Basin Water Enhancement Project (Phase I)

Instead of constructing more storage dams, Congress passed the Yakima River Basin Water Enhancement Project (YRBWEP) (Phase I) in December of 1979, authorizing a feasibility study. The BuRec issued part 1 of the study in August 1982, which recommended early implementation of fish passage measures. Part 2 of the feasibility study focused on issues including waterbanking, potential storage site, and water conservation measures and a part 2 status report was issued in 1985. *Yakima River Basin Water Enhancement Project, Washington, Draft Programmatic Environmental Impact Statement, Bureau of Reclamation (BuRec Draft PEIS), April 1998, pages 11.*

#### 1988 - Enhancement Roundtable Group

In 1988, an Enhancement Roundtable Group was formed made of irrigators, the Yakama Indian Nation, state agencies, BPA, and the BuRec to develop water conservation legislation for Congress.

#### 1994 - Yakima River Basin Water Enhancement Project (Phase II)

To help carry out the recommendations of part 2 of the YRBWEP feasibility study, Congress passed P.L. 103-424, Title XII in 1994. In 1998, the BuRec issued a draft Programmatic EIS. According to the BuRec, the purpose of Title XII was on water conservation, although raising the gate elevation at Cle Elum Lake was also authorized. The BuRec claimed that the additional water from increased storage at Cle Elum would not be part of the Yakima River Basin total water supply available (TWSA). *BuRec Draft PEIS (1998), pages 19, 29.*

According to the BuRec:

The Yakima River Basin Water Conservation Program (the centerpiece of Title XII legislation), is a voluntary program structured to provide economic incentives with cooperative Federal, State, and local funding to stimulate the identification and implementation of structural and nonstructural water conservation measures in the Yakima River basin. Improvements in the efficiency of water delivery and use will result in improved, reach-specific streamflows for aquatic resources and improve the reliability of water supplies for irrigation. The *Basin Conservation Plan*, prepared by the Yakima River Basin Conservation Advisory Group (1998) which was chartered under the Federal Advisory Committee Act and appointed by the Secretary of the Interior, was submitted to the Secretary of the Interior in 1998 and published and distributed in October 1999. The *Basin Conservation Plan* sets forth the mechanism for implementing water conservation measures, including eligibility requirements for Federal- and State-sponsored grants, standards for the scope and content of water conservation plans, criteria for evaluating and prioritizing conservation measures for implementation, and administrative procedures. *Final Planning Report/Environmental Impact Statement, Volume 1, Yakima River Basin Water Storage Feasibility Study, Yakima Project Washington, Bureau of Reclamation, December 2008 (BuRec Final Report/EIS), page 1-19, 1-20.*

[http://www.usbr.gov/pn/programs/storage\\_study/reports/eis/final/index.html](http://www.usbr.gov/pn/programs/storage_study/reports/eis/final/index.html)

The 1994 authorized targets are found in Sec. 1201:

(4) to realize sufficient water savings from the Yakima River Basin Water Conservation Program so that not less than **40,000 acre-feet** of water savings per year are achieved by the end of the fourth year of the Basin Conservation Program, and not less than **110,000 acre-feet** of water savings per year are achieved by the end of the eighth year of the program, to protect and enhance

fish and wildlife resources; and not less than **55,000 acre feet** of water savings per year are achieved by the end of the eighth year of the program for availability for irrigation; According to the Bureau's letter of September 4, 2015, under the 1994 authorized Basin Conservation Plan, they have achieved **only 40,000 acre feet** of water savings for instream flows and 13,000 acre feet for irrigation. In addition, two districts have not installed water measuring devices (the Bureau did not say which ones).

See: [http://ucrsierraclub.org/pdf/Yakima\\_BuRec\\_accomplishments\\_YRBWEP\\_letter\\_9-4-2015.pdf](http://ucrsierraclub.org/pdf/Yakima_BuRec_accomplishments_YRBWEP_letter_9-4-2015.pdf)

Despite the fact that two decades have passed since the "voluntary" Basin Conservation Plan was published, it is difficult to pin down what efforts, if any, Yakima River Basin irrigators have taken to actually conserve water. In addition, the Federal Advisory Committee Act (FACA) chartered Yakima River Basin Conservation Advisory Group held their last meeting in 2018 after no meeting for nearly two and a half years.

- In order to evaluate alternatives to the proposed pumping plant, please list all Yakima River Basin Conservation Advisory Group meetings since June 2009.
- In order to evaluate alternatives to the proposed pumping plant, please list all presentations made by the Yakima River Basin Conservation Advisory Group to the Yakima Workgroup since June 2009.

P.L. 103-424 (Phase II) also authorized \$23 million for implementation of system improvements to the Wapato Irrigation Project, as well as \$8,500,000 for a Yakama Indian Reservation Irrigation Demonstration Project for the construction of distribution and on-farm irrigation facilities, including for irrigation water management and conservation. *P.L. 103-424, Sec.1204 (1994).*

- In order to evaluate conservation alternatives to the proposed pumping plant, please provide an update on the amount spent and acre-feet savings from the 1994 system improvements to the Wapato Irrigation Project and from the Yakama Indian Reservation Irrigation Demonstration Project.

#### **2004 – Sunnyside Re-regulation reservoirs**

In September 2004, the BuRec issues a Finding of No Significant Impact and Environmental Assessment on a water conservation program for the Sunnyside Irrigation District. The program consisted of three re-regulation reservoirs and automated gates, but no installation of drip irrigation or canal lining. <http://www.usbr.gov/pn/programs/ea/wash/sunnyside/ea.pdf>

**2007 -** In December, Ecology issued a *Technical Report on the Enhanced Water Conservation Alternative for the Yakima River Basin Water Storage Feasibility Study*, No. 07-11-044. While the report did not identify any past irrigation district water conservation measures that have been implement, the report estimated the total water savings in the Yakima River basin for all water conservation projects listed in the report to be **229,199 acre-feet per year**. *Ecology, Technical Report No. 07-11-044, December 2007, page 15.*

[http://www.usbr.gov/pn/programs/storage\\_study/reports/07-11-044/Enhanced\\_Conservation\\_Report.pdf](http://www.usbr.gov/pn/programs/storage_study/reports/07-11-044/Enhanced_Conservation_Report.pdf)

As part of the BuRec's 2008 Yakima River Basin Water Storage Feasibility Study, Final Planning Report:

"Ecology has developed an inventory of more than 500 conservation projects and is currently developing, screening, and ranking criteria to determine which projects best meet the goals of the CRBWMP. Potential projects may address issues such as incentive payments to reduce water use and full or partial water banking, improvements to municipal water infrastructure, use of reclaimed water, improved water delivery efficiency at the irrigation district level and on farm conservation, improved industrial infrastructure, and pump exchanges. Ecology would manage the use of conserved water." *BuRec Final Report/EIS, pages 1-25.*

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And as part of its 2009 “Integrated” FEIS, Ecology prepared a list of “potential” water conservation projects for water uses that divert from the Yakima and Naches River. There is no explanation of why these water conservation projects have not been carried out over the past thirty years. *Ecology Yakima River Basin Integrated Water Resource Management Alternative, June 2008 (Ecology FEIS), page 3-51.*

[http://www.ecy.wa.gov/programs/wr/cwp/cr\\_yak\\_storage.html#seis](http://www.ecy.wa.gov/programs/wr/cwp/cr_yak_storage.html#seis)

### **2009 Yakima Workgroup and 2012 Yakima Plan**

The “Enhanced Water Conservation Element” is found in Section 2.4.8 of the 2012 Yakima Political Bargain. The scope of this element is intended to supplement, but not duplicate the conservation activities funded under YRBWEP Phase II. The Yakima Workgroup modeling estimated that the agricultural water conservation program would conserve approximately **170,000** acre-feet of water in good water years and substantially less in drought years.

<https://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>

The 2011, Bureau of Reclamation and Department of Ecology Yakima River Basin Study, Vol. 1, Proposed Integrated Water Resource Management Plan described the proposed Enhanced Water Conservation element of the Yakima Plan:

#### **Sec. 3.1.6 Enhanced Water Conservation**

This element consists of additional agricultural conservation actions not included in current YRBWEP Title XII implementation plans, along with municipal and domestic water conservation programs.

##### **Agricultural Conservation**

An agricultural water conservation program could conserve up to 170,000 acre-feet of water in good water years, based upon a compiled list of potential projects that could be implemented under this proposed program (see Volume 2 technical memorandum, Agricultural Water Conservation). The program would include measures beyond those likely to be implemented in the existing YRBWEP Phase2 conservation program.

Agricultural water conservation measures that could be implemented under this program include:

- Lining or piping existing canals or laterals
- Constructing re-regulating reservoirs on irrigation canals
- Installing gates and automation on irrigation canals
- Improving water measurement and accounting systems
- Installing higher efficiency sprinkler systems, drip, etc.
- Implementing irrigation water management practices and other measures to reduce seepage, evaporation, and operational spills

Although a list of specific projects was reviewed in developing the agricultural conservation program, this recommendation does not identify specific projects for implementation at this time. Projects that would be implemented under this program would be selected through detailed feasibility studies and evaluation by the existing YRBWEP Conservation Advisory Group. Irrigation districts eligible for project funding include federally and non-federally-served irrigation districts, private irrigation entities, and individual landowners (page 57).

*Yakima River Basin Study, Vol. 1, Proposed Integrated Water Resource Management Plan, April 2011*

<https://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/plan/integratedplan.pdf>

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#### **Conservation vs. Aggressive New Water Storage Projects**

There are two recent reports that raise significant concerns regarding the Department of Ecology Office of Columbia River’s (OCR) controversial and aggressive pursuit of new water supplies in the Columbia River Basin. OCR’s policy should be changed from its present emphasis on construction of new dams (particularly hugely damaging and expensive projects such as a new

Bumping Lake dam) and to a substantially increased focus on additional water conservation and implementing effective water markets.

First, the *Columbia River Basin Long-Term Water Supply and Demand Forecast 2016 Legislative Report*:<sup>1</sup>

“... agricultural water demand—which accounts for approximately 79.4% of total out-of-stream demand (agricultural plus municipal)—is forecast to **decrease** by approximately 4.96% ( $\pm 0.81\%$ ) by 2035, across the entire Columbia River Basin. This decrease is somewhat greater within Washington, where it is forecast to reach 6.87% ( $\pm 0.98\%$ ) (Table ES-2).” (emphasis added) *Ex. Summary, page x.*

See: <https://fortress.wa.gov/ecy/publications/documents/1612001.pdf>

Second, is the *Evaluation with Recommendations by the Washington State Academy of Sciences of Interim Report: 2015 Drought and Agriculture, Washington State Department of Agriculture, December 2016*:

“The economic effects of the 2015 drought described in this interim report are based on gross rather than net revenue lost. This can account for an incongruity between the estimated gross revenue lost stated in this report and the fact that **net farm income for Washington in 2015 was higher than in any of the previous four years by a significant amount.**” (emphasis added), page 2.

See: <https://agr.wa.gov/FP/Pubs/docs/495-2015DroughtReport.pdf>

These reports demonstrate that a number of critical assumptions that have been built into the Yakima Political Bargain may be inaccurate and these assumptions underpin the conclusions that currently drive the Yakima Workgroup. Continued pursuit of the very expansive and environmentally damaging proposals such as the Kachess Lake pumping plant are taking us in the wrong direction and mis-directing investment spending.

#### Water Conservation Projects

Water conservation projects identified or carried out can be found in the Department of Ecology-OCR's Columbia River Legislative Reports:

**\* 2006 Columbia River Legislative Report - Columbia River Water Supply Inventory and Long-Term Water Supply and Demand Forecast**

[http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/legs rpt/chptr4\\_111506.pdf](http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/legs rpt/chptr4_111506.pdf)

Water Conservation “To date, no conservation projects have been implemented under this chapter of the Bill. Therefore, this report provides an inventory of potential conservation projects and potential storage projects” (page 4-1).

**\* 2007 Columbia River Basin Water Supply Inventory Report**

Table 2, page 15 lists six completed projects, none in the Yakima Basin.

This report is extremely general and does not appear to list conservation projects that have been implemented under this Chapter or the amount of water conservation achieved. The report includes a project supply inventory of 6,182 projects.

No reports are posted for 2011, 2012, or 2013.

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<sup>1</sup> Submitted to Washington State Department of Ecology pursuant to RCW 90.90.040 by: WSU, State of Washington Water Research Center, Center for Sustaining Agriculture and Natural Resources, Biological Systems Engineering, Civil and Environmental Engineering, School of Economic Science, PO Box 643002, Pullman, WA 99164-3002

**\*2014 Columbia River Basin Water Supply Inventory Report**  
<https://fortress.wa.gov/ecy/publications/documents/1412002.pdf>

This report is extremely short and does not appear to list conservation projects that have been implemented under this chapter or the amount of water conservation achieved. The report does include a project supply inventory of 6,191 projects.

**\*2015 Columbia River Basin Water Supply Inventory Report**  
<https://fortress.wa.gov/ecy/publications/documents/1512006.pdf>

This report is also extremely short and does not appear to list conservation projects that have been implemented under this chapter or the amount of water conservation achieved. The report references a project supply inventory of 6,191 projects

**\*2017 Columbia River Basin Water Supply Inventory Report**  
[http://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=1812001\\_5f691630-d175-4f02-b2ea-ec41b5232509.pdf](http://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=1812001_5f691630-d175-4f02-b2ea-ec41b5232509.pdf)

“One example of an early, successful conservation project is Barker Ranch. This project improved the Barker Ranch’s water delivery system efficiency by converting 3 miles of an open canal into a piped system, allowing Barker Ranch to divert less water from the Yakima River. This added 6,436 ac-ft. of water to the lower Yakima River streamflows throughout the irrigation season” (page 5).

“In 2016, OCR released the first biennial Yakima River Basin Integrated Water Resource Management Plan Implementation Status Report. The 2016 Cost Estimate and Financing Plan for the Yakima River Basin Integrated Water Resource Management Plan was released in 2017. These reports document cost estimates and financing plans for Integrated Plan projects, as well as project implementation status of ongoing and future projects” (page 7).

The Implementation Status Report Yakima River Basin Integrated Water Resource Management Plan (July 2016) lists Yakima water conservation projects completed in 2013-2015 and proposed projects for 2016-2017, but with no cost or water savings figures (pages 17-18).

See: <https://fortress.wa.gov/ecy/publications/documents/1612002.pdf>

2016 Cost Estimate & Financing Plan Yakima River Basin Integrated Water Resource Management Plan also contains general costs estimates for water conservation but no specific listing of projects.

<https://fortress.wa.gov/ecy/publications/documents/1612011.pdf>

- Please provide a yearly table of water conservation projects implemented in the Yakima River Basin by irrigation district with acre-feet of savings and source of funding (i.e., YRBWEP Phase I, Phase II, Yakima Political Bargain, or separate irrigation district funding).

**Sec. 2.2.1 (pp. 2-3 to 2-4) Alternative 1 – No Action Alternative**

This section states that the objectives of the current Yakima Project operation are to:

- Store as much water as possible up to the lake system’s full active capacity of about 1 million acre-feet from the end of the irrigation season through early spring
- Provide for target flows and diversion entitlements downstream from the dams, meeting Title XII flows at Sunnyside and Prosser Diversion Dams.
- Please explain any conflicts between providing for target flows and lake storage from the end of the irrigation season through early spring.
- Please explain the difference between Title XII

**Sec. 2.2.1.2 (p. 2-5) Kachess “Reservoir”**

This section states that BuRec makes releases from Kachess Lake from the beginning of storage control (i.e., @June 24<sup>th</sup>) to mid-October.

- What crops require irrigation through mid-October?
- Since 1950, how many years has Kachess Lake not been drawn down to Big Kachess minimum low pool of 2,197.75 (WSEL)?
- Since 1950, how many years has Kachess Lake not re-filled?

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**Sec. 2.3 (p. 2-6) Alternative 2 – KDRPP East Shore Pumping Plant**

This section states that BuRec and Ecology-OCR define a drought year as a year when water supply falls below 70 percent of proratable water entitlement. Footnote 4 states that this is the lowest level of water supply that could be accommodated without catastrophic losses to crops, assuming aggressive water management techniques were employed.

As noted above, an *Evaluation with Recommendations by the Washington State Academy of Sciences of Interim Report: 2015 Drought and Agriculture, Washington State Department of Agriculture, December 2016*, found that:

“The economic effects of the 2015 drought described in this interim report are based on gross rather than net revenue lost. This can account for an incongruity between the estimated gross revenue lost stated in this report and the fact that **net farm income for Washington in 2015 was higher than in any of the previous four years by a significant amount.**” (emphasis added), page 2.

See: <https://agr.wa.gov/FP/Pubs/docs/495-2015DroughtReport.pdf>

52

This calls into question the assumptions used for the Yakima Political Bargain. The BuRec reported that in 2015, Yakima River Basin proratable water right holders would receive 47 percent of their normal water allocation. See: <https://fortress.wa.gov/ecy/publications/documents/1611001.pdf>

As this is significantly lower than the “catastrophic” loss 70 percent curtailment level that Ecology-OCR and the BuRec have set, please provide a response to the following:

- How is “catastrophic” loss defined?
- Please list all Yakima River Basin proratable water right holders that suffered catastrophic loss in 2015.
- Did any Yakima River Basin senior water right holders suffer catastrophic losses in 2015?
- If Yakima River Basin senior water right holders had received 70 percent of their water allotment in 2015, would the remaining 30 percent of water raised the proratable water right holders to 70 percent?
- What aggressive water management techniques were employed during 2015?
- What aggressive water management techniques were not employed during 2015?

**Sec. 2.3.5 (pp. 2-18 to 2-19) Volitional Bull Trout Passage Improvements.**

Volitional means “relating to the use of one's will.”

- What is the purpose of describing bull trout passage with such a term?

This short section (which is referenced as the “analysis” for Alternative 4 (p. 2-32)) is completely inadequate to provide a reviewer with sufficient detail to evaluate this proposal. This section states that “Additional Technical Details are included in the Kachess Narrows Fish Passage Concept Development Technical Memorandum (Reclamation and Ecology, 2017a). However, the Reference section (p. R-24) identifies this technical memorandum as an “Unpublished Draft prepared by HDR Engineering, February 2017.” An EIS cannot rely on unpublished drafts that are not accessible to the reviewer. In addition, Figure 2-4 fails to show the complete length of the proposed roughened channel and no cross sections are provided.

- What is the length of the proposed channel?
- Please provide a cross-section of the channel design.

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- What will prevent this channel from sedimenting in?
- What will prevent erosion of the proposed isolation berm?
- How many cubic feet of material would be excavated for the proposed channel?
- How many cubic feet of fill would be needed to construct the isolation berm?
- Where would any excess excavation material be disposed?
- What time frames would the passage be operational?
- What minimum cfs flows are needed to assure that bull trout are not damaged in the “roughened channel.”
- What other resident fish would be expected to utilize the proposed passage?
- Why is there no mention or discussion of Box Canyon Creek Passage?
- Won't withdrawing 200,000 acre feet of water from Kachess Lake make seasonal problems for bull trout at Box Canyon Creek worse?
- Doesn't bull trout passage between lower and upper Kachess Lakes require addressing Box Canyon Creek Passage problems? Why does the SDEIS fail to address this?

53

**Sec. 2.5 (p. 2-32+) Alternative 4 (Proposed Action) – Floating Pumping Plant**

This is the “new” Alternative that has been added to the DEIS. Unfortunately, rather than present this alternative as a true alternative with a description of the affected environment and environmental impacts, the BuRec and Ecology-OCR have presented a hodge-podge of references to other sections of the SDEIS, making review of this “new” Alternative far more difficult than needed, unless this was the intent.

- We request that all information related to Alternative 4 be compiled in one section.

We continue to request that other alternatives such as water conservation, water efficiency, water markets, and other alternatives such as adjusting crop patterns to stop growing perennial crops by proratable irrigation districts, or requiring nonproratable water right holders to also receive 70 percent of their water allotment during drought years be considered. NEPA regulations require a DEIS to include “reasonable alternatives not within the jurisdiction of the lead agency.” 40 CFR § 1502.14(c). In addition, “A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered.” <https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf>

54

As noted above, in comments on the Executive Summary, this is now at least the third floating pumping plant proposed by Yakima irrigation districts. A floating pumping plant was constructed at Lake Cle Elum back in 1977 and promptly burned and sank. The Roza Irrigation District proposed an emergency floating pumping plant at Kachess Lake in 2015, which was never built.

- Please provide information on the size, location, and history of any similar operating pumping plants.

**Sec. 2.5.1.1 (p. 2-35+) Pump Barge and Pumping Plant**

- What wind data has the BuRec and Ecology-OCR utilized to analyze the stability of the pump barge?

Three vertical turbine pumps would be located on the pump barge. A nylon net would be used to preclude fish from entering or becoming entrained in the pump intake. Net fish pens have failed with an alarming frequency.

- What is the life span of the proposed nylon net?
- Please provide a drawing showing the location of the proposed netting.

55

This section states that the vertical turbine pumps would provide minimum flows in the Kachess River whenever the lake pool level falls below sufficient gravity flow elevation to meet downstream obligations.

- What are these “downstream obligations.”

**Sec. 2.5.1.2 (p. 2-38) Pipe Bridge**

- Where has such a rigid-flexible pipe bridge been used elsewhere?
- What is the life span of the proposed cardanic joints?

56

Figures 2-9 through 2-12 do not provide sufficient detail to allow a reviewer to understand the nature of the various pump barge/pumping plant design.

- Please provide additional drawings to clearly show each design element.

57

#### **Sec. 2.5.1.4 (p. 2-39) Reservoir Floor Scour Protection**

This section states that articulated concrete mats would extend 80 feet out from the toe of the flow control structure on the lake floor.

- What benthic impacts to the lake floor would occur from the concrete mats?

58

#### **Sec. 2.5.2.1 (p. 2-41) Floating Barge and Pumping Plant**

This section states that the lake would need to be dredged to install the pump barge.

- How many cubic feet of material would be dredged?
- What is the location of the dredge material disposal site on the lake floor?
- What permits would be needed?
- Why wouldn't an upland dredge disposal site be used?

59

#### **Sec. 2.5.2.3 (p 2-42) Flow Control Structure**

- Please provide a drawing of the flow control structure.

60

#### **Sec. 2.5.2.4 (p. 2-43) Erosion Protection Features**

- Please provide a drawing of the erosion protection features.

61

#### **Sec. 2.5.2.7 (p. 2-43 to p. 2-44) Boat Ramp and Dock**

- What would be the recreational boat experience along the shoreline of Big Kachess lack when drawn down an additional 80 feet?
- Are there any boating safety concerns?

62

#### **Sec. 2.5.2.10 (p. 2-45) Spoils Disposal Area and Temporary Power Supply**

This section states that for Alternative 4, BuRec is considering two options for disposal of spoils from construction (Sec. 2.3.2.8). This section (p. 2-15) describes the excavation and stockpiling of 117,000 c.y. of soil and rock material for Alternative 2.

- What is amount of excavation and stockpiling for Alternative 4?

Sec. 2.3.2.8 states that no specific offsite disposal location has been identified.

- Without knowing the specific offsite disposal location, a reviewer cannot determine whether any adverse environmental impacts could occur, thus rendering the SDEIS inadequate.

This section states that temporary power supply during construction would be the same as Alternative 2 (Sec. 2.3.2.8). This section (p. 2-15) states that if electrical power cannot be supplied, diesel-powered electric generators would supply power.

- What spill prevention measures would be taken for any diesel-powered generators?

63

#### **Sec. 2.5.3 (p. 2-46) Typical Annual Operation**

This section states that operations for Alternative 4 would be similar to Alternative 2 (Sec. 2.3.3).

- Similar is not identical. Please describe all ways in which operations for Alternative 4 are not similar to Alternative 2.

64

This section states that Alternative 2 would be operated by project proponents.

- Who are the project proponents? Does this mean BuRec? Ecology-OCR? The Roza Irrigation District? All three?
- If the Roza Irrigation District is the project proponent, how can a non-federal entity operate releases from Kachess Lake independent of the BuRec's Yakima Project?



This section states that BuRec would meet the usual obligation, calculated in the traditional way. This means meeting non-proratable water demands first in a drought year, based on the Total Water Supply Available (TWSA) (1945 Consent Decree). As previously discussed, TWSA includes all Kachess Lake water because it is "storage in a government reservoir." The additional 200,000 acre feet proposed water withdrawal could also be considered "other sources."

- Does the BuRec intend to meet its obligations to nonproratable irrigation districts by providing them with an additional 200,000 acre feet of proposed water withdrawal from Kachess Lake, during a drought year if necessary?
- For Alternative 4, is Sec. 2.3.3 accurate?
  - pumping could operate continuously from early June to early October?
  - pumping would continue to pump while the lake is below the outlet works to meet flow obligations, including non-drought years?
- What is the longest possible projected continuous pumping time span?

65

#### **Sec. 2.5.1.8 (p. 2-40) Proposed Narrows Access.**

This section states access to the Volitional Bull Trout Passage Improvements would be the same as proposed for Alternative 2 (Sec. 2.3.1.6).

- Sec. 2.3.1.6 (p. 2-11) addresses Permanent Access Roads and does not specifically reference access to the Volitional Bull Trout Passage Improvements. Is this the correct section reference?

66

#### **Sec. 2.5.6 (p. 2-46)**

This section states that mitigation would be the same as for Alternative 4 (Sec. 2.36).

- Why isn't monitoring fish impacts downstream of Kachess Lake included as a mitigation measure?

67

#### **Sec. 2.7.2 (p. 2-59) Estimated Costs for Action Alternatives**

In the past, Ecology-OCR and the BuRec have been wildly off in their cost estimates and it is improper for Table 2-5 to provide exact totals.

- We request that Table 2-5 be revised to show a range of cost figures as discussed in this section of Alternatives 2 and 3 of 15 percent lower or 30 percent higher and costs for Alternative 4 of 30 percent lower or 50 percent higher.
- What is the cost range of the KKC in Table 2-6?
- What is the cost range for the "volitional" fish passage project?
- Why are these costs not added to the alternative costs?

68

The December 15, 2014, Water Research Center's B/C Analysis (Table 29) presents much lower construction cost figures for the KDRPP and KKC than presented in the SDEIS Table 2-5.

- What accounts for the higher construction costs for a floating pumping plant?
- If the KDRPP Alt 2 100 year costs are \$445,765,000, and Alt 3 costs are \$437,102,000, and Alt 4 costs are \$282,000,000, and the KKC Alt 100 year costs are \$258,256,000 what are the projected dollar benefits for each alternative?
- Why are the volitional fish passage at Kachess Lake, not included in the above figures?
- What would be the added costs of attempting to restore fish passage at Box Canyon Creek?

69

#### **Sec. 2.8 (p. 2-60) Other Alternatives Considered but Eliminated from Detailed Study.**

This section is inadequate and merely describes variations of pumping plants and tunnels, not real alternatives. The BuRec and Ecology have failed to comply with NEPA and SEPA. 40.CFR Sec. 1502.14(a) requires the BuRec to discuss the reasons for alternatives eliminated from detailed study. Here there is no discussion of why water conservation, water efficiencies, water marketing, or adjusting crop patterns to stop growing perennial crops by proratable irrigation districts, or curtailing non-proratable water users were eliminated from detailed study.

- We request that these alternatives be included.

70

### Sec. 3.2 (pages 3-2+) Earth

While this section identifies soil deposits and seismicity in the area, there is no specific information concerning the likelihood of dam failure from a seismic event or dam failure. This is disturbing given the past failures of the BuRec to properly account for dam failure (e.g., Teton Dam, Idaho in 1976).

- Please provide this information, as well as a summary of any dam failure studies prepared for the Keechelus and Kachess dams.
- What is the potential for liquefaction during seismic activity at Kachess and Keechelus Lakes?
- What is the current analysis of dam seismic failure, earthquakes, or seepage issues at the existing Kachess and Keechelus Lakes?

71

### Sec. 3.3.1 (pages 3-12+) (Project Operations)

#### Figure 3-3 (page 3-15)

- Please provide an additional line on this figure showing the historical (prior to 1900) stream flow conditions in the Upper Yakima River.

72

#### Sec. 3.3.1.1 (page 3-16) Flip-flop and Mini Flip-flop

This section states that in September and October, irrigation releases are increased from Kachess Lake.

- Please identify the type and acreage of crops in the Roza Irrigation District that require irrigation releases from Kachess Lake in September and October.
- How many acres of hay/alfalfa are grown in the Roza Irrigation District?
- How many tons of hay/alfalfa are exported overseas from the Roza Irrigation District?
- How many tons of hay/alfalfa are exported overseas from the Kittitas Reclamation District?
- How many tons of hay/alfalfa are exported overseas from the Kennewick Irrigation District?
- How many acre feet of water in Kachess Lake could be stored for carry over to the next year if irrigation releases were halted the beginning of September?

73

#### Sec. 3.3.1.3 (pp. 3-16 to 3-18) Target Flows and Sec. 3.3.1.4 Title XII Target Flows

This section states that all the fish targets instream flows in Table 3-2 are minimum flows.

- Please revise this table to include historical and optimum instream flows for each river reach.

74

#### Sec. 3.3.1.5 (p. 3-18) Prorationing

Table 3-4 depicts Yakima Project irrigation district water rights.

- For each irrigation district please provide the number of acres devoted to perennial and annual crops.
- What is amount of prorationing less than 70 percent that has occurred over the past 100 years?

75

As discussed above, if prorable water users received 37 percent water supply in 1994, this would seem to be a closer reality to riding out a drought year than a 70 percent level.

- Is crop insurance available to cover losses experienced in drought years?

#### Sec. 3.3.2 (p. 3-19+) Keechelus Dam and Reservoir Operations

- In Tables 3-5 and 3-7 please explain how the Keechelus Lake drainage area is 54.7 square miles but provides 244,000 of average annual acre-feet of runoff, while the Kachess Lake area is much bigger, 63.6 square miles, but provides only 213,398 average annual acre-feet of runoff?

76

#### Sec. 3.3.3 (p. 3-23). Upper Yakima River between Keechelus Reservoir and Lake Easton

This section states that flows are high from July through mid-to-late August when juvenile Chinook and steelhead (and potentially coho if reestablished) are rearing in this reach. And in winter, flows are lower than desired by fish biologists.

- Please provide optimum instream flows for fish for the Upper Yakima River between Keechelus Lake and Lake Easton.
- Please explain how the floating pumping plant project would improve instream flows in this reach.
- Was raising the Lake Easton dam considered an alternative? If not, why not?

77

The April 20, 2018, *Federal Register* (83 FR 17542) announced the Bonneville Power Administration's Record of Decision for the Melvin R. Sampson Hatchery, northwest of Ellensburg, WA. This hatchery would produce and release up to 500,000 coho parr and up to 200,000 coho smolts, with possible conversion to an all-smolt release of 700,000 smolts. It states that the goal is for in-basin rearing using coho adults collected at Roza Dam for broodstock or at Prosser Dam as a backup source.

- Is using existing Yakima River coho and converting them to hatchery fish a good idea?
- Won't hatchery raised coho conflict with existing coho in the Yakima River?
- What is the optimum instream flow in the Yakima River needed to sustain a hatchery production and release of nearly a million coho?
- Why was this project not mentioned in either the 2012 PEIS, the 2015 Kachess DEIS, or this 2018 SDEIS?
- Why was this project not presented to the Yakima Workgroup or included as part of the Yakima Political Bargain?
- How can a plan be "integrated" if it does not include or analyze a major project such as a new coho hatchery?
- Why was this coho hatchery not mentioned in Sec. 3.6.4.3 (p. 3-84)?

#### **Sec. 3.3.4 (p. 3-36) Kachess Dam and Reservoir Operations**

- In Figure 3-6, please provide additional identification on this figure marking the level of the natural Big Kachess Lake (ele. 2200), the Big Lake Kachess minimum low pool (ele. 2,192.75 feet), and proposed KDRPP drawdown (ele. 2,113).

#### **Sec. 3.4 (p. 3-28+) Surface Water Quality**

- What contribution do Keechelus and Kachess Lakes make to degraded water quality in the Lower Yakima River?

The Keechelus and Kachess watersheds are within the Okanogan-Wenatchee National Forest. Therefore, they would receive runoff from any forest pesticides/herbicides used within the watersheds.

- What annual types and quantities of forest pesticides/herbicides does the Okanogan-Wenatchee National Forest apply to each watershed?

Tables 3-9 and 3-10 lists the Yakima River as 303(d) water quality impaired for temperature. Cliff Mass, University of Washington professor of climatology, in a presentation to the Yakima Rotary, October 23, 2014, predicted that due to climate change our mountains will get more rain and less snow. This would also increase water temperature for lake inflow and outflow.

- What impact to fish and wildlife would such higher lake and river water temperatures have?
- Did the Fish and Wildlife Coordination Report for the FPEIS address this?
- How much would the floating pumping plant project lower Kachess Lake temperatures after lowering the lake level by 80 feet?

#### **Total Maximum Daily Load (p. 3-31)**

This section states that both Yakima River and the Okanogan-Wenatchee National Forest TMDLs emphasize maximizing effective shade by the forest canopy to keep temperatures lower in forest streams. While it is good to have this emphasize, this apparently has not been effectively implemented as Ecology recently developed a TMDL for the Upper Yakima River Tributaries for water temperature, which identified actions needed to reduce summer water temperatures including protecting existing riparian vegetation.

- For rivers/streams within the Okanogan-Wenatchee National Forest Yakima River Basin, please provide quantitative data and information on the river/stream miles with adequate forest canopy, as well as river/stream miles where inadequate forest canopy exists due to USFS approved logging activities.

#### **Sec. 3.4.1.4 (p. 3-31). Washington State Antidegradation Policy**

\* The BuRec and Ecology should quantify the degree of temperature increase caused by the KDRPP and KKC projects from increased rainfall and decreased snowpack.

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**Sec. 3.4.3 (p. 3-36) Existing Surface Water Quality Conditions**

It states on p. 3-36 that “Keechelus Reservoir is an unproductive oligotrophic (nutrient-poor and oxygen-rich) lake that stratifies in the summer” and on p. 3-41 that “Keechelus Reservoir had generally had low nutrient levels.” The Yakima Plan proposes fish passage at all the major Yakima River Basin dams.

- What species of fish are proposed for passage at Keechelus Lake and which species would thrive in an unproductive lake?
- Please explain how Keechelus Lake can be oxygen-rich and also fail to meet State water quality DO criteria?

84

**Sec. 3.4.4 (p. 3-42) Kachess Reservoir and Tributaries**

It states on p. 3-42 that “Kachess Reservoir is an unproductive oligotrophic body of water that stratifies in the summer.” The Yakima Plan proposes fish passage at all the major Yakima River Basin dams.

- What species of fish are proposed for passage at Keechelus Lake and which species would thrive in an unproductive lake?

85

**Sec. 3.6 (p. 3-66+) Fish**

It states that the historical lakes, such as Keechelus and Kachess supported anadromous spring Chinook, summer steelhead, coho, and sockeye salmon as well as resident bull trout.

- What fish species are proposed for passage at Keechelus and Kachess Lakes?
- How do BuRec and Ecology-OCR plan on providing successful fish passage for Keechelus Lake if the KKC project is constructed?
- How do BuRec and Ecology-OCR plan on providing successful fish passage for Kachess Lake if the floating pumping plant project is constructed and Kachess Lake is lowered by an additional 80 feet?
- Has the proposed bull trout conveyance between Big and Little Kachess Lakes been shown to work for other fish species? If so, which species and where has such a comparable project been successfully operated?

86

**Table 3-15 (p. 3-73)**

- What accounts for the extraordinary low zooplankton weight per volume of water for Bumping Lake?

It states on pages 3-73 and 3-76 that the Kachess and Keechelus Lakes' zooplankton supply are comparable to or greater than that of major sockeye-producing lakes in Alaska, based on studies nearly 50 years old.

- Have these studies been updated?
- Do the comparison Alaska lakes also support Chinook, steelhead, coho salmon and bull trout?

87

**Sec. 3.6.4.3 (p. 3-84) Coho Salmon**

- As discussed above, why is the BPA funded construction and operation of the Melvin R. Sampson Hatchery northwest of Ellensburg not mentioned in this section?

88

**Sec. 3.6.4.4 (p. 3-85) Sockeye Salmon**

- Can the BuRec confirm that during the last six years (2009-2014) efforts to restore sockeye salmon in the Yakima Basin have averaged an annual return of 395 sockeye salmon passed Roza Dam?
- Why is reservoir fish passage listed as a Yakima Political Bargain component (p. ES-vi), but this section contains no information about sockeye salmon passage at either Kachess or Keechelus Lakes?

89

**Sec. 3.6.4.5. (p. 3-85) Nonsalmonids**

- What is the status of listing Pacific lamprey under the Endangered Species Act?

90

**Sec. 3.7.2 Kachess “Reservoir” Area (p. 3-88) Wetlands**

This section states that the BuRec used the National Wetland Inventory (NWI) and a site visit to identify wetlands in the study area. Page 3-88 states that “Additional site evaluations and on-site wetland delineations would be

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conducted as part of project-level evaluations.” The SDEIS is a project-level EIS. Ecology-OCR and BuRec cannot keep kicking environmental cans down the road and refusing to provide environmental impact analyses at the programmatic EIS level and then at the project EIS level. Without a wetland delineation study, this SDEIS is inadequate and does not provide decisionmakers with adequate information to understand the significant adverse environmental impacts to wetlands.

- Please have the Kachess project areas delineated by a professional wetland scientist prior to release of any FEIS.

### **Sec. 3.8 (p. 3-96+) Wildlife**

The 2012 FPEIS states, “The programmatic EIS does not evaluate site-specific issues. . .” FPEIS Sec. 1.2 (p. 1-4). The FPEIS promised that impacts would be analyzed on each individual project. The BuRec stated, however, in Section 5.5.2 of the 2015 DEIS, that the US Fish and Wildlife Service determined that all impacts for the KDRPP and KKC were considered in the Final Fish and Wildlife Coordination Act Report for the Integrated Plan in February 2012 and separate FWCA reports for these projects are not required.

Congress requires:

In furtherance of such purposes, the reports and recommendations of the Secretary of the Interior on the wildlife aspects of such projects, and any report of the head of the State agency exercising administration over the wildlife resources of the State, based on surveys and investigations conducted by the United States Fish and Wildlife Service and such State agency for the purpose of determining the possible damage to wildlife resources and for the purpose of determining means and measures that should be adopted to prevent the loss of or damage to such wildlife resources, as well as to provide concurrently for the development and improvement of such resources, shall be made an integral part of any report prepared or submitted by any agency of the Federal Government responsible for engineering surveys and construction of such projects when such reports are presented to the Congress or to any agency or person having the authority or the power, by administrative action or otherwise,

- (1) to authorize the construction of water-resource development projects or
- (2) to approve a report on the modification or supplementation of plans for previously authorized projects, to which sections 661 to 666c of this title apply. Recommendations of the Secretary of the Interior shall be as specific as is practicable with respect to features recommended for wildlife conservation and development, lands to be utilized or acquired for such purposes, the results expected, and shall describe the damage to wildlife attributable to the project and the measures proposed for mitigating or compensating for these damages. The reporting officers in project reports of the Federal agencies shall give full consideration to the report and recommendations of the Secretary of the Interior and to any report of the State agency on the wildlife aspects of such projects, and the project plan shall include such justifiable means and measures for wildlife purposes as the reporting agency finds should be adopted to obtain maximum overall project benefits. *16 U.S. Code § 662(b) Reports and recommendations; consideration.*

The Final Fish and Wildlife Coordination Act Report on the programmatic Yakima Plan, dated February 10, 2012, contains no recommendations on the wildlife aspects of the KDRPP or KKC projects and, therefore, the general FWCA Report prepared for the programmatic Yakima Plan is completely inadequate as a response to these two projects.

- The BuRec should comply with the FWCA and consult with the USFWS on the KDRPP and KKC Projects.

### **Sec. 3.9 (p. 3-103+) Federal Threatened and Endangered Species**

- What steps has the US Fish and Wildlife Service taken to list Pacific lampreys as a threatened or endangered species?
- What steps has the BuRec taken to consult with the US Fish and Wildlife Service and National Marine Fisheries Service concerning annual operation of the existing Yakima Project?
- What is the status of the ESA Biological Opinion on the impacts on endangered and threatened species from the existing Yakima Project?

- We request that a revised SDEIS be released that incorporates the baseline information from a BiOp on the BuRec's existing Yakima Project. This SDEIS remains inadequate for failure to disclose and analyze impacts on ESA species from the existing Yakima Project.

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### Sec. 3.9.3 (p. 3-105) Bull Trout

This section states that bull trout require cold, clear water.

\* What is the BuRec or Ecology-OCR's estimates of temperature increase in Keechelus and Kachess Lakes from increased rainfall and decreased snowpack and impacts on bull trout?

95

### Sec. 3.12 (p. 3-132+) Climate Change

This section states that under the Adverse climate change scenario existing lakes may not be able to refill completely before spring (p. 3-135).

- How would this impact fish passage proposals at Keechelus and Kachess Lakes?
- How does withdrawal of 200,000 additional acre-feet of water from Kachess Lake impact target flows under the Adverse climate change scenario?

96

### Sec. 3.12.2.2 (p. 3-135) Changes in Quantity and Timing of Runoff

This section states that BuRec and Ecology-OCR expect future agricultural demand to be higher than under historical conditions in the low inflow period of the summer.

- Does the BuRec and Ecology-OCR agree with the *Columbia River Basin Long-Term Water Supply and Demand Forecast 2016 Legislative Report*, that water demand in the future will decrease?<sup>2</sup>

“...agricultural water demand—which accounts for approximately 79.4% of total out-of-stream demand (agricultural plus municipal)—is forecast to **decrease** by approximately 4.96% (±0.81%) by 2035, across the entire Columbia River Basin. This decrease is somewhat greater within Washington, where it is forecast to reach 6.87% (±0.98%) (Table ES-2).” (emphasis added) *Ex. Summary, page x.*

See: <https://fortress.wa.gov/ecy/publications/documents/1612001.pdf>

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- Please include the above summary in any FEIS.
- Why does BuRec and Ecology-OCR continue to ignore and refuse to present studies that contradict the Yakima Political Bargain?
- Why wasn't this report listed in the SEIS Reference section?

### Sec. 3.13 (p. 3-143+) Noise

This section is inadequate as it fails to present the reviewer with any quantifiable noise data or duration from running the proposed floating pumping plant.

- Please provide a better summary. For additional comments see Sec. 4.13.6.2 below.

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### Sec. 3.14 (p. 3-146) Recreation

- What is the current off-highway vehicle (OHV) use on the Keechelus and Kachess Lakes lakebeds and mud flats?
- What additional OHV use of Keechelus and Kachess Lakes lakebeds and mud flats due to additional lakebed and mud flat exposure from the KDRPP and KKC projects?

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### Sec. 3.15 (p. 3-154+) Land and Shoreline Use

#### Sec. 3.15.1.3 (p. 3-158) Okanogan-Wenatchee National Forest Plan

This section fails to disclose the proposed adverse impacts to the Okanogan-Wenatchee National Forest.

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<sup>2</sup> Submitted to Washington State Department of Ecology pursuant to RCW 90.90.040 by: WSU, State of Washington Water Research Center, Center for Sustaining Agriculture and Natural Resources, Biological Systems Engineering, Civil and Environmental Engineering, School of Economic Science, PO Box 643002, Pullman, WA 99164-3002

- Please list all specific impacts from the KDRPP and KKC projects on National Forest land.

This section complete fails to provide the reader any information of land management practices on the Okanogan-Wenatchee National Forest Plan or how such practices result in reduced snow pack within the watershed.

- What snow pack reduction in the Keechelus and Kachess watersheds is attributable to timber harvest activities?
- What is the acreage and percentage of the Keechelus and Kachess watersheds within the Okanogan-Wenatchee National Forest that has been timber harvested?
- What is the acreage and percentage that has not been replanted?
- What steps are the USFS taking to retain snow pack in the Keechelus and Kachess watersheds?

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### Sec. 3.15.2.3 (p. 3-161) Shoreline Management Act

The State Shoreline Management Act consists of Ecology approved local control shoreline master programs (SMP). Keechelus and Kachess Lakes are lakes of Statewide Significance. RCW 90.58.020 provides:

*"The legislature declares that the interest of all of the people shall be paramount in the management of shorelines of statewide significance. The department, in adopting guidelines for shorelines of statewide significance, and local government, in developing master programs for shorelines of statewide significance, shall give preference to uses in the following order of preference which:*

- (1) Recognize and protect the statewide interest over local interest;*
- (2) Preserve the natural character of the shoreline;*
- (3) Result in long term over short term benefit;*
- (4) Protect the resources and ecology of the shoreline;*
- (5) Increase public access to publicly owned areas of the shorelines;*
- (6) Increase recreational opportunities for the public in the shoreline;*
- (7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary."*

102

The EIS should explain:

- How does draining an additional 200,000 acre feet from Kachess Lake protect the statewide interest over local interest or preserve the natural character of the shoreline when additional storage water is diverted to local irrigation?

Under the recently approved amended Kittitas County SMP, the Keechelus and Kachess shorelines are within a Conservancy shoreline environment. The intent of this designation is to sustain natural resource development while maintaining the natural character of the shoreline area. Under the current SMP shoreline "works" are only allowed where they "do not substantially change the character of the environment." The proposed KDRPP and KKC projects would substantially change the character of the shoreline environment. Under the amended Kittitas County SMP the majority of the both lakes were designated Rural Conservancy, while portions of the west and east sides of Kachess Lake were designated as Shoreline Residential.

WAC 173-26-251(2) provides:

*Second, the Shoreline Management Act calls for a higher level of effort in implementing its objectives on shorelines of statewide significance. RCW 90.58.090(5) states:*  
*"The department shall approve those segments of the master program relating to shorelines of statewide significance only after determining the program provides the optimum implementation of the policy of this chapter to satisfy the statewide interest."*

Kittitas County amended its Shoreline Master Program in 2016 to provide less protection to the Kachess Lake as a lake/shoreline of statewide significance.

- How does providing less protection satisfy the statewide interest?

Ecology's SMA webpage states:

*"Because federal courts have held that shoreline permits are water quality permits, federal agency projects that affect water quality may be required to obtain shoreline permits. [See Friends of the Earth v. U.S. Navy, 841 F.2d 927(C.A. 9, 1988)]."*  
[http://www.ecy.wa.gov/programs/sea/sma/st\\_guide/jurisdiction/federal.html](http://www.ecy.wa.gov/programs/sea/sma/st_guide/jurisdiction/federal.html)

Withdrawing additional water from Kachess Lake would affect water quality.

- Please clarify that shoreline permits may be required for the KDRPP and KKC projects.

102

**Sec 4.3.4.2 (p. 4-22+) Operation**

Table 4-5 (p. 4-22) provides a percent of entitlement available in drought years under Alternative 2 (same as for Alternative 4) for water years 1992, 1993, 1994, 2001, 2005, 2015, with 1994 figures reported as 24 percent prorating.

- Please provide references for these figures.

103

The prorated irrigation districts have experienced three successive drought water years (1992, 1993, and 1994) below 70 percent of water supply with the third year water supply at 24 percent.

- Please provide alternative analysis that includes a 60 percent and 50 percent water supply availability for prorated irrigation districts.

**Sec. 4.4 (p. 4-76+) Surface Water Quality**

Table 4-74 (p. 4-78)

- Why are there no water quality indicators for zinc, copper, or forest herbicides/pesticides?

104

**Sec. 4.4.7.2 (page 4-96+) Operation**

With the KKC project, water quality in Kachess Lake could be modified by that of the Keechelus Lake inflow. Keechelus Lake is currently listed as 303(d) Category 5 for PCBs and dieldrin in fish tissue. Ecology's 303(d) list for fresh waters also identifies Kachess Reservoir as 303 (d)-listed for PCBs (for fish tissue) (Norton, 2014). This proposed listing indicates that PCBs are already present in Kachess Lake. Existing data indicate that Kachess Lake has higher concentrations of PCBs than Keechelus Lake. The transfer from Keechelus Lake could thus lower (dilute) Kachess Lake PCB concentrations. Over time, however, the total load of PCBs in Kachess Lake could increase.

- If existing data shows that Kachess Lake has higher concentrations of PCBs than Keechelus Lake, why is this data not provided?
- What is the source of PCBs to Kachess Lake?
- What pollutant source controls are in place to keep pollutants out of Keechelus and Kachess Lakes?
- What water quality impacts would occur in Kachess Lake, the Kachess River, Lake Easton, or the Easton and Parker Reaches of the Yakima River with the KKC project?

105

**Sec. 4.6 (pages 4-113+) Fish**

How do the KDRPP and KKC projects meet the stated objectives of the Yakima Plan to provide fish passage at the Keechelus and Kachess Lakes?

106

**Sec. 4.6.3 (p. 4-1119+) Alternative 1 – No Action**

This section states that under the No Action Alternative, Keechelus and Kachess Lakes “would remain relatively unproductive.” The DEIS fails to explain how withdrawing an additional 200,000 acre feet of water from Kachess Lake would increase productivity.

- \* Please explain how productivity in Kachess Lake would increase due to the KDRPP and KKC projects.

107

**Sec. 4.6.4.2 (p. 4-129) Operation - KDRPP East Shore Pumping Plant Facilities**

This section states that “Reductions in Kachess “Reservoir” elevation and persistence of lower elevations for longer periods of time (2 to 5 years to refill the “reservoir”) . . . would likely reduce the abundance of benthic invertebrate prey for fish and reduce shallow shoreline area preferred by small fishes like redbside shiner.” The DEIS (p. 4-113) stated that this would result in negative impacts on fish.

- Why was this conclusion deleted from the SDEIS?

108

**Sec. 4.7 (pages 4-149+) Vegetation and Wetlands**

- For each alternative, including the combined projects, please identify the location and acreage of vegetation and wetlands that would be impacted on the Okanogan-Wenatchee National Forest.

109



**Sec. 4.13 (pp. 4-266+) Noise**

**Sec. 4.13.6.2 (p. 4-272) Operations – KDRPP Floating Pumping Plant Facilities**

This section states that Alternative 4 would produce noise that may exceed ambient levels because of operation of pumps. This is a significant adverse environmental impact that cannot be mitigated. A computer Aided Noise Abatement modeling program cannot substitute for actual noise impacts carried across a lake for long periods of time. It states that Alternative 4 would operate 24 hours a day and 7 days per week during drought alleviation period.

- What are the maximum pumping days for a drought alleviation pumping period?
- What are the number of pumps needed to pump for instream flow purposes?
- What are the maximum pumping days for instream flow purposes?

110

**Sec. 4.15.4.2 (p. 4-288) Operation - KDRPP East Shore Pumping Plant Facilities**

This section in the DEIS (p. 4-271) stated: “The improved reliability of water supply to existing irrigated lands could encourage irrigators in prorationed districts to retain or plant more permanent crops and maintain existing agriculture land uses.”

Encouraging prorationed irrigation districts to switch to permanent crops is contrary to sound irrigation practices in an over allocated water basin. This increases the risk of loss of permanent crops due to water curtailment to junior irrigation districts.

- We request that the above sentence from the DEIS be restored in any FEIS.
- Please clarify that this is a negative impact from the project.

111

**Sec. 4.21 (p. 319+) Socioeconomics**

This section estimates \$171 million of aggregate industry output (Table 4-155, p. 4-330).

The BuRec/Ecology’s “Four Accounts Analysis of the Integrated Plan,” dated September 26, 2012, estimated fish-related benefits to both WA and OR of over \$7 billion.

\* Why does this table fail to display any economic benefit from fishery increases?

\* If the BuRec and Ecology intend to count fish-related benefits to all the residents of Oregon, what additional agricultural production benefits would occur if fish-related benefits to the State of California were counted?

112

**Sec. 4.22 Environmental Justice**

**Sec. 4.22.2 (p. 4-341) Summary of Impacts**

This section in the DEIS stated that that the subsistence use of renewable natural resources (such as fish, wildlife, and vegetation) by Tribes or other populations in the Kachess Lake area and downstream has not been quantified. Page 4-330 of the DEIS, however, stated that the No-Action alternative could reduce opportunities for subsistence fishing.

- How can BuRec and Ecology draw this conclusion without any data?

113

**Sec. 4.24 (p. 4-349+) Relationship of the Proposed Action to the Integrated Plan**

The specific goals of the Yakima Plan listed on page 4-349 include “fish passage.” This section fails to explain how either the KDRPP and KKC would benefit fish passage at either Keechelus or Kachess Lakes.

- If the KDRPP and KKC do not contribute to the goal of fish passage, this section should say so.

114

**Sec. 4.25 (pages 4-350) Cumulative Impacts Analysis**

This section is completely inadequate.

The CEQ regulations (40 CFR §§ 1500 -1508) define the impacts and effects that must be addressed and considered by Federal agencies in satisfying the requirements of the NEPA process. This includes cumulative impacts:

*Cumulative impact is the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.*

*Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 CFR § 1508.7. (emphasis added)*

115

The KDRPP and KKC projects are designated “components” of the Yakima River Basin Integrated Water Resource Management Plan. The Yakima River Basin Integrated Water Resource Management Plan EIS stated,

“The programmatic EIS does not evaluate site-specific issues. . .” *FPEIS Sec. 1.2*. This is the second project-specific EIS prepared as part of the controversial Yakima Plan.

- As required by Sec. 1508.7, the EIS must analyze the cumulative impacts from other actions taken that would modify in-stream flows and other actions that would increase storage water for irrigators.

A comment submitted in 2012 to the Final Programmatic EIS noted, “The 1998 DEIS on the YRBWEP stated a goal of ‘165,000 acre-feet of water savings in 8 years’ under the Basin Conservation Program.”

- This EIS should address whether this goal has been achieved, and if it has not been demonstrably achieved, the EIS should explain why additional water resource projects are proposed in the absence of conservation efforts.

115

The Yakima Project storage dams also impede or preclude movement of sediment and organic material (e.g., woody debris) to the river downstream. The consequential effects on channel morphology, substrate characteristics, habitat quality, and productivity are usually significant. The downstream migration of bed materials is an essential process which maintains channel complexity and thus habitat quality. The recruitment of gravels and small cobbles, essential for the construction of redds by spawning salmonids, is necessary to replace those that are inevitably washed downstream. Coarse particulate organic matter, ranging from large trees to leaf litter, is an important energy and structural component of all riverine ecosystems. Large woody debris (LWD) provides physical habitat for both fish and aquatic invertebrates, while leaf litter is an essential energy source in the food chain that drives stream productivity.

- How do either of these projects contribute to recruitment of gravels and small cobbles or large wood debris?

#### **Sec. 4.25.3.4 (p. 4-354+) Land Use Practices**

Sec. 4.25.1.1 (p. 4-341) of the 2015 DEIS stated that “Agricultural development in the Yakima River basin over the past 150 years, including Reclamation’s Yakima Project, has caused impacts to surface water, water quality, fish, vegetation and wetlands, wildlife, and cultural resources.” These are weasel words.

- Please amend and add this sentence to this section as follows:  
“Agricultural development in the Yakima River basin over the past 150 years, including Reclamation’s Yakima Project, has caused extreme and significant adverse cumulative impacts to surface water, water quality, fish, vegetation and wetlands, wildlife, and cultural resources.”

116

This section complete fails to provide the reader any information of past land management practices on the Okanogan-Wenatchee National Forest Plan or how such practices result in reduced snow pack within the Keechelus and Kachess watersheds.

- What has been the historical yearly water yield off the Okanogan-Wenatchee National Forest in the Keechelus and Kachess watersheds?
- How many miles of roads have been constructed within the Okanogan-Wenatchee National Forest’s Keechelus and Kachess watersheds?
- What are the current off-road vehicle policies within the Okanogan-Wenatchee National Forest’s Keechelus and Kachess watersheds?

#### **Sec. 4.25.3.1 (p. 4-352) Surface Water Resources**

Sec. 4.25.1.2 (p. 4-342) of the 2015 DEIS stated that “This section states that “Past water management actions have caused cumulative impacts at the Kachess and Keechelus “Reservoir” areas that have affected surface water, fish, vegetation, wildlife, and cultural resources.”

- Please amend and add this sentence to this section as follows:  
“Past water management actions have caused significant adverse cumulative impacts at the Kachess and Keechelus Lake areas that have affected surface water, fish, vegetation, wildlife, and cultural resources.”

117

#### **Sec. 4.25.2 (p. 4-350) Present and Reasonably Foreseeable Future Actions**

This section complete fails to provide the reader any information of proposed land management practices on the Okanogan-Wenatchee National Forest Plan or how such practices result in reduced snow pack within the Keechelus or Kachess watersheds.

118

- What impacts to the Keechelus and Kachess watersheds would occur under the Proposed Action for Forest Plan Revision, released by the USFS in June 2011?
- What impacts to the Keechelus and Kachess watersheds would occur under proposed Okanogan-Wenatchee National Forest travel management plans?

118

Sec. 4.25.3.3 (p. 4-344) of the DEIS stated that the KDRPP and KKC in combination with other reasonably foreseeable projects would contribute to regional trends toward reduced habitat. However, this section failed to describe the reasonably foreseeable projects toward reducing habitat on the Okanogan-Wenatchee National Forest, such as the Bumping Lake Expansion project, or other Yakima Plan projects such as a new Wymer Dam.

119

- Please include these projects as part of the cumulative impacts.

Sec. 4.25.3.4 (p. 4-345+) of the DEIS (KDRPP Fish – p. 4-347) stated that the additional drawdown of Kachess Lake would further impede fish passage to lake tributaries and between the Kachess basin and Little Kachess basin.

120

- What about impeding fish passage at Kachess Lake itself?

It also stated that fish in the lake could be negatively impacted by increased water temperature, decreased water quality, and decreased food prey.

121

- How does this meet the goal of fish restoration in the Yakima Basin?

The DEIS section (KKC Fish – page 4-349) also failed to describe how operation of the KKC project would impact proposed fish passage at the Kachess Lake.

122

- Please provide this analysis.

**Sec. 4.27 (p. 4-357) Irreversible and Irretrievable Commitments of Resources**

- Please include draw down of private wells at Kachess Lack as a likely irreversible impact if the additional lake drawdown lowers groundwater levels.
- If wells are impacted, what mitigation would be proposed?

123

**Sec. 5.5 (p. 5-4) Compliance with Federal and State Laws and Executive Orders**

- Why is compliance with the Federal Advisory Committee Act not listed?
- Why is compliance with the State Shoreline Management Act not listed?

124

**Appendix A**

Page 2 states that the “Integrated Plan Workgroup is primarily made up of representatives of statutorily created organizations. This includes State and Federal agencies, the Yakama Nation, local government, irrigation districts and environmental groups.”

- If the Integrated Plan Workgroup was statutorily created, please provide a citation.

125

Otherwise, environmental groups should not be listed as a “statutorily created organization.” In addition, the initial Workgroup included only a single environmental group.

- Please change environmental groups to “a single environmental group at the Workgroup’s initial meeting.”

**Appendix C**

**Sec. 3.5 (p. 22) Box Canyon Creek Passage**

This section describes a “temporary passage system” for Box Canyon Creek.

- Please provide a description of this temporary passage system and what success if any has been achieved.
- Please provide a list of permits obtained for this temporary passage system.

126

**CONCLUSION**

This SDEIS is inadequate because it is based on the 2012 Yakima Plan Final Programmatic EIS that failed to provide a range of alternatives, and added environmental damaging elements (National Recreation Areas for off-road vehicle use) after the close of comments on the Draft Programmatic EIS.

This SDEIS is inadequate because it fails to provide alternatives to providing the additional storage water to irrigation districts. An EIS should include a range of reasonable alternatives that meet the stated purpose and need for the project and that are responsive to the issues identified during the scoping process. This will ensure that the EIS provides the public and the decisionmaker with information that sharply defines the issues and identifies a clear basis for choice among alternatives as required by NEPA. This applies even if some of them could be outside the capability of the applicant or the jurisdiction of the agency preparing the EIS for the proposed actions. The Environmental Protection Agency (EPA) encourages selection of alternative(s) that will minimize environmental degradation.

Because both the NEPA and SEPA process must be followed, we request that the BuRec and Ecology each provide separate responses to the above comments. Please send us a copy of any FEIS that is released.

Sincerely,

*John de Yonge*

John de Yonge

President

540 Main St, Apartment 5C

Chatham NJ 07928

[jdeyonge@gmail.com](mailto:jdeyonge@gmail.com)

Attachment – “Department of Ecology Office of Columbia River: The Last Ten Years,” Power Consulting Incorporated, December 3, 2016

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Yakima, Washington

# **Department of Ecology Office of Columbia River: The Last Ten Years**

by

**Power Consulting Incorporated**

**Thomas Michael Power  
Donovan S. Power**

**December 3, 2016**

**Prepared for  
The Sierra Club**

**About the Authors:**

**Thomas Michael Power** is the Principal Economist in Power Consulting, Inc. and a Research Professor and Professor Emeritus in the Economics Department at the University of Montana where he has been a researcher, teacher, and administrator for over 40 years. He received his undergraduate degree in Physics from Lehigh University and his MA and PhD in Economics from Princeton University.

**Donovan S. Power** received his undergraduate degree in Geosciences at the University of Montana and his M.S. in Geology from the University of Washington. He has been the Principal Scientist at Power Consulting, Inc. for the past eight years.

# Department of Ecology Office of Columbia River: The Last Ten Years

## Executive Summary

In 2006, the Washington Legislature tasked the Washington Department of Ecology (Ecology) to “**aggressively seek out new water supplies**” for both instream and out-of-stream uses (emphasis added). *RCW 90.90.005(2)*. The same legislation set up the Columbia River Basin Development Account and authorized \$200 million to fund it, much of which has been spent or committed according to OCR’s 2015 Water Supply Inventory Report to the Legislature. Ecology created the Office of Columbia River (OCR) to use these funds to develop new water supplies using storage, conservation, and voluntary regional water management agreements.

In the required January 2016 report to the Washington State Legislature, the OCR reported that it had funded projects that have cumulatively developed about 396,000 acre-feet of water, with an additional 320,000 acre-feet or more in near-term development i.e. in the 2015-2019 period.

**Our analysis of OCR provides a critical overview of OCR’s expenditures since its creation. In light of our findings, summarized in the following conclusions and supported by the analysis contained in this report, we recommend that the Washington State Legislature not provide additional funding to OCR until a performance audit on OCR is prepared for the Legislature:**

- a. A significant amount of the approximately 400,000 acre-feet of water that the Office of Columbia River (OCR) reports as having been “developed” during the first decade of OCR’s operations is not from “new” water supply production.
- b. The approximately 400,000 acre-feet of water that the Office of Columbia River (OCR) reports as having been “developed” during the first decade of OCR’s operations is, for the most part, not water that currently has been put to productive use.
- c. There are hundreds of millions of additional taxpayer investment dollars that would be required over the next decade or more before all of that OCR “developed” water can actually be put to productive use.
- d. Listing water as “developed” when financing has not been arranged to put that water to use exaggerates OCR’s accomplishments and understates the costly taxpayer investments that will be required to put that water to use.

- e. The OCR and BOR funded Yakima Plan is based on speculative fish production benefits to justify funding large and expensive surface water storage facilities.
- f. Doing an aggregate benefit-cost analysis on the Yakima Plan, as the OCR and BOR chose to do, hides projects that generate major net costs among those that generate net benefits.
- g. To economically justify large Yakima Basin surface storage projects, the enhanced instream flows facilitated by those surface water storage projects would have to be implausibly effective at increasing salmon production and/or the incremental salmon production would have to be assigned indefensibly high economic values.
- h. In addition, within the Yakima Basin, it would be far less costly to provide the planned enhanced in-stream flows through the buying of water rights that divert water flows to out-of-stream uses, leaving the water in the rivers rather than building new or expanded large surface water storage facilities.
- i. The proposed surface water storage projects OCR envisions being carried out in the Yakima Basin over the next three decades would be very expensive to Washington State and its citizens, costing Washington taxpayers as much as \$2 billion.
- j. The proposals to actively manipulate the level of many lakes in the Alpine Lakes Wilderness through the construction of new dams, modification of other dams, and installation of mechanical and motorized equipment within a well-known and spectacular National Wilderness Area need critical economic scrutiny.
- k. OCR's 2105 Columbia Basin Water Supply Inventory Report begins with an explicit criticism of the efficacy of water conservation efforts and an argument in support of giving priority to investments in surface water storage, the most expensive elements of the OCR's plans. OCR's critique of the efficacy of water conservation compared to building surface water storage facilities is misleading in several ways.
  - i. OCR's critique equates water conservation with improvements in the efficiency with which water is applied to crops. There are many other important types of water conservation besides improving the efficiency of irrigating crops.
  - ii. Even in the context of efficiency in the amount of water applied to crops, that improved efficiency can moderate the impact of irrigation on in-stream flows at the points of diversion. It can also reduce the loss of water to evaporation, evapotranspiration, and deep water aquifers.
  - iii. Low in-stream flows due to irrigation withdrawals often lead to efforts to enhance the in-stream flows by building more surface storage to be used to maintain in-stream flows. For instance, about half of the planned surface water stored by the proposed Wymer Dam and Reservoir would be used to enhance in-stream flows rather than delivering water to out-of-stream uses like irrigation.



- iv. OCR's own analysis of a broad range of water conservation projects demonstrates that water conservation can provide water for out-of-stream uses in a cost-effective manner.
- i. Over the past 10 years, the OCR has wasted millions of dollars on new dam studies for projects that have been demonstrated to be uneconomical with substantial adverse environmental impacts.**

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## I. The Water Supply “Developed” by the Office of Columbia River 2006-2016

### A. The 2015 Inventory of Accomplishments of the Office of Columbia River

In 2006, the Washington Legislature tasked the Washington Department of Ecology (Ecology) to “aggressively seek out new water supplies”<sup>1</sup> for both instream and out-of-stream uses (emphasis added). The same legislation set up the Columbia River Basin Development Account and authorized \$200 million to fund it, much of which has been spent or committed according to OCR’s 2015 Water Supply Inventory Report to the Legislature.<sup>2</sup> Ecology created the Office of Columbia River (OCR) to use these funds to develop new water supplies using storage, conservation, and voluntary regional water management agreements.<sup>3</sup>

OCR, in turn created a Columbia River Basin Water Management Program - Policy Advisory Group (PAG), which meets four times a year. The PAG is made up of 27 federal and state agencies, including the Bureau of Reclamation (BOR), tribal members, irrigation districts, cities and counties, and three “environmental” members, of which one seat is listed as open, and one member, the Washington Environmental Council, has a seat at the table, but according to meeting minutes, has not attended meetings in several years.<sup>4</sup>

In early 2016 the Washington Office of Columbia River (OCR) submitted the “2015 Columbia River Basin Water Supply Inventory Report” to the Washington Legislature.<sup>5</sup> That Report listed 38 projects categorized as “developed”, “near-term development (2015-2019)”, and “long-term development (2019+)”. The 17 projects labeled “developed” between 2006 and 2015 were said to provide a total water supply of 395,700 acre-feet. A similar inventory in 2016 listed two additional projects as “developed” so that the total of “developed” water 2006-2016 was listed as 410,376 acre-feet.<sup>6</sup> Those totals of “developed” water included water for both out-of-stream uses (e.g. irrigation) and in-stream uses (e.g. river and fish habitat).

These OCR inventories of “developed” water supply projects included the “Lake Roosevelt Incremental Storage Releases” and the “Odessa Subarea Groundwater Replacement” projects. Each of these projects was very large compared to the other listed OCR developed projects. The Lake Roosevelt Incremental Storage Release was listed as providing 132,500 acre-feet and the Odessa Subarea Groundwater Replacement was listed as providing 164,000 acre-feet. Just those two projects together represented 296,500 acre-feet, *about three-quarters of the total water supply* reported by OCR as developed between 2006 and 2016.

With federal funds appropriated to stimulate the economy during the Great Depression, groundbreaking for a *low* Grand Coulee Dam on the Columbia River was held on July 16, 1933. Legal challenges to the construction of the dam without specific authorization from Congress led to formal congressional authorization of the Grand Coulee Dam in 1935. What was authorized was a multi-purpose dam that not only would generate electricity but would also, among other things, store water for delivery to irrigate (“reclaim”) public lands. That required a much larger

<sup>1</sup> RCW 90.90.005(2).

<sup>2</sup> Ecology Publication Number 15-12-006, January 6, 2016, p. 13. Required under RCW 90.90.040.

<sup>3</sup> [http://www.ecy.wa.gov/programs/wr/cwp/cr\\_overview.html](http://www.ecy.wa.gov/programs/wr/cwp/cr_overview.html)

<sup>4</sup> [http://www.ecy.wa.gov/programs/wr/cwp/cr\\_pag.html](http://www.ecy.wa.gov/programs/wr/cwp/cr_pag.html)

<sup>5</sup> <https://fortress.wa.gov/ecy/publications/SummaryPages/1512006.html>

<sup>6</sup> <http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/waterdev.pdf>

and higher dam that created Lake Roosevelt as a large storage reservoir. The dam was completed by the end of 1941 and the larger project of which the Grand Coulee Dam was to be a central part, the Columbia Basin Project, was approved by Congress in 1943.<sup>7</sup> In addition to the construction of the dam, the larger project required a series of large pumps that could move water out of Lake Roosevelt up into Banks Lake and a system of canals, pipelines, siphons, and pumps to distribute that water throughout the Columbia River Basin, primarily to benefit and promote small farming operations. The full BOR Columbia Basin Project has never been completed due to costs of doing so.<sup>8</sup>

Both the Lake Roosevelt Incremental Storage Releases and the Odessa Subarea Groundwater Replacement Projects seek to extend the delivery of water from Lake Roosevelt to some areas not previously reached by the Columbia Basin Project.

For this additional Lake Roosevelt water to reach all of the planned locations in the Odessa Subarea, canals, siphons, pumps, and pipelines will have to be upgraded or newly built at considerable cost. This is especially true of the Odessa Subarea Groundwater Replacement Project that would deliver 164,000 acre-feet of surface water to irrigate 70,000 acres currently served by deep groundwater pumps. The Washington OCR and U.S. Bureau of Reclamation (BOR) estimated that the Odessa Subarea project would cost \$828 million or about \$11,800 per acre served to actually deliver this surface water to those acres were the groundwater would be replaced.<sup>9</sup>

Table 1 summarizes these OCR/BOR projects aimed at bringing Lake Roosevelt surface water to the Odessa Subarea.

### B. OCR's Meaning of "Developed Water"

The inclusion of a project in the OCR list of developed projects does **not** mean that the project is actively delivering all or any of the listed water to irrigators and municipalities, which are actually using that listed water supply. "Water development," to OCR, simply means that a certain amount of water at a particular geographic location is physically and legally available for transportation and deployment, if someone is able to fund the necessary infrastructure to get the water to potential users and fund the necessary equipment so that that water can be put to use.<sup>10</sup>

"OCR's development of water supply" means that OCR through the Department of Ecology has provided the "permitting, environmental review, funding, or other partnership" to which Ecology had committed. "For instance, once OCR has issued a new water right under one of [its] permitting programs, the impetus for continuing the project then falls on the permittee to provide

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<sup>7</sup> For Columbia Basin Project history see "The Columbia Basin Project," Wm. Joe Simonds, Bureau of Reclamation, 1998, <http://www.usbr.gov/pn/grandcoulee/pubs/cbhistory.pdf>. For a history of Grand Coulee see *Grand Coulee: Harnessing a Dream*, Paul C. Pitzer, Washington State University Press, 1994.

<sup>8</sup> <http://www.usbr.gov/pn/grandcoulee/pubs/cbhistory.pdf>

<sup>9</sup> Odessa Subarea Special Study, Columbia Basin Project, Washington, Final Environmental Impact Statement, prepared by Office of Columbia River, Washing Department of Ecology and the U.S. Bureau of Reclamation, August 2012, Table 2-11, p. 133.

<sup>10</sup> "...after water has been developed, OCR has encountered delays in users' ability to deliver the water for its intended purpose. This encompasses many factors, including financial delays, infrastructure and construction delays, permitting by other agencies, or other user induced delays." p. 3 of "2015 Columbia River Basin Water Supply Inventory Report," submitted to the Washington State Legislature, Ecology Publication Number 15-12-006.

the necessary infrastructure to deliver water for their intended use...Delays may occur at this stage outside of OCR's control." <sup>11</sup> Given that OCR typically funds only a limited part of the required water delivery infrastructure, a "developed" project may not actually put the water to use for a considerable period of time because of the lack of funding.

Table 1.

| Bureau of Reclamation and Office of Columbia River<br>Projects to Deliver Irrigation Water to the Odessa Subarea |                  |                                          |                                                           |                                                                                       |
|------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project                                                                                                          | Approval<br>Date | Planned Water<br>Delivery<br>(acre-feet) | Actual Water<br>Delivery<br>(acre-feet)                   | Comment                                                                               |
| Columbia Basin Project                                                                                           | 1943             | 6,500,000                                | 3,500,000                                                 | For all of the Columbia Basin, Odessa Subarea was originally included but not served. |
| Lake Roosevelt Incremental Storage Releases Project                                                              | 2009             | 30,000 to Odessa Subarea                 | Delivery systems not in place                             | 132,000 ac.ft. total during drought years. 30,000 ac.ft. to go to Odessa Subarea.     |
| Odessa Subarea Groundwater Replacement Project                                                                   | 2012             | 164,000                                  | Infrastructure unfinished; delivery systems not in place. | Upgrade in infrastructure proceeding as funding is available.                         |
| Sources: "Water to the Promised Land," Tim Steury, <i>Washington State Magazine</i> Fall 2013.                   |                  |                                          |                                                           |                                                                                       |
| Final Supplemental EIS for the Lake Roosevelt Incremental Storage Release Project, Office of Columbia River,     |                  |                                          |                                                           |                                                                                       |
| August 2008; Bureau of Reclamation Environmental Analysis and Finding of No Significant Impact, June 2009;       |                  |                                          |                                                           |                                                                                       |
| Joint OCR-BOR FEIS Odessa Subarea Special Study, August 2012.                                                    |                  |                                          |                                                           |                                                                                       |

OCR lists the Odessa Subarea Groundwater Replacement project as one of the projects for which it has "developed" 164,000 acre-feet of irrigation water in the Odessa Subarea, where that newly developed water will replace existing but failing groundwater-based irrigation. The Bureau of Reclamation's Columbia Basin Project (CBP) was authorized over 70 years ago, in 1943.<sup>12</sup> According to the BOR, the delivery of Grand Coulee surface water to the Odessa Subarea is part of that original authorized project.<sup>13</sup> But the infrastructure to reach that area with water from Lake Roosevelt behind Grand Coulee Dam was long delayed, and farms in the

<sup>11</sup> Ibid.

<sup>12</sup> "The Columbia Basin Project," Wm. Joe Simonds, Bureau of Reclamation History Program, 1998. <http://www.usbr.gov/pn/grandcoulee/pubs/cbhistory.pdf>, p. 12.

<sup>13</sup> Lake Roosevelt Incremental Storage Release Project, Bureau of Reclamation Finding of No Significant Impact and Final Environmental Assessment, June 2009, p. 5.

Odessa Subarea were given “temporary” permits to pump groundwater to irrigate their lands while they waited for more of the “developed water” in Lake Roosevelt to be delivered to the Odessa Subarea.<sup>14</sup>

Over past decades, the pumps to move water from Lake Roosevelt up to Banks Lake so that it could then flow, largely by gravity, to farms in the Columbia Basin, including some of the farms in the general Odessa area, were built and a system of canals was constructed that delivered water to irrigate about 670,000 acres of farmland in the Columbia River Basin. This represents about 65 percent of the total of just over a million acres authorized to receive CBP water.<sup>15</sup> The actual water delivery to the Columbia Basin was only about half of the 6,500,000 acre-feet for which the CBP was designed and authorized.

Because of the cost of the required infrastructure and reluctance of some farms to embrace Bureau of Reclamation deliveries of water, the “developed” water associated with Grand Coulee Dam, its pumping system into Banks Lake, and the canal system moving the water into the Columbia Basin never reached parts of the Odessa Subarea. As a result, the “temporary” groundwater pumping for irrigation there continues to the present time, seriously depleting that groundwater aquifer.

Clearly authorizing and “developing” water does not automatically allow additional water to be used. The cost of delivering the water for actual use also has to be funded in one way or another. Those funding delays, as shown in the Odessa Subarea, can last many, many, decades despite the “availability” of the water in Lake Roosevelt.

For instance, the Lake Roosevelt Incremental Storage Releases Project approved in 2009 could not move water to the part of the Odessa Subarea most in need of groundwater replacement because:<sup>16</sup>

After securing a new source of water from the Lake Roosevelt Storage Releases Project, OCR faced a new challenge: There was no way to deliver it to the southern part of the Columbia Basin. Interstate 90 was the problem. There was only one point, the Weber Siphon Complex, where water from the Columbia Basin Project passed under I-90, and it wasn't large enough to handle the additional flow. A second siphon would be required...OCR contributed \$800,000 for the design and worked with Reclamation and Washington's congressional delegation to get stimulus funding for construction.

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<sup>14</sup> It should be pointed out that over-pumping groundwater so that other groundwater users' wells were depleted was not “authorized.” Washington law (WAC 173-130A) forbids such damaging over-pumping of ground water but was never enforced. In addition, many irrigators in the Odessa area lie outside of the Columbia River Basin and never were “promised” Columbia surface water. OCR's current efforts will not provide surface water to these irrigators either.

<sup>15</sup> Record of Decision for the Odessa Subarea Special Study Final Environmental Impact Statement, Columbia Basin Project, Washington, Bureau of Reclamation, April 2, 2013, p. 3.

<sup>16</sup> “The area south of I-90 has experienced the greatest declines in ground water levels and there is a high demand for replacement water supplies.” Final Supplemental Environmental Impact Statement for the Lake Roosevelt Incremental Storage Releases Program, August 29, 2008, Ecology Publication #08-11-034, p. 2-18. “Weber Siphon Project,” Washington Department of Ecology.  
<http://www.ecy.wa.gov/programs/wr/cwp/weber.html>

If it had not been for the “Great Recession” and the federal stimulus spending on “shovel-ready” construction projects, this federal money to help move this “developed” water south of I-90 might not have been made available.

The 2012 Record of Decision prepared by the Bureau of Reclamation for the Odessa Subarea groundwater replacement project made clear that in implementing the decision to support the project the Bureau of Reclamation or federal government generally were not expecting to finance the project:<sup>17</sup>

The State [of Washington] and the irrigators anticipate moving forward with non-Federal funding for the [Odessa Subarea groundwater replacement] project. The expected scenario would consist of the State funding construction of conveyance infrastructure (such as widening canals, siphons, and appurtenant structures) and irrigators funding distribution systems from the canal to the farm through local improvement districts, loans, or other funding mechanisms...Currently, no Federal funding is committed or expected for implementing this [Odessa Subarea Groundwater Replacement] project. It is possible that no Federal funding will be needed or available for full implementation of all phases of [the Preferred] Alternative 4A.

Thus, if this project is to move beyond OCR’s theoretical “development” level to actual delivery and the use of that Columbia River surface water to replace ground water in the Odessa Subarea, the estimated \$828 million cost of the Odessa groundwater replacement project will have to be obtained from Washington taxpayers and/or the Odessa Subarea irrigators who get the benefit of a surface water supply replacing their deteriorating groundwater supply. This irrigation water supply is not in any practical sense “developed” at this point in time.

As mentioned above, some investments in the infrastructure necessary to move replacement water from Lake Roosevelt to Odessa Subarea groundwater irrigators *have* already taken place, funded by the 2009 American Recovery and Reinvestment Act that sought to stimulate the economy during the Great Recession.<sup>18</sup> In addition, OCR partially funded the upgrades of the Lind Coulee Siphon and some of the expansion in the capacity of the East Low Canal. But considerably more infrastructure has to be put in place to put the 164,000 acre-feet of water to use. The funding for that additional infrastructure at this point is unknown. As the Columbia Basin Development League’s Mike Schwisow was quoted as saying after part of the Lind Coulee Siphon Project was completed and additional Columbia River water was being delivered to the Odessa Subarea: “[T]hat does not mean the Odessa Groundwater Replacement Project is completed...Expansion of the East Low Canal is the key piece; we need to have the back bone of the facility in place in order to make deliveries to all seven anticipated distribution

<sup>17</sup> Record of Decision for the Odessa Subarea Special Study FEIS, April 2, 2013, p. 24.

<sup>18</sup> The upgrades of the Weber Siphon complex that removed a bottleneck in moving Columbia River water south of I-90 was funded by the American Recovery and Reinvestment Act, as was the Potholes Reservoir Supplemental Feed Route Project that reduced congestion on the East Low Canal. OCR provided funding for the Lind Siphon and part of the funding for the expansion of the capacity of the East Low Canal. Absent another near catastrophic national economic crisis, such additional federal funding for this project seems unlikely since the project is not likely to be able to pass the benefit-cost tests required of Bureau of Reclamation projects. See “Review of Odessa Subarea Special Study” and memo to Washington State Legislators from Norman Whittlesey and Walter Butcher, March 5, 2013, re: Irrigation Development in Washington State. [http://www.celp.org/archive/pdf/Odessa\\_Economics\\_Whittlesey-Butcher\\_Report\\_3-2013.pdf](http://www.celp.org/archive/pdf/Odessa_Economics_Whittlesey-Butcher_Report_3-2013.pdf) and [http://www.celp.org/archive/pdf/Odessa\\_Economics\\_Whittlesey-Butcher\\_Letter\\_3-5-2013.pdf](http://www.celp.org/archive/pdf/Odessa_Economics_Whittlesey-Butcher_Letter_3-5-2013.pdf).

systems....[We] still need to identify funding to move forward. Now [we] need to identify the funds so they can wrap up the work.”<sup>19</sup>

In addition, seven separate pumping platforms and pipeline system to move the water from the Low East Canal to the farmland now served by groundwater have to be designed, financed, and built. Some combination of the irrigation districts, the individual irrigators, and the state of Washington will be responsible for that part of the delivery system. The East Columbia Irrigation District is planning to sell municipal bonds to fund this and other parts of the water delivery system. Even with funding available for those distribution systems, it is expected to take ten years of phased development for the water to replace all of the targeted groundwater irrigation pumping. Clearly the 30,000 acre-foot Roosevelt Incremental Storage Releases to the Odessa Subarea and the Odessa Subarea Groundwater Replacement project are not actually “developed” at this point in time.

At the same time, Odessa area irrigators have not all been in agreement with BOR on how to deliver surface water to replace groundwater pumping. For example, in May 2015, Odessa Subarea Irrigators and the Columbia-Snake River Irrigators Association (CSRIA) filed a lawsuit against the BOR in the United States District Court for the Eastern District of Washington, stressing that BOR has arbitrarily delayed and blocked the approval of a new water service contract for the irrigators’ Privately Funded Project to bring surface water from the BOR’s East Low Canal.<sup>20</sup>

In mid-July of 2016 OCR’s Tom Tebb noted the huge gap between the 90,000 acres in the Odessa subarea that are intended ultimately to be switched off of deep groundwater and what has actually been accomplished. He was quoted at the July 13, 2016, opening of the Lind Coulee Siphon as saying “Here we are in 2016, we have only about 2,000-3,000 acres [that] have been taken off deep wells and are actually on the Columbia River [surface] water system...[OCR] will work with... [irrigation districts]...to improve their current distribution, ensuring farmers are able to receive water when the time is right....”<sup>21</sup>. Table 2 below contrasts OCR’s claims about the water it has “developed” with what groundwater had actually been displaced in the Odessa Subarea in mid-July 2016.

It is important to realize that OCR’s “developed” new water supplies are not the same thing as having additional water available for use by farms, municipalities, and businesses. OCR’s inventory of its “developed” water supplies seriously exaggerates the amount of incremental water that has actually been put to use. In addition, by not discussing the yet-to-be-incurred costs, OCR is seriously understating the economic challenges in putting this “developed” water to productive use. Most of the costs of actually putting incremental water to productive uses are not associated with the planning, permitting, and organizing of incremental claims to additional water. The vast majority of the costs are associated with the storage, transporting, and then delivery of that “developed water” to where it can be used productively. It is those costs that have to be carefully and accurately analyzed. Then the responsibility for covering those costs has to be directly analyzed and compared to the distribution of the benefits so that the feasibility and equity of the project can be evaluated. Simply knowing that there is “developed water” available at a particular location tells us nothing about the economic rationality, feasibility, and

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<sup>19</sup> Washington AG Network, “Lind Coulee Siphons Completed On Time, Under Budget,” posted by Glenn Vaagen, May 11, 2016. <http://washingtonagnetwork.com/2016/05/11/coulee-siphons-completed-time-budget/>.

<sup>20</sup> <http://www.prnewswire.com/news-releases/odessa-aquifer-irrigators-and-csria-file-lawsuit-against-us-bureau-of-reclamation-300075879.html> and <https://drive.google.com/file/d/0B-xN73ylnN7jUE9Fb3dFTE05d0E/view>

<sup>21</sup> Washington Ag Network, Glenn Vaagen, July 15, 2016.



equity of investing in the storage, transportation, and delivery of that water to specific water users.

**Table 2.**

| <b>OCR Success in Replacing Odessa Subarea Groundwater with Columbia River Surface Water</b> |                          |                       |                                       |
|----------------------------------------------------------------------------------------------|--------------------------|-----------------------|---------------------------------------|
| <b>Project</b>                                                                               | <b>OCR "Developed"</b>   | <b>Odessa Subarea</b> | <b>Odessa Subarea</b>                 |
|                                                                                              | <b>Surface Water for</b> | <b>Acres to Be</b>    | <b>Acreage Actually</b>               |
|                                                                                              | <b>Replacement of</b>    | <b>Converted to</b>   | <b>Switched to Columbia</b>           |
|                                                                                              | <b>Odessa Subarea</b>    | <b>Columbia River</b> | <b>River Surface Water</b>            |
|                                                                                              | <b>Ground Water</b>      | <b>Surface Water</b>  | <b>July 13, 2016</b>                  |
|                                                                                              | <b>(acre-feet)</b>       | <b>(acres)</b>        | <b>(acres)</b>                        |
| <b>Lake Roosevelt Incremental Releases (for Odessa Subarea Ground Water Replacement)</b>     | <b>30,000</b>            | <b>10,000</b>         |                                       |
| <b>Odessa Subarea Groundwater Replacement Project</b>                                        | <b>164,000</b>           | <b>70,000</b>         |                                       |
| <b>Total Columbia River Surface Water Replacing Odessa Groundwater</b>                       | <b>194,000</b>           | <b>80,000</b>         | <b>2,000a-3,000a<br/>2.5% to 3.8%</b> |
| Source: WA Department of Ecology news release, July 13, 2016. OCR Tom Tebb quoted in the     |                          |                       |                                       |
| Washington Ag Netwoor, Glenn Vaagenon, July 15, 2016.                                        |                          |                       |                                       |

**C. The Cost of OCR's Studies of New Dam Storage Projects**

Two-thirds of OCR's \$200 million account in 2006 was designated to support development of new storage facilities.<sup>22</sup> As set out in OCR's 2007 Columbia River Basin Water Supply Inventory Report.<sup>23</sup>

Well before the 2006 Columbia River Bill was passed, Ecology and Federal partners were considering opportunities for storage in the Columbia River Basin. Based on Congressional direction provided in 2003, Ecology and the Bureau have been jointly considering a range of proposals to increase water availability in the Yakima River Basin, including the feasibility of the proposed Black Rock Reservoir with a capacity of 1.3 million acre-feet. In 2004, Ecology signed agreements with the Colville Confederated Tribes, the Bureau, and Columbia River Basin irrigation districts to study new incremental storage releases at Lake Roosevelt and the feasibility of Columbia River mainstem water storage. The 2006 Columbia River legislation authorized further work on evaluating the feasibility of storage in the Columbia River Basin. Two-thirds of the \$200 million authorized is intended to support the development of new storage facilities (RCW 90.90.010).

<sup>22</sup> RCW 90.90.010(2)(b)

<sup>23</sup> <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf> , p. 4-2

## ***New Columbia River Basin Projects***

### **Columbia River Basin**

Because the Columbia River system already has 61 dams on the river or its tributaries,<sup>24</sup> Ecology and BOR turned to looking at off-channel dam sites to which to pump water from the Columbia. In December 2004, the State of Washington, the BOR and the Columbia Basin Project (CBP) irrigation districts (the South Columbia Basin Irrigation District, the East Columbia Basin Irrigation District, and the Quincy-Columbia Basin Irrigation District) entered into a Memorandum of Understanding (MOU). The MOU describes roles and expectations of those parties in the then-anticipated Columbia River Initiative. Under provisions of the MOU, Ecology and BOR cooperated on a study to evaluate the potential for development of new large, off-channel storage sites in the Columbia River Basin.

A 2005 pre-appraisal report assessed a preliminary list of 21 potential off-channel storage sites before passage of the Columbia River Program:

- |                    |                   |                         |
|--------------------|-------------------|-------------------------|
| 1. Big Sheep Creek | 8. Eagle Creek    | 15. Alder Creek         |
| 2. Ninemile Flat   | 9. Mission Creek  | 16. Rock Creek East     |
| 3. Hawk Creek      | 10. Moses Coulee  | 17. Rattlesnake Creek   |
| 4. Banker Canyon   | 11. Douglas Creek | 18. Little White Salmon |
| 5. Goose Lake      | 12. Sand Hollow   | 19. Panther Creek       |
| 6. Foster Creek    | 13. Crab Creek    | 20. Rock Creek West     |
| 7. Twisp River     | 14. Black Rock    | 21. Kalama River        |

The preliminary list of 21 sites was refined to 11 sites by evaluating size, dam safety issues, and compatibility with the Columbia Basin Project. In June 2007, The BOR and Ecology refined the list of 11 sites down to four sites. Sites that were structurally infeasible, had excessive leakage, or other conflicts were eliminated. Also, the Confederated Tribes of the Colville Reservation requested that two of the 11 potential reservoir sites located on their reservation not be further evaluated at this time.<sup>25</sup>

The BOR and Ecology evaluated the four remaining sites, all to be filled by pumping Columbia River water, in a 2007 appraisal study in preparation for a more comprehensive feasibility study and Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA). Those sites include:

Hawk Creek - A site in northern Lincoln County tributary to Lake Roosevelt with potential active reservoir capacity of 1,000,000 - 3,000,000 acre-feet, approaching the 5.2 million acre-feet active capacity of Grand Coulee Dam,<sup>26</sup> with a capital cost of up to \$8.1 billion.

Foster Coulee - A site in northern Douglas County tributary to Lake Pateros with potential active reservoir capacity of 1,210,000 acre-feet. Foster Creek was eliminated from consideration because of significant geotechnical concerns in combination with a high downstream hazard condition.

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<sup>24</sup>[http://columbia-institute.org/hawkcreek/dam/media\\_center/Entries/2006/10/2 New dams would rival Grand Coulee.html](http://columbia-institute.org/hawkcreek/dam/media_center/Entries/2006/10/2_New_dams_would_rival_Grand_Coulee.html)

<sup>25</sup> *Ibid.*, p. 3-10.

<sup>26</sup> [http://www.usbr.gov/projects/Facility.jsp?fac\\_Name=Grand%20Coulee%20Dam](http://www.usbr.gov/projects/Facility.jsp?fac_Name=Grand%20Coulee%20Dam)

Sand Hollow - A site in western Grant County tributary to Lake Wanapum with potential active storage capacity of 1,000,000 acre-feet, with a capital cost of up to \$3.5 billion

Crab Creek - A site in western Grant County tributary to Priest Rapids Lake with potential active storage capacity of 1,000,000 - 3,000,000 acre-feet, with a capital cost of up to \$2.4 billion <sup>27</sup>

The BOR and Ecology's 2007 appraisal study failed to disclose that the section of Hawk Creek between the Lake Roosevelt area and the potential dam site contains threatened bull trout,<sup>28</sup> or that a Lower Crab Creek dam would flood tens of thousands of acres of wetlands, streams, lakes and shrub steppe habitat, much of which is owned and managed by the Columbia National Wildlife Refuge and Washington State Columbia Wildlife Area. In addition, the new dam would flood between 5,000 and 8,600 acres of existing irrigated farmland.<sup>29</sup>

Prior to conducting a feasibility study on any of the above projects, the Bureau must receive a Congressional study authorization. In addition, expenditures from the Columbia River Basin Water Supply Development Account (Account) needed for the state share of the feasibility study and EIS requires Legislative authorization.<sup>30</sup>

By the end of 2007, OCR reported to the State Legislature that it was considering five new large storage facilities:

- Columbia River Mainstem Off-Channel storage (Crab Creek, Hawk Creek, Sand Hollow)
  - Yakima River Water Basin water storage (Black Rock)
  - Similkameen River storage (Shanker's Bend)<sup>31</sup>
- and one "small" storage facility:
- Wymer Dam in the Yakima Basin.<sup>32</sup>

As of December 2007, OCR had not awarded funding for construction of storage (or conservation) projects, although many projects were being evaluated at different levels of study (e.g. pre-appraisal, appraisal, feasibility).<sup>33</sup>

The 2007 report also identified the following water storage projects:

- Little Klickitat Basin Surface Water Storage - Potential surface storage projects in Dry Creek and Idlewild Creek are described in section 4.3.3 of Appendix B Multipurpose Water Storage Screening Assessment Report of the WRIA 30 Watershed Plan. Dry Creek and Idlewild Creek are headwater tributaries of the Little Klickitat River. Dry Creek has an extensive drainage area and appears to convey considerable winter/spring flows from snowmelt, with little groundwater base flow to sustain flows past June. The initial estimate of winter/spring discharge is 3,900 acre feet.

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<sup>27</sup> *Ibid.*, p. 3-11. See also: [http://www.csria.org/wp-content/uploads/2016/01/es-rp-590/CRMSO\\_Exec-Summary\\_reduced.pdf](http://www.csria.org/wp-content/uploads/2016/01/es-rp-590/CRMSO_Exec-Summary_reduced.pdf)

<sup>28</sup> <http://columbia-institute.org/hawkcreek/dam/Fisheries.html>

<sup>29</sup> <http://www.waterplanet.ws/crabcreek/ccrhome/Home.html>

<sup>30</sup> <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf>, p. 3-11.

<sup>31</sup> "Similkameen Appraisal Study. The Okanogan Public Utility District (PUD) is studying the potential for a storage facility/dam at Shanker's Bend on the Similkameen River, a site that has been considered for construction of a dam since the 1940s. The proposed site is located a short distance upstream from the existing Enloe Dam. The largest facility option (Elev. 1289) would inundate Canadian lands as well as lands adjacent to Palmer Lake in Washington. In 2007, Ecology provided \$300,000 for the PUD to conduct an appraisal level review of the site, due in 2008. *Ibid.*, p. 3-12.

<sup>32</sup> <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf>, p. 4-3.

<sup>33</sup> <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf>, p. 3-2.

- Idlewild Creek, in its lower reach, is incised into a relatively deep, narrow bedrock valley that would be amenable to construction of an in-channel storage reservoir. The valley is east-west oriented, with a steep southern wall that may help shade and maintain lower water temperatures. The estimated winter/spring discharge from the creek is approximately 1,600 acre feet.
- Horse Heaven Hills Water Storage<sup>34</sup> - Concepts for large-scale (3,000 to 9,000 acre-foot) surface and ASR water storage projects with planning-level cost estimates are provided in the report/memorandum Preliminary Water Storage Assessment Glade-Fourmile Subbasin, WRIA 31, which was produced for the WRIA 31 Planning Unit. The projects would involve diverting water from the Columbia River with conveyance to ASR wells or surface impoundments located north of the River in areas currently supported by groundwater supply from the Wanapum Basalt Aquifers.<sup>35</sup>

**To date, *none* of the above “new water storage projects” have been constructed.**

In addition, OCR has also issued temporary “term” water right permits in the Walla Walla River Basin; authorized withdrawals from Sullivan Lake in NE Washington,<sup>36</sup> and has funded studies and projects in the Methow River Basin.<sup>37</sup>

### **Yakima River Basin**

In December 2004, the BOR released its Appraisal Assessment of the Black Rock Alternative. This report summarized and added to numerous technical reports on the potential to build a new large storage facility called Black Rock Reservoir in eastern Yakima County. Black Rock could hold between 800,000 acre-feet to 1,300,000 acre-feet of water. This volume is greater than all five of the existing Yakima River Basin storage reservoirs combined. The proposed reservoir would be filled with water pumped from Priest Rapids Lake on the Columbia River when water is available in excess of current Columbia River flow targets. Participating Yakima basin irrigation districts would use water from the Black Rock Reservoir in exchange for water they currently divert from the Yakima River. The 2004 report estimated the cost of building Black Rock at approximately \$4 billion.

In the 2006 appraisal study, BOR considered three other Yakima River basin storage alternatives: a new Bumping Lake Dam and enlarged reservoir, Wymer dam and reservoir, and Keechelus-to-Kachess pipeline. In the 2006 appraisal, the BOR concluded that while the Bumping Lake enlargement and Keechelus-to-Kachess pipelines did not meet study objectives, the Wymer reservoir should be investigated further. In December 2006, the BOR published a Notice of Intent to prepare a combined planning report and EIS for the Yakima River Basin Water Storage Feasibility Study. At the same time, Ecology published a corresponding SEPA Determination of Significance (DS), requesting comments on the scope of the proposed EIS. The scope of the EIS and feasibility study includes the following state & federally funded projects:

- Black Rock Reservoir with a capacity of 800,000 to 1.3 million acre-feet
- Wymer Reservoir with a capacity of 174,000 acre-feet
- Wymer Plus Pump Exchange 9 with a capacity of 574,000 acre-feet<sup>38</sup>

<sup>34</sup> <http://www.aspectconsulting.com/water-resources-projects/2014/7/9/horse-heaven-hills-water-storage-appraisal-assessment>

<sup>35</sup> <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf> p. 4-4.

<sup>36</sup> [http://www.ecy.wa.gov/programs/wr/cwp/cr\\_sullivan.html](http://www.ecy.wa.gov/programs/wr/cwp/cr_sullivan.html)

<sup>37</sup> <https://fortress.wa.gov/ecy/publications/documents/1512006.pdf>

<sup>38</sup> <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf> p. 3-14

Through June 30, 2007, Ecology spent approximately \$5.35 million in State cost share to study the feasibility of Yakima River Basin storage. Of that \$1.35 million came from the Columbia River Account.<sup>39</sup>

The BOR released its Final Planning Report/EIS on December 29, 2008. It explained why a new Bumping Lake dam did not warrant further study because of environmental impacts on endangered species, flooding 1,900 acres of ancient forests (“old growth”) adjacent to the William O. Douglas Wilderness, and because a larger-capacity reservoir would not fill on a regular basis and would not be a reliable source of water.<sup>40,41</sup>

In addition, the BOR report calculated a benefit/cost ratio of 0.13 for a new Black Rock Reservoir; a benefit/cost ratio of 0.31 for a Wymer Dam and Reservoir; and a benefit/cost ratio of 0.07 of a Wymer Dam plus Yakima River Pump Exchange.<sup>42</sup>

Subsequently, through the Yakima Workgroup, OCR and BOR reviewed and rejected 30 additional new Yakima Basin storage projects:

- |                                     |                                          |
|-------------------------------------|------------------------------------------|
| Bakeoven, Tieton River, South Fork  | Mile Four, Rattlesnake Creek             |
| Casland, Teanaway River, North Fork | Minnie Meadows, Tieton River, South Fork |
| Cle Elum Lake Enlargement           | Naneum, Naneum Creek                     |
| Cooper Lake, Cooper River           | Pleasant Valley, American River          |
| Cowiche, Cowiche Creek, South Fork  | Rattlesnake, Naches River                |
| Dog Lake, Clear Creek               | Rimrock Lake Enlargement, Tieton River   |
| East Selah, Yakima River            | Satus, Satus Creek                       |
| Forks, Teanaway River               | Simcoe, Simcoe Creek-Toppenish Creek     |
| Hole in the Wall, Dry Creek         | Soda Springs, Bumping River              |
| Horseshoe Bend, Naches River        | Swauk, Swauk Creek                       |
| Hyas Lake, Cle Elum River           | Tampico, Ahtanum Creek                   |
| Little Rattler, Rattlesnake Creek   | Toppenish, Toppenish Creek               |
| Lost Meadow, Little Naches River    | Upper Canyon, Yakima River               |
| Lower Canyon, Yakima River          | Wapatox, Naches River                    |
| Manastash, Manastash Creek          | Waptus Lake, Waptus River <sup>43</sup>  |

Despite eight years of Yakima Workgroup search for new storage sites (see above), in October 2016 the Yakima-Tieton Irrigation District announced a proposal for a new dam west of Tieton, at a cost of over \$100 million. OCR had provided the irrigation district \$117,000 in December 2015 to further study options.<sup>44</sup> After ten years of Ecology/OCR efforts, the Department of Ecology’s 2015 Implementation Status Report on the Yakima River Basin Integrated Water, Resource Management Plan (July 2016) does not list **any** delivered new water from any Yakima Plan surface storage project element.<sup>45</sup>

<sup>39</sup> <https://fortress.wa.gov/ecy/publications/documents/0711022.pdf> , p. 3-15

<sup>40</sup> Bureau of Reclamation, *Final Planning Report/EIS, Yakima River Basin Water Storage Feasibility Study*, p. 2-128 to 2-131. <http://www.usbr.gov/pn/studies/yakimastoragestudy/reports/eis/final/volume1.pdf>

<sup>41</sup> The Department of Ecology withdrew from this report and prepared a SEPA Supplemental Draft and Final EIS in order to resurrect storage projects, such as a new Bumping Lake dam that the BOR refused to evaluate.

<sup>42</sup> *Ibid.*, pp. 2-125 to 2-127.

<sup>43</sup> Yakima River Basin Integrated Water Resource Management Plan FPEIS (March 2012), Table 2-1, pp. 2-43 to 2-44.

<sup>44</sup> Living on borrowed time: Canal is more than 100 years old, but replacement won’t be cheap, by Kate Prengaman, Yakima Herald, Oct. 26, 2016

<sup>45</sup> <https://fortress.wa.gov/ecy/publications/documents/1612002.pdf> , pp. 15-17.

## II. OCR's Projected Future Water Supply Development: Yakima and Wenatchee River Basin Projects

### A. Focusing on the Largest and Most Costly of the OCR Proposed Future Projects

The OCR projects proposed, with projected completion dates between 2016 and 2019, tend to be dominated by projects in the Yakima River Basin. OCR's 2015 Columbia River Basin Water Supply Inventory Report to the Washington Legislature estimates that "near-term development (2015-2019)" is expected to produce 320,132 acre-feet of water from eleven different projects. "Long-Term Development (2019+)" projects were projected to be served by at least ten different projects. Those long-term projects far enough along in the planning process to have estimated water development targets are projected to produce about 477,000 acre-feet of water.

Ninety-six percent of the water to be developed in the near-term projects (2015-2019) would develop water in the Yakima Basin and close to half (47 percent) of the long-term water development projects (beyond 2019) would be developed in the Yakima Basin.<sup>46</sup> For that reason, it is important to understand the status, costs, and benefits associated with the various projects included in the Yakima Plan.

### B. The Yakima River Basin

In the Yakima River Basin, a total of 464,000 acres of farmland are irrigated using 2.5 million acre-feet of irrigation water rights.<sup>47</sup> Only 30 percent of the average annual runoff is stored in the storage system.<sup>48</sup>

In the 1900s, privately-constructed crib dams on the four natural glacial lakes (Cle Elum, Kachess, Keechelus, and Bumping) contributed to the extirpation of sockeye salmon. Construction of the BOR's five major storage dams, the previously four named dams plus Rimrock (Tieton Dam), eliminated access to previously productive spawning and rearing habitat for sockeye, spring Chinook, coho, and steelhead salmon above the new reservoirs.<sup>49</sup> Because the BOR dams flooded natural lakes, this report will refer to Cle Elum Lake, Kachess Lake (which consisted of upper and lower lakes), Keechelus Lake, and Bumping Lake, rather than "reservoirs." These five major dams have a total capacity of about 1,065,400 acre-feet. Clear Lake, is located above Rimrock Lake and has a capacity of 5,300 acre-feet, and is used primarily for recreational purposes. The five major dams —Bumping, Kachess, Keechelus, Rimrock (Tieton Dam), and Cle Elum store and release water to meet irrigation demands, flood control needs, and instream flow requirements.<sup>50</sup> Occasional droughts over the last several decades have led to curtailments in water delivery. The Roza Irrigation District and Kittitas Reclamation District "are proratable districts with water rights that are subject to curtailment during droughts. A small portion of the Kennewick Irrigation District and Sunnyside Division are also subject to curtailment. "Senior" water right holders are entitled to their full water allotment

<sup>46</sup> Op. cit. OCR 2015 Columbia River Basin Water Supply Inventory Report to the Washington Legislature, page 12.

<sup>47</sup> "Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects," Jonathan Yoder et al. Report to the Washington State Legislature by the Washington Water Research Center, December 15, 2014, p. 5.

<sup>48</sup> See: <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, p. 1-11,

<sup>49</sup> <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, p. 1-2.

<sup>50</sup> <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, pp. 1-16 and 1-17.

during a drought. Irrigation districts with a majority of “senior” water rights include approximately 75 percent of the Yakima-Tieton Irrigation District, approximately 65 percent of the Sunnyside Division, and approximately half the Wapato Irrigation Project.<sup>51</sup> For irrigation districts with mostly “senior” water rights, there is little incentive to embark on water conservation, water banking, or water efficiency measures.

### C. The Yakima Plan

The Yakima Plan began as a BOR WaterSMART program authorized by the SECURE Water Act in Public Law 111-11, which in Fiscal Year 2009 also funded basin studies in the Colorado River Basin and the St. Mary and Milk River Basins in Montana and Canada. Under the WaterSMART program, BOR now has 12 studies of major river basins underway in the west. All of these major Basin Studies include *structural* (i.e., dams) and non-structural options to supply adequate water in the future, as well as consideration of potential new surface storage needs, as directed in the Act at Section 9503(b)(4)(e).<sup>52</sup>

In 2009, OCR and BOR convened a select Yakima Workgroup, which included five irrigation districts, federal and state agency representatives, the Yakama Indian Nation, city and county representatives, one conservation group representative (American Rivers), as well as a local organization advocating for surface storage structures (Yakima Basin Storage Alliance).<sup>53</sup> The Yakima Workgroup included both OCR and BOR as voting members and was not chartered under the Federal Advisory Committee Act.<sup>54</sup> The main objective of the Yakima Plan is to provide proratable irrigation districts with 70 percent of their water allotment during drought years by increasing the amount of surface water stored in the Yakima Basin. That Yakima Plan proposes to add about another half-million acre-feet of surface water storage, increasing the total surface water storage by about 50 percent to 1.5 million acre-feet.<sup>55</sup> This would have the effect of turning the proratable irrigation districts into near-Senior districts without modifying water rights in the basin.

The BOR and OCR commissioned a group of economic consulting firms to carry out a benefit-cost analysis of the Yakima Plan that became the BOR’s “Framework for Implementation Report” for the Yakima Plan (i.e., the Four-Accounts Analysis).<sup>56</sup>

That BOR-sponsored economic analysis of the Yakima Plan focused on the *entire* complex set of projects included in the Plan. That Plan divided projects into seven categories or “elements”:

- i. Fish Passage (six projects).
- ii. Structural and Operational Changes. (six projects)
- iii. Surface Water Storage. (five projects)

<sup>51</sup> <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf>, Table 3-1.

<sup>52</sup> [http://www.doi.gov/ocl/hearings/112/WaterSurfaceStorage\\_020712.cfm](http://www.doi.gov/ocl/hearings/112/WaterSurfaceStorage_020712.cfm)

<sup>53</sup> A list of the Yakima Workgroup members (not updated) is located at:

<http://www.ecy.wa.gov/programs/wr/cwp/YBIP.html> Several of the Yakima Workgroup members are also members of the OCR Policy Advisory Group. Compare: [http://www.ecy.wa.gov/programs/wr/cwp/cr\\_pag.html](http://www.ecy.wa.gov/programs/wr/cwp/cr_pag.html)

<sup>54</sup> See: <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf> and [http://ucrsierraclub.org/pdf/Yakima\\_Water\\_Report\\_Response\\_%202-15-2013.pdf](http://ucrsierraclub.org/pdf/Yakima_Water_Report_Response_%202-15-2013.pdf)

<sup>55</sup> Op. cit, Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects, p. 6.

<sup>56</sup> “Yakima River Basin Integrated Water Resource Management Plan: Four Accounts Analysis of the Integrated Plan,” U.S. Bureau of Reclamation Contract No. 08CA10677A1D/IQ, prepared by ECONorthwest, Natural Resources Economics and ESA, October 2012. The BOR “Framework for Implementation Report has the same date and contract number but lists the authors beginning with HDR Engineering instead of ECONorthwest. The author list of the Implementation Report was HDR Engineering, Anchor QEA, ECONorthwest, Natural Resource Economics, and ESA.

- iv. Groundwater Storage. (Multiple projects)
- v. Habitat/Watershed Protection and Enhancement. (Multiple projects)
- vi. Enhanced Water Conservation. (Multiple projects)
- vii. Market Driven Reallocation (Multiple projects).<sup>57</sup>

In each of the categories or elements listed above there are a half-dozen to dozens of separate projects, including projects that do not meet the goal of providing proratable irrigation districts with additional water supplies. The BOR-OCR sponsored benefit-cost study combined *all* of these individual projects into a single conceptual aggregation, namely the whole of the Yakima Plan. The economic analysis then proceeded to estimate the benefits and cost of each and every individual project and summed those benefits and costs up, trying to take into account interactions among the individual projects and avoid double-counting or under-counting. The No Action Alternative was simply that none of the Yakima Plan projects would be pursued, even though the Yakima Plan FPEIS listed dozens of on-going programs in the Yakima Basin. This allowed the comparison of the total costs and total benefits, appropriately discounted, to determine the net benefits or net costs associated with the *whole* of the Yakima Plan.

The conclusion from this OCR-BOR-commissioned benefit-cost analysis was that even under the worst-case scenario considered, economic benefits were 40 percent higher than the economic costs, resulting in discounted net benefits over the next hundred years of \$1.8 billion.<sup>58</sup>

From an economic point of view, this is not a productive way to use benefit-cost analysis because it does not test the economic rationality of individual projects within the Yakima Plan. It is possible that a few elements of the Plan that are relatively inexpensive are the source of most of the benefits while other, much more costly projects with almost no benefits, offset many of the benefits flowing from the more economically productive projects, reducing the net benefits from the Yakima Plan. Uneconomic projects could be added as long as the whole set of projects still had positive net benefits suggesting that *all* of projects included in the aggregate were economically rational when they were not. From an economic point of view, the economic rationality of *each* project within the larger “plan” should be analyzed and rejected if its costs are higher than its benefits. What is needed for an overall plan with many individual projects is just what the Washington Legislature called for in 2013: “separate benefit-cost analyses for each of the projects proposed in the 2012 Yakima River basin water resource plan (IP).”<sup>59</sup>

The Washington State Legislature recognized the inadequacy of combining many different projects into just one big project and only calculating the benefits and costs for that artificial aggregate project rather than also analyzing the incremental benefits and costs of each individual project.

In 2013 Washington State Legislature mandated that the State of Washington Water Research Center (WRC) at Washington State University “prepare separate benefit-cost analyses for each

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<sup>57</sup> Ibid. Table 1.

<sup>58</sup> This was the conclusion of the “national accounts” that focus on the benefits and costs as seen from the perspective of the nation as a whole, regardless of where, geographically, the economic costs and benefits are experienced. Other analyses looked at local or regional impacts outside of a benefit-cost framework. Op. cit. ECONorthwest et al. October 2012, Table 2, page 7.

<sup>59</sup> Section 5057 of the State of Washington Capital Budget for 2013, cited in WRC “Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects,” Jonathan Yoder et al. Report to the Washington State Legislature, December 15, 2014, p. 2.



of the projects proposed in the 2012 Yakima River Basin Water Resource Management Plan.”<sup>60</sup> In response to that mandate, the WRC issued a report at the end of 2014 to the Washington State Legislature.<sup>61</sup> RCW 90.38.110.

That report pointed out that, as calculated by WRC, *about 90 percent* of the estimated benefits of the overall Yakima Plan were associated with the *enhanced fisheries*, not irrigated agriculture or municipal water. Benefits to irrigated agriculture represented *only 5 to 10 percent* of the total benefits. Improved municipal water supplies were the source of *2 to 3 percent* of the benefits. Just the fish passage projects alone on Yakima Basin dams provided 75 to 80 percent of the estimated benefits of the Yakima Plan even though they were responsible for only a small percentage of the aggregate costs of the Yakima Plan. On the other hand, 66 percent of the costs were associated with out-of-stream and instream uses that produced only a small fraction of the overall benefits.<sup>62</sup> This clearly indicates that some of the costliest proposed projects generate very few benefits to justify the costs. The net losses associated with those uneconomic proposed projects are “covered” by the fish-production benefits associated with building fish passages at existing Yakima dams. In that sense the fish passage projects were being used to “indirectly fund” economically indefensible surface water storage projects even though the fish passage projects were largely unrelated to the surface water storage projects.

In addition, the “Four-Accounts Analysis” fish-production benefits were calculated using the “contingent valuation” methodology by estimating what economic value all of the households in the entire states of Washington and Oregon would place on increased salmon returns in the Yakima Basin.<sup>63</sup> Salmon production benefits are also based on artificial, untried, and highly engineered projects such as a giant “helix” downstream fish passage project at the existing Cle Elum dam and a “Whooshh” tube to shoot returning salmon over existing Yakima dams.<sup>64</sup> Projected fish-production benefits are also suspect because they fail to factor in the dire impacts of hot summer temperatures in the Lower Columbia River. In 2015, of the hundreds of thousands of sockeye returning to the Columbia Basin, only 300 made it up the Yakima River due to unprecedented warm water.<sup>65</sup>

#### D. The Cost of the Yakima Plan

The Yakima Plan is a 30-year plan that would be implemented in three 10-year stages. The Initial Development Phase is to run from 2013 to 2023. In the 2013-2015 biennium Washington State funding amounted to a \$143 million share of the \$234 million total project costs.<sup>66</sup> For the 2015 to 2017 biennium the Washington Legislature has appropriated an additional \$30 million for continued implementation of the Yakima Plan. OCR projects that to fully fund the State’s share of the Initial Development Phase, the state will have to invest \$100 to \$110 million in *each*

<sup>60</sup> Ibid. Quote from page ii.

<sup>61</sup> Ibid.

<sup>62</sup> Ibid. pp. iii-v.

<sup>63</sup> The analysis considered using only Washington households. The result was fish values about 40 percent below what was obtained using both Washington and Oregon households. Stated slightly differently, by combining the two states, fish values were boosted over 60 percent. See page 8 of <http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/2012meetings/2012-09-26/4presentation.pdf>

<sup>64</sup> See: <http://www.usbr.gov/pn/programs/eis/cle-elum/index.html>

<sup>65</sup> See: [http://www.yakimaherald.com/news/local/drought-was-rough-on-sockeye-and-future-could-be-an/article\\_c3574d1e-68cf-11e5-92de-8f6fa08e7611.html](http://www.yakimaherald.com/news/local/drought-was-rough-on-sockeye-and-future-could-be-an/article_c3574d1e-68cf-11e5-92de-8f6fa08e7611.html)

<sup>66</sup> The state’s share was so high because of the state’s purchase of the Teanaway Community Forest at a cost of almost \$100 million.

of the next three biennia, ending in 2023.<sup>67</sup> The total cost of the ten-year Initial Development Phase of the Yakima Plan (2013-2023) is projected by OCR to be about \$882 million of which the State would be responsible for about \$407 million.<sup>68</sup>

This Initial Development Phase of the Yakima Plan on which the State of Washington is currently working is the *least expensive* of the three 10-year phases. The 2023-2033 Intermediate Phase is projected to cost 75 percent more than the Initial Phase, a decade total of almost *\$1.6 billion*. The Final Development Phase (2000-2043) would be slightly less costly: about an additional *\$1.5 billion*. The “Full Development Costs” over the three decades would be just over \$4 billion.<sup>69</sup> The Washington Legislature has mandated that the State of Washington is to pay, at most, half of the total costs of the Yakima Plan (not specific elements). Federal, private, and other non-state sources, including a significant contribution of funding from local project beneficiaries of the Yakima Plan (e.g. proratable irrigation districts that would receive additional water) are expected to pay at least half of the plan costs.<sup>70</sup>

Below we review the economic rationality of the major surface water supply projects included in the OCR’s future development plans, all of which are part of the Yakima Plan.

#### **E. OCR Near-Term Water Supply Developments: The Kachess Drought Relief Pumping Plant and the Keechelus-to-Kachess Conveyance**

OCR lists one major surface water storage project among its “near-term (2016-2020)” water developments: The Kachess Drought Relief Pumping Plant that during drought years would access the water that lies below that lake’s current gravity flow outlet facilities, i.e. the “inactive” storage, in Kachess Lake. That single project would provide almost two-thirds, 200,000 acre-feet, of OCR’s 2015 estimated total near-term water development of 320,000 acre-feet.<sup>71</sup> This Kachess Drought Relief Pumping Plant (KDRPP) is also listed as part of the Initial Development decade of the Yakima Plan and was scheduled in December 2014 to be completed by 2018.<sup>72</sup> A closely related project, the Keechelus to Kachess Conveyance (KKC), that is also part of the “Initial Development” decade of the Yakima Plan would allow the movement of Keechelus Lake water via a tunnel to Kachess Lake to facilitate the refilling of that lake after its inactive storage has been drawn down during drought periods by the drought relief pumping plant. In a December 2014 report to the Legislature on the projected costs of pursuing the Yakima Plan, OCR stated that “subsequent evaluations determined that the Kachess Reservoir Drought Relief Pumping Plant Project is unlikely to be viable without the inclusion of the [Keechelus to

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<sup>67</sup> Implementation Status Report: Yakima River Basin Integrated Water Resource Management Plan, July 2016, Ecology Publication Number 16-12-002, p. 2.

<sup>68</sup> Ibid. p. 25. The total cost of the Initial Development Phase was estimated as \$896.9 million in the December 2014 “Cost Estimate and Financing Plan-Legislative Report,” Department of Ecology and Office of the Treasurer,” Figure 4.

<sup>69</sup> Ibid. Cost Estimate and Financing Plan, December 2014, Figure 4.

<sup>70</sup> 2SSB 5367, Sec. 11(1)(a); RCW 38.120(1)(a). The State’s obligation is to pay for at least half of the entire Yakima Plan, but could fund 100 percent of any specific element of the Yakima Plan, as it did when the State paid \$97 million for the Teanaway Community Forest. See: <http://www.dnr.wa.gov/news/teanaway-land-purchase-clears-way-washington%E2%80%99s-first-community-forest>

<sup>71</sup> The OCR 2016 “Water Supply Development” (Rev. 08.19.16) also lists this facility as part of the Near-Term Development.

<sup>72</sup> “Yakima River Basin Integrated Water Resource Management Plan-Cost Estimate and Financing Plan-Legislative Report,” OCR and the Office of State Treasurer, December 15, 2014, Figure 5

Kachess] conveyance system as a project component.<sup>73</sup> This significantly increased the cost associated with a feasible Kachess Drought Relief Pumping plant since now the costs associated with the water conveyance facilities have to be considered costs of the drought relief pumping project. The KDRPP and KKC Draft EIS published in January 2015 provided estimates of the total costs of each project. Adding the costs of the KKC to the KDRPP would increase the cost of the drought relief pumping project by 58 percent.<sup>74</sup>

Three months later in March 2015 the BOR released the "Feasibility Design Reports-Draft" for the Kachess Drought Relief Pumping Plant and, separately, for the Keechelus-to-Kachess Conveyance.<sup>75</sup> Those documents provided another estimate of the *field costs* of each of these components of the Kachess drought relief pumping project. As the earlier Kachess DEIS made clear, to such *field costs* must be added a variety of other very real costs to obtain the *total cost* of these projects. In the Kachess DEIS this led to estimated *total* project costs that were 53 percent higher than the *field costs* for the Kachess Drought Relief Pumping Plant element and 46 percent for the Keechelus-to-Kachess Conveyance element. When these additional costs are included, the BOR feasibility design report costs for the overall Kachess Drought Relief project increases by \$205 million or about a third to \$850 million compared to the January 2015 DEIS estimated *total costs*. See Table 3 below.

Table 3.

| Total Costs of the Kachess-Related Projects*                                                                                             |                  |                               |                            |               |                  |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------|----------------------------|---------------|------------------|
| Source of Cost Estimate                                                                                                                  | Date of Estimate | Type of Estimate              | "Middle" or "Average" Cost |               |                  |
| BOR/OCR Documents                                                                                                                        |                  |                               | KDRPP                      | KKC           | Total: KDRPP&KKC |
| Costs of YIP HDR Engin. & Anchor QEA (1)                                                                                                 | March 2011       | Includes Non-Contract and O&M | \$226,406,000              | \$192,950,000 | \$419,356,000    |
| KDRPP and KKC Draft EIS (2)                                                                                                              | January 2015     | Full Cost                     | \$407,550,000              | \$237,880,000 | \$645,430,000    |
| KDRPP & KKC Feasibility Design Reports (3)                                                                                               | March 2015       | Full Cost                     | \$509,207,350              | \$340,994,364 | \$850,201,714    |
| *Average or middle value used when multiple alternative estimates were provided.                                                         |                  |                               |                            |               |                  |
| (1) Table 1, p. 3, non-contract costs were 30% of construction costs, annual O&M were capitalized using a 4% discount rate.              |                  |                               |                            |               |                  |
| (2) Tables 2.13 and 2.14 on pages 2.54 and 2.55.                                                                                         |                  |                               |                            |               |                  |
| (3) These "Field Cost" estimates were adjusted to total costs using the markups developed in the KDRPP and KKC Draft EIS. See (2) above. |                  |                               |                            |               |                  |

A little more than a year later, in June 2016, OCR reported to the legislature that it could not provide a cost estimate for the Kachess Drought Relief Pumping Plant because the plans for that facility were in flux.<sup>76</sup> After issuing a Draft EIS for the Kachess pumping and conveyance projects in January 2015 and receiving public comments on these projects, OCR and BOR decided that they needed to collect additional scientific data to reevaluate these projects in a Supplemental Draft EIS scheduled to be released in late 2016 or early 2017.<sup>77</sup> Clearly the basic

<sup>73</sup> "Yakima River Basin Integrated Water Resource Management Plan-Cost Estimate and Financing Plan-Legislative Report," OCR and the Office of State Treasurer, December 15, 2014, *ibid.* Figure 4, fn \*, no pagination.

<sup>74</sup> Kachess Drought Relief Pumping Plant and Keechelus Reservoir-to-Kachess Reservoir Conveyance, Draft EIS, U.S. Bureau of Reclamation and WA Department of Ecology, January 2015, Tables 2-13 and 2-14, pp. 2-54 and 2-55.

<sup>75</sup> U.S. Bureau of Reclamation, Contract No. R13PC1006 ID/IQ, prepared by HDR Engineering, Inc.

<sup>76</sup> "Unit Costs for Proposed Keechelus-to-Kachess Conveyance and Kachess Drought Relief Pumping Plant," Washington Department of Ecology. Ecology Publication Number 16-12-003, June 2016, p. 8.

<sup>77</sup> "Kachess Drought Relief Pumping Plant," U.S. Bureau of Reclamation, last updated 7/21/2016, <http://www.usbr.gov/pn/programs/eis/kdrpp/> -

design and costs of this large “near-term” OCR project remain uncertain although the costs show a steep upward trend.

The 2014 Washington Water Research Center benefit-cost study of the individual elements of the Yakima Plan commissioned by the Legislature estimated that the economic costs would exceed the economic benefits for each of the Kachess Lake projects. The economic *loss* associated with the Kachess Drought Relief Pumping Plant was estimated to be \$107 million and the economic *loss* associated with the Keechelus to Kachess Conveyance was estimated at \$110 million for a total loss of \$217 million.<sup>78</sup> The ratio of benefits to costs was estimated to be 0.46 for the Drought Relief Pumping Plant and 0.20 for the Keechelus to Kachess Conveyance.<sup>79</sup> With the higher more recent cost estimates associated with the Keechelus to Kachess Conveyance discussed above, the economic losses associated with these proposed projects would be even greater given that OCR has now concluded that the Keechelus to Kachess water conveyance project is necessary to the successful operation of the Drought Relief Pumping project, the costs and benefits of these different parts of a joint project should be combined. That will increase the cost of the project by 71 percent while adding only about 30 percent to the benefits, increasing the net loss associated with the combined project. While the drought relief pumping plant by itself has a benefit-cost ratio of 0.46, having to combine it with the water conveyance component reduces the benefit-cost ratio by about 40 percent to 0.29. The net loss associated with the combined project more than doubles.<sup>80, 81</sup>

As OCR and BOR have indicated by delaying the Final EIS and planning to produce a Supplemental Draft EIS,<sup>82</sup> there are many unanswered questions about the practicality and economic rationality of the Kachess surface water supply project. The actual costs of these two related projects appear to be unknown at this time, but on a steep upward trend line. In addition, it seems highly unlikely that this project should be classified as a near-term development that will be constructed in the 2015-2019 period.<sup>83</sup> OCR has had to repeatedly “go back to the drawing board” with these projects, redesigning them, and re-estimating their cost. This makes it nearly impossible for the Legislature and public to evaluate the likely “success” of the OCR’s

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<sup>78</sup> Ibid. page 63 (Table 7) and page iii. The WRC net costs reported here are the “middle” estimates among a range of net benefit estimates associated with different WRC scenarios that varied the intensity of the impact of climate change on the hydrology of the Yakima Basin and the effectiveness of water markets within the state of Washington to move water from lower valued used to higher valued uses. In addition, these “middle” estimates assume that the individual projects are analyzed on a “stand alone” basis rather than as part of the Yakima Plan. This boosts the benefits associated with the projects. Finally, only out-of-stream benefits are included. The fish benefits associated with fish passages at dams and improved instream flows are assumed to be pursued separately without the additional surface storage projects. These are the net-benefits or net-losses WRC reported in the Executive Summary of their report.

<sup>79</sup> Op. cit. WRC 2014, pp. iii and iv. The WRC adds that “Under the most adverse climate considered [in the scenarios run], these two projects together would have net benefits of \$6 million and a B/C ratio of 1.02.” p. iv.

<sup>80</sup> Ibid. Table 20, p. 87, least adverse future climate scenario.

<sup>81</sup> OCR, in its June 2016 report to the Legislature on the Keechelus to Kachess Conveyance, stated that the water supply benefits of this project “would be minimal” because there was already “unutilized storage capacity in Kachess Reservoir and limitations on when water could be transferred between these two reservoirs. For that reason, OCR noted that “...the quantity [of water] transferred does not mean that quantity would become available for water supply. As noted above, the water supply benefits from KKC are minimal and Ecology and Reclamation have concluded the water supply benefits do not provide a basis for project construction.” The Conveyance between the two lakes, however, *would* provide water benefits during drought periods by accelerating the refilling of the inactive storage in Kachess Lake that would be drawn down by drought relief pumping. However, over its life time, those benefits would not justify the costs.

<sup>82</sup> <http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/2016meetings/06-08-2016/02mtgnotes.pdf>

<sup>83</sup> That was its status in the “2015 Columbia River Basin Water Supply Inventory Report” submitted to the Washington State Legislature, Ecology Publication Number 15-12-006, January 6, 2016, p. 12.

primary “near-term” water supply project, namely the Kachess Drought Relief Pumping Plant. Furthermore, the benefit-cost analysis of the individual components of the Yakima Plan that the Legislature asked WRC to carry out documented the sizeable economic loss associated with these Kachess projects that would likely block the use of federal funds to help finance them.

A further concern is that although the Yakima Plan has been characterized as one in which “farmers themselves have agreed to pay for investments that promise to enable their water needs to be met”<sup>84</sup> when given an opportunity to make a major investment to secure additional water during drought conditions, the irrigators balked at the cost: In October, 2015, as a result of significantly low projected snowpack in the Yakima Basin, the Roza Irrigation District (RID) voted to pursue a Kachess Emergency Temporary Floating Pumping Plant Project (KETFPP).<sup>85</sup> The proposed KETFPP would have consisted of a temporary floating pump facility with the ability to access up to 50,000 acre-feet of water from Kachess Lake that otherwise would be inaccessible due to low water elevations. This water could then be pumped into the Yakima River system to supply RID with temporary emergency drought relief in 2016. Because this would have impacted the BOR existing Yakima Project, the BOR scheduled public workshops on December 7 and 8, 2015.<sup>86</sup> But when the cost of the project reached \$58 million plus, many farmers in the irrigation district said that extra water was not worth the extra \$85 per acre they would likely have to pay for 10 years and a full page newspaper ad by concerned Roza Growers, urged farmers to voice their opinions on the pumping plant.<sup>87</sup> By mid-December, the RID had withdrawn its support of the project and BOR cancelled review of the proposed project.<sup>88</sup>

#### F. The Large Yakima Basin Storage Reservoirs in OCR’s Long-Term Development (2020+)

OCR’s list of “Long-Term Development” projects that are part of the 2015 Report to the Legislature on Columbia River Basin Water Supply Inventory includes 226,000 acre-feet of water development within the Yakima Basin that would be developed *after* 2019.<sup>89</sup> This is part of the 450,000 acre-feet of additional surface storage that the Yakima Plan proposes to develop over 30 years.<sup>90</sup> As discussed above, the “near-term” Kachess Drought Relief Pumping Plant project would involve extracting up to 200,000 acre-feet of water from the inactive storage pool of Kachess Lake and accelerating its replacement with the Keechelus to Kachess Conveyance. This leaves another 250,000 acre-feet of surface storage associated with the Yakima Plan to be identified. The 226,000 acre-feet that the OCR lists for the Yakima Plan in its “long-term” projects (meaning developed after 2019) would provide most of that remaining planned surface storage development. Although the Yakima Plan calls for constructing both a new Bumping Lake dam and a Wymer Dam,<sup>91</sup> OCR now claims that this additional surface storage would

<sup>84</sup> <http://www.yakimaforever.org/2016/10/26/innovative-water-solutions/#more-1775>

<sup>85</sup> See: <http://www.dailysunnews.com/news/2015/dec/08/frustrations-aired-kachess-pump-workshop/>

<sup>86</sup> See:

<http://www.roza.org/images/Public%20Meeting%20Notice%20Kachess%20Emergency%20Temporary%20Floating%20Pumping%20Plant.pdf>

<sup>87</sup> <http://www.dailysunnews.com/news/2015/dec/08/frustrations-aired-kachess-pump-workshop/>

<sup>88</sup> <http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=51808>

<sup>89</sup> Op. cit. OCR June 2016 report to the Legislature on the Keechelus to Kachess Conveyance. p. 12.

<sup>90</sup> Final Programmatic EIS, Yakima River Basins Integrated Water Resource Management Plan, March 2012, p 2-20.

<sup>91</sup> <http://www.usbr.gov/pn/programs/yrbwep/2011integratedplan/2016meetings/06-08-2016/03slideupdate.pdf>

come from one large storage reservoir that would be built in the second or third decade of the Yakima Plan, either the Wymer Dam and Reservoir (162,500 acre-feet) or a new Bumping Lake dam (156,300 acre-feet net increase).<sup>92</sup> The remainder of the envisioned water development would come from smaller projects.

OCR's projection of the costs of pursuing this additional surface water storage increases substantially as one moves from the first decade of the Yakima Plan to the second decade. In the first decade (2013-2023), the projected surface water storage costs are about \$414 million. In the second decade, the surface water storage investment costs will rise to just over a billion dollars, a 140 percent increase. In the third decade, the capital investments in surface water storage will be approximated one billion dollars more. Over the three decades \$2.4 billion will be spent on surface water storage by the Yakima Plan. If, as ORC projects, the state will cover about half of the costs of these projects,<sup>93</sup> this represents a very substantial future financial obligation for the State of Washington of at least \$1.2 billion, just for surface water storage in the Yakima Basin and does not account for likely cost overruns.

Of course, surface storage of water is just one of the elements of the Yakima Plan. In the Initial Development Phase, the cost of surface water storage was about \$414 million, the total cost of *all* of the elements of the Yakima Plan in that decade was projected to be \$897 million, over twice as high. For the second and third decades, the total costs are 50 to 60 percent higher than the surface water storage investment costs alone. The whole of the "Initial Development Phase" of the Yakima Plan, the first decade, 2013-2023, on which ORC is currently working, is projected to cost almost \$900 million, while the cost over thirty years would be \$4 billion, up to half of which may be a state obligation.<sup>94</sup> See Table 4 below.

Table 4.

| Estimated Costs of Implementing the Yakima Integrated Plan |                      |                          |                        |                        |
|------------------------------------------------------------|----------------------|--------------------------|------------------------|------------------------|
| Integrated Plan Element                                    | Initial Development  | Intermediate Development | Final Development      | Full Development       |
|                                                            | Phase 2013-2023      | Phase 2023-2033          | Phase 2033-2043        | Costs 2013-2043        |
| Surface Water Storage                                      | \$413,900,000        | \$1,003,600,000          | \$999,000,000          | \$2,416,500,000        |
| <b>Total for All Elements</b>                              | <b>\$896,900,000</b> | <b>\$1,572,050,000</b>   | <b>\$1,542,250,000</b> | <b>\$4,011,200,000</b> |

Source: "The Yakima River Basin Integrated Water Resource Management Plan-Cost Estimate and Financing Plan-Legislative Report," Office of Columbia River, and Office of the State Treasurer, December 15, 2014, Figure 4.

### G. The Economic Evaluation of the Yakima Plan's Large Surface Storage Projects

A high priced element of the Yakima Plan is the addition of a large surface water storage facility during the second or third decade of the Plan. Two alternatives are currently getting the most scrutiny: A new Bumping Lake Dam and the building of the Wymer Dam.

<sup>92</sup> Op. cit. Implementation Status Report: Yakima River Basin IP, pp. 16-17 and Op. cit. Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects, p. 10.

<sup>93</sup> Op. cit. Implementation Status Report: Yakima River Basin IP, p. 25 and 26.

<sup>94</sup> Ibid. Figures 4 and 5 (not paginated).

### New Bumping Lake Dam

Unsuccessful efforts to construct a new Bumping Lake dam downstream of and flooding the existing dam on the Bumping river, upstream from Goose Prairie, WA, date back over half a century. Bills to construct a new Bumping Lake dam were introduced in Congress in 1979, 1981, and 1985. All failed.<sup>95</sup> As described above, opposition to a new Bumping Lake dam and adverse environmental impacts caused the BOR to exclude this project from its 2008 Final Planning Report/EIS.<sup>96</sup> Only through the support of Washington Governor Christine Gregoire, who had been a major backer of a new Black Rock dam,<sup>97</sup> was a new Bumping Lake dam project brought back for consideration.<sup>98</sup>

### Wymer Dam

Also, as described above, in its 2008 Final Planning Report/EIS the BOR evaluated two versions of a Wymer Dam in Lmuma Creek (an intermittent stream), approximately 8 miles upstream of Roza Diversion Dam,<sup>99</sup> off-channel of the Yakima River, between Ellensburg and Yakima. The BOR's report calculated that either project version had a benefit-cost ratio well below 1.0: For the Wymer Dam and Reservoir it was 0.31; and for the Wymer Dam plus Yakima River Pump Exchange it was 0.07.<sup>100</sup> Again, the Gregoire administration brought back the Wymer dam project.<sup>101</sup>

OCR plans to finance studies of these two proposals and possibly others that might be proposed during the end of the first decade and the beginning of the second decade of the Plan and make a decision on what surface water storage alternatives should be pursued.

In 2015, Senators Cantwell and Murray introduced S. 1694 in Congress, which authorizes continued federal funding for studies of water projects in the Yakima Basin, including presumably the new Bumping and Wymer dams. Reps. Reichert and Newhouse introduced a companion House bill. This legislation did not pass the 2016 session of Congress.

As discussed above, the Washington Legislature mandated that the Washington Water Resource Center (WRC) carry out benefit-cost analysis of each major project that was part of the Yakima Plan. That report was delivered to the Legislature in December 2014.<sup>102</sup> That WRC report concluded that a new Bumping Lake Dam would cost \$371 million more than the benefits it provided over the next 100 years. The benefit-cost ratio would be 0.18. Five out of six of the dollars invested in it would not be justified by the benefits. For the Wymer Dam and Reservoir, the costs would exceed the benefits by \$1.2 billion. The benefit-cost ratio would be 0.09. Ten out of eleven of the dollars invested in it would not be justified by the benefits.<sup>103</sup> The WRC confirmed the 2008 benefit/cost failure of the Wymer Dam calculated by the BOR.

As the WRC discussed at length in its report to the Legislature, the WRC estimated benefits do *not* include the value of the planned increase in-stream flows that these reservoirs are projected

<sup>95</sup> <http://www.usbr.gov/pn/programs/yrbwep/reports/FPEIS/fpeis.pdf> , pp. 1-23 and 1-24.

<sup>96</sup> Bureau of Reclamation, *Final Planning Report/EIS, Yakima River Basin Water Storage Feasibility Study*, p. 2-128 to 2-131. <http://www.usbr.gov/pn/studies/yakimastoragestudy/reports/eis/final/volume1.pdf>

<sup>97</sup> [http://www.ucsierraclub.org/ucr/yakima/media\\_2005-03-18.html](http://www.ucsierraclub.org/ucr/yakima/media_2005-03-18.html)

<sup>98</sup> <https://fortress.wa.gov/ecy/publications/documents/0912009.pdf>

<sup>99</sup> <http://www.usbr.gov/pn/studies/yakimastoragestudy/reports/eis/final/volume1.pdf> , p. 2-66.

<sup>100</sup> *Ibid.*, pp. 2-125 to 2-127.

<sup>101</sup> <https://fortress.wa.gov/ecy/publications/documents/0912009.pdf>

<sup>102</sup> *Op. cit.* Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects, Jonathan Yoder et al.

<sup>103</sup> *Ibid.* pp. iii and iv.

to provide. Because these enhanced in-stream flows are intended to increase the population of salmon in the Yakima basin rivers and streams, the benefits of these proposed increased in-stream flows will depend on both the effectiveness of in-stream flow in boosting fish production and the value that is placed on the increased salmon populations.

The benefit-cost analysis commissioned by the OCR and BOR in support of the Yakima Plan calculated very high economic benefits from the in-stream flows. As a result, the OCR-BOR economic analysis found that fish benefits would be worth \$5 to \$7.4 billion while the agricultural benefits were only \$0.8 billion, only one-sixth to one-ninth of the extremely high estimated fish-production benefits.

Municipal water benefits were only \$0.4 billion. Put slightly differently, the OCR-BOR analysis finds that 80 to 90 percent of the benefits of the Yakima Plan are fish-production benefits derived primarily from proposed fish passage projects at existing dams. Agriculture, apparently, is a relatively minor beneficiary of the Yakima Plan, providing only about 10 percent of the benefits of the Plan.<sup>104</sup> The Yakima Plan is, according to the OCR-BOR economic analysis, primarily a multi-billion-dollar plan to increase salmon populations in the Yakima Basin.

There is no doubt that improving salmon habitat and river and stream ecosystems has economic value. Over the last half-century economists have developed the tools to estimate such non-market economic values. The question raised by the Washington Water Research Center was whether the ORC-BOR economic analysis accurately estimated those values.

For example, using the same Four-Accounts methodology, the WRC report estimates that the loss of 1,000 acres of ancient forest due to flooding from a new Bumping Lake dam *would exceed* \$1.85 billion.<sup>105</sup> These costs were not incorporated in the OCR and BOR estimates of costs and benefits.

It is important to understand that the reliability of those fish economic values associated with in-stream flows was different than the reliability of the agricultural and municipal water benefits for several reasons:

- i. It is difficult, if not impossible, to separate out the beneficial impacts on fish populations of investments in fish passages at Yakima Basin dams from fish-production impacts of habitat rehabilitation along streams and rivers and/or increased in-stream flows. Some of these are activities that complement other activities, boosting the overall impact on fish populations. But it is also likely that there are declining marginal benefits as additional improvements in salmon habitat and survival are made.
- ii. The effectiveness of in-stream flows on fish survival is difficult to measure.
- iii. The economic value of improved native fisheries is difficult to measure, especially in a setting where the number and mix of fish are uncertain and varying over time.
- iv. The opportunity cost of providing instream flows by purchasing out-of-stream water rights (e.g. irrigation water rights) is only a fraction of what it costs to provide for instream flows by constructing additional water storage.<sup>106</sup>

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<sup>104</sup> Ibid. p. iv.

<sup>105</sup> WRC "Benefit-Cost Analysis of the Yakima Basin Integrated Plan Projects," Jonathan Yoder et al. Report to the Washington State Legislature, December 15, 2014, p. 108.

<sup>106</sup> Ibid. Table 24, p. 91.



On the other hand, the value of water committed to agriculture or municipal water supplies can be more easily measured because:

- i. There are market-based water transfers that take place in the region that can be analyzed,
- ii. the alternative costs of obtaining the water from groundwater pumping, surface water treatment, or conservation measures is known, and
- iii. because irrigation water is used to raise crops that are sold into commercial agricultural markets.

Because of this large difference in the precision of and confidence in the impacts of additional in-stream water flows on fish-production economic values versus agricultural and municipal water values, the WRC analyzed the out-of-stream (agricultural and municipal) benefits separately from the in-stream (fish-production) benefits. In order to objectively narrow the plausible range of values associated with in-stream flows the WRC established two reference points.<sup>107</sup>

The first reference point was tied solely to the irrigation and municipal (out-of-stream) water benefits. By calculating those accurately and comparing them to the cost of the storage projects, one can calculate how valuable the fish-production values would have to be in order to bring the total benefits (irrigation and municipal, as well as fish-production) up to the level of the surface water storage costs. That tells us how high the value of fish-passage, fish habitat rehabilitation, and in-stream flows for fish production taken together would have to be for the surface water storage project to produce net benefits that are positive or a benefit-cost ratio that is 1.0 or above. One can then ask if there is any evidence that fish-production benefits, especially those that are not directly associated with investing in fish passage at the Yakima Basin reservoirs, could be that high.

The second reference point for valuing instream flows is to ask what irrigation and municipal water benefits are lost if the instream flows are provided by reducing agricultural and municipal surface water uses. This, arguably, would be the lowest price that irrigators or municipal water users would accept in return for voluntarily reducing their surface water use. In that sense this would be the opportunity cost of providing in-stream flows by foregoing agricultural and municipal surface water benefits. This tells us what economic value is lost if in-stream flows are pursued by reducing irrigation and municipal uses. That cost can be compared with the cost of providing the instream flow by building surface water storage facilities to see if shifting water from irrigation and municipal use is a less costly way of providing in-stream flow fish-production benefits than building large surface water storage.

Pursuing enhanced in-stream flows and their associated benefits in terms of fish production by purchasing water rights from irrigators is already part of the Yakima Plan. That Plan had seven “elements” which included a “Market Driven Reallocation Element” that would “[c]reate conditions within which water banks can facilitate the sale or lease of water between willing parties on a temporary or permanent basis, to improve water supply and instream flow conditions in the Yakima basin.”<sup>108</sup> Such transfers of water rights were projected to [i]ncrease

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<sup>107</sup> The following two paragraphs are a paraphrasing of the WRC’s explanation of how they approached the valuation of in-stream flow. *Ibid.* p. 20.

<sup>108</sup> *Op. cit.* OCR and Office of the State Treasurer, “Cost Estimate and Financing Plan-Legislative Report,” December 15, 2014, un-paginated, PDF page 8.

the overall value of goods and services derived from the [Yakima] basin's water resources, by reallocating water from lower-value to higher-value uses."<sup>109</sup>

The WRC's report to the legislature on the benefits and costs of the individual projects within the Yakima Plan explored the implicit cost of providing instream flows by such market-based transfers of existing water. To do that, the WRC estimated the agricultural value of surface water being used for irrigation in the Yakima basin (the agricultural benefits gained or lost by increasing or decreasing the irrigation water available). WRC recognized that the cost of diverting water from irrigated agriculture to instream flows would be higher than the lost market value of the reduced agricultural production because of the use of less water. WRC therefore increased that agricultural market value by a third to cover transaction costs, other values farms might attach to that water and the agricultural activity it supported, risk and uncertainty, etc.<sup>110</sup>

WRC estimated that the annual agricultural benefit of an acre-foot of water would be about \$84 a year if it were to be leased. Assuming a discount rate of 4 percent, the cost to purchase in-stream flows in perpetuity from an irrigator was estimated to be about \$2,750 per acre foot. This assumed that only intra-irrigation-district water trading was possible and that historical climate conditions persisted. If full water rights trading were possible, the cost of purchasing the water for instream flows from irrigators would be lower. If climate change was much more adverse than historical climate conditions, the cost of purchasing the in-stream flows would be higher.

The WRC study commissioned by the legislature concluded that under moderately adverse climate change and intra-district water trading only, the cost of providing the in-stream flows by constructing additional surface water storage would be *16 times as high* as purchasing water rights to protect instream flows. If full water trading within the region were possible, providing for those instream flows by constructing additional surface water storage would be *25 times* what it would cost to purchase the water rights from irrigators. On the other hand, if no increase in water trading was possible and there was moderately adverse climate change, the construction of additional surface water storage would cost *nine times* what purchasing water rights to supplement instream flows would cost.<sup>111</sup>

The unavoidable conclusion is that the agricultural benefits associated with having more irrigation water due to the construction of additional surface water storage would justify only a tiny fraction of dam and reservoir construction costs, 4 to 10 percent of those costs. That is a serious problem for OCR and BOR since to get federal funding (and possibly state funding, too), the proposed water projects need to pass a benefit-cost test: showing positive net values when costs are subtracted from benefits or a benefit-cost ratio greater than 1.0.

The WRC economic analysis that was mandated by the Legislature also studied directly the value of the in-stream flow enhancements for fish-production values to see if those projected fish-production values could turn around the results of the economic analysis and show that the separate projects of the Yakima Plan water development projects made economic sense. The Yakima Plan investments for surface storage to support both in-stream *and* out-of-stream uses

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<sup>109</sup> Op. cit. OCR and BOR, Yakima River Basin Integrated Water Resource Management Plan, Final Programmatic EIS, March 2012, p. 2-39.

<sup>110</sup> Op. cit. WRC Benefit-Costs of Yakima Integrated Project, December 2014, pp. 90-91.

<sup>111</sup> Ibid. p. 91. The text on p. 21 says that with intra-district water trade and the CGCM climate regime, the cost of pursuing in-stream flows via the Yakima Plan would be 25 times the cost of pursuing enhance in-stream flows by using water markets. That is incorrect. As pointed out here, the 25-fold increase in cost is associated with full water trading.

account for about 66 percent of the costs of the Yakima Plan.<sup>112</sup> We have already discussed the agricultural and municipal water benefits, the out-of-stream benefits. We now turn to the WRC's estimates of the benefits of the in-stream flows.

The WRC economic analysis estimates that the in-stream flows combined with fish habitat restoration would generate \$48 to \$294 million in fish-production benefits. Just the mainstem river habitat restoration of the Yakima Plan would cost \$338 million.<sup>113</sup> Thus, even if the enhanced instream flows could be provided from new storage at no cost, the costs of improving fish habitat would exceed the benefits, generating net losses rather than net benefits. But, of course, the cost of creating the surface water storage reservoirs to support the proposed in-stream flows would not be zero. The capital costs of the Wymer Reservoir were estimated by the OCR and BOR in 2012 as \$1.14 billion and the capital cost of a new Bumping Lake Dam was \$517 million.<sup>114</sup> The Yakima Plan, as adopted, includes building *both* of these two large surface storage projects, but more recently OCR has backed away from that part of the Plan, stating, instead, that only one of the be built, at least in the near term. One of the primary stated purposes of these surface water storage reservoirs is to enhance in-stream flows and enhance fish populations. For instance, it is projected that "on average, around half of the storage capacity [of the Wymer Reservoir] would be used annually to improve instream flows upstream and downstream of the reservoir."<sup>115</sup> Clearly a substantial part of the costs associated with these surface water storage projects would have to be allocated to in-stream flows. That would make these efforts to improve fish habitat appear even more uneconomic, increasing the net losses associated with the projects. The estimated fish-production values associated with enhanced instream flows when added to the agricultural and municipal water values cannot not provide sufficient benefits to justify the costs of the proposed surface water storage projects of the Yakima Plan.

#### H. Proposed Water Development Projects in the Alpine Lakes Wilderness

Despite the fact that all of the major proposed water storage projects in the Yakima Basin have costs that grossly exceed benefits, Yakima Plan supporters have called the Yakima Plan a "National Model."<sup>116</sup> OCR has applied that same "model" of "aggressive development of new water storage" to Washington's Alpine Lakes Wilderness. OCR's *2015 Columbia River Basin Water Supply Inventory Report* discusses this set of projects immediately after discussing the Yakima River Basin Plan.<sup>117</sup>

The Alpine Lakes Wilderness straddles the central Cascade Mountains crest and is one of the most popular National Wilderness Areas in the nation. The Wenatchee National Forest part of that wilderness contains the Enchantment Lakes that are part of the headwaters of the Wenatchee River. A tributary, Icicle Creek, is fed by some of those wilderness lakes. Given

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<sup>112</sup> Ibid. p. iv-v.

<sup>113</sup> Ibid. p. 100.

<sup>114</sup> "Yakima River Basin Integrated Water Resource Management Plan: Framework for Implementation Report," prepared by HDR Engineering et al., October 2012, p. 17, Table 2.

<sup>115</sup> Washington Department of Ecology, "Building a Future for Water, Wildlife and Working Lands," <http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/8-YBIP-Wymer.10.03.13.pdf>.

<sup>116</sup> <http://krdistrict.org/EnergyBillINR.pdf>

<sup>117</sup> Op. cit. WA Department of Ecology Publication Number 15-12-006.

current demands on Icicle Creek's water, that watershed has faced chronic water supply issues.<sup>118</sup>

In December 2012, OCR and Chelan County co-convened a small workgroup, the Icicle Work Group (IWG), to resolve water rights litigation, fish hatchery concerns, and water supply issues facing the Wenatchee River and its tributary Icicle Creek. The Icicle-Peshastin Irrigation District (IPID) had historic water rights and easements that allowed it to store and divert water from the Enchantment Lakes in the Alpine Lakes Wilderness. Potential IWG water supply enhancement projects include increases in the water diversions from seven lakes in the Enchantment Lakes region.<sup>119</sup> These proposals include the rebuilding of a collapsed dam on Eightmile Lake so that the lake level can be raised to store more water and, during drawdown, can be lowered below current levels. Another proposal would install a siphon or pump or blast a tunnel to allow the draining of Upper Klonaqu Lake into Lower Klonaqu Lake so that additional water could be stored and delivered to the IPID. The IWG is also considering installing remotely controlled equipment so that the levels of all seven of these wilderness lakes can be controlled by IPID from its offices, adjusting the quantities of water removed from the lakes to meet both consumptive use and instream flow requirements.

These and other possible manipulations of the level of these wilderness lakes are currently part of a State Environmental Policy Act EIS process.<sup>120</sup> Presumably there will also be a NEPA process, since the lakes are within a National Forest managed by the U.S. Forest Service. OCR is funding the work of the IWG through a \$700,000 contract with the Chelan County Natural Resources Department. OCR also sought another \$3.5 million to continue the IWG work into the 2015-2017 biennium.<sup>121</sup>

These proposals to actively manipulate the level of many lakes in the Alpine Lakes Wilderness through the construction of new dams, modification of other dams, and installation of mechanical and motorized equipment within a well-known and spectacular National Wilderness Area are certain to be controversial. It is not clear that the 2006 Washington legislation that established the OCR envisioned that a Washington state government agency would support this type of intrusion into one of the state's most valued natural areas. At the very least, the legislature should require a clear and convincing showing that *each* of these proposed activities within the Alpine Lakes Wilderness has benefits exceeding costs *and*, given the unavoidable environmental costs, that the problems of water supply in the Wenatchee River Basin cannot be solved by aggressive water conservation plans throughout that water basin and the expansion of regional water markets that encourage the selling and trading of water rights so that existing water can voluntarily move from lower to higher valued uses. New commercial intrusions into the Alpine Lakes Wilderness and the commercial manipulation of the water levels in these wilderness lakes are unlikely to be economically justifiable.

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<sup>118</sup> *Ibid*, p.11.

<sup>119</sup> Colchuck, Eightmile, Upper and Lower Snow, Nada, Upper Klonaqu, and Square Lakes.

<sup>120</sup> <https://fortress.wa.gov/ecy/publications/documents/1512006.pdf> , p. 11.

<sup>121</sup> More information is posted at the Icicle Work Group website:

<http://www.co.chelan.wa.us/natural-resources/pages/icicle-work-group>

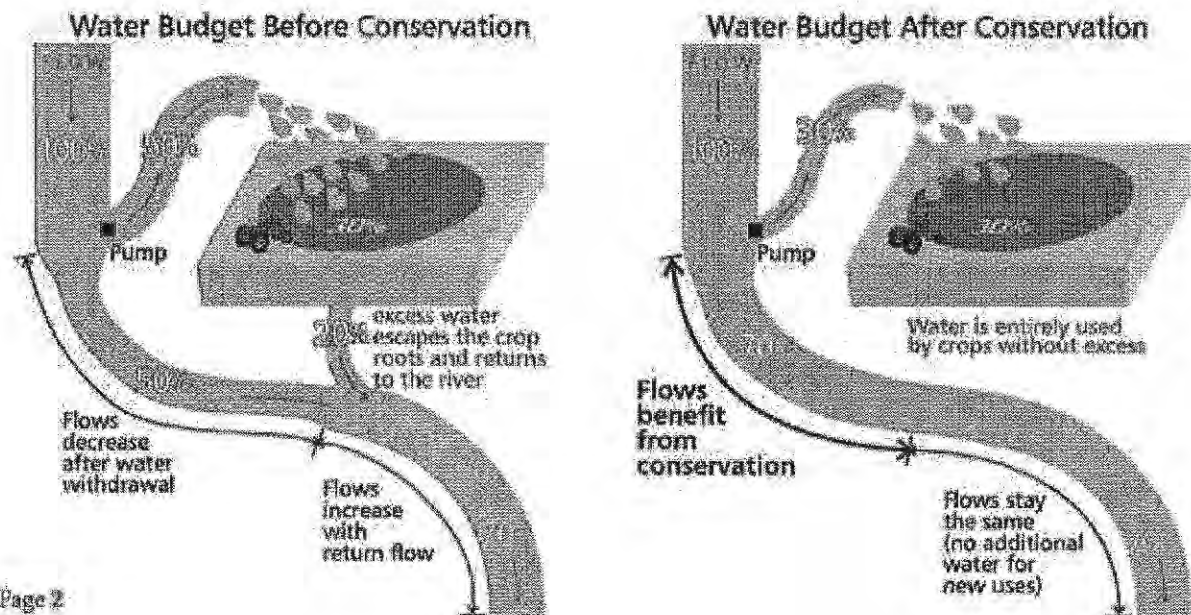
### III. The Effectiveness of Water Conservation in Meeting Water Needs

In the first few pages of the 2015 “Columbia River Basin Water Supply Inventory Report” to the Washington Legislature, OCR presents water conservation as though it has no clear beneficial use. Although the report goes on to detail that there *are* clear, large, and real benefits from water conservation,<sup>122</sup> water conservation is initially presented as a lesson to which OCR has learned not to pay attention.

OCR begins its discussion of “lessons learned” “since OCR’s inception” that now “shape the way [OCR] allocate[s] funds and prioritize[s] our efforts” with the assertion that “certain project types, such as water acquisition and storage... more efficiently and reliably provide additional water supply than conservation and efficiency improvements.”

This is an important, if disturbing, assertion of bias in favor of those approaches to improving water supply that are the most expensive and pose the greatest likelihood of significant and permanent environmental damage: large reservoirs that capture and store water from natural waterways. Since OCR’s 2015 report to the legislature on its success at developing water supply over the last decade and its projections of water supply it expects to develop in the near future heavily depends on reservoir storage, it is important to understand the misleading character of OCR’s asserted “lesson learned” that water conservation is largely ineffective in improving the delivery of the services of water to agriculture, cities, and businesses.

Page 2 of the “2015 Columbia River Basin Water Supply Inventory Report” presents the following figure.



<sup>122</sup> Page 8 shows 10,000 AF of conservation savings from the Odessa Subarea Groundwater Replacement Program and page 12 shows 3,476 AF of Irrigation Efficiency conservation that has already taken place.

The figure above is presented by OCR to show that there are only very small benefits from water conservation when that conservation is associated with the more efficient application of water to crops. This figure is described by OCR in the following manner:

Conservation projects, which are abundant on our project inventory lists, are often suggested as a way to make more water available for instream flow and other uses. Despite the presumed benefits, increasing irrigation efficiency does not readily translate to water supply made available for new allocation. While these projects can provide valuable benefits to streamflows supporting aquatic species and habitat, implementation of these projects generally does not yield enough benefits to achieve out-of-stream goals. The amount of water used consumptively by crops remains essentially constant throughout a range of application efficiencies. In some instances, enhanced water use efficiency results in higher consumptive use by crops and less water being available in stream.

As depicted in the [illustration above], water conserved through increased efficiency generally would have returned to the water body as “return flow”, and would not have been used consumptively by the crops. However, as OCR attempts to allocate new sources of water, we cannot use these return flow portions, because it will actually reduce streamflow in areas downstream from the historic return flow location. (Page 2.)

There are two very important pieces to this ORC argument about the ineffectiveness of water conservation in enhancing water supply that have to be critically analyzed:

- i. A distinction must be made about different types of water conservation efforts. In this OCR description of the lessons it has learned, ORC used the phrase “water conservation” only to refer to applying the appropriate amount of water to crops. But, as OCR knows, this is just one type of water conservation. ORC’s own water conservation projects have indeed been among the most important means by which the Columbia Basin has been able to allocate more water to new/current users. Water conservation includes, and has been highly effective in, lining irrigation ditches or replacing them with piping in the Columbia Basin.<sup>123</sup> Because of these projects that discourage seepage from the different canals and conduits, the Columbia Basin as a whole has far more water than otherwise would be available to irrigate crops. This is important because the OCR quote presented above seems to dismiss *all* forms water conservation using an example of *one* type of water conservation. Clearly OCR cannot mean *all* conservation projects are ineffective since conservation projects that reduce the loss of water in the transportation of water from large bodies of water (like the Columbia or numerous reservoirs) have been shown to be highly effective in providing additional supplies of water to the farmers who use the water.<sup>124</sup> OCR’s “lesson learned” and its accompanying “teaching aid” are not about water conservation generally but about the efficiency with which water is applied to crops, avoiding wasteful over-watering of crops.

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<sup>123</sup> Columbia Basin Project Coordinated Water Conservation Plan-Final Draft. Prepared by Anchor QEA, LLC. March 2010. P. 3.

<sup>124</sup> Both the volume of water conserved and the cost per acre foot make this clear in the Columbia Basin Project Coordinated Water Conservation Plan-Final Draft (2010). This is also made clear in the Columbia River Basin Water Supply Inventory Report where conservation is responsible for saving thousands of AF.

- ii. OCR's discussion of the impact of improved irrigation efficiency is misleading. It ignores the instream benefit that is shown in the OCR figure, a benefit that should not be dismissed. Although keeping instream flows at levels sufficient to maintain healthy rivers and fish population may not directly provide more water for irrigation and other off-stream uses, in the situation depicted in the OCR figure, the instream benefits are clearly obtained without any loss in crop production. Assuming that the crops receive enough water, as they do in this figure, then the enhanced instream benefits at the point of diversion would certainly provide some justification for the water conservation measures as it is applied to the crops. Since the damage to riverine ecosystems caused by low stream flows due to the diversion of river water to irrigate crops often leads to the search for additional water sources to enhance instream flows, improved crop watering efficiency that reduces the decline in stream flows at diversion points can indirectly reduce the need to find other water sources to supplement the low stream flows. Efforts to supplement instream flows can reduce the water flows available for out-of-stream uses.

However, the OCR's figure depicting the impact of improved efficiency in applying water to crops is inaccurate. In the "Columbia Basin Project Coordinated Water Conservation Plan-Final Draft," 17 percent of the water not used by the plants that seeps into the ground is lost to "deep groundwater systems, evaporation, and evapotranspiration".<sup>125</sup> This loss of water due to over-watering that seeps into the ground or is absorbed into the air clearly shows that the OCR figure that is presented above is not representative of the actual hydrology. The right-hand figure (after conservation) would remain the same. But the left-hand figure (before conservation) would have 17 percent of the 20 percent return flow (3.4 percent) lost to deep groundwater systems, evaporation, and evapotranspiration. It is possible that some of the water that makes it into the deep groundwater systems could, at a cost, be returned through groundwater pumping, but the portion lost to evaporation and evapotranspiration would be gone forever. Even if the water can be pumped from the deep groundwater system, it is unclear who would benefit from this water. A careful understanding of where the water goes before it is in the deep groundwater system would need to be better understood. In addition, OCR has not used updated crop water requirements. The Washington Irrigation Guide (WIG) is the standard in Washington State for estimating crop water needs, but the guide has not been revised since 1997.<sup>126</sup>

Water conservation is a very real and reliable strategy that has been proven to provide more water to the Columbia Basin Water Inventory. Conservation should not be dismissed as ineffective. Discouraging water conservation, as the above figure and quoted language does, can only harm efforts to cost-effectively provide more water to the farmers of the Columbia Basin. Providing a simplistic figure and language that discourages conservation will lead to less water available for other farmers to use and less water available in the streams that are adjacent to each farm. Indeed, conservation, including improved application of water to plants, is important in developing water supply.

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<sup>125</sup> Columbia Basin Project Coordinated Water Conservation Plan-Final Draft. Prepared by Anchor QEA, LLC. March 2010. P. 7.

<sup>126</sup> <http://www.ecy.wa.gov/programs/wr/wig/wig.html>

OCR has also supported the ‘Columbia Basin Project Coordinated Water Conservation Plan’ which was developed by the three Columbia Basin Project irrigation districts. The goal of this project was to identify water conservation projects that would allow additional acreage to be served without disrupting the water supply of existing acreage while also not increasing the withdrawals of water from the Columbia River. The water saved by this coordinated water conservation effort “would be available as a replacement water supply for groundwater deliveries in the Odessa Subarea, environmental uses, and municipal and industrial water supply.”<sup>127</sup>

Note ORC’s direct assertions that these conservation efforts would make water supply available for out-of-stream uses such as crop irrigation and water supplies to municipalities and industrial operations. Also, note the recognition that low stream flows can require the diversion of water from out-of-stream use to instream flows.

OCR estimates that 18,267 acre-feet of water savings were generated by the Coordinated Water Conservation efforts between 2009 and 2012, “freeing up enough water to irrigate almost 6,100 acres of land.” “The project allows OCR to begin replacing some groundwater water rights with surface water rights in the Odessa Subarea, immediately...”<sup>128</sup> The OCR list of developed water projects between 2006 and 2016, lists the Columbia Basin Irrigation District Piping of open water canals as resulting in the saving of 33,822 acre-feet of water for other uses.<sup>129</sup> That was the third largest of the OCR’s list of developed water supply projects. Only the Odessa Subarea Groundwater Replacement Project (164,000 acre feet) and the Lake Roosevelt Incremental Storage Releases Project (132,500 acre feet) provided larger developed water supplies.

Given these OCR-documented water conservation programs’ support for out-of-stream water uses, the OCR’s report of the negative “lessons learned” about the effectiveness of water conservation in its 2015 Columbia River Basin Water Supply Inventory Report to the Legislature is incomprehensible.

#### IV. Conclusions on OCR’s Last Ten Years

**The above analysis of OCR provides a critical overview of OCR’s expenditures since its creation. That critical overview raises serious concerns about the actual accomplishments of OCR and the economic rationality of the projects that OCR has supported with its expenditures. The overall conclusion from the above analysis is: The Washington State Legislature should provide no additional funding to OCR until a performance audit on OCR is prepared for the Legislature.**

The more detailed conclusions drawn from the above analysis include the following:

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<sup>127</sup> “Columbia Basin Project Coordinated Water Conservation Plan—Final Draft,” prepared by Anchor QEA for the East, Quincy, and South Columbia Basin Irrigation Districts and the Washington State Department of Ecology, March 2010, page 1.

<sup>128</sup> <http://www.ecy.wa.gov/programs/wr/cwp/CBID.html>

<sup>129</sup> <http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/waterdev.pdf>



- a. **A significant amount of the approximately 400,000 acre-feet of water that the Office of Columbia River (OCR) reports as having been “developed” during the first decade of OCR’s operations is not from “new” water supply production.** For example, as explained in OCR’s 2008 Columbia River Basin Water Supply Inventory Report, “On March 20, 2008, Governor Chris Gregoire signed legislation that will provide for the release the largest delivery (132,500 acre-feet) of new water to towns and farms in the Columbia Basin, and for endangered salmon, in three decades. New withdrawals from Lake Roosevelt, behind Grand Coulee Dam, are expected to begin in 2009.”<sup>130</sup> In other words, OCR merely arranged to withdraw more water from the existing Lake Roosevelt reservoir.
- b. **The approximately 400,000 acre-feet of water that the Office of Columbia River (OCR) reports as having been “developed” during the first decade of OCR’s operations is, for the most part, not water that currently has been put to productive use.** For instance, 194,000 acre feet of “developed” water currently stored in Lake Roosevelt behind Grand Coulee Dam has been authorized to be delivered to the Odessa Subarea to replace failing groundwater sources currently being used for irrigation. However, that Columbia River surface water cannot be delivered to those croplands until major additional investments are made in expanding the capacity of the East Low Canal and its associated facilities and to fund and build the delivery systems to carry the water from the canal to the croplands. As a result, as of mid-July, 2016, over 95 percent of the “developed” water that is supposed to be replacing groundwater pumping in the Odessa Subarea has not been delivered to those lands. According to the Bureau of Reclamation (BOR), the original Columbia Basin Project authorized delivery of Lake Roosevelt water to the Odessa Subarea in 1943. For much of that land, the cost of delivering that water has continued to prevent the use of Columbia River surface water to irrigate those lands. Of the 90,000 acres of Odessa Subarea land where Columbia River surface water is supposed to displace deep groundwater pumping, such displacement has taken place on only 2,000 to 3,000 acres of land as of mid-July 2016.

And, despite OCR spending nearly \$200 million of state funds, no new major storage projects have been constructed within the Yakima Basin to provide new water supplies.

- c. **There are hundreds of millions of additional taxpayers’ investment dollars that will have to be made over the next decade or more before all of that OCR “developed” water is actually put to productive use.** Some combination of funding from Washington State taxpayers, the irrigated farms and municipalities that are beneficiaries, and the federal government will have to be put together before this water is actually “developed” in the sense of being put to productive use. A funding plan for completing this first decade of OCR water “development” has not yet been developed.

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<sup>130</sup> 2008 Columbia River Basin Water Supply Inventory Report, Office of Columbia River, p. 3.  
<http://www.ecy.wa.gov/programs/wr/cwp/images/pdf/08legs rpt/expand-rpt.pdf>

- d. **Listing water as “developed” when financing has not been arranged to put that water to use exaggerates OCR’s accomplishments and understates the costly taxpayer investments that will be required to put that water to use.**
- e. **The OCR and BOR funded Yakima Plan is based on speculative fish production benefits to justify funding large and expensive surface water storage facilities.** Ninety-six percent of the water to be developed in the OCR “near-term” (2015-2019) water projects are located in the Yakima River Basin and 47 percent of the water from “long-term” development projects (2019+) are also located there. The Yakima Plan lays out a thirty-year vision to develop approximately 500,000 acre-feet of water. As the OCR and BOR calculate the benefits of this 30-year water development project, about 85-90 percent of the benefits of the Yakima Plan are dependent on projected enhanced salmon populations. Only 5 to 10 percent of the benefits are associated with irrigated agriculture. Improved municipal water supplies would be the source of 2 to 3 percent of the benefits.
- f. **Doing an aggregate benefit-cost analysis on the Yakima Plan as the OCR and BOR chose to do hides projects that generate major net costs among those that generate net benefits.** The benefit-cost analysis paid for by OCR-BOR found that even under the worst-case scenario the benefits of all of the projects associated with the Yakima Plan generate net benefits of \$1.8 billion with a benefit-cost ratio of 1.4. The Washington Legislature in 2013 was not satisfied with the OCR-BOR aggregate benefit-cost analysis and ordered the Washington State Water Research Center (WRC) to do a benefit-cost analysis of each of the component projects within the Yakima Plan. That is a more appropriate use of benefit-cost analysis since it prevents economically very productive projects with very high benefits and very low costs from being used to justify economically irrational projects that have low benefits and high costs.
- g. **To economically justify large Yakima Basin surface storage projects, the enhanced instream flows facilitated by those surface water storage projects would have to be implausibly effective at increasing salmon production and/or the incremental salmon production would have to be assigned indefensibly high economic values.** The WRC benefit-cost analysis mandated by the Washington Legislature concluded that none of the OCR larger surface water storage projects in the Yakima Basin could be justified on the basis of the irrigated agriculture and municipal water supply benefits. This includes the combined Kachess Drought Relief Pumping Plant and the related Keechelus-to-Kachess Conveyance. That water conveyance project is needed to make the drought relief pumping from the Kachess Lake’s inactive storage viable. The WRC benefit-cost analysis also concluded that neither the Wymer Dam and Reservoir nor a new Bumping Lake Dam could be economically justified on the basis of irrigation and municipal water benefits.

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The WRC estimated the fish-production value of those enhanced in-stream flows to be far too small when combined with irrigation and municipal water benefits to justify the cost of building of those surface water storage facilities.

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- h. **In addition, within the Yakima Basin, it would be far less costly to provide the planned enhanced in-stream flows by the buying water rights to divert water flows**

**to out-of-stream uses and leaving the water in the rivers rather than building new or expanded large surface water storage facilities.** Diverting water from out-of-stream uses to in-stream uses would cost a fraction, 4 to 33 percent, of the in-stream-flows' share of the costs of building the surface water storage facilities. Stated differently, in order to economically justify the overall Yakima Project, OCR-BOR had to assume the fish-production value of the water was so much higher than the agricultural and municipal water values (at least 3 to 25 times higher) that it does not make economic sense to use that water for agricultural and municipal uses. It should be devoted instead to fish production via in-stream flows. If that assumption is abandoned, then the Yakima Plan no longer is economically rational nor are most of its component parts.

- i. **The proposed surface water storage projects OCR envisions being carried out in the Yakima Basin over the next three decades would be very expensive to Washington State and its citizens, costing Washington taxpayers as much as \$2 billion.** OCR's projection of the costs of pursuing this additional surface water storage increases substantially as one moves from the first decade of the Yakima Plan to the second decade. In the first decade (2013-2023), the projected surface water storage costs are about \$414 million. In the second decade, the surface water storage investment costs will rise to just over a billion dollars, a 140 percent increase. In the third decade the capital investments in surface water storage will be approximated one billion dollars more. Over the three decades \$2.4 billion will be spent on surface water storage by the Yakima Plan. If, as the 2006 ORC legislation requires, the state will cover about half of the costs of the total plan, this represent very substantial future financial obligation for the State of Washington, including at least \$1.2 billion, just for surface water storage.

In addition, as the Yakima Plan is implemented, BOR and OCR intend to conduct appraisals and, potentially, feasibility-level studies on other water supply enhancements, including the potential for an inter-basin transfers from the Columbia River.<sup>131</sup> Pumping from the Columbia River into a new Wymer dam has been proposed.<sup>132</sup> A presentation was made to the Yakima Workgroup on November 8, 2009, on pumping Columbia River water into a new Selah Creek dam.<sup>133</sup> None of these proposals are included in the costs of the Yakima Plan.

Of course, surface storage of water is just one of the elements of the Yakima Plan. In the Initial Development Phase, the cost of surface water storage was about \$414 million. The total cost of all of the elements of the Yakima Plan in that decade was projected to be \$897 million, over twice as high. For the second and third decades, the total costs are 50 to 60 percent higher than the surface water storage investment costs alone. The whole of the "Initial Development Phase" of the Yakima Plan, the first decade, 2013-2023, on which ORC is currently working, is projected to cost almost \$900 million, while the cost over thirty years would be \$4 billion, up to half of which may be a state obligation. See Table 5 below.

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<sup>131</sup> Yakima River Basin Integrated Water Resource Management Plan, Final Programmatic Environmental Impact Statement, Benton, Kittitas, Klickitat, and Yakima Counties, p. 2-25

<sup>132</sup> <http://www.usbr.gov/pn/programs/yrbwep/2009workgroup/meetings/2009-11-23/14wymerflex.pdf>

<sup>133</sup> <http://www.usbr.gov/pn/programs/yrbwep/2009workgroup/meetings/2009-11-09/10selahcreekpresentation.pdf>

Table 5.

| Estimated Costs of Implementing the Yakima Integrated Plan |                     |                          |                   |                  |
|------------------------------------------------------------|---------------------|--------------------------|-------------------|------------------|
| Integrated Plan Element                                    | Initial Development | Intermediate Development | Final Development | Full Development |
|                                                            | Phase 2013-2023     | Phase 2023-2033          | Phase 2033-2043   | Costs 2013-2043  |
| Surface Water Storage                                      | \$413,900,000       | \$1,003,600,000          | \$999,000,000     | \$2,416,500,000  |
| Total for All Elements                                     | \$896,900,000       | \$1,572,050,000          | \$1,542,250,000   | \$4,011,200,000  |

Source: "The Yakima River Basin Integrated Water Resource Management Plan-Cost Estimate and Financing Plan-Legislative Report," Office of Columbia River, and Office of the State Treasurer, December 15, 2014, Figure 4.

- j. **The proposals to actively manipulate the level of many lakes in the Alpine Lakes Wilderness through the construction of new dams, modification of other dams, and installation of mechanical and motorized equipment within a well-known and spectacular National Wilderness Area need critical economic scrutiny.** At the very least, the legislature should require a clear and convincing showing that *each* of these proposed activities within the Alpine Lakes Wilderness has benefits exceeding costs *and*, given the unavoidable environmental costs, that the problems of water supply in the Wenatchee River Basin cannot be solved by aggressive water conservation plans throughout that water basin and the expansion of regional water markets that encourage the selling and trading of water rights so that existing water can voluntarily move from lower to higher valued uses. New commercial intrusions into the Alpine Lakes Wilderness and the commercial manipulation of the water levels in these wilderness lakes are unlikely to be economically justifiable.
  
- k. **OCR's 2105 Columbia Basin Water Supply Inventory Report begins with an explicit criticism of the efficacy of water conservation efforts and an argument in support of giving priority to investments in surface water storage, the most expensive elements of the OCR's plans. OCR's critique of the efficacy of water conservation compared to building surface water storage facilities is misleading in several ways.**
  - i. OCR's critique equates water conservation with improvements in the efficiency with which water is applied to crops. There are many other important types of water conservation besides improving the efficiency of irrigating crops.
  - ii. Even in the context of efficiency in the amount of water applied to crops, that improved efficiency can moderate the impact of irrigation on in-stream flows at the points of diversion. It can also reduce the loss of water to evaporation, evapotranspiration, and deep water aquifers.
  - iii. Low in-stream flows due to irrigation withdrawals often lead to efforts to enhance the in-stream flows by building more surface storage to be used to maintain in-stream flows. For instance, about half of the planned surface water stored by the proposed Wymer Dam and Reservoir would be used to enhance in-stream flows rather than delivering water to out-of-stream uses like irrigation.

- iv. OCR's own analysis of a broad range of water conservation projects demonstrates that water conservation can provide water of out-of-stream uses in a cost-effective manner.
- f. **Over the past 10 years, the OCR has wasted millions of dollars on new dam studies that are uneconomical with adverse environmental impacts.**

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K2KConvey, BOR UCA &lt;sha-uca-k2kconvey@usbr.gov&gt;

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## [EXTERNAL] Comments about the 2018 KDRPP and KKC SDEIS (Lake Kachess)

1 message

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roniaspamonia@gmail.com <roniaspamonia@gmail.com>

Tue, Jul 10, 2018 at 4:01 PM

To: kkbt@usbr.gov

Cc: Christine Johnson &lt;christine@wreservices.com&gt;, Terry Montoya &lt;terry.montoya@comcast.net&gt;, chris@friendsofbumpinglake.org, ncccinfo@northcascades.org, alpinelakes.info@gmail.com, trolfe@celp.org, bpowers@snoqualmiepassfirerescue.org, roniaspamonia@gmail.com, "Campbell, William H" &lt;bill\_campbell@unc.edu&gt;

Candance McKinley

Environmental Program Manager

Bureau of Reclamation

1917 Marsh Road,

Yakima, WA 98901-2058

Dear Ms. McKinley,

Please find attached our comments concerning the Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus to Kachess Conveyance (KKC) Supplemental Draft Environmental Impact Statement (SDEIS). Accompanying that letter and considered a part of our 2018 comments are attached five additional letters of comment and concern from 2015.

We look forward to working with you to protect Lake Kachess--a wonderful, natural lake in our State of Washington.

Sincerely,

Ann Lewis

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**6 attachments**



 **2018 SDEIS comments .docx**  
49K

 **2015 Alpine Lakes Protection Society Kachess DEIS - ALPS comments 3-10-15.pdf**  
239K

 **2015 Sierra Club Coments Kachess DEIS - Sierra Club comments 3-10-15.pdf**  
219K

 **2015 Wise Use Movement K-K and Kachees Comments on DEIS.pdf**  
257K

 **2015 North Cascade Conservatin Council Kachess DEIS - NCCC comments 3-10-15.pdf**  
276K

 **2015 Kittitas County Fire District #8 Letter.docx**  
54K

July 10, 2018

Submitted via email to [kkbt@usbr.gov](mailto:kkbt@usbr.gov)

Ms. Candace McKinley  
 Environmental Program Manager  
 Bureau of Reclamation / Columbia-Cascades Area Office  
 1917 Marsh Road  
 Yakima, WA 98901-2058

RE: **Kachess and Keechelus SDEIS**

Dear Ms. McKinley:

We are submitting comments on the Kachess Drought Relief Pumping Plant (KDRPP) and Keechelus Reservoir-to-Kachess Reservoir Conveyance (KKC) 2018 Supplemental Draft Environmental Impact Statement (SDEIS) released on April 13, 2018.

Attached are prior comments by Alpine Lakes Protection Society, Sierra Club, Wise Use Movement and North Cascades Conservation Council and a letter by the Kittitas County Fire District #8 about the KDRPP and KKC initial Draft Environmental Impact Statement (DEIS), dated January 9, 2015. These comments and concerns are hereby included in our 2018 comments.

All comments are submitted under both NEPA and SEPA.

**Comments**

- 1) **Alternative 1 No Action** We oppose all active alternatives of the KDRPP and KKC projects. Only Alternative 1, “No Action” is acceptable. 1
  
- 2) **The Yakima Plan programmatic FEIS failed to provide a range of alternatives.** The only alternatives presented were the Yakima Basin Integrated Water Management Plan (YBIP) and No Action. How will this be rectified? 2
  
- 3) **Failure to comply with NEPA requirement for consideration of alternatives.** The National Environmental Protection Act (NEPA) requires consideration of a reasonable range of alternatives that can accomplish the purpose of the proposed action [40 CFR 1508.18]. Consideration of “reasonable alternatives” means all state-of-the-art alternatives must be rigorously explored and properly evaluated, as well as those other alternatives which are eliminated from detailed study with a brief discussion of the reasons for eliminating them [Section 1502.14]. Of particular concern with regard to the KDRPP-KKC SDEIS, and its predecessor the KDRPP-KKC DEIS, the alternatives must not be slanted to favor the interests of a particular party. 3

The stated purpose of the DEIS was to “provide more reliable and sustainable water resources for the health of the riverine environmental and for agricultural, municipal, and domestic needs. (Page ES-I, January 2015). The 2018 Supplemental EIS failed to offer a stated purpose and one must presume the 2015 DEIS statement of purpose applies to the 2018 document.

The 2015 DEIS and the 2018 SDEIS fail to meet the explicit NEPA requirement of considering a reasonable range of alternatives that can accomplish the purpose of the proposed action. The 2015 DEIS considered only two alternatives: the Kachess Drought Relief Pumping Plant (KDRPP) with two locations, and the Keechelus-to-Kachess Conveyance (KKC) with two locations. In fact, the DEIS stated these should all be considered part of a single action because they could not be separated. (That is, Lake Kachess could not be drained without a refill mechanism from Lake Keechelus.) In reality, therefore, only one action alternative was considered (pumping plant plus conveyance) vs. no action in the 2015 DEIS.

The 2018 SDEIS continued and compounded this failure. A conveyance tunnel with two locations was considered, and a pumping plant with three locations. While the SDEIS goes to great contortions to try to make these appear to be several different alternatives, they are in fact one alternative...extracting water from a natural lake to benefit downstream special interests.

Compliance with NEPA would require consideration of true alternatives to accomplish the stated purpose of providing more reliable and sustainable water resources. Any reasonable list of alternatives would include serious consideration of water conservation methods, water market strategies, crop mix management (e.g., fallowing), use of technology (ditch lining, micro-irrigation systems, electronic monitoring systems, increased security from water theft), and advanced technology (underground drip systems). In fact, subsequent analysis of YBIP by the Water Research Center of Washington State University has shown that the purpose of YBIP can be achieved at lower cost and with greater effect (i.e., greater net increase in available water) by application of conservation and water market strategies.

We have previously noted this deficiency in the 2015 DEIS, and repeat it for the 2018 SDEIS. Both the DEIS and the SDEIS fail to comply with the NEPA requirement of considering all reasonable alternatives to achieve the stated purpose. In fact, this fatal flaw originates from the Programmatic EIS released in 2012, which failed to consider all reasonable alternatives and entrenched the problem which was carried forward in the 2015 DEIS and 2018 SDEIS. The 2012 Programmatic Yakima Plan EIS not only failed to consider a range of alternatives, as required by NEPA, it failed to follow federal Program Principals and Guidelines (PPG) in accurately assigning costs and benefits to the arbitrarily narrow list of alternatives. All subsequent NEPA processes and documents have therefore been legally inadequate and the SDEIS cannot be "tiered" to an inadequate PEIS. The only way to rectify this problem is to return to the original Programmatic Yakima Plan EIS and do it correctly. We ask that the NEPA legal requirements be met by re-issuing a NEPA compliant Programmatic EIS, follow that with a NEPA compliant Draft EIS, and proceed in a manner that considers a range of alternatives to the YBIP's stated purpose.

We ask that water conservation methods, water market strategies, state-of-the-art water management technologies, and crop management strategies be considered separately and in combination to achieve the purpose(s) of YBIP, and, as alternatives to the proposed Kachess Lake pumping plant. It is clear the PEIS, DEIS and SDEIS have been prepared (in violation of NEPA guidance) “slanted to the interest of special interest groups”. We ask, as required in the NEPA process, that all alternatives not considered be listed and a full explanation be given...including data, references, and review procedures...for excluding each alternative.

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The process that generated the DEIS and SDEIS of record cannot be relied upon to produce a NEPA compliant document that objectively represents all reasonable alternatives, and we therefore request that an independent, non-biased, non-government, academic entity be engaged to conduct these analyses.

- 4) **Involve all affected native tribes** The SDEIS notes the Yakama Nation has historical ties to the Lake Kachess area, and documents historical and cultural heritage connections. The Snoqualmie Tribe also has roots in the Lake Kachess area, and artifacts from that federally recognized tribe have been found along the shoreline of Lake Kachess. How will the Snoqualmie Tribe’s historical and cultural standing be recognized in regard to this project, and they be brought into the discussion? How will the Snoqualmie Tribe be contacted, the potential impact of this project on their culture be explained, and will they be given an opportunity to provide comment prior to a Final EIS and/or ROD? Also, please describe what happens with Native American artifacts unearthed during construction or following activation of pumps and draining to / below the natural lake level.

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- 5) **Impact on Campers at Lake Kachess** The impact on 23,000 annual visitors and 11,000 annual boaters at USFS Lake Kachess Campground will be devastating. Page 2-6 indicates the lake could be drawn down 80 feet “as early as June in severe drought years.” [NOTE: The campground typically opens on Memorial Day Weekend...June 1st.] In other words, the campground would not open, possibly for a number of years. To date there has been no effort at communicating with the individuals, families, and organizations that use this campground, some with decades of continuous annual use. The possibility of drastically reduced access to this treasured recreational facility has never been communicated to its users, let alone the possibility that it would close and not re-open for a year or more. As noted below with respect to ES-xii, we noted the inadequacy of a post hoc communication strategy to inform recreational users of the impact of KDRPP-FPP. The impact on USFS Lake Kachess Campground is but one, but a very important example of the need for a different and better approach. How will the past users of USFS Lake Kachess Campground be contacted and informed of the potential impact on Lake Kachess, and will they be provided an opportunity for public comment? It is clear the current SDEIS has failed to accomplish this essential public information obligation, and that a subsequent SDEIS and full public disclosure are needed to correct this failure. Please provide a written plan as to how the past campground users will be contacted and the timeline for this process.

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- 6) **Impossible to Evaluate** The SDEIS presents four construction projects, the tunnel and three different pumping plants. The plans shown are very rudimentary and conceptual only. The

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locations are only general, indicating that little or no on-site investigation or detailed design has been carried out. In these circumstances it is impossible to evaluate what if any environmental impacts may result from the construction and subsequent operation of the proposed facilities. Please provide detailed designs for both the KDRPP and KKC in a subsequent SDEIS.

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- 7) **Water Deficit and Water Rights Mitigation** When the pumping plant withdraws an additional 200,000 acre-feet from Lake Kachess, lowering the lake level 80 feet below the gravity spillway, how and when will the water be replaced? Lake Kachess normally receives 213,398 acre-feet of water from the catchment basin. This water is allocated to various water right holders. So, when additional water is withdrawn for drought relief there will be a deficit of as much as 413,398 acre-feet. Should the next year be an average year, there will only be 213,398 acre-feet of precipitation in the catchment basin to replace the deficit. It will be necessary to run the pumps to deliver most of the normal allocation from the lake below the level of the gravity spillway. After the drought of 2001 when Lake Kachess was drawn down to normal low pool at the level of the gravity spillway, it took eight years to again reach full pool elevation. And that was without drawing down another 80 feet by pumping out 200,000 acre-feet from the natural lake (inaccurately named inactive storage). Do Reclamation and Ecology have any plans on managing the water resources in the entire Yakima River Basin to replace this deficit? The SDEIS doesn't mention them. Will the junior water right holder be allocated less than 100% of their allocation in order to "repay" the 200,000 acre-feet they borrowed during the drought? The SDEIS doesn't say. A subsequent SDEIS is required to provide detailed answers to these questions.

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- 8) **Objectivity vs "Suggestion"** **Executive Summary, page ES-v** The SDEIS asserts the presence of a "value analysis study that suggested the feasibility of a floating pumping plant". The assertion that a redirection of the previous DEIS, leading to a comprehensive shift in emphasis and removal of conveyance as practical options, would be driven by a "suggestion", brings into question the objectivity and rigor of either previous or subsequent, or both, analytic methodologies. Please provide full descriptions of the "suggestions," including the methods, data, and conclusions implied by the inadequate and confusing term "suggestions."

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- 9) **Funding ambiguity requires another SDEIS** **Page ES-viii and Page 1.11** Page 1-11, Table 1-1, indicates the Role and Responsibility of the Department of Ecology, as an agency of the State of Washington is to provide "*potential funding of the selected alternatives.*" This apparently refers to the passage of Senate Bill 2SSB(5367) Sec. 11 (1)(a) in 2013 which indicates the State of Washington will pay up to one-half of the project costs from additional tax or revenue resources that would have to be identified at a future time. The SDEIS implies the Department of Ecology will fund the project from its annual budget. That is not correct; it is clear any funding of the project will require Washington State taxpayers to come up with not more than 50% of the plan from funds that have neither been identified or appropriated. The statement should read "Washington taxpayers may be required to fund not more than 50% of the plan from funds not currently available." The preface to the SDEIS states the Department' of Ecology's purpose is to protect and preserve the environment. To suggest it now has a "purpose" to spend unappropriated funds is hyperbole, at best, and

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deception at worst. We ask that the statement be corrected, to indicate that Washington State taxpayers are not currently obligated to pay for any part of the plan, but may in the future be obligated to fund up to 50% of the plan.

Also, the Dept of Ecology has for the past 10 years, continuing in the current biennial budget, been expending funds for design, review, promotion, communication, and development of the YBIP, primarily under contract with BoR. Since 2015, or before, substantial state funds have been expended on the KDRPP-FPP. We ask that these funds be included in any representation of the costs of KDRPP-FPP. Any representation of the cost of KDRPP-FPP, without these tax funds included, understates the true costs of this project to taxpayers and participating entities.

With regard to funding of the yet-to-be-selected alternative, Table 1-1 further confuses the matter by indicating it is a Role and Responsibility of the Bureau of Reclamation to provide potential funding of the selected alternative. There is no reference to a legislative or executive action that would make this statement true. If there is a commitment by the federal government, in the form of either authorized or appropriated funds, to make this statement true, it must be included in the SDEIS. We ask that any passed...not contemplated, pending, or speculative...federal, state, or regulation that commits federal funding through the Bureau of Reclamation be identified in a subsequent SDEIS.

To further confuse the matter, Page 1-11 states: "For full implementation of the selected alternative, Roza proposes to fund, design, construct, operate, and maintain a pumping plant at Kachess Reservoir." There is no legally binding legislative, contractual, public statement, or other documentation that would prove this statement to be true. We ask that whatever obligatory documentation from Roza that exists be provided to allow citizens to assess the legitimacy of this statement, and that this be provided in a future SDEIS.

In summary, the funding of the "selected alternative" is a collection of speculative obligations that may or may not commit State of Washington citizens, Roza farmers, and/or U.S. citizens to all or a portion of the selected alternative. This confusion and obfuscation is unacceptable. We ask that the actual amounts of funding obligation by all entities be revealed for public review, and this be provided in a future SDEIS.

10) **Change in Scope Page ES-viii** The SDEIS states that the KDRPP-FPP is the "proposed action" and BoR/Dept. Ecology have not identified a "preferred alternative." This represents a major departure from the previous DEIS, which indicate a KKC conveyance project and a KDRPP project must be considered as a "single action and cannot be separated." The logic of that position was that emptying Lake Kachess in an artificial and unprecedented manner, would require a refill mechanism (e.g., KKC). Apparently that logic was incorrect and has been superseded by new policy. The SDEIS continues to show substantial impact with long term and irreversible damage. Please summarize the negative impacts of KDRPP known in 2012, any differences (positive or negative) in impacts based upon the SDEIS, and explain why the differences are "acceptable" in 2018. This explanation should also serve to inform citizens as to why no "preferred alternative" is provided. This explanation is critical to

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citizens' understanding of the project and their potential financial obligations. It appears, under the meaning of the law, this action essentially removes KKC options, and thereby changes the scope of the original Programmatic DEIS to a different Program. BoR must explain how this change in scope of the program can be accomplished within a no-longer-accurate description of the PDEIS.

- 11) **Impact on private wells** **Page ES-xi** The negative impact of lowering the water level of Lake Kachess on private wells (ES-xi) is documented, with the conclusion that significant numbers of wells will be “dewatered.” It is unacceptable to tell citizens that their water supply will likely disappear, and then offer a remedy of “monitor and mitigate.” Well failures (“dewatering”) will likely occur in October/November when Lake Kachess is at its lowest level, this is also shortly before snow arrives and access to homesites becomes difficult. The possibility of losing water at this time, without an in-place action plan for making homeowners whole, is unacceptable. A comprehensive strategy composed of proven techniques that can be implemented immediately upon need is required prior to a Final EIS and/or ROD. We ask that this comprehensive strategy, its details, costs, and operational features, be described in detail, and citizens be provided with this information along with an appropriate comment period, prior to issuing a FEIS or ROD.

Some property owners on the east side of Lake Kachess have senior water rights for their wells. According to the SDEIS, these wells will run dry if the lake is pumped down. How is it possible that prorated junior water rights holders of the Roza irrigation district can dewater those Kachess wells which have senior water rights? State specific statutes and other justifications. Also, there is no money for mitigation for the loss of well water. What is the process for getting a well drilled deeper, and what is the timeline for getting a well repaired which has run dry?

The hydrology data in the SDEIS does not describe effects on the aquifer below the lake and into the town of Easton. How will draining the lake affect wells downstream of the lake? By what criteria, will these effects be calculated.

- 12) **Lack of communication to the affected public** **Page ES-xiii** The DEIS states the project will implement a “public communication strategy” to inform recreationists and others of the impacts of the proposed action(s) on USFS campgrounds, fishing, boating, hiking and other activities, and to mitigate the impact. Given that a single USFS campground (Lake Kachess Campground) registers 23,000 people and 11,000 boat launches annually, it should be obvious that this communication strategy should be pro-active, and communicated now, not at an unknown time in the future. Citizens must be informed prior to experiencing impact, in order to understand the potential impact on individuals and families, and to participate meaningfully in the deliberative process. Given the SDEIS documentation of negative impact on recreational activity, and the acknowledgement that most affected individuals come from the Seattle area, it is clear the NEPA/SEPA process represented by the SDEIS has failed to involve and inform affected citizens and organizations as required by law. A subsequent SDEIS must be published with accompanying public comment period and the public informed. Please develop, describe, distribute for comment, and implement a “public communications

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strategy” immediately, to reach the thousands of affected parties who have not been recognized or adequately served by the SDEIS. This strategy should include mass communications, well-publicized meetings, and other techniques throughout the Seattle and Puget Sound area.

- 13) **Misrepresentation of Lake Kachess Chapter 1, Section 1.2** The SDEIS indicates Kachess Reservoir was constructed over a naturally occurring glacial lake...[joining]...Big Kachess Lake and Little Kachess Lake. These two lakes, acknowledged to be lakes in the SDEIS, represent the entirety of all KDRPP options, including the proposed action KDRPP-FPP. Thus, every drop of water to be pumped by the KDRPP will come from Big Kachess Lake. It is a misrepresentation, no doubt intentional, to assert this project involves Kachess Reservoir. The KDRPP has nothing to do with the reservoir (stated in page 1-1 to be the water over the natural lake) and exclusively affects the natural lake, Big Kachess Lake. This attempt to misrepresent a natural, glacial-created lake as a reservoir has only one purpose, to mislead and confuse the public. We ask that all representations of this project be corrected, and that inaccurate and confusing euphemisms such as “dead storage” and “inactive pool” be eliminated. The correct term should be either “Lake Kachess” or “Big Kachess Lake”. There is a Kachess Reservoir, the approximately 65 ft. of water currently managed by BoR. Below that is the natural Lake Kachess, and it is this body of water that is exclusively the target of, and impacted by, KDRPP. KDRPP has nothing to do with Kachess Reservoir. We ask that this confusion and misrepresentation stop, and accurate terminology be used that informs rather than confuses the public. This requires modification of language used in the SDEIS and all public communications, including correction of schematics such as Page 1-7.
- 14) **Who will be responsible for costs, implementation and operation? Chapter 1, Table 1-1 on page 1-11** This SDEIS Table indicates roles and responsibilities of participating entities. Roza Irrigation District will (according to Table 1-1) “Fund, design, construct, operate...etc....the selected alternative.” This can only refer to the KDRPP-FPP. This statement of financial obligation also appears on Page 1-17. Unfortunately, there is confusion in the public’s mind, largely due to conflicting public comments by Roza representatives and BoR representatives. It is imperative that this confusion be removed before any Final EIS and/or ROD be issued. We ask, therefore, that a complete and unambiguous statement of financial obligation of KDRPP-FPP be issued. The statement should make clear that 100% of the costs of implementing KDRPP-FPP, including all mitigation, litigation, and other assigned costs, will be borne by Roza Irrigation District or if not Roza, then by which entity/entities.
- 15) **Misrepresentation about the Teanaway Community Forest Chapter 1, Section 1.8.2 on Page 1-18** The terms and conditions of the purchase of the Teanaway Property (TCF) is misrepresented with regard to its relationship to KDRPP-FPP and does so in a way that introduces extreme bias in favor of the project proponents. Page 1-18 indicates 214,000 acre-feet of additional water supply must be in place by 2025, and if not the Board of Natural Resources is authorized to transfer the TCF to the common school trust and manage it for the beneficiaries of the trust.

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The proponents of KDRPP-FPP make public representations that this means, unless their project is implemented, the TCF will be sold, clear-cut for timber revenue, and the property lost forever for recreation purposes. Simply stated, that is not true. The terms of the TCF do not require the property be reverted to the educational trust; that is only one alternative provided among many. (*See RCW 90.38.130 Authorization to purchase land---management and disposal of land*) Other options include continued management of the property for recreation, maintaining wildlife habitat, implementing conservation projects, and other beneficial purposes.

In fact, the only obligation is that a report be submitted indicating what progress has been achieved toward the milestone and requiring submission of a new plan if the milestone is not achieved. This can continue until the year 2045. It further states the milestone can be achieved through any of a combination of methods: conservation, improved management techniques, water marketing strategies, storage, and others. In fact, the report is required to state how much “net increase in available water” (the correct term, not “additional water supply” as stated in the SDEIS which implies all milestone water must be from storage). To date, the SDEIS claims 124,131 acre-feet of net increase in water due to conservation, and in the past has claimed as much as 300,000 acre-feet in future conservation savings. This would more than fulfill the 214,000 acre-feet milestone, were the planned conservation projects fully implemented.

Finally, **if** the very unlikely possibility of a reversion to trust fund management and clearcutting is selectively highlighted in the SDEIS, **then** the far more likely alternatives should be given equal space. After a decade of public recreation use, with untold thousands of new citizen-recreationists advocating for the Teanaway as a new resource, and an army of volunteer citizens and organizations upgrading the Teanaway, the public backlash against clearcutting would be overwhelming. With its misrepresentation of the Teanaway Purchase, the SDEIS has veered into a political speculation that is both inappropriate and inaccurate. However, given that SDEIS has now opened the door, in a subsequent SDEIS it must clarify, correct, and accurately inform the public of what is, and is not, required and implied by the Teanaway Purchase. We ask that this be done not only in a future SDEIS, but in all communication about the relationship between Teanaway and KDRPP-FPP, or any other element of YBIP. In addition, we asked that a notification of clarification be immediately issued stating that based on current and future water conservation savings, it is anticipated that the obligations under RCW 90.38.130 will be met with no additional water needed from the YBIP projects.

- 16) **Accurate Cost Estimate Chapter 2, Sections 2.7** The statement of budget (Page 2-59) for KDRPP-FPP is incomplete and under-valued. The “estimated costs” for Alternatives 2, 3, and 4 are shown, but since Alternative 4 is the “proposed option” it will be the focus of this comment (however these comments apply equally to the other alternatives). An “estimate” that has a variance of -30% to +50% is difficult to interpret, as in the case of the \$282,000,000 estimate for KDRPP-FPP. Because the estimate is not a measure of central tendency (i.e., neither mean, median, or mode) it appears to be affected by non-measurement bias. Given the uncertainty surrounding the estimate, it would be far preferable to show the actual estimates in numerical terms; e.g.

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|              |                    |               |
|--------------|--------------------|---------------|
| Low Estimate | Projected Estimate | High Estimate |
| 197,400,000  | 282,000,000        | 423,000,000   |

as opposed to showing a single estimate of 282,000,000, without assigning a probability for variance ranges. That is, without knowing the likelihood of a “low” or “high” correction, each will be assumed to have equal probability, but clearly, they have different implications in terms of outcome. Under those circumstances, each estimate must be assumed to have an equal probability, and the actual numbers become more important. That would, or at least should, cause the SDEIS to state numerical estimates in each of the three (low, presented, high) estimates.

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Taking that approach and understanding that taxpayers and farmers will be primarily concerned with their maximum obligation (especially in view of the fact that each option seems to be approximately equally likely), SDEIS should show KDRPP-FPP the high budget estimate. Readers can decide which one is the most likely and relevant to them. Following the approach of most readers, the KDRPP-FPP budget should present a \$423,000,000 base. In all cases, the mitigation costs must be included. For some reason the required Bull Trout Volitional Passage is stated in the text (Page 2-60) to cost \$23,000,000 (preliminary estimate) but is not included. That would bring the cost to \$444,000,000. This does not include the large mitigation costs of private well failure mitigation, campground restoration and mitigation, negative impact on private property values, fire risk hazard increase, fire suppression cost increase, and many others mentioned in the SDEIS but not budgeted, and/or raised by citizens but ignored. It is likely the public should anticipate a financial obligation of closer to \$500,000,000 than \$282,000,000 for the KDRPP-FPP.

In summary, the budget presentation is inadequate, misleading, incomplete, and systematically biased to undervaluation. We request that all budget materials be revised to provide numerical values for all estimates and high/low ranges, that all mitigation costs be calculated and included in the budget, and that this be presented in a subsequent SDEIS that will allow people to review and comment before a Final EIS and/or ROD is released.

- 17) **Accurate view of exposed shoreline Chapter 2, Section 2.10** Regarding depiction of Lake Kachess after drawdown of 80 ft. The SDEIS (Page 2-66) indicates the 80 ft. drawdown will expose 628 acres of shoreline. In no place is this accurately depicted. What profiles are shown continue to show water in the areas that would become mud or silt. An “imposed line” on the water conceals the true impact of 628 acres of exposure. We ask that an accurately scaled map be provided that depicts exposed shoreline in an accurate fashion, neither as “thatched”, “outlined water” or other techniques, but as mud or silt consistent with aerial pictures. An additional note; residents know the current drawdown exposes several large islands, and the drawdown will expand and increase the number of such exposures. It is inaccurate and deceptive to portray the drawdown without the exposure of the mud and silt islands. Please correct this misrepresentation.

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18) **Fish Passage** The Yakima Plan envisions seven components for improvements in the Yakima River basin. The SDEIS ignores two very relevant ones: Reservoir Fish Passage and Enhanced Water Conservation. The initial DEIS in 2015 recognized that anadromous fish (salmon) were present in natural glacial lakes Keechelus and Kachess prior to construction of irrigation control structures, dams and spillways, in the early twentieth century. Why aren't there any plans for enhanced fish passage at either Lake Kachess or Lake Keechelus included in either the DEIS or the SDEIS?

When Fish Passage is finally provided for Lake Kachess and the inactive storage water is pumped out, lowering the lake level behind the dam, how will the migrating salmon coming up the fish passage get down to the lower lake level?

19) **Bull Trout Chapter 2, Section 2.10 and elsewhere in the SDEIS** The Bull Trout Volitional Passage project is described on Page 2-67, Table 2.9. The "steep slope conditions" between Big Kachess Lake and Little Kachess Lake will occur when the water level is approximately 2,208 elevation and the pumping operation begins. These "steep slope" conditions will occur an additional 6,225 days if KDRPP-FPP is installed, this will mean 34 additional years (out of 90 modeled), and an average of 183 days a year, when Bull Trout Passage will be completely dependent on the Volitional Passage.

In some years (e.g., conditions such as occurred between 2001 – 2008) the pump...and therefore the channel...will be in continuous operation. Eight years of steep slope conditions, requiring 8 years of Bull Trout dependence on the volitional passage, represents 2-3 spawning cycles. ***In other words, the entire population of Lake Kachess Bull Trout will be destroyed if the volitional passage is not effective.*** No evidence is provided that the volitional passage is effective, has been demonstrated in other Bull Trout population support activities, has completed a "proof of concept" test, or is in any way assured to be successful to preventing destruction of the Lake Kachess Bull Trout population. Also, because the volitional passage is not included in the budget costs, it cannot be assumed to be part of the project going forward. Another concern is the lack of water flowing into tributaries of Little Kachess Lake, which will be the water needed to charge the volitional passage. The SDEIS states the tributary water disappears at the end of the year...when the water will be needed in the passage. There is no description of the length of the passage (the length and southern outlet are never described in text, numeric, or schematic terms).

Finally, the Bull Trout find their way to spawning tributary by a complex but not-well-understood physiology of chemo and geo receptors. This returns them to the spawning tributary, and eventually spawning bed, where they started life. Creating a volitional passage means the Bull Trout will have to find an artificial tributary that did not exist when they were young and locate it several miles from where the "narrows" and "steep shelf" originated their life cycle.

For all of these reasons, the public demands more than a "conceptual design" of the volitional passage. This mitigation must be described in ways that make sure sufficient water will be available to charge the passage, the length, slope, and other characteristics of the passage will

not deter Bull Trout passage, the returning redds will be able to find the entry point of the volitional passage, and the passageway to Box Creek will be maintained. The current plastic and straw bale approach is inadequate and has led to further declines of the population.

We ask that the volitional passage design and operation be updated to address all of these concerns, and that the revised design be available to citizens for review and comment in a subsequent SDEIS, prior to any Final EIS or ROD.

Also, the Bull Trout Enhancement plan seems to allow killing the population in Kachess (dredging a channel between big and little Kachess but ignoring the side stream Box Creek where the trout actually are) but mitigating with improved populations elsewhere. P1-13 notes “While bull trout enhancement was included in the DEIS, specific BTE projects are not included in the Proposed Action, therefore not carried forward as part of this SDEIS.” What fraction of the resident endangered Bull Trout population in Lake Kachess is estimated will be killed under the proposed alternative and all the active alternatives? What fraction of loss is allowable under law and the EPA? How will the active alternatives and the proposed alternative meet these legal requirements?

20) **USFWS BiOp** It is known that the USFWS is conducting a Biological Opinion on the existing Yakima watershed with respect to the current operation of existing dams and irrigation districts. That BiOp is not expected to be published until sometime in the fall of 2018. We request that another SDEIS be produced after said BiOp is published as it could impact the entire watershed including the necessity for the projects named in the current SDEIS for Kachess.

21) **Increased forest vulnerability and Fire Hazard.** The vegetation and wetlands (Page 2-70) and densely forested watershed (Page 3-98) will, according to the SDEIS suffer with reduced water levels in Lake Kachess. This will mean stressed trees and other foliage in a single drought year, and in multiple years of pump operation dead trees due to lack of water and insect vulnerability. The Snoqualmie Pass Fire and Rescue agency has the primary responsibility for fire and emergency medical services in the Lake Kachess and Lake Keechelus areas. This state agency has repeatedly raised concerns about increased risk due to wildfires, reduced capacity to suppress fires (due to lowering of the lake and removal of a source of water for firefighting), the increased incidence of accidents and injuries due to construction activity, and need for public education and communication strategies necessitated by KDRPP and KKC projects. Despite numerous and repeated expressions of concern and requests to meet with the responsible Fire Departments, the BoR has ignored and rejected these requests. This is a clear violation of the NEPA/SEPA process and renders the current SDEIS incomplete and unacceptable. We demand that as part of the NEPA/SEPA process for Lake Keechelus/Lake Kachess project proposals, BoR and other affiliated entities engage leadership of the Snoqualmie Pass Fire and Rescue agency and work together to develop a mutually acceptable plan for mitigating the previously stated concerns. We ask this plan be developed and included in a subsequent SDEIS, distributed to all stakeholders, and submitted for public comment prior to any Final EIS or ROD.

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22) **Impact to private property** The SDEIS consistently under-represents the impact on private residences and property owners. Page 3-155 refers to “several private parcels and homes or cabins” that will be affected, but a better description would be “substantial numbers of private residences...etc.” Lake Kachess Village HOA has 162 homesites, East Kachess HOA has 70 homesites, Kachess Ridge has approximately 80 homesites, and East Kachess Ride another 20-30, plus numerous unaffiliated residences in the area. This easily numbers 300 homesites, far more than would be inferred from the term “several.” The systematic bias against representing impact on private citizens is displayed on page 4-23, when it excludes any homesite farther than 0.1 mile from shoreline from negative impact by drawdown of the lake. We ask for an accurate description, in numerical terms, of individuals and homesites affected by the Lake Kachess drawdown. As a minimum, this would include all homesites on Kachess Lake Road, Via Kachess Road, the Kachess Dam and eastern shoreline road, and private residences within 5.0 miles of the shoreline.

23) **Impact to private property** BoR commissioned a study by Dean Potter LLC, a real estate appraisal firm, to determine the negative impact on private properties resulting from the pumping drawdown. This study showed a negative impact of 5-10%, but even this was an under-estimate. The Potter study imposed a primary screening criterion that the only value a lake had, was the view it provided to a homesite. This eliminated 85% of the homesites in the immediate area of the lake, even though the residents had chosen their homes because of access to the lake. The Potter LLC study claimed that even though the lake could become inaccessible for years at a time, people who lived there to enjoy boating, fishing, hiking, picnicking, and other water-related activities, wouldn’t notice the lake had disappeared. The only ones who would be adversely affected would be those people with a view...but not just any view, an “unfiltered view” (no description of what this might mean). Even this was perverted, to say only people with unfiltered views within 0.1 mile of the lake would be affected. The study actually claimed that a view of a full lake within 0.1 miles, and a view of the drawn down lake more than 0.1 miles away, would be equivalent. There is no precedent for such exclusionary criteria, and there is no justification using standard methods of appraisal. The entire exercise is a transparent effort to minimize any negative impact. Even so, a 5-10% negative on impacted properties was reported.

Even though the BoR commissioned this study, and even though the study went to extraordinary lengths to minimize impact, the BoR declared in the SDEIS there was “no way to reliably assign or assess impacts...” The only analysis reported was that conducted by Dean Potter LLC, it used flawed methods that were biased to under-reporting of negative impacts on private property values, but it still reported significant (5-10%) negative impacts. Yet strangely, even these were rejected, without providing any data to support the rejection.

Lake Kachess homeowners have repeatedly requested to be involved in designing a valid and reliable study of the negative impacts on property values of proposed alternatives. BoR has ignored and rejected all requests, and instead contracted for a study that (although flawed by its obvious intent to minimize findings of damage) still showed significant damage to private property caused by the 80 ft. drawdown. Despite overwhelming evidence to the contrary...and their own analysis...BoR now claims the study they just completed, in fact can’t be done!

The implications of negative impact on private property values go beyond the affected citizens. A reduction in property values affects the tax base of the county and fire departments, and will reduce available resources to provide essential services. This is acknowledged in SDEIS Page 4-326 as follows: “*while effects on property values would most directly affect property owners, the wider community would also experience effects.*” In other words, private property owners, fire departments, city and county governments, and others would also be negatively impacted.

It is unacceptable to ignore and misrepresent the obvious reality that drawdown of Lake Kachess will have substantial negative impact on property owners and the wider community. We demand that the BoR engage the Lake Kachess community in designing and conducting a valid and reliable study of negative impact on private property values. This study should be conducted by an independent and non-conflicted expert with the results peer-reviewed according to standard practice. This study must be conducted and distributed in a subsequent SDEIS, with the public provided an opportunity to comment before a Final EIS or ROD is issued.

- 24) **Impact on Senior Water Rights** How will those with senior water rights to the existing 239,000 acre-ft of water currently stored by Kachess Dam be mitigated when that water is no longer available once Lake Kachess water level is lowered below the outlet to its dam? Who will pay to provide senior water rights holders with the water they have a right to? How will it affect the senior water rights holders’ own farming operations and/or enjoyment of their property? We request further studies about this and communication to those senior water rights holders of possible impacts to them by the SDEIS active alternatives. Then another public comment period be opened for their comments.
- 25) **Drought Definition** Who will define the 70% of prorated water? What unbiased, independent, non-irrigation-district expert or organization will make that determination? Page 2-6 of the SDEIS says, “Project proponents would use the pumping plant during drought years and could possibly use it in following years as the reservoir refills to a level above the existing gravity outlet.” Does this mean the definition of when the pumps could be used has changed from the prior definition of drought (less than 70% of prorated water expected to be available)? Why would the pump be used in following years “as the reservoir refills to a level above the existing gravity outlet?” Would that not prevent or delay refill?
- 26) **New Water Rights** Table 1-2 on p 1-20 notes that ecology will “issue water rights as necessary.” We’ve been told over and over that no new rights will be generated from this plan. How will new water rights be issued? To whom?
- 27) **Water Conservation and Market Reallocation** Page 1-4 notes that the Yakima Basin Integrated Plan has 7 components, but several are not included in the KDRPP EIS (groundwater storage, water conservation, market reallocation). Define the number of acre-feet saved by water conservation and market reallocation in the whole Yakima watershed.

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- 28) **Noise** Only the preferred alternative has pumps at lake level, exposed to the environment (all others have pumps at the bottom of a shaft). P2-75 notes the maximum permissible environmental noise is 55 dBA. What is the expected noise level in dBA at 100 feet from the pumps? At 1000 feet? Will the pumps be running 24/7 once they start running? 26
- 29) **KKC tunnel material** 115,000 cubic yards of KKC tunnel excavated material comes out on Kachess Lake Road with no mention of where it will be trucked to or the impact of over 5000 truckloads of material being hauled off. Where will the 115,000 cubic yards of KKC tunnel material be deposited? What safety measures and scheduling of hauling equipment will be made during the tunnel construction to insure the safe and customary use of Lake Kachess County Road by campground users and local property owners and guests? 27
- 30) **Turbidity** P2-68 notes all action alternatives will result in localized short-term exceedance of turbidity standard. Define the degree of turbidity exceedance and the effect it will have on native fish populations 28
- 31) **Permanent Habitat Loss** P2-71 notes permanent habitat loss with the preferred alternative. Define the effect of permanent habitat loss on the spotted owl, bull trout, and other endangered / listed species. 29
- 32) **Decreased Recreation Desirability** P2-73 notes decreased recreation desirability and conflict with “established SIL/VOQ” Quantify the economic impact of the decreased recreation desirability. Under what authority are established SIL/VOQ permitted to be violated? 30
- 33) **Purchase of private property** P2-76 notes that the parcels north of the existing beach road on the East side are indeed private and may need to be purchased from their current owners for the boat ramp and parking lot. There is no money in the SDEIS for property purchase. How many lots and at what expected price will be purchased? These additional costs should be included in the SDEIS Alternatives. A revised SDEIS is warranted. 31
- 34) **Water Impairment** P3-29, 3-45: both Keechelus and Kachess are listed as “category 5” water impairment because of PCB contamination. In the 2015 DEIS, only Keechelus was noted to have PCB contamination. Please release the report which also indicates that Kachess has a similar contamination. Would dredging and construction activities not stir up sediment containing PCBs? What increase of PCB levels is expected on the basis of the proposed alternative construction activities? 32
- 35) **Water Filtering** How will the water from Keechelus be moved to Kachess? What kind of filtration system will be installed to prevent any I-90 pollutants in Lake Keechelus from being transferred to Lake Kachess? If any hydraulic equipment is used, how will any PAH be kept from entering Lake Kachess? 33
- 36) **Lake Drainage during construction** The description of the preferred alternative notes that the lake would need to be drained to allow construction (p2-41ff). Describe the mechanics of draining the lake to allow construction. What happens to the excess water, and how is the 34

“flip-flop” flow pattern maintained if the lake is drained early in the season? What is the effect on the Easton reach of the Yakima river spawning?

Because both the NEPA and SEPA process must be followed, we request that the Bureau of Reclamation and WA Department of Ecology each provide separate responses to the above comments.

Please send us a copy of any additional SDEIS, FEIS or Record of Decision that is released.

Thank you for considering and acting on these comments.

Sincerely,

Kachess Community Association  
*Christine Johnson*, President  
Christine@WREServices.com  
40 Mountain View Lane  
Easton, WA 98925

East Kachess Homeowner’s Association  
*Gordon Brandt*, President  
6100 Kachess Dam Road  
Easton WA 98925

Kachess Ridge Maintenance Association  
*Terry Montoya*, President  
terry.montoya@comcast.net  
PO Box 93  
Easton WA 98925

Friends of Bumping Lake  
*Chris Maykut*, President  
chris@friendsofbumpinglake.org

North Cascades Conservation Council  
*Tom Hammond*, President  
[ncccinfo@northcascades.org](mailto:ncccinfo@northcascades.org)

Alpine Lakes Protection Society

*Rick McGuire*, President  
alpinelakes.info@gmail.com

Center for Environmental Law Policy  
(CELP)  
Trish Rolfe, Executor Director,  
trolfe@celp.org  
85 S Washington St., Suite 301  
Seattle, WA 98104

Snoqualmie Pass Fire and Rescue,  
Board of Commissioners  
*William J. Powers*, President  
bpowers@snoqualmiepassfirerescue.org  
1211 State Route 906  
Snoqualmie Pass, Kittitas County, WA  
98068-0099

Yakima Coalition  
Co-Chairs Ann Lewis, Bill Campbell, and  
Chris Maykut  
*Ann Lewis*, roniaspamonia@gmail.com  
86-157<sup>th</sup> Ave SE, Bellevue, WA 98008  
*Bill Campbell*, bill\_campbell@unc.edu  
31 Brookside Ct., Easton, WA 98925  
*Chris Maykut*,  
chris@friendsofbumpinglake.org

Attachments



cc: elected officials