Comment Author	Clark, Jim
Agency/Assoc.	Redwood Region Audubon Society
Submittal Date	November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
AO_WI_1117_031-1	Master Response Gen-2, Some People Support Dam Removal and Others Oppose Dam Removal	No
AO_WI_1117_031-2	The KHSA and KBRA were developed to advance the restoration of salmonids in the Klamath Basin by restoring habitat access and quality. In broad terms, the KHSA speaks to removal of hydroelectric dams on the Klamath River; the KBRA speaks to the settlement of long-running disputes concerning the use of Klamath Basin water for irrigation, fish, and wildlife. The central issue in both agreements is removal of the lower four Klamath River hydroelectric dams. Section 3.3.4.3 of the EIS/EIR addresses the likely impacts of each alternative on aquatic habitat and various fish species. Additionally, expert panels were convened specifically to address the effect of dam removal on fish and aquatic habitats. Master Response AQU-6 Expert Panel Coho, Steelhead and Chinook. Master Response AQU–7 Expert Panel Uncertainty Likelihood of Success. Master Response AQU-23 Evaluation of Dam Removal and Restoration and Anadromy (EDRRA) Model. Master Response GEN-3 Best Available Science. The EIS/EIR concludes that the Proposed Action would benefit Essential Fish Habitat (EFH) for coho and Chinook salmon after the initial impact of sediment from reservoir drawdown. As a result of habitat access and quality improvements over time, the Proposed Action is expected to benefit steelhead, coho and Chinook salmon (EIS/EIR Section 3.3.4.3). Master Response GEN-3 Best Available Science.	No
AO_WI_1117_031-3	The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. The KBRA provides for an allocation of water to the refuges. Water required for lease land farming does not count against the Refuge Allocation (KBRA Section 15.1.2.D.i). See Klamathrestoration.gov for a copy of the KBRA. The Draft EIS/EIR addresses the issue of runoff from agriculture in the Upper Klamath basin through inclusion of the Klamath River TMDLs as part of the set of reasonably foreseeable future actions that would be implemented under the Proposed Action and the other alternatives. Section 3.2.4.3.2.10 KBRA (pages 3.2-125 to	No

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	3.2-132) presents a programmatic analysis of potential KBRA effects on water quality under the Proposed Action including wetland-related and water supply projects that would also affect nutrients in the Upper Klamath Basin. Resource management actions implemented under KBRA as part of the Proposed Action would accelerate long-term improvements in water quality anticipated from the TMDLs. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR.	
AO_WI_1117_031-4	The states of CA and OR have developed TMDLs for the Klamath river in accordance with the Clean Water Act, and California Water Code Division 7, Chapter 4 Article 3 and OAR Chapter 340, Division 42, respectively. Section 3.2 of the Draft EIS/EIR, Water Quality, describes the TMDLs in detail. The TMDLs will remain in effect following the transfer of ownership of Keno Dam. Although the transfer of ownership of Keno Dam is not intended to improve water quality, the Fisheries Restoration Plan (FRP) of the KBRA specifies that it will include, but may not be limited to, water quality improvements, permanent protection of riparian vegetation, measures to prevent and control excessive sediment inputs, and remediation of fish passage problems, among others. The Phase I Plan of the FRP will address management and reduction of organic and nutrient loads in and above Keno Impoundment/Lake Ewauna and in the Klamath River downstream (KBRA Section 10.1.2). Prior to the measures taking effect, and until they result in water quality in Keno Impoundment being adequate for fish, anadromous fish will be trapped below Keno dam and transported above Keno dam to avoid the area of impaired water quality.	No
AO_WI_1117_031-5	Concern #1: “The Draft EIS/EIR fails to adequately address the impact of Upper Klamath Lake water quality to post dam removal water quality.” Master Response WQ-5 Upper Basin Geology and Land Use Implications for Water Quality Master Response WQ-4 Hydroelectric Project Impacts to Water Quality & Anticipated KHSA/KBRA Improvements. Concern #2: “Under the KBRA/KHSA, Upper Klamath Lake would continue to be used as a reservoir for storage of water for distribution to irrigators and the downstream Klamath River. Increased capacity based on re-flooding subsided former marshes (Williamson River Delta) is part of this plan.” Also part of Concern #2: “Management of functional marshes around Upper Klamath	No

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	Lake that formerly stabilized nutrients and controlled algae will require nearly continuous hydraulic connectivity with the lake which, due to subsidence of former pastureland, will require a lower lake level with limited level fluctuation. This may result in less storage capacity, not more, and generate a conflict between water quality and quantity." Draft EIS/EIR Section 3.2.4.3.2.10 KBRA (pages 3.2-125 to 3.2-132) presents a programmatic analysis of potential KBRA effects on water quality including wetland-related projects such as the Wood River Wetland Restoration Project. Under KBRA, wetland restoration projects are included along with water supply projects like the Water Diversion Limitations program, the WURP, and the Interim Flow and Lake Level Program (see also Section 3.8.4.3, pages 3.8-18 to 3.8-24), to address the challenges inherent in balancing environmental and agricultural needs for water in the Upper Klamath Basin. The Williamson River Delta Project is considered under the No Action/No project Alternative (see Section 3.2.4.3.1, pages 3.2-47 to 3.2-76). Underway since 2007, this project, along with the Agency Lake and Barnes Ranches Project, is intended to restore wetlands for endangered fish species and improve water quality in Upper Klamath Lake.	
AO_WI_1117_031-6	Concern #1: The Draft EIS/EIR fails to adequately evaluate the effect of the dam impoundments on nutrient conversion. Although the toxic algae in the lower impoundments would be reduced or eliminated by dam removal, the algal role in nutrient conversion of this alga has not been quantified. Response #1: Existing data and analyses summarized in Draft EIS/EIR Section 3.2.3.4 Nutrients (pages 3.2-24 to 3.2-26) and (Appendix) Section C.3 (pages C-19 to C-34) indicate that on an annual basis the reservoirs at the Four Facilities intercept and retain phosphorus and nitrogen. However, on a seasonal basis, phosphorus and, to a lesser degree, nitrogen can be released from reservoir sediments during periods of algal decomposition and seasonal hypolimnetic anoxia in the reservoirs. While the nutrient release does not always occur at seasonally problematic times, in many years total phosphorus concentrations during August through October have been observed to be higher downstream of Iron Gate Dam than upstream of Copco 1 Reservoir corresponding to peak in-reservoir algal blooms and indicating that some release of nutrients can occur at times that downstream periphyton growth may be stimulated (see Draft EIS/EIR, Appendix C, p.C-28). As detailed in Section 3.2.4.3.2.3 (see pages 3.2-100 to 3.2-104), under the Proposed Action nitrogen and phosphorus would no longer be trapped by the dams. This would result in very small annual increases in total	No

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	phosphorus and relatively larger annual increases in total nitrogen in the Klamath River immediately downstream of Iron Gate Dam. The anticipated increases in nutrients would diminish with distance downstream. Concern #2: What threats to fish and wildlife, if any, to these nutrients pose down river during low flows? Response #2: Nutrients alone do not pose a threat to aquatic organisms or wildlife. Rather, how nutrients are processed by primary producers (i.e., algae) in the river and the related impacts on other water quality indicators (i.e., dissolved oxygen, pH) that are important to wildlife. Despite the overall increase in nutrients under the Proposed Action, it is not anticipated that productivity (i.e., periphyton growth) in the river downstream of the Project dams would be substantially affected. Dissolved oxygen and pH would also not be substantially affected such that they would not support fish and wildlife health and designated beneficial uses. Therefore, the increase in nutrients under the Proposed Action would be a less-than-significant effect. Concern #3: Polluted water from this river system dams are adversely affecting fish and wildlife along the river. Polluted water from the Klamath Basin has both direct and indirect effect on wildlife in our area and thus both direct and indirect effect on coastal economies. Response #3: Draft EIS/EIR Section 3.2.2.3 Water Quality Impairments (see pages 3.2-13 to 3.2-14) addresses Klamath River water bodies and their water quality impaired status with both states (California, Oregon) and United States Environmental Protection Agency (USEPA). Section 303(d) of the Clean Water Act requires states to identify water bodies that do not meet water quality objectives and are not supporting their designated beneficial uses, including fish and wildlife beneficial uses for freshwater, estuarine, and marine environments (i.e., including coastal habitats). Section 3.2.2.4 Total Maximum Daily Loads (TMDLs) summarizes why Klamath TMDLs must be developed and implemented and provides a brief summary of the nine Klamath Basin TMDLs. Master Responses WQ-4B, C, D Hydroelectric Project Impacts to Water Quality & Anticipated KHSA/KBRA Improvements.	
AO_WI_1117_031-7	The Draft EIS/EIR fails to adequately evaluate the current effects of the dams and likely effect of their removal to near shore ocean waters and coastal wildlife. Salmonids returning to the Pacific Ocean provide food for coastal seabirds such as cormorants,	Yes

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	murres, and osprey. Bald eagles used to be much more common along the coast. Since the dams were built we have witnessed a decline of over 6000 jobs in the fishing industry in cities along the coast of Mendocino, Humboldt, and Del Norte counties of California and Curry County, Oregon. Recently, many dead common murres have washed up along our beaches. Some of this die-off is caused by red-tide, a harmful algal bloom. Healthy, well-fed birds have more resistance to the organisms causing red-tide. Master Response TERR-1 Terrestrial Benefits of Restoring Salmon Passage. It is difficult to quantify the effects the dams currently have on coastal seabird populations. It is also difficult to quantitatively model, and beyond the scope of this EIR/EIS to analyze, the positive effects that salmonid population improvements from dam removal would have on coastal seabird species. It is assumed that improvements to salmonid populations from dam removal, as describe in EIS/EIR Section 3.3, will be beneficial to near-shore and pelagic seabird populations. The effects of dam removal on the near shore environment are discussed in EIS/EIR Sections 3.2 for water quality, 3.3 for aquatic resources, 3.4 for algae, and 3.5 for terrestrial resources such as birds. EIS/EIR Section 3.15 discusses the Proposed Action's impact on fishing-related jobs.	
AO_WI_1117_031-8	Master Response TERR-1 Terrestrial Benefits of Restoring Salmon Passage.	Yes

AO_LT_1230_061

REDWOOD REGION AUDUBON SOCIETY

P.O. BOX 1054, EUREKA, CALIFORNIA 95502

December 27, 2011

Ms. Elizabeth Vasquez
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

27 December 2011

Duplicate of AO_WI_1117_031

The Redwood Region Audubon Society (RRAS) is in favor of total removal Iron Gate, Copco 2, Copco 1 and J. C. Boyle dams from the Klamath River (Alternative 2). We further find the DEIS/DEIR does not adequately address the probabilities that anadromous fish passage, spawning and riparian wildlife habitat would be significantly improved by dam removal under the Klamath Hydroelectric Settlement Agreement (KHSA) and linked Klamath Basin Restoration Agreement (KBRA). The KBRA and KHSA were not subjected to a ~~NEPA or~~ CEQA process and therefore may be illegal additions to this document. Although there are many unresolved issues in the KBRA/KHSA, we have confined our comments to issues that relate to the effectiveness of dam removal on water quality and its effect on fish and wildlife.

The Klamath Basin is a National Audubon Society Important Bird Area (IBA) and a candidate Western Hemisphere Shorebird Reserve Network (WHSRN) site of international significance. Over 75% of the birds on the Pacific Flyway migrate through the Klamath Basin each year. Health of these populations of birds depend upon healthy conditions at stopover points auch as the Klamath Basin as well as in their breeding grounds and wintering grounds. All three areas are critical links in population viability. Some estimates put the population of waterfowl migrating through this area at over 7 million birds.

Our findings are based on the uncertainty of water quality improvements under KBRA/KHSA and an unaddressed potential conflict between water quality and quantity that has a potentially profound effect on birds, as follows:

1. The DEIS/DEIR Fails to adequately assess the impact of lease land farming on the Tule Lake National Wildlife Refuge to water quality goals after dam removal.

In Table ES-7. Summaries of controversies and Issues Raised by Agencies and the Public states "Runoff from agriculture and refuges results in poor water quality in Keno Reservoir and in the mainstem Klamath River. This causes fish stress, disease and mortality. Continued farming and ranching in the Tule Lake National Wildlife Refuge and Lower Klamath Lake National Wildlife Refuge under the KBRA would inhibit fish species reintroduction and survival."

SCANNED

Under the KBRA, which would be in effect after dam removal, lease land farming on the Tule Lake Refuge, and its associated water quality degradation, would continue for fifty years. The Tule Lake Refuge has the potential and should be considered a vital component of improving Klamath River water quality, not degrading it.

The DEIS/DEIR, in compliance with the Clean Water Act, must consider pesticide and nutrient contamination contributed by lease land farming on Tule Lake National Wildlife Refuge as a factor in post dam removal water quality.

2. The DEIS/DEIR fails to adequately assess the impact of the Keno Dam impoundment to water quality goals after dam removal.

Table ES-7 also states "Low levels of dissolved oxygen and high water temperatures during certain times of year would prohibit passage of fish through the Keno impoundment and Upper Klamath Lake."

Under the KBRA/KHSA Keno Dam would be turned over to the Department of Interior for management. No explanation or plan is provided for, or if water quality improvement would occur under federal management. In order for commenting agencies and the public to understand the water quality impacts of the Keno Dam a more precise explanation than "certain times of the year" should be provided.

3. The DEIS/DEIR fails to adequately address the impact of Upper Klamath Lake water quality to post dam removal water quality in the Klamath River downstream of the dams.

Under the KBRA/KHSA, Upper Klamath Lake would continue to be used as a reservoir for storage of water for distribution to irrigators and the downstream Klamath River. Increased capacity based on re-flooding subsided former marshes (Williamson River Delta) is part of this plan. Before alterations to enable agriculture, over a century ago, the upper Klamath Lake marshes provided treatment for the naturally occurring high phosphorous level water flowing into the lake through volcanic rock and soil. Converting the marshes to pasture resulted in three negative effects:

a. Drastic reduction of phosphate removal and nutrient stabilization,
b. Addition of nutrient rich runoff from agriculture,
c. Significant removal of marsh bird habitat.

As a result, Upper Klamath Lake is hypereutrophic with high levels of algae and nutrients and low levels of dissolved oxygen that cannot sustain fish and other aquatic life upon which birds depend.

Management of functional marshes around Upper Klamath Lake that formerly stabilized nutrients and controlled algae will require nearly continuous hydraulic connectivity with the lake which, due to subsidence of former pastureland, will require a lower lake level with limited level fluctuation. This may result in less storage capacity, not more, and generate a conflict between water quality and quantity.

4. The DEIS/DEIR fails to adequately evaluate the effect of the dam impoundments on nutrient conversion. Although the toxic algae in the lower impoundments would be reduced or eliminated by dam removal, the algal role in nutrient conversion has not been quantified. What threats to fish and wildlife, if any, do these nutrients pose down river during low flows?

Polluted water from this river system's dams is adversely affecting fish and wildlife along the river. Polluted water from the Klamath Basin has both direct and indirect effects on wildlife in our area and thus both direct and indirect effect on coastal economies.

5. The DEIS/DEIR fails to adequately evaluate the current effects of the dams and likely effect of their removal to nearshore ocean waters and coastal wildlife. Salmonids returning to the

Pacific Ocean provide food for coastal seabirds such as cormorants, murres, and osprey. Bald eagles used to be much more common along the coast. Since the dams were built we have witnessed a decline of over 6000 jobs in the fishing industry in cities along the coast of Mendocino, Humboldt, and Del Norte counties of California and Curry County, Oregon. Recently, many dead common murres have washed up along our beaches. Some of this die-off is caused by red-tide, a harmful algal bloom. Healthy, well-fed birds have more resistance to the organisms causing red-tide.

6. The DEIS/DEIR does not adequately address the current effects of the dams and likely effect of their removal on the river corridor. Carcasses of spawned out salmonids provide a rich protein source for wildlife along the river. Raccoons, bears, river otters, even mice and shrews are among the mammals that feed on spawned out fish. Ospreys, Bald eagles, herons, egrets, and kingfishers are among the birds that benefit directly on fish in our rivers. These mammals and birds move upland to feed their young where their droppings nourish our forests.

7. The KBRA and KHSA were not subjected to a NEPA or CEQA process and therefore may be illegal adherents to this DEIR/DEIS.

Comment 1 - NEPA/CEQA

8. Birds mentioned in Appendix I is a mishmash of local interest birds and concern species from old lists. Some locally extinct species such as Sharp-tailed Grouse probably should not be mentioned unless a reintroduction in being proposed. Terms used in the Status block should be defined in the appendix. Taxonomic order is not correct. We have included in an attachment a spreadsheet in current taxonomic order with some additions from Audubon Important Bird Areas. We are alarmed that this area has not been designated as a Western Hemisphere Shorebird Reserve Network site, though that is not a concern of this DEIR/DEIS. Authors of this section should look at eBird.com for additional bird effort in the area. Klamath Bird Observatory headquartered in Ashland, Oregon, has been coordinating avian research in this region for over a decade and in conjunction with US Forest Service Redwood Sciences has published many scientific papers about the Klamath Trinity River System.

Comment 2 - Terrestrial

Comment 3 - Water Quality

Conclusion

Dam removal will only be effective if water quality going into the middle reach of the Klamath is of good quality. Otherwise, fish killing conditions might only be moved upstream and downstream from the dam removal locations. The Draft EIS/EIR does not adequately address the impacts of water quality on birds and other wildlife.

Redwood Region Audubon Society represents about 900 families in Humboldt, Del Norte, western Siskiyou, western Trinity, and northern Mendocino counties in California. Our mission is to protect wildlife habitat and provide information to people in the communities we serve.

Respectfully yours,

/s/ Jim Clark
President, Redwood Region Audubon Society

/s/ Chet Ogan
Conservation Chair, Redwood Region Audubon Society

A MEMBER OF THE NATIONAL AUDUBON SOCIETY

Bird species listed in DEIR/DEIS and IBA listed species

Species	Scientific Name	Status	DEIR/DEIS	CSSC 2008 Calif Spp of concern	KlamathBasin /Clear Lake IBA	Modoc Plateau IBA	Seiad Valley IBA	Comments
Redhead	Aythya americana	CSSC		X	X	X		
Harlequin Duck	Histrionicus histrionicus	FSC, SU, ONHP List 2, old CSSC	X					
Bufflehead	Bucephala albeola	BLM, SU, ONHP LIST 4	X					
Barrow's Goldeneye	Bucephala islandica	SU, ONHP List 4, old CSSC	X					
Western Greater Sage- Grouse	Centrocercus urophasianus phaios	FSC, SV, ONHP List 1, CSSC	X	X	X	X		
Columbian sharp-tailed grouse	tympanuchus phasianellus columbianus	FSC, ONHP List 1, old CSSC	X					Probably locally extinct in project area
Mountain Quail	Oreortyx pictus	FSC, BLM, SU, ONHP List 4,	X					
Common Loon	Gavia immer	FSC, old CSSC	X					
Horned Grebe	Podiceps auritus	BLM, SP, ONHP List 2	X					
Red-necked Grebe	Podiceps grisegena	SC, ONHP List 2	X					
Double-crested Cormorant	Phalacocorax auritus	CDFG Nesting colony protection	X					
American White Pelican	Pelecanus erythorhynchos	BLM,SV, ONHP List 2, old CSSC	X	X	X			
Least Bittern	Ixobrychus exilis hesperis	FSC, BLM, SP, ONHP List 2, old CSSC	X	X	X			
Great Blue Heron	Ardea herodius	CDFG Nesting colony protection	X					
Snowy Egret	Egretta thula	BLM, SV, ONHP List 2	X					
Great Egret	CDFG Nesting colony protection	BLM	X					
Black-crowned Night-heron	Nycticorax nycticorax	FSC	X					
White-faced Ibis	Plegadis chihi	FSC, BLM, ONHP List 4, old CSSC	X		X			
Osprey	Pandion haliaetus	old CSSC	X					
Golden Eagle	Aquila chrysaetos	old CSSC, FT	X		X	X	X	
Bald Eagle	Haliaeetus leucocephalus	FD, OT, ONHP List 4, CE	X		X	X	X	
Northen Harrier	Circus cyaneus	old CSSC	X					
Sharp-shinned Hawk	Accipiter striatus	old CSSC	X					
Cooper's Hawk	Accipiter cooperii	old CSSC	X					
Northern Goshawk	Accipiter gentilis	FSC, BLM, CC, SC, ONHP List 4, old CSSC	X	X		X	X	

Swainson's Hawk	Buteo swansoni	FSC, BLM, SV, ONHP List 2, old CSSC	X		X		
Ferruginous Hawk	Buteo regalis	FSC, BLM, SC, ONHP List 2, old CSSC	X		X		
Merlin	Falco columbarius	BLM, ONHP List 2, oldCSSC	X				
Prairie Falcon	Falco mexicanus	old CSSC	X		X	X	
American Peregrine Falcon	Falco peregrinus anatum	FD, BLM, CC, OE, ONHP List 2, CE, FP	X		X	X	X
Yellow Rail (breeding)	Coturnicops pictus	FSC, BLM, SC, ONHP List 2, CSSC	X	X			
Greater Sandhill Crane	Grus canadensis tabida	FSC, BLM, SV, ONHP, List 4, CT, FP	X		X	X	
Snowy Plover (Interior)	Charadrius alexandrines nivosus	FT, OT, ONHP List 1, CSSC	X	X			
Upland Sandpiper	Bartramia longicauda	FSC, SC, ONHP List 2	X				
Long-billed Curlew	Numerius americanus	FSC, CC, SC, ONHP List 4, old CSSC				X	
Black Tern	Clidonius niger	FSC, BLM, ONHP List 4, CSSC	X	X	X	X	
Forster's Tern	Sterna forsteri	BLM, ONHP List 4	X				
Caspian Tern	Sterna caspia	CC	X				
Western Yellow-billed Cuckoo	Coccyzus americanus occidentalis	FC, CC, SC, ONHP List 2, CE	X				
Long-eared Owl	Asio otus	CSSC	X	X			
Short-eared Owl	Asio flamneus	FSC, CSSC	X	X	X		
Northern Spotted Owl	Strix occidentalis caurina	FT, OT, ONHP List 1	X			X	
Flammulated Owl	Otus flammeolus	BLM, CC, SC, ONHP List 4	X				
Western Burrowing Owl	Athene cunicularia hypugaea	FSC, SC, ONHP List 2, CSSC	X	X			
Black Swift	Cypseloides niger	SP, ONHP List 2, CSSC	X	X			
Vaux's Swift	Chaetura vauxi	CSSC	X	X		X	
Acorn Woodpecker	Melanerpes formicivorus	FSC, BLM, ONHP List 4	X				
Lewis' Woodpecker	Melanerpes lewis	FSC, BLM, CC, SC, ONHP List 2	X				
Williamson's Sapsucker	Sphyrapiicus thryoideus	BLM, SU	X				
White-headed Woodpecker	Picoides albolarvatus	FSC, BLM, CC, SC, ONHP List 2	X				
Black-backed Woodpecker	Picoides arcticus	BLM, SC, ONHP List 4	X	to be added to CSSC			
Three-toed Woodpecker	Picoides tridactylus	BLM, SC, ONHP List 4	X				
Pileated Woodpecker	Dryocopus pileatus	FSC, BLM, CC, SC, ONHP List 2	X				

Olive-sided Flycatcher	Contopus cooperi	FSC, BLM, CC, SV, ONHP List 4	X	X		
Willow Flycatcher	Empidonax traillii	FSC, BLM, CC, SV, ONHP List 4, CE	X			X
Black Phoebe	Sayornis nigricans	BLM	X			
Loggerhead Shrike	Lanius ludovicianus	ONHP List 4, CSSC	X	X	X	X
Pinyon Jay	Gymnorhinus cyanocephalus	BLM				
Purple Martin	Progne subis	FSC, BLM, SC, ONHP List 2, CSSC	X	X		X
Bank Swallow	Riparia riparia	FSC, BLM, SU, ONHP List 4, CT	X		X	
Black-capped chickadee	Parus atricapillus	old CSSC				
Pygmy Nuthatch	Sitta pygmea	BLM, SV	X			
Blue-gray Gnatcatcher	Polioptila caerulea	BLM	X			
Western Bluebird	Sialia mexicana	BLM, SV, ONHP List4	X			
California Swainson's Thrush	Catharus ustulatus	IBA Listed				X
Yellow Warbler	Setophaga petechia	CSSC	X	X	X	X
Yellow-breasted Chat	Icteria virens	FSC, BLM, ONHP List 4, CSSC	X	X		X
Black-throated Sparrow	Amphispiza bilineata	BLM,SP, ONHP List 2	X			
Tricolored Blackbird	Agelaius tricolor	FSC, BLM, SP, ONHP List 2, CSSC	X	X	X	
Yellow-headed Blackbird	Xanthocephalus xanthocephalus	CSSC, IBA		X	X	X

Comment Author	Clark, Jim
Agency/Assoc.	Redwood Region Audubon Society
Submittal Date	December 30, 2011

Portions of this letter are verbatim duplicates of comments submitted in the comment author's submittal coded - AO_WI_1117_031. Responses to those initial comments that were duplicated in this letter are presented in this EIS/EIR alongside AO_WI_1117_031. Responses to comments provided in this letter that were not also submitted as a part of AO_WI_1117_031 are listed below.

Comment Code	Comment Response	Change in EIS/EIR
AO_LT_1230_061-1	Although the comment is somewhat unclear, the commenter seems to assert that by signing the KHSA and the KBRA, the lead agencies did not comply with CEQA and NEPA. Under CEQA, a public agency must prepare an EIR on any project the agency proposes to "carry out or approve" if that project may have significant environmental effects (Pub. Resources Code section 21100, subd. (a), 21151, subd. (a).) CEQA applies only to discretionary government activities that qualify as "projects." "Projects" are defined by CEQA to mean the whole of the action which has the potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines section 15378). The signing of the KHSA and KBRA documents themselves did not have significant environmental effects. In addition, the KHSA contemplated that environmental compliance would be completed by the Lead Agencies (KHSA, section 3.2.5.)	No
AO_LT_1230_061-2	Appendix I is a list of Special Status Species that could potentially occur in the project area. The list came from various sources, including PacifiCorp, California National Diversity Database (CNDDB), Oregon Biodiversity Information Center (ORBIC), the Fish and Wildlife Service Birds of Conservation Concern, 2008, and the Klamath Bird Observatory records, etc. eBird was not used as a source as this is an observation database and is not an indicator of special status species or what is expected to occur. Changes to the taxonomic order have been made, where necessary. Terms in the Status block are defined at the bottom of Appendix I. The following species have been added to Appendix I: Redhead, California Swainson's thrush, yellow-headed blackbird, eared grebe, marbled godwit, and Brewer's sparrow.	Yes
AO_LT_1230_061-3	Concern #1 Dam removal will only be effective if water quality going into the middle reach of the Klamath is of good quality. Otherwise, fish killing conditions might only be moved upstream and downstream from the dam removal locations. Master Response WQ-4 Hydroelectric Project Impacts to Water Quality & Anticipated KHSA/KBRA Improvements. Master Response WQ-27 Nutrient Retention With Dams, Nutrient Release Without Dams, and Periphyton. Master Response AQU-27 Disease.	No

Comment Author	Clark, Jim
Agency/Assoc.	Redwood Region Audubon Society
Submittal Date	December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
	Concern #2 The Draft EIS/EIR does not adequately address the impacts of water quality on birds and other wildlife. Master Response WQ-23 Dam Removal Water Quality Effects on Terrestrial Species.	

AO_LT_1229_059

WATERWATCH

PROTECTING NATURAL FLOWS IN OREGON RIVERS

December 29, 2011

Ms. Elizabeth Vasquez
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

and by email to: KlamathSD@usbr.gov

Gordon Leppig
California Department of Fish & Game
619 Second Street
Eureka, CA 95501

and by email to: KSDcomments@dfg.ca.gov

RE: WaterWatch Klamath DEIS Comments and Attachment

Dear Ms. Elizabeth Vasquez and Mr. Gordon Leppig:

These comments are submitted in response to the Klamath Facilities Removal Draft Environmental Impact Statement/Environmental Impact Report. WaterWatch is a 501(C)(3) non-profit organization dedicating to protecting and restoring natural streamflows in Oregon rivers. We appreciate this opportunity to comment on the draft environmental impact statement (DEIS).

INTRODUCTION

Comment 1 - Approves of Dam Removal

WaterWatch fully supports the removal of the four lower river mainstem dams on the Klamath River, and believes removal of these facilities will advance restoration of the salmonids fisheries of the Klamath Basin, and is in the public interest. The fish passage, increased habitat, and water quality benefits of facilities removal far outweigh the loss of the small amount of power generated at the dams. There are tremendous short-term job creation and economic benefits from implementing dam removal restoration work, and over the long term a restored Klamath River will continue to deliver important economic benefits to the region annually.

WaterWatch does **not**, however, support the Klamath Basin Restoration Agreement (KBRA) and does **not** support linking the KBRA to the Klamath Hydropower Settlement Agreement (KHSA) or to any other dam removal alternative. In particular, WaterWatch

Comment 2 - NEPA/CEQA

Comment 3 - KBRA

Comment 3 cont.

opposes the KBRA because it contains provisions, subsidies, and special contracts harmful to Klamath Basin National Wildlife Refuges, and undermines Endangered Species Act (ESA) protections to listed fish by requiring regulatory assurances under the ESA to Klamath Irrigation Project irrigators at levels of water use that do not support current ESA required river flows. In addition, the KBRA does not require any minimum flows for fish or set any goals to meet current ESA required flows, either in the KBRA or the drought plan that was developed under the KBRA. WaterWatch's opposition to the KBRA and our concerns with the KHSA are more specifically expressed in the attached WaterWatch Memo of KBRA-KHSA Foundational Concerns. WaterWatch believes that the cost and adverse impacts of the KBRA negate and compromise many of the public benefits that can be achieved from dam removal without the linkage. In fact the linkage may actually delay, limit, and setback salmonid restoration and recovery in the basin. A major flaw in the DEIS is its failure to consider dam removal alternatives that are not linked to the KBRA. In addition, though the proposed action is linked to the KBRA, the DEIS's analysis of the KBRA is incomplete, inadequate, and often inaccurate. In particular, the DEIS is deficient in its failure:

- To analyze dam removal alternatives without the KBRA linkage.
- To analyze other non-KBRA restoration alternatives.
- To adequately analyze the No Action alternative.
- To analyze impacts of the KBRA on the Lost River Basin.
- To adequately analyze the KBRA impacts to Upper Klamath Lake.
- To analyze the costs of the KBRA water subsidies, power subsidies, debt cancellation, special contracts, and refuge leaseland revenue sharing, and their impact on refuge wetlands and management, on water and power use and conservation, on groundwater development, and on springs and river flows.
- To analyze impacts of commercial farming on the refuges and alternative refuge management options.
- To analyze whether current ESA flow requirements can be met at the KBRA Klamath Project water limitation/water guarantee level.
- To analyze an alternative designed to meet current ESA river flow and Upper Klamath Lake level requirements.
- To analyze the ongoing costs of a drought plan.
- To analyze whether the KBRA debt cancellation, new D-plant pumping cost sharing arrangement, and the Bureau of Reclamation's assumption of the cost of Keno Dam and Link River Dam operation are consistent with Reclamation law on cost sharing.

WaterWatch comments below will cover these and other issues in more detail.

INADEQUATE ALTERNATIVES ANALYSIS

According to the DEIS, NEPA requires "Rigorous exploration and objective evaluation of all reasonable alternatives, and for alternatives which were eliminated from study, a

brief discussion of the reasons for their having been eliminated." (Page 2-1) In addition, under 40 C.F.R. § 1502.14(a),(b),(c), the EIS must "rigorously explore and objectively evaluate all reasonable alternatives," and "devote substantial treatment to each alternative . . . so that reviewers may evaluate their comparative merits," including "reasonable alternatives not within the jurisdiction of the lead agency. *See also* 43 CFR 46.420(c) (defining "range of alternatives"). The White House Council on Environmental Quality (CEQ) reminds us that in establishing a reasonable range of alternatives, "the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative." Furthermore, the CEQ adds that "an alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. . . . Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies." *See CEQ NEPA's Forty Most Asked Questions, 1. and 2.*

Comment 4 - Alternatives

Inappropriate Rejection of Alternative 8.

Based on this federal guidance and the legal requirements of NEPA and an EIS, the DEIS is legally insufficient because of its failure to analyze dam removal alternatives that are not linked to the KBRA. The DEIS's basis for dismissal of Alternative 8 from consideration is unfounded and arbitrary:

"Alternative 8 will not be carried forward for more detailed analysis in the EIS/EIR because it does not meet most of the purpose and need/project objectives and would not reduce environmental effects of the Proposed Action. The effects of removing the four dams and related facilities will be fully analyzed under Alternative 2." (Table 2-2, page 2-5)"

The purpose and need is stated as follows:

> The Proposed Action is to remove the four lower PacifiCorp dams on the Klamath River. The need for the Proposed Action is to advance restoration of the salmonid fisheries in the Klamath Basin consistent with the KHSA and the connected KBRA. The purpose is to achieve a free flowing river condition and full volitional fish passage as well as other goals expressed in the KHSA and KBRA. (Page 1-29)

It is difficult to imagine how a reasonably likely Alternative 8 scenario resulting in four lower dam removal does not meet the proposed action of four lower dam removal above. Moreover, if the need includes required consistency with KBRA and KHSA, certainly Alternatives 4 and 5 are inconsistent with these agreements and both of there are just as reasonably likely to occur as Alternative 8. Excluding 8 for this reason is illogical and inappropriate. Also, using a restrictive definition of need should not allow agencies to escape their duties under NEPA. A much more appropriate statement of purpose and need would be:

"The Proposed Action is to remove the four lower PacifiCorp dams on the Klamath River. The need for the Proposed Action is to advance restoration of the salmonid fisheries in the Klamath Basin consistent with *the federal government's responsibilities*

Comment 4 cont.

in respect to the Endangered Species Act, the Clean Water Act, the National Wildlife System Improvement Act of 1997, the cost-sharing provisions of Reclamation Law, and its responsibilities to the Tribes. The purpose is to achieve a free flowing river condition and full volitional fish passage to advance salmonid fisheries restoration."

Finally, the conclusion that Alternative 8 would not reduce environmental impacts of the Proposed Action is without merit. Implementing Alternative 8 actually does "reduce environmental effects of the Proposed Action" because it would prevent the damaging environmental impacts of the KBRA from being locked in for the next 50 years. Some of the damaging environmental impacts of the KBRA that could be avoided by not implementing the KBRA include: 1) Damage to the habitat, water quality, waterfowl, fish, and wildlife by institutionalizing and subsidizing continued harmful commercial farming on Tule Lake and Lower Klamath National Wildlife Refuges; 2) Damage to these refuges by eliminating the best means of achieving water security for the refuges; 3) Keeping the purpose of the wildlife refuges subservient to the purpose of the Klamath Irrigation Project (KIP); 4) Damage to the Klamath Basin aquifer, river flows, and water quality by subsidizing unsustainable groundwater pumping; 5) Harm to the Klamath Basin's aquatic resources by implementing a KBRA water plan that does not provide adequate flows or lake levels consistent with the best available science; 6) Damage to the fish, wildlife, and water quality of the Klamath Basin downstream of Upper Basin irrigation by subsidizing unsustainable and uneconomic water pumping through irrigation electricity subsidies; 7)Damage to aquatic resources and refuges caused by setting the KIP water limitations at a level that is too high; 8) Damage to refuges during droughts by drastically cutting water to the refuges during droughts; and 9) Damages to refuges by allowing water deliveries to refuge land for commercial farming even when water to refuge wetlands is being cutback. The DEIS is also deficient for not properly analyzing these impacts in its analysis of Alternative 2 (the Proposed Action).

To come into compliance with NEPA, WaterWatch strongly urges consideration and adoption of the "Initial Alternative" 8, described in Table 2-2, page 2-5 as "Remove four dams and related facilities but do not implement KBRA elements."

Comment 5 - Alternatives

Inappropriate rejection of Alternative 13 –the Federal Takeover Alternative.

Alternative 13, the Federal Takeover alternative was rejected because:

"Alternative 13 will not move forward for more detailed analysis in the EIS/EIR because the environmental impacts would be generally the same (and have generally the same timeframe) as those under Alternative 2."

First, the conclusion that Alternative 13 would have the same environmental impacts as Alternative 2 is without merit because Alternative 2 is linked to the KBRA, which has a broad range of adverse environmental impacts as discussed in the discussion on the rejection of Alternative 8 above. Also, there are minimal interim measures under the KHSA which allow for continued harm from dam operations until removal with no definite date to return to the FERC process even if dam removal is not accomplished by 2020. Also, the assumption that dam removal through a federal take over would be in the same general timeframe as dam removal under the KHSA is not necessarily accurate. A shorter timeframe could be required in a Federal take over, but moreover the fact that the KHSA has so many contingencies and no specific limit to annual licenses, there is a great

Comment 5 cont.

risk that dam operations may continue well past 2020 without any meaningful interim conditions.

Comment 6 - Alternatives

Deficient Alternative 1 (no action) analysis.

Alternative 1 (no action) is described in the DEIS as "Klamath Hydroelectric Project would continue current operations." (Table 2-3, page 2-7)

The DEIS also states:

> For the purposes of this analysis, the No Action/No Project Alternative will continue current operations with the Four Facilities remaining in place and PacifiCorp operating under the current annual license." (Page ES-21)
>
> and
>
> As the FERC relicensing process would resume following a negative determination on dam removal from the Secretary, Alterative 1 could not continue for decades as the status quo; however, over 50 years, this alternative would likely retain the majority of the existing hydroelectric power generation capacity and the reservoirs would remain in place and would continue to be used for recreational purposes." (Page ES-42)

These assumptions for Alternative 1 cannot be considered reasonable or realistic, and lead to an inadequate analysis of the no action alternative under NEPA. The DIES suggests under Alternative 1 that PacifiCorp may operate its Klamath River dams on annual licenses without interim prescriptions for the next 50 years, or perhaps could somehow receive a new 50-year license from FERC that does not contain the current mandatory fish passage prescriptions. This is in fact, a very improbable scenario since resources agencies have already prescribed full volitional passage and these prescriptions have survived legal challenge. Because of this fact, the collapse of the KBRA/KHSA described as the precondition justifying the exploration of Alternative 1 would result - at minimum - in extensive modifications to the structures and operations at all current dams to provide full volitional fish passage as currently prescribed by law and described in Alternative 4: "Construct fish passage facilities to provide upstream and downstream passage at four dams." (Table 2-3. page 2-7).

It is reasonable to assume that PacifiCorp and relevant regulators – facing obvious financial, technical, or regulatory challenges in implementing these existing mandatory conditions - may choose other alternatives to achieve similar results as would be achieved under Alternative 4. Another plausible no-action alternative is reflected by Alternative 5: "Remove Copco 1 and Iron Gate Dams, construct fish passage at J.C. Boyle and Copco 2 Dams." (Table 2-3. page 2-7) The nation's long-term budget crisis, limited support in Congress, and high level of controversy surrounding the KBRA makes passage of KBRA legislation highly unlikely and therefore makes Alternatives 2 (the proposed action alternative) and other alternatives linked to the KBRA unlikely.

PacifiCorp's repeated public statements indicating an unwillingness to go forward with a new license requiring full volitional passage at the four dams, as well as multiple studies showing relicensing the four lower dams under current mandatory conditions economically unfeasible, makes Alternative 4 barely plausible. Finally, unknown water quality permit conditions as well as the financial considerations of operating two remote,

Comment 6 cont

marginal, and outdated dams at lower generation capacity may combine to make Alterative 5 unattractive to PacifiCorp and thus unlikely.

The no action alternative is still reasonably likely to lead to removal of some or all of the dams given the findings in the FERC relicensing EIS and the unlikely event that California will grant water quality certification. In fact, a reasonable argument can be made that dam removal might be more likely to be achieved by a return to the relicensing and water quality certification processes than via the KHSA linked to the KBRA proposed action alternative given all the contingencies in the KHSA and the cost and controversy over the KBRA. Alternatives 4, 5, 6 or 8 could more reasonably be considered for the "no action" baseline, since failure of KBRA legislation and/or a negative Secretarial Determination would likely result in one of these three scenarios, and they more accurately describe what is likely to occur if there is no action than does Alternative 1.

A no action alternative should not just consider the current status quo, but should also consider the impact of events that will occur if the proposed action is not elected. The DEIS should look at a no action alternative that recognizes legal processes that are well underway and will change the current status quo. For instance, besides failing to consider what is likely to occur under the FERC and water quality certification processes, the no action alternative analysis also fails to acknowledge that the Oregon water rights adjudication process will soon be concluded, thereby allowing for regulation of water use to meet the Klamath Tribes instream and lake level water rights and the water rights of Upper Klamath Lake, Lower Klamath Lake and Tule Lake National Wildlife Refuges creating options for restoration and fish and wildlife enhancement that the Proposed Action (alternative 2 linked to the KBRA) will either limit or foreclose. The DEIS also fails to acknowledge the requirements of the National Wildlife System Improvement Act of 1997, the fact that a Comprehensive Conservation Plan planning process is underway for Lower Klamath NWR, Tule Lake NWR and Upper Klamath Lake NWR, and that power rates are going up to market rate for Klamath Project irrigators.

Comment 7 - Alternatives

No non-KBRA restoration alternative considered.

Since the KBRA is linked to dam removal as a restoration alternative, it is reasonable and necessary to consider other less harmful non-KBRA restoration alternatives, including the following:

- An alternative that provides guaranteed Klamath River flows and Klamath Lake levels for fish based on the best available science.
- An alternative that focuses on providing more water to fish and refuges by permanently reducing irrigation water demand (beyond the current KBRA prescription); full consideration and scientific evaluation should be given to basin water levels which provide a more reasonable balance between instream flows, lake levels, refuges and the needs of agriculture, ultimately providing a more sustainable water regime for healthy Klamath Basin ecosystems. Under this alternative, the EIS should consider using the KBRA water and power funding to instead implement a willing seller buyout program, developed by the Department with public input, to permanently reduce irrigation water demand in the Upper

Comment 7 cont.

Basin, the Lost River Basin, the Klamath Irrigation Project, and the Shasta and Scott Rivers to a level that will meet science based restoration goals.

- An alternative that will reduce irrigation season water demand, allow for winter water storage, improve water quality, and increase refuge wildlife habitat by phasing out the commercial agriculture on Lower Klamath and Tule Lake National Wildlife Refuges, and instead managing National Wildlife Refuge land for the above purposes.

INCOMPLETE, INADEQUATE, AND INACCURATE KBRA ANALYSIS

It is interesting that the agencies reject looking at non-KBRA dam removal alternatives, while at the same time electing to limit their analysis of the KBRA that they have firmly linked to dam removal. The agencies are promoting the KBRA, but avoiding a transparent and thorough review of pertinent KBRA issues thereby depriving the public and Congress of important information needed to assess the true impacts and costs of the KBRA. The KBRA requires federal legislation that limits NEPA analysis of the KBRA to a piecemeal analysis when agencies take specific KBRA actions after legislation has passed, but the KBRA and the KBRA legislation itself have provisions that have environmental impacts that will thereby never get NEPA review unless it occurs in this NEPA process. As the proposed action (Alternate 2) includes implementation of the KBRA, a thorough review under NEPA is required and is needed to inform Congress and the public.

Comment 8 - KBRA

Failure to analyze the costs and impacts of KBRA subsidies, special contracts, debt cancellation, federal assumption of Keno and Link River Dam operational costs, and leaseland revenue sharing.

The KBRA and legislation required by the KBRA have provisions involving what amount to subsidies, special contracts, and agreements some of which are not allowed under existing law. These provisions have an enormous price tag to the U. S. taxpayer, while at the same time having significant adverse environmental impacts. There is either no discussion or inadequate analysis of these provisions. A discussion of these KBRA provisions follows:

KBRA Water Development Subsidy for On-Project Water Plan

Summary of subsidy:

- **$92,500,000 to KWAPA** (an entity controlled by Klamath Project irrigators) for development and implementation of a Klamath Project water plan (Line 66, page 8, Appendix C-2, and Section 15.2, Page 66 of the KBRA).
  - The KBRA does not require any NEPA review, or other public oversight of the development of the plan, or expenditure of the funds. Plan review is limited to a 60-day review by the Bureau of Reclamation.
  - Parties to the KBRA must support funding to implement the water plan though no plan yet exists.
  - A scientifically based, permanent demand reduction program that includes conservation easements, updated conservation to irrigation systems, and water rights acquisition, etc. should be developed by the federal government with full

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Comment 8 cont.

public participation and review under NEPA; without this process, there is great risk that any KBRA water plan funding will result in a subsidy to Project irrigators without measurable public benefits, or worse, finance unsustainable ground water development in the region.

The DEIS does discuss the On-Project Water Plan, but wrongfully concludes on page 3.3-143 that the plan will improve water quantity and quality and therefore is beneficial to salmonids. The DEIS also wrongfully concludes on pages 3.7-19 and 3.7-20 that: "In the long-term implementation of the On-Project Plan (KBRA Section 15.2) and the Water Diversion Plan (KBRA Section 15.2.4) would be expected to benefit groundwater resources by protecting them from overuse (through provisions prohibiting adverse impacts to groundwater, where none currently exist).

These conclusions are based on the fact that "the On-Project Plan would include a groundwater monitoring plan that limits pumping so that flows from springs in the watershed upstream of Copco 1 Dam would not be reduced by more than 6 percent, protecting these important habitats that provide stable habitat conditions and often support rare or unique species", and because "it would also provide a plan to implement the water diversion limitations described above.". The problem with these conclusions is twofold. First, a water plan does not yet exist that can be evaluated and the plan does not have any sideboards that require any actual reduction in overall irrigation demand. This means that it is possible that a substantial amount of the $92.5 million could go to increased water groundwater development in the basin to make-up for the water they will not be directly diverting from the Klamath River. Second, though there is a required monitoring plan that offers some protection to springs, the DEIS fails to highlight or note that it is the $92.5 million subsidy in the KBRA that makes large scale groundwater development possible in the first instance. The monitoring may limit the harm from this subsidy but the subsidy will still be harmful. The DEIS recognizes the importance of springs to water quality and quantity in the Klamath River but doesn't recognize or analyze the adverse water quality and quantity impacts that even a 6% reduction in clean cold water spring flow would have in the Klamath River, which reduction is made possible by the subsidy. What would be the predicted impact on KBRA Klamath River flows if spring flows were reduced by 6%? Also, the impacts from groundwater development might not be readily ascertainable and the reduction to spring flow could be a number of years out creating a risk that a portion of the $92.5 million dollars may be invested in a manner that is not sustainable and the investment would be lost. It is highly likely that the On-Project water plan subsidy will actually further reduce river flows, diminish water quality, and be harmful to salmonids.

It should also be noted that the DEIS claims the monitoring plan in the KBRA protects groundwater where no protections exist. In fact there are provisions in Oregon water rights law and Oregon's Scenic Waterways Act that in many cases will actually give greater protection to the Klamath River and its groundwater resources than the KBRA provisions. Also, the KBRA groundwater protections don't apply to the Lost River and Tule Lake Basins, where most of the groundwater impacts are likely to occur because California law doesn't offer the same protections as Oregon.

The DEIS is deficient because the agencies have conveniently and inappropriately decided not to assess impacts to the Lost River and Tule Lake Basin or the Pitt River

Comment 8 cont.

basin that might be affected by groundwater development subsidized by the KBRA. The reality is that groundwater development on the Oregon side of the Klamath Project will be somewhat limited by Oregon law as discussed above, but there are few restrictions on groundwater development on the California side. What can be expected is a large increase in groundwater development just over the border in California. This could have a major impact on springs and refugia for ESA and CESA listed suckers in the Lost River and Tule Lake Basin and other aquatic and terrestrial wildlife, as well as on the water supply for Oregon communities (the impacts on Oregon community water supply have been well documented during past intensive groundwater use during droughts), and by causing interference with existing wells. As some groundwater in this region eventually flows to the Pitt River, impacts could be seen there as well. Also, the Lost River basin is connected to the Klamath River Basin via the D-Plant pumping station and the Klamath Straits Drain. Groundwater development in the Lost River Basin could also decrease Lost River basin return flows to the Klamath River further decreasing Klamath River flows.

It is interesting to note that impacts are expected in the Lost River Basin from the Water Plan because the KBRA, as noted in the DEIS, requires California Department of Fish and Game to submit California legislation that will allow take of southern bald eagles, golden eagles, greater sandhill cranes, American peregrine falcons, and shortnose and Lost River suckers in the Lost River and Tule Lake Basins in California under California's Endangered Species Act (CESA) (Section 24.2 of the KBRA). This could lead to setting aside existing CESA protections and highlights the concern that the KBRA will actually make matters worse in the Lost River and Tule Lake Basins. The lack of an analysis of impacts to the Lost River and Tule Lake Basins is a major legal deficiency in the DEIS.

In the past, temporary groundwater use has been a major tool for dealing with droughts in the basin. Extensive new groundwater development could undermine and limit the tools available for a drought plan. The DEIS should evaluate the impacts that potential use of this subsidy for large scale groundwater development could have on responding to future droughts.

KBRA Power and Pumping Cost Subsidies

Summary of subsidies:

- Over $50,000,000 in power subsidies (See KBRA Sections 14 and 17, and lines 72 - 75 on Appendix C-2). These subsidies will be distributed to Klamath Project irrigators in Oregon and California, as well as certain Klamath County, off-project irrigators to reduce their power costs. $7,690,000 of this sum will be direct payments to reduce power bills (Section 17.5), while $42,498,000 (Section 17.7) will fund unspecified projects to generate renewable energy and increase energy efficiency to indirectly reduce power costs of Klamath Project and certain Klamath County irrigators.
    - Klamath Project irrigators and Klamath County off-project irrigators long enjoyed power rates considerably below market rates for other agricultural users under special contracts with PacifiCorp. Those contracts were terminated as discriminatory by the Oregon Public Utility Commission and the California Public

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Comment 8 cont.

Utility Commission in 2007. To prevent rate shock, the Oregon legislature passed legislation that ramps power rates up to market value for affected Klamath County Oregon over seven years; California Public Utility Commission gave California Klamath Project irrigators a four year ramping period.

- The KBRA modifies existing contracts; increases the payment obligation by the USFWS and decreases the amount paid by Tule Lake Irrigation District for D plant pumping (KBRA, Section 15.4.2A).
  - This requirement likely violates current Reclamation law on cost sharing, therefore Section 15.4.6 circumvents the law by requiring the Secretary of Interior agree that the cost sharing agreements in the KBRA are not a "contract" as defined in the Reclamation Reform Act of 1982 (Public Law 97-293).
  - D plant pumping costs will increase by 6.5% for the USFWS and decrease by 6.5% for TID under the KBRA. The KBRA budget provides for $170,000 per year to cover this cost (line 69, Appendix C-2).
- In addition the KBRA Section 17.6 provides that Klamath Project irrigators receive an allocation of power from the Bonneville Power Administration that will also provide them a lower preferential power rates from the Columbia River Hydropower System.

The DEIS does not discuss or analyze the taxpayer cost or adverse impacts of these subsidies. The following adverse impacts of these subsidies should be addressed:

1. These power subsidies allow Project irrigators to either directly or indirectly enjoy lower power costs and below market power rates. These lower power costs to be funded by the U.S. taxpayer subsidize draining Tule Lake National Wildlife (TLNWR) wetlands for commercial agriculture rather than allow management of these lands for the refuges intended fish and wildlife purposes. The construction of the tunnel through Sheepy Ridge and the D pumping plant in 1942, coupled with years of below market power rates, have allowed Project irrigators to pump water off, drain, and keep drained 15,500 acres of Tule Lake NWR so that the lands can be commercially farmed. Commercial farming of TLNWR land is very harmful as will be discussed below. Refuge personal testified at the California rate hearing that once Tule Lake farmers were required to pay market power rates, they would no longer be able to economically drain these important wetlands. The KBRA provides taxpayer funded subsidies that allow continued harm to an incredible public resource.
2. Subsidizing power costs also encourages wasteful water and power use and discourages water and power conservation.
3. There is no public policy purpose for these subsidies. Rather, these subsidies just advance narrow private interests and provide some farmers and ranchers with an unfair competitive advantage over other nearby farmers and ranchers that won't receive these subsidies.
4. The DEIS should also discuss whether any of these subsidies and special cost sharing arrangements violate the Reclamation Reform Act of 1982 (Public Law 97-293)

Comment 8 cont.

Debt Forgiveness Subsidy

Summary of subsidy:

- Currently there exists a dispute between the federal government and Klamath Project irrigators on the amount of Klamath Project capital costs currently owed by Klamath Project irrigators to the United States, and how much of the leaseland revenue in the Reclamation Fund should be applied to the aforementioned capital costs. Rather than protecting the taxpayer, the KBRA provides that the debt owed, though yet to be determined, will be forgiven (KBRA, Section 15.4.4 A).

The DEIS should determine the amount of debt that will actually be forgiven so the public and Congress can understand the true cost to the taxpayer of this provision.

Leaseland Revenue Subsidy

Summary of subsidy:

- Approximately 60% of the net revenue from leasing refuge land for commercial farming are directed to the Bureau of Reclamation and applied to the benefit of Project irrigators.
  - These revenues will cover costs of maintaining and operating Keno and Link River Dams (a cost that should be born by Project irrigators), and any remaining funds will either be applied to reduce future capital costs of the Project, or subsidize power costs to both on and off Project irrigators (Section 15.4.4 B and Appendix A, Section H).
- In addition, 20% of leaseland revenues are directed to USFWS, 10% to Tulelake Irrigation District (TID), and 10% to Klamath Drainage District (KDD).
  - TID and KDD represent the two irrigation districts, whose customers commercially farm the refuges.
  - These revenue allocations create agency dependence on leaseland agriculture for both the Bureau of Reclamation and USFWS. Harmful commercial agriculture on federal refuge land should be phased out, not used to subsidize Project operations or irrigators.
  - Federal legislation is necessary to implement this reallocation of leaseland revenues, as the provision is inconsistent with existing law.

The DEIS should analyze the impacts of these subsidies. This is especially important because this subsidy needs federal legislation to implement and Congress and the public should be fully informed of its ramifications. This provision of the KBRA and the legislation that is required by the KBRA sets a terrible precedent for national wildlife refuge management as it institutionalizes using Lower Klamath and Tule Lake National Wildlife Refuges for commercial purposes to generate revenue rather than promoting refuge management for fish and wildlife purposes. Interior should not be using national wildlife refuges to subsidize operations of a federal reclamation project even if a small share of the revenues goes back to USFWS.

By diverting refuge commercial leasing revenues for the purposes specified in the KBRA, the KBRA will increase and broaden the political support for continuing

Comment 8 cont.

commercial farming on these two national wildlife refuges at a time many have begun to question the practice. This revenue sharing arrangement will also create an agency dependence on farming the refuges with both the Bureau of Reclamation and USFWS, and could undermine the Comprehensive Conservation Plan (CCP) process currently underway for these refuges. As part of the CCP process required under the National Wildlife Refuge Systems Improvement Act of 1997 the compatibility of commercial farming on these refuges should be analyzed and should be found to be incompatible and inconsistent with refuge purposes. These cost sharing subsidies and other KBRA provisions promote continued commercial farming on these refuges. The DEIS should discuss fully the impacts of commercial farming on these refuges and the impact of the KBRA on commercial farming. The impacts of commercial farming on the refuges will be discussed more fully in the section on refuges below.

Link River and Keno Dam Operations Subsidy

Summary of Subsidy:

- The Bureau of Reclamation will be assuming all costs for operating Link River Dam and Keno Dam for Project diversion (Section 15.4.5 A).
  - PacifiCorp is not seeking a new license to generate power at Link River and Keno Dam. These dams also serve as diversion structures for the Klamath Irrigation Project.
  - At present, the cost of operating these facilities are currently paid by PacifiCorp; however, once they are used for irrigation purposes only, the federal government should not be fully responsible for this cost. Project irrigators should be required to pay their share as required under current cost-sharing laws.

The DEIS should discuss these costs and the degree to which Reclamation assumption of these costs is in conformity with current Reclamation cost sharing laws and regulations. In addition, following transfer of the facilities to Reclamation, the KBRA requires operation to maintain water levels for irrigation in accordance with historic practices. This greatly reduces the management flexibility that may be needed to address water quality concerns in the reach of the Klamath River between Link River Dam and Keno Dam. The DEIS should discuss the impacts from continued historic operations.

The DEIS should analyze how all these subsidies taken together are supporting agricultural activity in the Klamath Basin that might otherwise not be economically viable and that will continue to be a burden to the U.S. taxpayer. At the same time these subsidies make it more difficult to address the basin's water over-allocation problems and the problems with commercial farming on LKNWR and TLNWR, by reducing incentives to conserve water and power, by reducing support for a willing seller water and/or irrigated land buyout program in the basin, and by making it financially easier to drain refuge wetlands for commercial farming.

Comment 9 - KBRA

<u>Failure to adequately or accurately address KBRA impacts to National Wildlife Refuges</u>

The DEIS concludes that the KBRA would generally be beneficial for the terrestrial resources on the Upper Klamath, Lower Klamath, and Tule Lake National Wildlife Refuges. (See pages 3.5-67 to 3.5-6.9 and page 4-105). The DEIS does not provide sufficient evidence to support this conclusion, and overlooks and fails to analyze many of

Comment 8 cont.

the provisions in the KBRA that have adverse impacts to the refuges. The conclusion that the KBRA is generally beneficial to the refuges is based predominately on the assumptions in a USFWS 2010 report, that the KBRA will lead to increased water deliveries to LKNWR and TLNWR and therefore there will be more wetlands available for wildlife, and the assumption that the refuges cannot do better under a no action or other non-KBRA alternative.

A more thorough analysis of the KBRA will show that the KBRA will not provide either sufficient water to Upper Klamath NWR, or a better water situation for the refuges. In respect to Lower Klamath and Tule Lake National Wildlife Refuges, they still will not have sufficient water during many years and it is doubtful that the KBRA will provide a more secure water situation for Lower Klamath and Tule Lake National Wildlife Refuges than non-KBRA alternatives. In fact, the KBRA will make things much worse in general for the Refuges, because of the impact of KBRA subsidies as previously discussed in pages 7 to12 above; because it forecloses and limits opportunities to provide a better and more secure water future for the refuges; and because it predetermines refuge management for the next 50 years in a way that is harmful to the refuges. This is demonstrated by the following analysis of KBRA impacts on the refuges:

Locking in harmful commercial farming on LKNWR and TLNWR

First, the DEIS does not adequately or accurately describe the current commercial farming activities on Lower Klamath National Wildlife Refuge (LKNWR) or Tule Lake National Wildlife Refuge (TLNWR) or the impact of these operations.

In respect to LKNWR, the DEIS states on pages 3.5-19 and 3.5-19 that: "In addition to wetland habitats, Lower Klamath NWR also contains approximately 9,000 acres of agricultural lands including grain fields that are extremely attractive to fall migrant and wintering waterfowl and large numbers of wintering raptors, with bald eagles being the most conspicuous." The DIES is not clear whether these 9,000 acres includes refuge acreage leased for commercial farming or are acres farmed cooperatively for wildlife management purposes rather than commercial purposes. The DEIS does not indicate how many acres of LKNWR are leased for commercial farming of which there are approximately 7,000 acres leased for commercial farming purposes.

In respect to TLNWR, the DEIS states on page 3.5-20 that there are 17,000 acres of croplands and that: "In addition, Tule Lake NWR agricultural programs require growers to leave a proportion of small grain crops (typically 25-33 percent) standing for wildlife consumption. The high energy content of agricultural crops provides an important energy source for migrating waterfowl as they travel northward and southward in the Pacific Flyway (USFWS 2010)." Again, the DEIS does not give any breakdown between cropland that is land leased for commercial farming and land that is farmed cooperatively, and wrongfully gives the impression that the farming on TLNWR is beneficial to wildlife. It is only the cooperative agricultural programs that require a percentage of grain be left for wildlife and there are now very little, if any, of the croplands on TLNWR that are part of the cooperative farming program. Most refuge croplands are actually leased for commercial farming and do not require a portion of the crop be left for wildlife and in fact many of the crops on these lands have little or no food value for wildlife.

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Second, the DEIS should have described some of the harmful impacts of leasing land for commercial farming on LKNWR and TLNWR. This is important to understand many of the adverse impacts of the KBRA. Eleven of the most harmful impacts and lost restoration opportunities caused by leasing refuge land for commercial farming are:

1. Commercial farming on refuge land uses scarce water resources at the expense of refuge wetlands, and the fish and wildlife of Upper Klamath Lake and the Klamath River. Commercial farms on refuge land receive water even when adjacent refuge wetlands are forced to go dry.

2. Commercial farming uses critical refuge lands that should be used for wetland and wildlife management. Eighty percent of the basin's wetlands have been drained for commercial agriculture. Keeping historic wetlands on our refuges drained to lease for commercial farming is incompatible with the purposes of our National Wildlife Refuges and a violation of public trust.

3. Commercial farming uses refuge land that could be used to store water naturally for refuge purposes. The refuges need an independent secure source of water. Up to 100,000 acre-feet of water could potentially be stored naturally on refuge land currently leased for commercial agriculture.

4. Phasing out commercial farming on the refuges is the logical place to begin reducing the irrigation season water demand of the Klamath Project (a necessary step to solve the basin's water crisis). Eliminating lease-land farming on the refuges could save up to 50,000 acre-feet (16 billion gallons) of water during the irrigation season thereby reducing Klamath Reclamation Project irrigation water use by approximately 10%. This reduction could be achieved on land already owned by the federal government and would reduce the need to purchase private lands in order to reduce demand.

5. Phasing out commercial farming on the refuges would save taxpayer dollars. The federal government has in the past paid out more money per acre to Klamath Project farmers not to irrigate each year as part of a water bank than it receives from leasing refuge land to farmers to irrigate. The government could save money in meeting water bank requirements by simply not renewing leases for refuge lands for irrigated agriculture when the current leases expire.

6. Leasing out refuge lands for commercial farming unfairly competes with Klamath Reclamation Project landowners who lease their private lands for commercial farming.

7. Row crops such as onions and potatoes that are grown on refuge lands leased for commercial farming provide little or no benefit to wildlife. Even waste grain from left over grain harvests on refuge land provide only about one-tenth to one-half the food per acre as wetlands and are used by only a small number of species.

8. Heavy use of pesticides known to be harmful to wildlife are used on refuge lands leased for commercial agriculture including known carcinogens, neurotoxins, and endocrine disruptors. Some of these pesticides are so toxic EPA rules prohibit human entry into the treated fields for 24 to 72 hours after treatment.

9. Commercial farming activities (e.g. tilling, planting, mowing, cultivation, irrigation, harvesting, and pesticide/fertilizer applications) destroy nests and kill wildlife.

Comment 9 cont.

10. Managing the commercial farming activities on the refuges uses up time of refuge personnel and funds that should be used to manage the refuges for wildlife purposes.

11. Commercial farming on the refuges impairs water quality, while returning the lands to wetlands, especially in the area of the Klamath Straits Drain, could improve water quality.

Third, the DEIS does not evaluate how the KBRA institutionalizes and attempts to lock in commercial farming on these refuges, and how it could undermine the current CCP process for these refuges. Section 15.4.3 A. on page 100 of the KBRA requires all non-federal parties to support continued commercial farming on 22,000 acres of Tule Lake and Lower Klamath National Wildlife Refuges. This KBRA provision, as well as the KBRA subsidy provisions discussed in pages 7 to 12 above, promote and create an agency reliance on commercial farming of these important refuge lands, essentially institutionalizing this harmful practice for 50 years (Section 1.6 on page 5 of the KBRA provides that the term of the agreement and contractual obligations to support commercial farming on the refuges is 50 years). These KBRA provisions and legislative approval of the KBRA will put intense pressure on Interior to continue harmful commercial farming on the refuges and will undermine a fair evaluation of the compatibility of commercial farming on these refuges during the CCP process. Because commercial farming is so harmful to these critically important national wildlife refuges, and because alternative refuge management offers significant opportunities for refuge and basin restoration, these KBRA impacts and on the refuges and refuge management alternatives need to be thoroughly analyzed.

Both the National Wildlife System Improvement Act of 1997 and the Kuchel Act, make it clear that wildlife conservation and waterfowl management are the primary purposes of the refuges, and that any commercial farming activity must be consistent and compatible with these primary purposes. In fact, the large scale commercial farming that occurs on these refuges can no longer be considered compatible with refuge purposes, especially in light of current water shortages and the reduction of wetlands in the basin and throughout the Pacific flyway. The DEIS should discuss the requirements of the National Wildlife System Improvement Act of 1997 and the Kuchel Act, and how they could and should limit commercial farming through the CCP process or otherwise. This should be discussed as part of the no action baseline in the DEIS and is not.

The Realization of the KBRA Water Allocation to Lower Klamath NWR is Doubtful

The whole crux of the DEIS's conclusion that the KBRA is beneficial to the basin's national wildlife refuges is the assumption that the KBRA refuge water allocation will improve the refuges' water situation. First, under the KBRA, Tule Lake NWR would get the same water allocation it currently gets under existing contracts and biological opinions for the listed suckers that inhabit the refuge, and the KBRA just reflects this. Second, the KBRA's water allocation for Upper Klamath Lake NWR is not likely and is somewhat illusory, while the KBRA forecloses the best means of achieving a better and more secure water future for this refuge. In this regard, the DEIS fails to analyze the actual likelihood that the KBRA water allocation to LKNWR will ever become effective, or if it does become effective whether other KBRA provisions diminish the potential benefits of such an allocation.

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The KBRA's Lower Klamath Lake NWR water allocation does not become effective unless and until a number of difficult-to-satisfy conditions are first met. These conditions include: 1) Regulatory assurances under the ESA that would guarantee water deliveries to Klamath Project irrigators at a level that current ESA regulation would not allow (In other words, this condition can only be met if the ESA is undermined – another factor the impacts of which the DEIS fails to analyze); 2) Final judgments in state courts confirming or validating the water allocation (if individual irrigators should object, this may not be achievable); 3) The deadline for implementing the On-Project Water Plan has passed (this could be as late as March 1, 2022 – Section 15.3.8A, Page 97 of the KBRA); 4) Timely publication of a notice by the Secretary of Interior indicating a number of other conditions have been met, including very substantial funding, and completion of dam removal or volitional fish passage; and 5) The acceptance by the Adjudicator or court that might then be handling the Oregon water rights adjudication (Oregon has made it clear it is not obligated to accept the allocation.). See Sections15.3.1 A, 15.3.4 A, 15.3.8A and 22.12 of the KBRA.

The DEIS needs to discuss these conditions and analyze whether the refuges would be better off with a different alternative to address its water needs, rather one that might never occur or not occur for many years, while harmful KBRA provisions go into affect immediately on passage of federal legislation approving the KBRA. In addition, even if the KBRA allocation becomes effective, the water allocated will be taken away by other KBRA provisions as discussed below, while some of the best tools to improve its water situation will be essentially eliminated as possibilities for the next 50 years as discussed below.

The KBRA Places a Heavy Burden on Lower Klamath NWR Wetlands in Times of Water Shortage

Lower Klamath NWR's water shortages are typically most acute in the drier years and the KBRA doesn't change this. In fact the KBRA locks in a drought year response that reduces the refuge's already low KBRA dry year allocation of 48,000 acre-feet down to 24,000 acre-feet and then possibly lower to zero (Section 15.1.2 F). (In this regard it should be noted that a prior biological opinion indicated a minimum of 32,000 acre-feet is necessary just to support the waterfowl food base of the approximately 1,000 bald eagles that over winter in the basin.) These drier year and drought year cutbacks to water delivered to Lower Klamath NWR wetlands are required under the KBRA without first requiring cutbacks in water delivered to irrigators commercially farming National Wildlife Refuge land. This is most likely in violation of the Kuchel Act and National Wildlife Refuge System Improvement Act of 1997. There was a move at the end of the Clinton administration to enforce these laws by first requiring reductions in commercial farming on the refuges to avoid cutting back water deliveries to the refuges. Ironically, Section 15.1.2G (iv) of the KBRA does allow the On-Project Water plan to limit deliveries to these refuge leaselands to meet water needs on private farms, but not to meet refuge needs. The DEIS should discuss whether these KBRA provisions are in conformance with the National Wildlife Refuge System Improvement Act of 1997.

These dry year cutbacks are not discussed or analyzed in the DEIS, though the KBRA requires these cutbacks as a first response to droughts. The DEIS should analyze how often and to what extent the refuge allocation would be reduced under the KBRA to meet

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current EIS required river flows and lake levels. The fact is, that the on-project water limitation/guarantee to on-Project farmers is still so high that in order to meet current on-Project water allocation and ESA flow requirements in drought years, water deliveries to LKNWR will still be severely cut and will be cut to zero in some drought situations. Neither the KBRA nor the drought plan that has been developed explain how the irrigation target, refuge target, and current ESA Klamath River flow requirements in drought years can be met. The DEIS needs to discuss the impacts to the KBRA LKNWR water allocation in drought years, and the need to meet current ESA flow requirements.

Other KBRA Reductions in Lower Klamath NWR Water Allocation

In addition, Section 15.1.2 E (iii) of the KBRA sets forth other situations that would also reduce the allocation of water to Lower Klamath NWR, including reducing the irrigation season allocation by one-acre foot for each acre placed in walking wetlands, whether the walking wetlands are on refuge or private lands, and regardless of how much water is actually delivered to the walking wetlands; refilling Tule Lake sumps after intentional drawdowns; and conveyance losses at Anderson-Rose Dam and through the North canal. The impact of these reductions, especially those related to the walking wetlands program, should be carefully evaluated. The KBRA penalizes Lower Klamath NWR for any walking wetlands, by reducing the water allocation to Lower Klamath NWR wetlands by one-acre foot per acre of walking wetlands (KBRA, Section 15.1.2 E (iii) e.). Water will be withheld from Lower Klamath NWR at a rate of one-acre foot per acre of walking wetlands, regardless of how much water is applied to the walking wetlands, and regardless of whether it is more or less than would have been applied if the land was farmed. Lower Klamath NWR is even being penalized where private walking wetlands are created under the program to increase the value of farming on private lands. Though the private wetlands will provide some benefit to waterfowl, public wetlands on a national wildlife refuge would suffer, in order to temporarily create wetlands on private lands for the private landowners' benefit, all at taxpayer expense. This is poor public policy and should be discussed in the DEIS. Though the KBRA does not provide for any specific amount of walking wetlands, expansion of that program under the KBRA could have dramatic impacts on LKNWR. In addition, because walking wetlands are temporary and will be returned to farming in the future there are many wildlife species that will not benefit from rotating wetlands. For many species keeping the wetlands, whether seasonally or permanently, in the same place, are essential for their success.

The KBRA limits Lower Klamath NWR from improving its water situation and eliminates the best tools to secure water for Lower Klamath NWR

Lower Klamath NWR's water needs based on current refuge management goals are equal to 60,000 acre-feet during the irrigation season and 35,000 acre-feet in the winter. Because the refuge's water rights for refuge wetlands have a priority date of 1908 and the Klamath Reclamation Project has a 1905 priority date for irrigation, Lower Klamath NWR wetlands have suffered recently, especially in the drier years. Under the KBRA, the irrigation season allocation is 60,000 acre- feet in the wetter years and then is progressively diminished to 48,000 acre-feet as water year types get drier, with a dramatic additional reduction in drought years. Even in the unlikely event the water allocation in the KBRA for Lower Klamath NWR materializes, it is not the full amount needed in many years, and the KBRA would limit LKNWR to this less than ideal

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allocation for the next 50 years (In this regard the USFWS is required to also limit its reserved water right for the refuge to this allocated amount).

Further, the KBRA has language that could be interpreted to limit the ability of Lower Klamath NWR to do better in drier years, or expand its wetlands in wetter years. Section 15.1.2 E iii (e) provides that the allocation to Lower Klamath NWR shall be reduced by any delivery of surface water through Reclamation facilities from other delivery points. This could limit the ability of the refuges to increase their water supplies by developing other water sources by purchase, lease, or storage. It should be noted that under the KBRA, the Project irrigators guaranteed water from the Klamath River is not reduced if they find or develop alternate sources of water, but the refuges are not allowed to do better by developing or purchasing alternate sources if Reclamation facilities are used to deliver the water. In addition, Sections 18.3.2 B and 15.1.2 E (ii) of the agreement also reduce, if not eliminate, the possibility of storing water on the refuges for increasing refuge water supply. Section 18.3.2 B predetermines how all new storage should be allocated regardless of where it is developed and refuges are not identified as a priority to receive any newly stored water. Section 15.1.2 E (ii) reduces irrigation season deliveries to Lower Klamath NWR by any amount stored on the refuge in excess of the 35,000 acre-feet wintertime allocation.

The DEIS does not discuss these ramifications of the KBRA on LKNWR, and it does not account in its no action alternative for developments that will occur even without the KBRA that will improve the current refuge water situation. The administrative determinations in the Oregon Klamath Basin water adjudication are about to be completed and the State of Oregon will soon be able to regulate junior water users to meet refuge reserved water rights, which does not occur now. Increased power rates will make commercial farming on Tule Lake NWR less economical, and should incentivize water conservation and generate support for a federally funded irrigation water and/or land purchase program with willing sellers.

In addition, under the National Wildlife Refuge Systems Improvement Act of 1997, the Secretary of Interior is required to secure needed refuge water supplies. Once the Oregon adjudication is complete the US Fish and Wildlife Service (USFWS), could and should, under the NWSIA, require the 1905 priority dated water rights associated with the refuge lands farmed for commercial agriculture be delivered to refuge wetlands rather than for irrigating 22,000 acres of refuge land for commercial farming. In fact, by locking in leaseland farming and by fixing the water allocation between on-Project irrigation and the refuges for the next 50 years, the KBRA would eliminate the best way to give water security to the refuges, which would be to phase out commercial farming on the refuges and use those lands to store winter water, and use the water rights associated with those lands for refuge purposes. The DEIS should discuss how the KBRA limits Interior's ability to comply with the National Wildlife Refuge Systems Improvement Act of 1997.

Upper Klamath National Wildlife Refuge Will Still Periodically Go Dry.

In addition to adverse impacts caused by the KBRA to Lower Klamath Lake and Tule Lake National Wildlife refuges, the KBRA will also negatively impact Upper Klamath National Wildlife Refuge. Water for Upper Klamath National Wildlife Refuges is dependent on the lake levels in Upper Klamath Lake. When lake levels drop below an

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elevation of 4,140 feet, refuge wetlands begin to go dry and when lake levels reach 4,139 feet, all 14,000 acres of marshes in Upper Klamath NWR will be dry. Because of the water guarantees to Project irrigators in the KBRA, Upper Klamath NWR wetlands will be greatly diminished in late summer and fall in most years and completely dry at those times in dry years, due to irrigation diversions from Upper Klamath Lake to Project irrigators. This is supported by the DEIS by the following statement:

Based on modeled water elevations for future years, water elevations in Upper Klamath Lake would be low enough to leave refuge wetlands dry during the fall migration period (September-October) in 82 percent of years with implementation of the KBRA as compared to 68 percent of years under the No Action/No Project Alternative (USFWS 2010). Thus implementation of the KBRA would actually be an adverse impact compared to the No Action/No Project Alternative, if no other measures are taken. p. 3.5-69

The DEIS should analyze alternatives that improve the situation in Upper Klamath Lake and the Upper Klamath Lake NWR. Not only is the refuge adversely affected but so are water quality and other aquatic resources. The DEIS does not discuss the water quality impact from dewatering refuge and other wetlands around Upper Klamath Lake. When dewatered and exposed to the sun the peat soils are broken down and when rewetted phosphorous and other nutrients that were locked in the soils are released. The DEIS should carefully analyze the extent this contributes to water quality problems in the basin.

Failure to adequately or accurately address KBRA impacts to Aquatic Resources and Water Management

A major failing of the KBRA is that it is not an agreement designed to ensure that fish receive a minimum amount of water to meet their biological needs or even to receive what ESA flow and lake level requirements currently require. The KBRA sets no specific minimums or water allocation goals for fish. It is an agreement designed to ensure a specific amount of water for On-Project irrigators first, with fish left to make do with whatever is left over. In fact, the predicted river flows under the KBRA do not meet current ESA flow requirements, and show that under the KBRA flow levels could fall below levels that precipitated the 2002 fish kill. The DEIS fails to discuss or analyze whether current EIS flow requirements can be met under the KBRA, and what the impact is of failing to meet these requirements. Instead, the DEIS minimizes and avoids a meaningful discussion of the potential impacts of the KBRA on flows by twice asserting that:

> "Minimum flows may change in the future. Hydrologic modeling assumed that the Drought Plan would include a minimum flow of 800 cfs (DOI 2011). The final Drought Plan or future ESA actions could change the minimum flows; however, these assumptions reflect the best available information at the time of the modeling. (Footnote, pp. 2-19 & 3.8-19)"

Though hydrologic modeling may have made the assumption that a minimum flow of 800cfs would be provided in the Drought Plan, the Drought Plan has been released and no such minimums are included. In fact, the KBRA makes it clear that even the predicted

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flows are not guaranteed and that there are no water guarantees or minimum stream flow levels or lake levels for fish (including three fish species listed under the Endangered Species Act) in the KBRA. This is not discussed in the DEIS.

In analyzing the impact of the KBRA on fish and other aquatic resources, the DEIS mainly focused on the KBRA Water Diversion Limitations and the On-Project Water Plan. The DEIS concluded that based on anticipated improvements in water quantity and water quality, from implementation of Water Diversion Limitations and On-Project Water Plan the KBRA would be beneficial for fall-run Chinook salmon, spring-run Chinook salmon, steelhead, Pacific lamprey, redband trout, and shortnose and Lost River suckers, and for coho salmon, except those in the Trinity River population units, where they would be no change from existing conditions. (Pages 3.3-142 and 3.3-142) The anticipated water quantity and water quality improvements from the KBRA asserted in the DEIS were based on the conclusion that the KBRA limits on specific water diversions within Reclamation's Klamath Project would protect flows in the mainstem, and that groundwater monitoring plan and restriction on pumping to no more than 6 percent of flows in the Klamath River upstream of Copco 1 Dam would protect flows and improve water quantity. These conclusions are not supportable for the following reasons:

1. Current ESA regulation and fulfillment of the federal government's tribal trust responsibilities offer more protection to flows and lake levels than the KBRA, which attempts to undermine these protections by requiring signatory Tribes to waive enforcement of their water rights up to the On-Project irrigators water limitations/guarantees, by foregoing federal government enforcement of non-signatory Tribes water rights or tribal trust responsibilities up to the On-Project irrigators water limitations/guarantees, and by requiring all KBRA parties to support ESA regulatory assurances at the guaranteed level of diversion for On-Project irrigators. The KBRA does not attempt to meet ESA water requirements for fish in Upper Klamath Lake or the Klamath River or the federal government's tribal trust responsibilities, but instead tries to remove obstacles to providing water security to On-Project irrigators at the expense of fish and wildlife. The DEIS needs to highlight current flow protections and responsibilities and how the KBRA impacts them, including the impact on streamflow and lake levels of filing a stipulation in the Oregon Water Rights adjudication that will limit enforcement of tribal water rights .

2. A careful analysis will show that the water limitations/guarantees for On-Project irrigators is set too high and will not balance the basin's water budget without undermining flows and lake levels needed by fish. The KBRA water guarantees for the Klamath Project Irrigators in wet years would deliver more water to the irrigators than they typically used historically in wet years, and in dry years would deliver more water to the irrigators than allowed under current Endangered Species Act protections for coho salmon, and tribal trust protections that the federal government should be enforcing. The DEIS should examine the impact of the limitations on providing for and meeting ESA flow requirements and tribal trust responsibilities.

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3. The DEIS does recognize on page 3.3-142 that: "Reduced surface water deliveries associated with the diversion limitations could result in the increased use of groundwater for irrigation supply." But the DEIS discounts the possible impacts of increased groundwater development because of the 6% restriction in spring flow reduction to Klamath River springs, without assessing what the impact would be to flow and water quality if in fact all monitored springs were actually reduced by 6%. As discussed previously on page 7 to 12 the KBRA actually facilitates groundwater use, any increase of which has negative impacts that should be assessed. Also, as discussed previously, the potential impacts of groundwater development in the Lost and Tule Lake basins are enormous and are not discussed. The DEIS fails to analyze these potential impacts entirely.

4. Because the KBRA water plan has not yet been developed, all conclusions that this plan is beneficial are premature and without basis. However, the fact that there are no sideboards on the plan and the fact that parties to the KBRA are required to support the On-Project water plan as developed by Project irrigators without oversight, means the KBRA should analyze the potential impacts of a plan that does not actually reduce On-Project water demand in dry years, but that takes the same amount of water, but from different sources, including groundwater, either shifting the impacts to another basin or making it more difficult to determine the impacts to the Klamath River and Upper Klamath Lake. Even with the restrictions on springs in the Klamath Basin, this could have severe detrimental effects to the Lost River Basin springs and aquatic resources, existing groundwater users, and even on Klamath River flows. The DEIS must examine these potential impacts. The yet to be developed water plan could also result in a poor investment that does not advance water balance in the basin and ends up being an irretrievable and irreversible commitment of resources.

5. The KBRA also lacks any clear measurable goals or standards for fish, and there is no clear trigger or clear path of action under the KBRA to reopen the diversion limitations if it turns out the fish are still doing badly or populations are not recovering (Section 1.3). The weak KBRA goals in respect to fisheries and the strong specific goals in respect to irrigation put fish at a tremendous disadvantage. For instance, the agreement states that one of the goals is to establish reliable water supplies for agriculture (Section 1.3.ii), and there are also specifics elsewhere in the KBRA on the amounts of this supply. However, there is no stated parallel goal to establish a reliable water supply for fish. The goal stated in the KBRA for fish is the following: "*restore and sustain natural production and provide for Full Participation in Harvest Opportunities of Fish Species throughout the Klamath Basin*" (Section 1.3.i). This is an illusory standard. By failing to provide any measurable level of restoration or sustained natural production, this illusory standard may mean nothing more than sustaining natural production to avoid extinction. Likewise *to provide for Full Participation in Harvest Opportunities of Fish Species throughout the Klamath Basin* does not in anyway indicate what level of harvest opportunities one is trying to achieve. One just gets to fully participate in whatever harvest opportunity might exist. These are meaningless standards for fish.

6. The DEIS fails to address the fact that there are no guaranteed minimum flows, no guaranteed bucket of water to allocate or shape for fish, and no clear trigger or path of action if the predicted flows or environmental bucket of water does not materialize. This

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is a huge deficiency in the DEIS. The risk of shortfalls in predicted flows is all on the fish, as is the risk of the predicted flows being enough water for fish. The predicted flows often do not match Hardy flows, which are currently deemed the best available science. In 90% exceedence years, the predicted bucket of fish water, even if it does show up, is much less than the total bucket of fish water under Hardy and the current Biological Opinion. In fact the KBRA predicted bucket of water is less than the total bucket of water under Hardy in all years except the very wettest (10% exceedence). The irrigation limitations are set too high, leaving too little water left over for fish to meet both the needs of the Klamath River and Upper Klamath Lake. With climate change the risks the KBRA places on fish are even greater. The DEIS should evaluate these risks but does not.

7. The KBRA predicted flows are clearly insufficient in drought situations, yet only a vague Drought Plan with no defined flow minimums is required by the KBRA (Section 19.2). Though a drought plan has now been developed, it contains no minimum flows or lake level goals or requirements and the plan elements remain as vague as the KBRA requirements. Moreover, the KBRA only explicitly allows for changes in the diversion limitations/guarantees in extreme droughts (See Section 19.2.2.B.v). Extreme droughts are defined as conditions that have only occurred twice in the last 40 years so any changes to diversion limitations/guarantees would only occur in exceptional circumstances. The KBRA's predicted flows are less than what is needed for fish in many more years than extreme drought years, yet the KBRA does not even define what other conditions would be covered. The drought plan also allows for a waiver of the groundwater standards in an extreme drought, which could adversely affect flows. This also highlights the fact that if the irrigators choose to have significant groundwater development in their water plan to replace the water they will no longer be diverting from the Klamath River, then groundwater may well not be available in an emergency. The DEIS also fails to analyze the huge potential on-going costs of a drought plan given the water diversion limitations have been set so high.

8. The KBRA predicted flows are shaped to create unnaturally low flows in the late fall and winter. This could be particularly harmful to ESA listed coho salmon adults returning to spawn in November and December. The DEIS should discuss the impacts of such an altered hydrograph. The tradeoff is to try and maintain higher spring flows for out-migrating juveniles, but this trade-off is made necessary because the KBRA diversion limitations are set too high.

9. As acknowledged in the DEIS, much of the KBRA restoration work, including Upper Klamath Lake restoration will occur with or without the KBRA and the KBRA does not really add to the baseline here.

10. The DEIS should also examine and discuss the modeling assumptions used to generate the KBRA predicted flows. In particular, the DEIS should examine the following assumptions and the risk implications they have for fish:

a. Off-Project Water Use Retirement Program Assumptions.

The model assumes 30,000 acre-feet of new water being contributed from the Off-Project area (in this case Off-Project refers to irrigated lands above Upper Klamath Lake that are not part of the Klamath Reclamation Project). The KBRA, however indicates that this

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amount will be reduced by the difference between any reductions that have already occurred since 2001 less any new water surface water rights after 2001. This amount may be small, but it has not yet been quantified so that we do not know the extent to which the 30,000 acre-feet amount may be reduced.

As of yet specific lands have not been identified, specific willing sellers have not been identified, and funding for a land and/or water retirement program is not in place. In addition, because of return flow issues, there are assumptions that go into how many acre-feet of additional inflow is actually achieved with the purchase of each acre-foot of water. Further, protective mechanisms to protect the retired or purchased water instream are not yet in place.

Though the benefits from this Upper Basin water retirement are assumed in setting Klamath Irrigation Project delivery limits, Project irrigators are granted assurances against future curtailment of water use as long as they are at or under their limits even if these increased inflow assumptions are not met. Even if the assumptions are eventually met there will be an interim period of as yet unidentified length in which they are not. The DEIS is deficient in failing to analyze these issues.

b. Increased Upper Klamath Lake Storage Assumptions.

The DEIS and KBRA assume a net 107,700 acre-feet of additional storage in Upper Klamath Lake, before accounting for evapotranspiration. This additional storage is assumed to come through reconnection of drained and diked former wetlands to Upper Klamath Lake. The specific projects include: Williamson River Delta (owned by TNC – TNC has removed the dikes on two-thirds of its property, the remaining land is to be flooded by 2009), dike removal to join Agency Lake Ranch (owned by BOR), Barnes Ranch (recently acquired); and Wood River Ranch (owned by BLM) to Upper Klamath Lake.

This assumption of additional storage needs to be carefully analyzed and scrutinized. For example, Agency Lake Ranch is already contributing additional water by being operated as a pump storage facility (it is unclear to us how this is treated in the model). If the water contribution that Agency Lake Ranch is currently making is reflected in the model and counted in the amount of water left over for fish it needs to be subtracted from the 63,700 acre feet of additional water that is being added back in for this project so that it is not double counted. If the dikes to Agency Lake Ranch are opened, it can no longer be operated for pump storage, and the pump storage contribution will be gone. This is particularly important because we now know that even with the Barnes Ranch addition (which is adjacent to Agency Lake Ranch), the combined acre-feet of active storage created by opening the dikes to these two ranches will actually be less than the acre-feet currently contributed by Agency Lake pump storage operations alone. (The pump storage operation on Agency Lake Ranch probably cannot be continued much longer because of water quality problems with its discharge into Upper Klamath Lake and the lack of screening on Sevenmile Creek.) It should be noted that the KBRA provides On-Project irrigators with assurances whether additional lake storage is achieved or not, and the KBRA allows On-Project irrigators to be increase their irrigation delivery cap if additional storage beyond these projects is brought online or at the time dams are removed. The DEIS must closely examine these assumptions and KBRA impacts.

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c. Klamath Straits Return Flow Assumptions.

In the KBRA model that predicts flows, the return flows from the Klamath Project are part of the flows observed at Iron Gate Dam as the return flows enter the Klamath River through the Klamath Straits Drain above the dam. The KBRA water plan may reduce these return flows, thereby diminishing some of the hoped for benefits of the diversion limitation. Again the risk is on the fish because no minimum flows or environmental bucket has been guaranteed.

d. Water Use Time Steps and Real Time Water Use Assumptions.

The KBRA assumes irrigation water use based on a certain rate of water use during different time steps throughout the irrigation season. The risk of the seasonal rate of actual irrigation water use deviating from the modeling inputs is again on the fish. To insure that the predicted flows for fish are actually available at the times the water is needed there must also be an agreement limiting the rate of water use in different water year types to a level that will allow the predicted flows to be met. In other words if the irrigators are allowed a total duty of 385,000 acre-feet during the irrigation season of a wet year, the model assumes the duty is spread over the irrigation season in a particular manner, but does not account for a possible shifting in the timing of use that could have a very large negative impact on flows during any such times. The KBRA fails to place limits on how much water is used in different timesteps, and these impacts should be discussed in the DEIS.

e. Eastside Demand Assumptions.

The KBRA predicted flows are based on an assumption of no change in wintertime diversions from Upper Klamath Lake or in irrigation season diversions from the Eastside Delivery Area of the Project (Clear Lake, Gerber Reservoir and the Lost River) that would affect the amount of storage in Upper Klamath Lake or in Klamath River flows.

Wintertime diversions can limit the ability to utilize the full storage capacity of Upper Klamath Lake in drier years, and could have as direct an impact on water available during the irrigation season as if it had occurred during the irrigation season.

In respect to the Eastside Delivery Area, if irrigation demand should increase in that area during different water year types, or if Eastside water is used to supplement decreased diversion from the Upper Klamath Lake Delivery Area then it could impact river flows because the Eastside is connected to the Klamath River via the tunnel through Sheepy Ridge and the Lost River Diversion Channel, and the Eastside currently contributes to Klamath River flows. Without the KBRA restricting Eastside diversions or groundwater development on the Eastside at specified levels in different water year types to assure a continued contribution from the Eastside to Klamath River flows, the model's flow predictions could end up being an overestimate, and the DEIS should note this.

f. Assumption that New Groundwater Development will not Affect Streamflows.

The states of Oregon and California are still issuing new ground water permits in the basin, and the KBRA funds an On-Project plan that allows for new groundwater development for irrigation. The USGS study shows that groundwater and surface water are connected in most places in the basin. Even with the restrictions in the KBRA, there is a risk that any future groundwater development will affect Upper Klamath Lake levels

Comment 10 cont.

and Klamath River flows. The model does not take this into account and the risk is again all placed on the fish. The Kamman Hydrology & Engineering's study of the draft Basin agreement makes this same point. The DEIS fails to analyze these issues.

g. Assumption that Predicted Flow and Lake Levels will be Met and that the Predicted Levels are Sufficient.

By giving irrigators assurances of water deliveries at the contemplated levels, the risk of uncertainty falls squarely on the fish. As indicated above if some of the assumptions are incorrect the burden falls on the fish, plus the burden of the time lag to implement many of the natural storage and restoration projects falls on the fish. With climate change one can also expect a change in the hydrograph, the risk of such changes again falling on the fish. It is also uncertain that even if the predicted lake levels and river flows are achieved, these levels will be enough water to sustain and recover Klamath Lake and Klamath River fisheries, and in fact the predicted flows are often less than what the current science tells us is necessary. The DEIS fails to analyze these risks or the burdens of placing these risks on fish in the basin.

ADDITIONAL COMMENTS

Comment 11 - Fish

Impacts to Upper Klamath Lake

The DEIS should discuss the historical importance of Upper Klamath Lake as a rearing area for salmon, and the impact of the KBRA's predicted low lake levels on salmon restoration in the Upper Basin.

Comment 12 - Water Quality

Flow needs for Water Quality

The only way to meet TMDL's for the Keno reach of the Klamath River will probably be to require flow levels during the summer that are greater than the predicted flows from the KBRA, yet the parties to the KBRA support the Project irrigators getting regulatory assurances that protect them from any future water reductions. Also, there may need to be changes in Keno Dam operations to improve fish passage and water quality in the Keno reach, yet the KBRA requires, and the parties signing the agreement are required to seek legislation that requires Keno Dam to be operated by Reclamation to maintain water levels for irrigation diversion consistent with historic practices.

Comment 13 - ITAs

Social Justice

The KBRA requirement that the federal government not enforce tribal rights even of non-signatory Tribes is a substantial diminution in rights to affected Tribes and this diminution of rights should be discussed in the DEIS.

Comment 14 - KBRA

Irreversible and Irretrievable Commitment of Resources

The KBRA if approved by legislation and signed by federal parties will bind the federal government to a 50 year agreement greatly limiting the federal government's flexibility to respond to future needs and the potential impacts of the long duration of the KBRA should be discussed in the DEIS.

Comment 15 - KBRA

Compliance with Laws

The DEIS fails to discuss whether the KBRA provisions are in conformity with the Reclamation Reform Act of 1982 and the National Wildlife Refuge System Improvement

Comment 15 cont.

Act of 1987. In addition, the DEIS fails to discuss how the KBRA can meet current ESA flow requirements.

Errata

Added to FEIS/R Eratta

Comment 16 - Water Rights/Supply

1. The DEIS states:

"In spring of 2001, the federal government announced there would be no deliveries of water from Upper Klamath Lake or Klamath River to Reclamation's Klamath Project due to Federal Endangered Species Act (ESA) concerns - the first time project water deliveries were not made at a Reclamation project (very limited deliveries occurred later in the summer)." ES-1

This statement though true does not accurately paint the full picture of water deliveries to Project irrigators in 2001. While some irrigators suffered during the drought, many were able to irrigate normally. In fact, the On-Project irrigators experienced only a 32% overall reduction in normal deliveries, while the water year was 46% less than normal. According to reports in *The Oregonian* at the time, roughly 200 Project farms saw no reduction whatsoever in water deliveries. ((Michael Milstein, "Clearing up water issues on Klamath Basin," *The Oregonian*, August 29, 2001)

The On-Project irrigators total normal water intake is approximately 450,000 acre feet (af) of water per year. Before the decision to reduce deliveries, the USBR's Klamath Basin Pilot Irrigation Demand Reduction Program had paid 162 irrigators $2.7 million to idle roughly 17,000 acres of irrigated land within the Project. This reduced demand by roughly 35,000 af, or 7% of total demand. Given this reduction, 415,000 af would have been "normal" in 2001. The Project received at total of 283,000 af of water from in 2001, or 68% of normal. Here are the numbers:

> 26%: On April 6th, Vice President Dick Cheney ordered 70,000 af released from Clear Lake Reservoir. In fact, the USBR spilled 107,000 af from Clear Lake at this time to compensate for losses to evaporation and rampant unregulated diversions along the Lost River delivery system (Jim Bryant, USBR). The USBR had no authority to release this additional 37,000 af.
>
> 18%: On July 24, Secretary of the Interior Gail Norton directed a 75,000 af release from Upper Klamath Lake. USBR officials actually released 76,000 af.
>
> 24%: Emergency wells authorized and funded after the federal decision produced up to 100,000 acre-feet of water for the Project. (Oregon Department of Water Resources)

2. The DEIS states:

Comment 17 - Other/General

"In 2008 and 2010, the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service, respectively, issued biological opinions on Reclamation's Klamath Project operations to better protect listed species. Project operations are governed in part by both opinions." ES-7 through ES-10.

This statement skips over the 2001 Biological Opinion and the court ordered flows from the 2002 Biological Opinion protecting the Klamath's same listed species – the 2001 Biological Opinion and the court ordered flows under the 2002 Biological Opinion

Comment 17 cont.

should be mentioned and explained. They provided better protection to river flows and lake levels than the 2008 and 2010 biological opinions.

3. The DEIS states:

Comment 18 - FERC

"A Negative Determination would be a potential termination event for the KHSA and facilities removal would likely not proceed. The FERC relicensing process would resume." ES-18

In fact, a continued FERC process would most likely result in full or partial removal of the four lower dams because it is economically in PacifiCorp's interest to remove all or some of the dams.

4. The DEIS states:

Comment 19 - Water Rights/ Supply

"The key negotiated outcomes of the KBRA include mutually-beneficial agreements for the Klamath, Karuk, and Yurok Tribes not to exercise water right claims that would conflict with water deliveries to Reclamation's Klamath Project water users and for project water users to accept reduced water deliveries." ES-19

The water limitations to Reclamation's Klamath Project water users are not actually a reduction in water deliveries from the limits imposed by the ESA and the governments tribal trust responsibilities. It is actually an increase in water deliveries from that allowed under current regulation. It should also be noted that the KBRA also diminishes rights to non-signatory tribes in basin.

5. The DEIS states:

Comment 20 - Fish

"Circumstances for threatened and endangered species in the Klamath Basin are not improving." ES-41

Actually, fish in the Basin have done better than they would have without ESA protection. This was very evident in 2002, when the federal government undermined the ESA by ignoring the best available science, and instead delivered too much water to Project irrigators, resulting in low flows and the worst fish kill of record. Litigation restored ESA required flows and now the KBRA is the next attempt to get around ESA regulation that reduces irrigation water deliveries to assure minimum flows and lake levels to benefit ESA listed fish. Also, a lot of restoration has been accomplished and will continue even without the KBRA.

6. The DEIS states:

Comment 21 - Hydrology/Flooding

"Improves base flows for salmonids, particularly in drought years, through KBRA Water Resources Program" ES-45

This statement is simply false. The KBRA provides no base flows for salmonids, and the predicted flows are often less than the ESA and Hardy tell us fish need.

7. The DEIS states:

Comment 22 - Costs

"These conflicts have cost the United States an average of $100 million per year over the past ten years (Sheets 2011)." 1-13

This statement really needs further explanation and a breakdown of the costs. In addition, as the water limitations are set too high and ESA flows are not met by these

Comment 23 - Water Rights/Supply

limitations, conflicts can still be expected and large expenditures will still be required during droughts to try and balance unsustainable water demands created by the KBRA.

8. The DEIS states:

"In the past few decades, however, Klamath Project irrigators and refuge managers have not always had their requests for water met during drought years because of the need to conserve water for fish in the Klamath River downstream of Iron Gate Dam and in Upper Klamath Lake." 1-15

Irrigators always received their water first until the 2001 BiOp for coho created the bookend with the sucker BiOp. The KBRA now attempts to return to pre-2001 conditions. The refuges still remain subservient to irrigators even under the KBRA.

9. The DEIS states:

Comment 24 - KHSA

"The KHSA was an outcome of the FERC's Alternative Dispute Resolution Procedures as outlined in the Energy Policy Act of 20057 (18 C.F.R. 385.601, et seq.) wherein the parties elected to set aside differences to reach resolution on a settlement that is in furtherance of the interests of all of the parties." 1-18

It should be noted that during much of the negotiation PacifiCorp was not even at the table, and FERC's Alternative Dispute Resolution Procedures as outlined in the Energy Policy Act of 20057 were co-opted to deliver a sweetheart deal (the KBRA) to Klamath Project irrigators, who had strong political ties to the Bush administration. Parties, other than PacifiCorp were required to agree to Klamath Project irrigator demands as a condition of staying in the negotiations. WaterWatch and Oregon Wild were inappropriately and involuntarily excluded from the process for not agreeing to support continued commercial farming on Lower Klamath and Tule Lake NWR's for the next 50 years.

WaterWatch will be closely evaluating the response to these comments. We appreciate the opportunity to comment.

Sincerely,

John DeVoe,

Executive Director

WATERWATCH

PROTECTING NATURAL FLOWS IN OREGON RIVERS

Memo on Top Foundational Concerns in Respect to the KBRA and KHSA

Dated: March 29, 2010

Citations correspond to KBRA Public Review Draft (January 7, 2010)

A. Top Foundational Concerns With KBRA Provisions

1. Water Balance/Water Plans/Drought Plan

a) The fact that there is no guaranteed minimum flows, no guaranteed bucket of water to allocate or shape for fish, or clear trigger or path of action if the predicted flows or environmental bucket of water does not show up is a huge deficiency in the KBRA. The risk of the predicted flows not being there is all on the fish.

b) The risk of the predicted flows being enough water for fish is also on the fish. The predicted flows often do not match Hardy flows which are currently deemed the best available science. In 90% exceedence years, the predicted bucket of fish water, even if it does show up, is much less than the total bucket of fish water under Hardy and the current court ordered ESA flows. In fact the KBRA predicted bucket of water is less than the total bucket of water under Hardy in all years except the very wettest (10% exceedence). We believe the irrigation limitations are set too high, leaving too little water left over for fish to meet both the needs of the Klamath River and Upper Klamath Lake. There is one endangered and one threatened species of sucker in Upper Klamath Lake, and the risk of there being too little water in the lake is also on these fish. In addition the predicted lake levels will periodically go low enough to completely drain all 14,000 acres of wetlands in Upper Klamath National Wildlife and other wetlands around the lake. The limitations on irrigation in the KBRA are not set low enough to balance other water demands.

c) It is acknowledged that the predicted flows are not enough in drought situations, yet no drought plan has been developed (Section 19.2). That means there currently is no means of assessing whether or not an adequate drought plan will be developed before support for the KBRA and legislation will be requested. The KBRA itself may limit the ability to negotiate a plan that will effectively deal with droughts because the KBRA only explicitly allows for changes in the diversion limitations/guarantees in extreme droughts (See Section 19.2.2.B.v). Extreme droughts are defined as conditions that have only occurred twice in the last 40 years so diversion limitations/guarantees would only occur in exceptional circumstances. The predicted

flows are less than what is needed for fish in many more years than extreme drought years, yet the KBRA does not even define what other conditions would be covered by a yet to be created drought plan. This is not acceptable. A drought plan should be developed to ensure specified scientifically based minimum flows for fish are met.

The drought plan also allows for waiving of the groundwater standards in an extreme drought, which could adversely affect flows. This also highlights the fact that if the irrigators choose to have significant groundwater development in their water plan to replace the water they will no longer be diverting from the Klamath River, then groundwater may well not be available in an emergency.

d) The KBRA lacks any clear measurable goals or standards for fish, and there is no clear trigger or clear path of action under the KBRA to reopen the diversion limitations if it turns out the fish are still doing badly or populations are not recovering (Section 1.3). The weak KBRA goals in respect to fisheries and the strong specific goals in respect to irrigation put fish at a disadvantage. For instance, the agreement states that one of the goals is to establish reliable water supplies for agriculture (Section 1.3.ii), and then there are also specifics elsewhere in the KBRA on what that supply is going to be, while there is no stated parallel goal to establish a reliable water supply for fish. The goal stated in the KBRA for fish is the following: *"restore and sustain natural production and provide for Full Participation in Harvest Opportunities of Fish Species throughout the Klamath Basin"* (Section 1.3.i) . By not stating the level one is attempting to sustain natural production at, it could mean to just sustain natural production to avoid extinction. Likewise *to provide for Full Participation in Harvest Opportunities of Fish Species throughout the Klamath Basin* does not in anyway indicate what level of harvest opportunities one is trying to achieve. One just gets to fully participate in whatever harvest opportunity might exist. We think these are meaningless standards for fish and put parties concerned with fish at a disadvantage under the KBRA.

e) The KBRA does establish a process to develop and implement a water use reduction plan for the off-Project irrigators in the Upper Basin (Section 16.2.2), but does not for the Klamath Irrigation Project, and it has no plan for water demand reduction in the Shasta and Scott Rivers. We have tremendous concerns over the $92.5 million funding allocation (line 66, page 8, Appendix C-2, and Section 15.2) to fund the development and implementation of a Project water plan that is to be developed and implemented by the irrigators, subject only to 60 day review and approval by the Bureau of Reclamation. Instead of being developed solely by the Project irrigators with no public oversight, the water plan should be developed by a federal agency with appropriate NEPA analysis and public oversight. The plan should actually have a goal of permanently reducing irrigation water demand to solve the basin's overallocation problem rather than allowing for shifting the demand to the Lost River, the Pit River, or back to the Klamath through groundwater development. A certain percentage of the funds should be spent on permanent water demand reduction, similar to the off-Project water use reduction plan in the Upper Basin. In addition, pre-agreement to provide millions of dollars for implementation of a Project water plan, before being able to assess specifically how taxpayer dollars will be spent is not a responsible commitment of federal funds. In addition, if the power fund is not fully funded, the KBRA allows Project

irrigators to allocate water plan funding to the power fund subsidy as a priority. (See Section 15.2.2A and Section 14.3.1)

A water use reduction plan for the Shasta and Scott similar to the off-Project Upper Klamath Basin plan is essential for basin restoration and no specific provision for such a plan in the KBRA is a serious restoration deficiency.

2. ESA/CESA

a) We acknowledge that the ESA is not specifically being waived, but we do believe the KBRA undermines the administration of the ESA because it requires support for regulatory assurances consistent with the diversion limitations/guarantees to irrigators without providing minimum flow protections for fish. See section 3.1.2, section 21.3, and section 21.3.1.B. The parties who sign the agreement most likely cannot initially challenge a biop that is consistent with the diversion limitations/guarantees and in fact would most likely be required to support one that does that. We believe the parties to the agreement will be supporting and may be required to support a biop that violates the ESA, leaving it to others to take appropriate legal action if in fact a biop should come out that does not provide protected flows or a protected bucket of water for fish based on the best available science. We know that the diversion limitations are set too high in dry years, and we know the ESA should require minimum flow protections. The KBRA puts tremendous pressure on NMFS and USFWS to come up with bi-ops that allows water diversions at the level set forth in Appendix E, and gives them cover to do so as non-federal KBRA parties are required to support those agencies in doing just that. (See Section 21.3.1.A and 21.3.1.B.ii.a.). A water deal should have been negotiated that will meet ESA requirements, instead of a deal that puts pressure on agencies and others to support a deal that does not.

The KBRA also invites NMFS and USFWS to rely on actions planned (but not funded) in the KBRA as a reason to conclude fish will need less water than the current biological opinion requires, and also invites them to deliver incidental take coverage based on the diversion limitations/guarantees (See Section 22.2.2 through 22.2.5). In fact this coverage is contemplated to even last beyond the 50 year term of the agreement (See the last sentence of 22.2.1).

b) The KBRA supports development of California legislation that will allow take of southern bald eagles, golden eagles, Lost River suckers, greater sandhill cranes, American peregrine falcons, and shortnose and Lost River suckers in the Lost River and Tule Lake Basins in California under California's Endangered Species Act (CESA) (Section 24.2). This could lead to setting aside existing CESA protections and highlights the concern that the KBRA will actually make matters worse in the Lost River and Tule Lake Basins.

3. Refuges

a) Section 15.4.3.A. on page 100 of the KBRA requires all non-federal parties to support continued commercial farming on 22,000 acres of Tule Lake and Lower Klamath National Wildlife Refuges. The purpose of this provision is to promote the continuation of commercial farming of these important refuge lands and to lock this in for the 50 year term of the agreement. Agreeing to support commercial farming on these refuges

undermines and unduly influences the Comprehensive Conservation Plan (CCP) planning process that will shortly be initiated for these refuges as required under the National Wildlife System Improvement Act of 1997. Commercial farming should be prohibited, as it is incompatible with refuge purposes and the purposes of the National Wildlife System Improvement Act of 1997. The support for commercial farming in the KBRA invites USFWS to determine commercial farming is compatible and consistent with refuge purposes and gives them cover if they do so. This harmful practice on two of the nation's most important national wildlife refuges should be phased out not locked in.

Phasing out commercial farming would not only provide additional wildlife habitat, it would reduce irrigation season water demand, allow for natural storage of winter water, and help improve water quality. It should also be noted that not only does the KBRA require non-federal parties to support commercial farming, but it subtly attempts to create a new management standard by requiring support for leaseland farming managed to "enhance waterfowl management while optimizing agricultural use and maximizing lease revenues" (Section 15.4.3.A.ii). This appears to give agricultural uses and maximizing lease land revenues equal weight to waterfowl management in managing refuge lands, and suggests that as long as you are doing something to enhance waterfowl management from the current situation, commercial farming somehow becomes consistent with waterfowl management. This conflicts with both the National Wildlife System Improvement Act of 1997 and the Kuchel Act, which make it clear that wildlife conservation and waterfowl management are the primary purposes of the refuges, and that any commercial farming activity must be consistent and compatible with these primary purposes. In fact, the large scale commercial farming that occurs on these refuges is not compatible with refuge purposes, and the KBRA makes it more difficult to challenge this incompatible use, especially if Congress should ratify and approve the KBRA and direct the federal agencies to sign it.

b) The KBRA locks in a drought year response that reduces Lower Klamath National Wildlife Refuge's already low dry year allocation of 48,000 acre-feet to 24,000 acre-feet and possibly lower (Section 15.1.2.F). (In this regard it should be noted that a prior biological opinion indicated a minimum of 32,000 acre-feet is necessary just to support the waterfowl food base of the approximately 1,000 bald eagles that overwinter in the basin.) These drier year and drought year cutbacks to water delivered to Lower Klamath NWR wetlands are required under the KBRA without first requiring cutbacks in water delivered to irrigators commercially farming National Wildlife Refuge land. This is most likely in violation of the Kuchel Act and National Wildlife System Improvement Act of 1997. There was a move at the end of the Clinton administration to enforce these laws by first requiring reductions in commercial farming on the refuges to avoid cutting back water deliveries to refuge wetlands. Ironically, Section 15.1.2.G.iv, of the KBRA does allow the On-Project Water plan to limit deliveries to these refuge leaselands to meet water needs on private farms, but not to meet refuge needs. There should be no cutbacks to LKNWR water deliveries in droughts or at other times without first cutting back irrigation water deliveries to refuge land that is being commercially farmed.

c) Though the KBRA gives Lower Klamath NWR a water allocation, it is not the full amount needed in many years, and the Settlement Agreement has language that could be interpreted to limit the ability of Lower Klamath NWR to do better in drier years, or

expand its wetlands in wetter years. Section 15.1.2.E.iii(5) provides that the allocation to Lower Klamath NWR shall be reduced by any delivery of surface water through Reclamation facilities from other delivery points. This would limit the ability of the refuges to increase their water supplies by developing other water sources by purchase, lease, or storage if delivered through Reclamation facilities. It should be noted that under the KBRA, the Project irrigators guaranteed water from the Klamath River is not reduced if they find or develop alternate sources of water, but the refuges are not allowed to do better by developing or purchasing alternate sources, even though under the National Wildlife Systems Improvement Act the Secretary of Interior is required to secure needed refuge water supplies. In addition, Sections 18.3.2 and 15.1.2.E.ii of the agreement also reduce, if not eliminate, the possibility of storing water on the refuges for increasing refuge water supply. Section 18.3.2 predetermines how all new storage should be allocated regardless of where it is developed, and refuges are not identified as a priority to receive any newly stored water, and Section 15.1.2 reduces irrigation season deliveries to Lower Klamath NWR by any amount stored on the refuge in excess of the 35,000 acre-feet wintertime allocation. Also, Section 15.1.2.E.iii sets forth other situations that would also reduce the allocation of water to Lower Klamath NWR, including reducing the irrigation season allocation by one-acre foot for each acre placed in walking wetlands, whether the walking wetlands are on refuge or private lands, and regardless of how much water is actually delivered to the walking wetlands.

It should also be noted that the KBRA requires a number of difficult to achieve conditions to be met before the water allocation to Lower Klamath NWR goes into effect.

d) The KBRA also promotes federal agency reliance on commercial farming on the refuges and builds a greater constituency for it by changing existing law. Section 15.4.4 B and Appendix A, Section H of the KBRA provide that approximately 60% of the net revenue from leasing refuge land for commercial farming will go to a Reclamation fund and applied to the benefit of Project irrigators, either by covering costs of maintaining and operating Keno and Link River Dams (a cost that should be born by Project irrigators), by reducing future capital costs of the Project or by subsidizing power costs to both on and off Project irrigators. By diverting these funds for these purposes, the KBRA will increase and broaden the political support for continuing commercial farming on these two national wildlife refuges at a time many have begun to question the practice. In addition 20% of the revenues would go to USFWS (the other 20% is to go 10% to Tulelake Irrigation District and 10% to Klamath Drainage District, the two irrigation districts, whose customers commercially farm the refuges). This provision will create an agency dependence on farming the refuges with both the Bureau of Reclamation and USFWS, which would make it harder to make the changes that are needed on these refuge lands. Parties to the KBRA are required to support federal legislation to implement this KBRA provision as it is inconsistent with existing law.

4. Power subsidy and special contracts

a) The KBRA provides over $50 million in power subsidies and preferential power rates from the Columbia River Hydropower System that will continue to subsidize draining refuge land for farming (See KBRA Sections 14 and 17, and lines 72 -75 on Appendix C-2). Federal legislation will also be necessary to implement these provisions, and the KBRA requires parties to support such legislation. There is no public policy

purpose for this subsidy. It provides an unfair competitive advantage over other nearby farmers and ranchers who just happen not to own lands in the Klamath Project or Klamath County, and encourages not only wasteful power use, but also wasteful water use as the power is used to pump water. Subsidized power in the Klamath Basin has contributed to the basin's water crisis and has also made it economical to drain wetlands on Lower Klamath and Tule Lake National Wildlife Refuges for harmful commercial farming on refuge land (At the California PUC hearing refuge personnel testified that the once the cost of power reached the market rate, draining refuge land on Tule Lake NWR for commercial farming would no longer be economical.) If such a subsidy is granted it should only be on the condition that commercial farming on the refuges be phased out.

b) The KBRA, in Section 15.4.2.A, modifies existing contracts to change the cost allocation of the D plant pumping by increasing the amount the USFWS has to pay and decreasing the amount the Tule Lake Irrigation District has to pay (this is shown to cost USFWS $170,000 per year, line 69, Appendix C-2). Since this would most likely violate current Reclamation law on cost sharing, Section15.4.6 of the KBRA attempts to circumvent the law by having the Secretary of Interior agree that the cost sharing agreements in the KBRA are not a "contract" as defined in the Reclamation Reform Act of 1982 (Public Law 97-293). This contract modification allows Project irrigators to use D plant pumping to drain and keep drained 15,500 acres of Tule Lake NWR so that the lands can be commercially farmed. In addition, under Section 15.4.4.A of the KBRA, existing Project irrigator debt to the United States for unpaid capital costs of the Project facilities is cancelled without even first determining the amount. This would be a very bad precedent without any public policy justification.

5. Implementing legislation

a) No KBRA legislation should have language approving, ratifying or confirming the KBRA or directing federal agencies to become parties to the agreement, though this is contemplated under the KBRA (See Appendix A, section A). It is only necessary to authorize federal agencies to implement the agreement and that implementation should specifically indicate that implementation must be consistent with and in compliance with all existing laws, rules, and regulations, including but not limited to the National Environmental Policy Act, the Endangered Species Act, the Clean water Act, the National Wildlife Refuge System Improvement Act of 1997, and the Reclamation Reform Act of 1982. It is not good policy to have federal agencies contractually committed to an agreement for 50 years. It would impede the ability of agencies to respond to changes and implement existing and future laws.

b) Appendix A, Section G of the KBRA requires support for expanding the purposes of the Klamath Reclamation Project to include fish and wildlife and other additional uses. Expanding the purposes is good, but by adding the following to the legislation it unnecessarily limits the benefits to fish, wildlife and refuges, and raises ESA concerns:

"The fish and wildlife and National Wildlife Refuge purposes of the Klamath Reclamation Project shall not adversely affect the irrigation purpose of the Project, *provided that*, the provisions regarding water allocations and delivery to the National Wildlife Refuges agreed upon in Section 15.1.2, including any additional water made

available under Section 15.1.2.E.ii and 18.3.2.B.V, of the Klamath River Basin Restoration Agreement are hereby deemed not to constitute an adverse effect upon the Klamath Reclamation Project's irrigation purpose."

This language is inconsistent with the concept that nothing is intended to modify the ESA. Managing the Project for fish and wildlife purposes to comply with the ESA can certainly be deemed to "adversely affect the irrigation purpose of the Klamath Project". In addition it could be interpreted to limit the refuges from improving on its water allocation except in very limited specified ways under the KBRA. The language is also not necessary and it is ambiguous and vague. There are any number of scenarios in which one can imagine someone raising the argument that the fish and wildlife and National Wildlife Refuge purposes are adversely affecting irrigation purposes. Presuming the intent was to make sure this did not affect the priority of water use we suggest the following provision in any legislation in lieu of the above:

> "The fish and wildlife purposes and national wildlife refuge purposes of the Klamath Reclamation Project shall not change the priority of use of Project water, which priorities shall remain subject to applicable state and federal laws."

B. Top Foundational Concerns With KHSA Provisions

1. Linkage with the KBRA

The KBRA has many controversial provisions and seeks $985 million in appropriations. It is not necessary for PacifiCorp's support for the KHSA. We believe linking the KBRA with the KHSA is very likely to derail needed KHSA legislation and/or implementation of the KHSA. Passage of legislation to implement the KBRA should not be a precondition to filing the Secretarial determination or to dam removal. In addition the KHSA is just a process that might lead to dam removal, but may not. If linked to the KBRA, many of the environmentally harmful provisions of the KBRA will already be in effect before we know whether dams will be removed or not.

2. Secretarial Determination

The KHSA and Appendix E legislation leaves the determination of whether dam removal is in the public interest to the discretion of the Secretary of Interior. This determination process is not necessary. It just delays the federal government's decision on whether or not it will commit to dam removal and creates another forum for PacifiCorp or any group that opposes dam removal to have an opportunity to block it. If the Secretarial determination comes back negative, then it will give PC lots of leverage in the FERC process and with the PUC's to keep the dams and recover the costs of any mandatory conditions. Instead Congress should determine in the legislation that the dam removals are in the public interest and authorize the Secretary to remove the dams and commence the necessary planning and environmental review processes to achieve dam removal, rather than delegate the public interest determination to the Secretary.

3. Preconditions and Exits/DRE

Though the KHSA could lead to dam removal, it has so many off ramps and preconditions that it makes dam removal less certain than it has to be. More of these preconditions should be satisfied upfront, especially since the KHSA is linked to the

harmful provisions of the KBRA. It would be terrible to be stuck with the harmful provisions of the KBRA and have no dam removal take place.

4. California Bond.

The KHSA has no provision that provides the needed California bond will not be packaged with environmentally harmful projects. Unfortunately, this is what has occurred in the current California bond. California bond funding is a condition of dam removal, putting KHSA supporters in a position of having to support more harmful provisions to get California bond funding needed for dam removal.

5. Interim Measures and Application of Existing Laws

The interim measures in the KHSA are inadequate, allowing PacifiCorp (PC) to continue to operate for at least the next decade in a manner that will continue to harm salmon. The agreement should require PC to immediately implement the non-structural operational requirements that are part of the mandatory conditions for a new license rather than essentially granting PC what amounts to a new 10 year or longer license with minimal conditions. In addition, PC should remain liable and its operations should remain subject to the CWA and the ESA in the interim (the KHSA contemplates giving PC ESA coverage during the interim). The feasibility of operating Copco I and Irongate at reduced pool levels to minimize temperature increases and toxic algae in the reservoirs during the interim should be explored.

6. State Water Quality Certification

State water quality certification processes should proceed during the interim so that these processes won't further delay the relicensing process if dam removal does not move forward.

7. FERC Annual Licenses and Suspension of Relicensing Process

The KHSA does not state any clear limitation on the number of annual FERC licenses that can be granted to PacifiCorp, or state clearly when the FERC relicensing process would start up again, if dam removal has not commenced by 2020. The KHSA is deficient for not stating a definite limit on the number of annual licenses and a specific date after which relicensing should again commence if dam removal has not yet commenced.

8. Delayed Commencement of Dam Removal

Even if there is a positive Secretarial Determination under the KHSA, no dams are to be removed under the KHSA before 2020 and maybe not for some time thereafter. The Klamath salmon are suffering now from these dams and waiting until 2020 or later to take action with no substantive change in operations during the interim puts salmon at risk.

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AO_LT_1229_059-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
AO_LT_1229_059-2	Master Response GEN-1 Comment Included as Part of Record.	No
AO_LT_1229_059-3	The current USFWS and National Marine Fisheries Service (NOAA Fisheries Service) Biological Opinions (BO) are the result of ESA Section 7 consultations with Reclamation for current water operations in the Klamath River. These analyses and resultant BOs were established under the current water operations regime that includes four operating hydropower facilities. The proposed river flows and lake levels under KBRA would require a new Klamath River operations plan that would require its own compliance under the ESA. The need for KBRA river operations to meet “current ESA flow requirements” would only be established under that separate and distinct ESA consultation. Therefore, currently the Klamath River management operations would not be applicable under a KBRA scenario where the dams are removed, and new ESA Section 7 consultations would need to occur once a new water operations plan is established that includes KBRA programs and activities. Master Response AQU-9 Minimum Flows for Fish. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with ESA or the California Endangered Species Act (CESA). Reclamation’s Klamath Project level actions and decisions would continue to be made in compliance with existing laws and regulations. Master Response ALT-4 Elimination of Alternative 8-Dam Removal Without KBRA from Detailed Study. The KBRA is analyzed as a connected action. NEPA defines connected actions as those actions that are closely related or cannot or would not proceed unless other actions are taken previously or simultaneously (40 CFR 1508.25(a)(1)(ii)). Some actions or component elements of the KBRA are independent obligations and thus have independent utility from the KHSA, but the implementation of several significant elements of the KBRA package would be different, if the determination under the KHSA is not to pursue full dam removal (see Table 1-1). Recognizing that implementation of many elements of the KBRA are unknown and not reasonably foreseeable at this time, the connected action analysis is being undertaken at a programmatic level. The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of	No

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	smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with Federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future. An analysis of non-KBRA restoration alternatives and alternative refuge management is not required. NEPA does not require analysis of alternatives to connected actions such as KBRA. The EIS/EIR includes analysis of the No Action/No Project Alternative in great detail. This information is contained in the "Effects Determinations" sections of each resource area. The No Action/No Project Alternative includes Reclamation's Biological Opinions that require certain flow and lake level in accordance with ESA. KBRA Section 9.2.1.A specifically excludes the Lost River basin from the Fisheries Reintroduction and Restoration programs. Other actions that may occur within that basin would be speculative and are beyond the scope of this EIS/EIR. Potential impacts of the KBRA on the Upper Klamath Lake, potential effects related to water and power use and management of the Reclamation Klamath Project, or effects related to refuge management are analyzed programmatically. Specifically effects are likely to be related to water supply Section 3.8, water quality Section 3.2, and aquatic resources Section 3.3. Future projects or phases for separate KBRA components may require additional, project-specific environmental analysis including an evaluation of compliance with Federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, National Environmental Policy Act, and any other appropriate regulatory compliance would be completed in the future. Commercial farming on the refuges is part of the existing conditions on the refuges. Management of all aspects of the Klamath Basin National Wildlife Refuge Complex, would remain subject to its Comprehensive Conservation Plan (currently in progress), National Wildlife Refuge System Improvement Act, the Kuchel Act, and all other applicable laws, regulations and policies. This EIS/EIR analyzes the effect of removing the Four Facilities consistent with the KHSA and the connected KBRA. KBRA provides more reliable access to water and funds for additional wildlife habitat conservation and management, but does not predetermine refuge management. Future refuge management	

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	decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR Though the KBRA does not dictate management of commercial farming on the refuges, the KBRA would change water delivery to irrigated agriculture and the refuges. A full analysis of the impact of Alternative 2 and 3 on waterfowl, nongame waterbirds, and habitat management by refuge is found in EIS/EIR Section 3.5. Using the Water Resource Integrated Modeling System (WRIMS), the USFWS (2012) conducted an analysis of the effects of Water Diversion Limitations, On-Project Plan, WURP, and Interim Flow and Lake Level Programs on the three National Wildlife Refuges. Generally this analysis showed that water management which would lead to additional water supply and would be expected to increase the number of waterfowl using the National Wildlife Refuges. The analysis of these water management programs under KBRA found beneficial effects to the Lower Klamath National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management, and beneficial effects to Tule Lake National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management. For Upper Klamath National Wildlife Refuge, the analysis indicated that overall there would be a less than significant impact as there is an adverse effect on wetland habitat and some waterfowl; however, there is a beneficial effect on other waterfowl and nongame waterbirds. For a full description of this analysis please see Draft EIS/EIR 3.5-76 to 3.5-80. The purpose of the NEPA and CEQA environmental review process is to disclose to decisionmakers and the public the significant environmental effects of a proposed action or project (40 CFR Section 1502.1). NEPA requires a discussion of the potential socioeconomic impacts of the action alternatives and EIS/EIR includes a socioeconomic analysis for the KBRA provisions of the Proposed action. However neither NEPA nor CEQA require an analysis of the costs of the drought plan, water subsidies, power subsidies, debt cancellation, special contracts, and refuge leaseland revenue sharing as part of the Proposed Action. Therefore, it is beyond the scope of this EIS/EIR to analyze the costs of implementing the Proposed Action or to examine alternatives specifically because they may be more or less costly. However, cost would be considered by the Secretary of the Interior when making the Determination on whether or not to remove the four Klamath Facilities on the Klamath River. More detailed information on the costs of implementing the Proposed Action are presented in the reports titled Klamath Dam Removal Overview Report for the Secretary of the Interior, An Assessment of Science	

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	and Technical Information (Department of the Interior, 2012), available to the public at the following Web site: http://klamathrestoration.gov/. The EIS/EIR analyzed regional socioeconomic effects on irrigated agriculture (Section 3.15.3.7). Based on the hydrologic modeling for the Proposed Action, effects to irrigated agriculture were evaluated for provisions in KBRA. The drought plan as an influence on hydrology was included in this evaluation. Overall the Proposed Action found a positive effect on irrigated agriculture by allowing for additional farming in drought years. The cost of operating Link River Dam and Keno Dam are paid for by PacifiCorp. As part of the negotiated agreement, a portion of lease land revenues collected from farming would be used to offset the cost of operating and maintaining the two dams (KBRA Appendix A.H.5.a). Though the Department of the Interior may direct Reclamation to take ownership of Link River and Keno Dam, Reclamation is not likely to assume the full cost of operating Link River Dam and Keno Dam. Additionally, without authority for Department of the Interior to enter into KBRA or to transfer Link River Dam and Keno Dam any assessment on the consistency of Reclamation law on cost sharing would be speculative.	
AO_LT_1229_059-4	Master Response ALT-4 Elimination of Alternative 8-Dam Removal Without KBRA from Detailed Plan. Master Response ALT-4 describes the reasons that Alternative 8 was not carried forward for more detailed analysis in the EIS/EIR. The comment also describes impacts that occur with or without implementation of the KBRA. The EIS/EIR analyzes the KBRA as a programmatic element of Alternatives 2 and 3 in each resource area. Specific responses to the comments include: 1. The KBRA does not subsidize farming on the NWRs. The KBRA does not require the LKNWR and TLNWR to allow or continue lease land farming. Management of Refuge lease lands would remain subject to the Refuge System Improvement Act, the Kuchel Act, and all other applicable laws, regulations and policies. The parties would pursue collaborative conservation measures on the lease lands, including walking wetlands, as well as other practices beneficial to wildlife. The USFWS would maintain the ultimate administrative control over the lease lands. Under this provision, the Refuge would receive 20 percent of net lease revenues for implementation of conservation practices on the Refuge. This EIS/EIR analyzes the effect of removing the Four Facilities. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR.	No

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	2. The comment does not indicate what the "best means of achieving water security" would be or how it would affect the environmental analysis. Under the KBRA, the USFWS would have standing to receive water for use on the NWR. Water allocations and delivery obligations would be established for the LKNWR and TLNWR increasing the certainty of water deliveries. The current allocation to the refuges during drought years is 0.0 acre-feet. Under the KBRA, the NWRs would be guaranteed an allocation that could range from 48,000 acre-feet in normal to wet years down to 24,000 acre-feet in drier years. As a water user, they would be required to pay for water delivery like all other users. The KBRA does not supersede existing laws or regulations. Reclamation's Klamath Project level actions and decisions would continue to be made in compliance with existing laws and regulations. The NWRs would receive sufficient water for wildlife purposes in nine of ten years according to modeling (Mauser and Mayer 2011). If the KBRA had been in place in 2009, the summer water delivery to LKNWR would have been 48,000 AF which is about twice as much water as the refuge actually received in 2009. Water supplies under KBRA, in an average water year, would result in significantly more wetland habitats which are estimated to provide habitat for more than 8,000 additional nongame waterbirds compared to existing conditions. The increase in non-game waterbird numbers is even greater in drier years (Mauser and Mayer 2011).	
	3. The KBRA would guarantee a water supply to refuges; therefore, it is not clear how the KBRA would make "wildlife refuges subservient to the purpose of the Klamath Irrigation Project." The KBRA would elevate the standing of the refuges to the level of other Reclamation Klamath Project water users. For the first time, KBRA would provide the refuge authority to order water delivery through Klamath Reclamation Project pumping facilities including D-Plant and several pumping plants on the Straits Drain.	
	4. The KBRA does not subsidize groundwater pumping, and the potential KBRA effects on groundwater are analyzed in the Draft EIS/EIR Section 3.7, Ground Water. KBRA Section 15.2.1 describes the purpose of the yet to be developed On-Project Plan. The On-Project Plan is to contain goals related to groundwater pumping as provided in the plan. The KBRA requires that a plan be developed for monitoring springs that supply cool water and base flows to the Klamath	

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	River upstream of Copco 1 Dam to ensure that groundwater pumping does not have an adverse effect on the springs or salmonid use of the river. The On-Project Plan is also to include consideration of a variety of techniques to align supply and demand including conservation easements, forbearance agreements, conjunctive use programs, efficiency measures, land acquisitions, water acquisitions, groundwater development, groundwater substitution, other voluntary transactions, water storage, and any other applicable measures. A portion of the funds to develop and implement the On-Project Plan may be used to supply water from groundwater sources, but the application of this method would be limited by the limitation on effects to specified springs. The KBRA also contains provisions that specify that the funds are not to be used to develop new wells unless they can demonstrate that there would not be an adverse effect on springs and the definition of adverse effect may be modified if monitoring shows that there is an effect on fisheries. It is not known at this time how these various concerns would be balanced in the On-Project Plan. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment. Based on the prohibition against an adverse effect to springs in the Klamath River and the beneficial effects of the limitations on water diversions that would be provided with implementation of the On-Project Plan, the EIS/EIR conclusions at this programmatic level are reasonable. As detailed plans are developed, they would need to comply with existing laws and regulations and if there are Federal or State agency actions related to those plans, then public review under NEPA and CEQA would occur.	
	5. The Draft EIS/EIR Section 3.3, Aquatic Resources, analyzes impacts to aquatic resources associated with the flow and lake levels from the KBRA. More information on flows for fish is included in Master Response AQU-11 (in the Aquatic Resources responses).	
	6. The Power for Water Management Program of the KBRA is not a “power subsidy”. The program includes three elements including an interim power program, a Federal power program, and a renewable power program. The interim power program is intended to provide power to eligible users at a power cost target that is at or below the average cost for similar drainage	

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	projects in the surrounding area. The EIS/EIR notes that there are many factors that affect electricity rates and thus it is difficult to assess how rates may change, if at all. Appendix C-2 indicates an estimated amount of $7.6M for the interim power program. The Federal power program is intended to obtain an allocation of cost-effective power from the Bonneville Power Administration. Again, as the EIS/EIR notes, it is difficult to predict what future electricity rates would be and although a source may be cost-efficient that does not predict whether the rates would be higher or lower than existing rates. There is an estimated $1M allocated for the Federal power program in Appendix C-2. The largest portion of the Power for Water Management Program is directed at increasing power efficiency and developing new renewable sources of power. While these actions may result in lower power rates, it is difficult to predict how rates may change, if at all. There is an estimated $41M allocated in Appendix C-2 for the efficiency and renewable energy programs. In addition, power rates are only one factor in an individual landowner's decisions about irrigation and water use. These relationships are described in the EIS/EIR.	
	7. The Draft EIS/EIR Section 3.3, Aquatic Resources, finds that diversion limitations would benefit several aquatic species (see Volume 1, page 3.3-170).	
	8. Diversion limitations guarantee water to the refuge when the No Action/No Project Alternative would include no deliveries. Under dam removal with implementation of the KBRA, the refuges would, for the first time in more than 100 years, receive a certainty of water delivery. The LKNWR would be provided with a Refuge Allocation (Apr–Oct) of 48,000 AF in dry water years, increasing incrementally to 60,000 AF in wet water years. Even the dry year allocation of 48,000 AF would provide for full refuge needs in 88 percent of years. The current allocation to the refuges during drought years is 0.0 AF. The NWRs would receive sufficient water for wildlife purposes in nine of ten years according to modeling (Mauser and Mayer 2011). If the KBRA had been in place in 2009, the summer water delivery to LKNWR would have been 48,000 AF which is about twice as much water as the refuge actually received in 2009.	
	9. Water deliveries to commercial farming operations on refuge lands come from the irrigator's water supply not the Refuge Allocation. The KBRA provides for an allocation of water to the refuges for refuge purposes. Water required for lease land farming does not count against the Refuge Allocation (KBRA Section 15.1.2.D.i). If there is a dry year, the water diversions to	

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	Reclamation's Klamath Project would be reduced in accordance with the formula developed in the KBRA. This would reduce the amount of water available to both commercial farmers and the refuges. The KBRA provides for a more equitable process of sharing water shortages among all users on Reclamation's Klamath Project.	
AO_LT_1229_059-5	Master Response ALT-3 Elimination of Alternative 13-Federal Takeover of the Klamath Hydroelectric Project from Detailed Study. Master Response ALT-3 describes why Alternative 13 was not carried forward for further analysis in the EIS/EIR. The timeframe for dam removal under Alternative 13 would be generally the same as the timeframe under Alternatives 2 or 3. However, the interim measures included in the KHSA provide a benefit before dam removal that would not be realized with Alternative 13. Additionally, ESA-related requirements to protect fish would continue to be in effect until dam removal. The comment indicates that the interim measures may not be adequate to protect fish; however, any "harm from dam operations" would trigger another consultation with the resources agencies. The cited text in the Draft EIS/EIR has been edited to read "Alternative 13 will not move forward for more detailed analysis in the EIS/EIR because the environmental impacts of dam removal would be generally the same (and have generally the same timeframe) as the dam removal impacts under Alternative 2."	Yes
AO_LT_1229_059-6	NEPA's Forty Most Asked Questions from CEQ include a discussion of the No Action Alternative. It describes what should be included for different types of projects, including projects involving Federal decisions on proposals for projects, which is relevant for this EIS/EIR. "'No action' in such cases would mean the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward." Under the Alternative 1 as described in the Draft EIS/EIR Section 2.4.2, PacifiCorp would need to obtain a long-term operating license from the FERC to replace the existing annual license. PacifiCorp would resume relicensing proceedings with FERC to obtain the required long-term operating license. Until that unknown time, PacifiCorp would continue to operate under an annual license. There is no basis to speculate, as the commenter does, about what PacifiCorp or FERC might do in the absence of the KHSA/KBRA. The No Action/No Project Alternative, as described, is the most reasonable assumption of future conditions. Among	No

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	the action alternatives, Alternative 4: Passage at Four Dams, as described in Final EIS 2.4.5, describes a scenario where KHSA terminates and the requirements for fish passage as set forward by the prior FERC relicensing proceedings are implemented. The comment includes some assumptions about the likely outcome of the Oregon Klamath Adjudication, which seem highly speculative. Additionally, the adjudication is many years from producing a final decree.	
AO_LT_1229_059-7	The commenter suggests that the EIS/EIR should include restoration alternatives other then the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in: Master Response ALT-4 Elimination of Alternative 8-Dam Removal Without KBRA from Detailed Study. Dam removal contemplated under the KHSA cannot be implemented without implementing the KBRA. Therefore, an alternative that would implement a restoration project other than the KBRA is not feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect it to yield the same benefits as full implementation of the KBRA. Even if the Draft EIS/EIR did include alternatives to the KBRA, the alternatives described in the comment have several weaknesses: - The commenter contends that there is an alternative that could provide “guaranteed Klamath River flows and Klamath Lake levels for fish based on the best available science,” but does not identify what study or studies he contends constitute the “best available science.” What constitutes the “best available science” in the Klamath Basin has been a matter of heated controversy for decades, and one reason why the KBRA was negotiated. - The commenter contends that an alternative should be considered that provides more water to fish and refuges by reducing irrigation water demand beyond levels in the KBRA, but he does not provide any specifics as to what levels those would be that would provide “a more reasonable balance” or “a more sustainable water regime” for the Klamath Basin. - It is unclear how the suggestions in the comment would be different from the provisions of the KBRA as analyzed in the	No

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	EIS/EIR. The KBRA does not require the LKNWR Lake and TLNWR to allow or continue lease land farming. Management of Refuge lease lands would remain subject to the Refuge System Improvement Act, the Kuchel Act, and all other applicable laws, regulations and policies. The parties would pursue collaborative conservation measures on the lease lands, including walking wetlands, as well as other practices beneficial to wildlife. The USFWS would maintain the ultimate administrative control over the lease lands. Under this provision, the Refuge would benefit from receipt of 20 percent of net lease revenues for implementation of conservation practices on the Refuge.	
AO_LT_1229_059-8	The purpose of the NEPA and CEQA environmental review process is to disclose to decisionmakers and the public the significant environmental effects of a proposed action or project (40 CFR Section 1502.1). NEPA requires a discussion of the potential socioeconomic impacts of the action alternatives and EIS/EIR includes a socioeconomic analysis for the KBRA provisions of the Proposed action. However neither NEPA nor CEQA require an analysis of the costs of the water subsidies, power subsidies, debt cancellation, special contracts, Federal assumption of Keno and Link River Dam operational costs, and refuge lease land revenue sharing as part of the Proposed Action. Therefore, it is beyond the scope of this EIS/EIR to analyze the costs of implementing the Proposed Action or to examine alternatives specifically because they may be more or less costly. However, cost would be considered by the Secretary of the Interior when making the Determination on whether or not to remove the four Klamath Facilities on the Klamath River. More information on the costs of implementing the Proposed Action are presented in the reports titled Klamath Dam Removal Overview Report for the Secretary of the Interior, An Assessment of Science and Technical Information (Department of the Interior, 2012), available to the public at the following Web site: http://klamathrestoration.gov/.	No
AO_LT_1229_059-9	**On-Project Plan Summary:** The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment. Consultation under ESA for various elements of the KBRA does not presume that there would be approval of any particular flow regime.	No

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	The KBRA is analyzed in this EIS/EIR programmatically. The KBRA includes programs that would undergo detailed development and analysis in the future. The KBRA analysis, however, is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of this plan are unknown and not reasonably foreseeable at this time. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. These programs would likely undergo detailed development and analysis in the future. Therefore, it is anticipated additional National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analyses for the suite of actions contained in KBRA would be tiered as appropriate to this EIS/EIR. The KBRA is analyzed as a connected action. NEPA defines connected actions as those actions that are closely related or cannot or would not proceed unless other actions are taken previously or simultaneously (40 CFR 1508.25(a)(1)(ii)).13 Some actions or component elements of the KBRA are independent obligations and thus have independent utility from the KHSA, but the implementation of several significant elements of the KBRA package would be different, if the determination under the KHSA is not to pursue full dam removal (see Table 1-1). Recognizing that implementation of many elements of the KBRA are unknown and not reasonably foreseeable at this time, the connected action analysis is being undertaken at a programmatic level. The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with Federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future. An analysis of permanent demand reduction program is not required. NEPA does not require analysis of alternatives to connected actions such as KBRA.	
AO_LT_1229_059-10	**Page 3.3-143**: The comment does not provide any data to refute the conclusion of the EIS/EIR and therefore no change was made to the analysis.	No

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AO_LT_1229_059-11	**On-Project Plan Implementation:** As described in section 3.7.4.3 of the EIS/EIR, under Alternative 2, implementation of the KBRA is expected to have a less than significant effect on groundwater resources in the long term by providing measures to monitor and protect groundwater where none currently exist. For example, if KBRA's Water Diversion Limitations program were in place during 2010, instead of receiving approximately 185,000 af of water, irrigators would have received 330,000 af, an increase of approximately 145,000 af. As a result, groundwater pumping would likely have been much less than what occurred in 2010. Also, contrary to the comment author's assumption, implementation of the On-Project Plan could include management, efficiency, or conservation measures; land acquisitions, additional storage, or agreements for Klamath Project irrigators to forebear the use of water from Upper Klamath Lake or the Klamath River. New production irrigation wells would not be allowed if an irrigator has a surface water forebearance or similar agreement under the On-Project Plan. Also, Oregon law concerning limits on groundwater pumping are to be applied in both the California and Oregon side of Reclamation's Klamath Project as part of the On-Project Plan. The KBRA also includes implementation of a work plan that involves evaluating and monitoring groundwater levels within the Upper Klamath Basin where none currently occurs, and analysis and reporting of such data to better inform the public agencies. Moreover, KBRA would also provide a new source of funding to remedy any adverse impacts that could arise from groundwater use. Given the aforementioned actions to reduce groundwater pumping, increase monitoring, and increase funding related to groundwater, the Lead Agencies expect the KBRA to slow, halt, or reverse the declining trend in groundwater levels over the past decade (i.e. since 2001) and serve to protect existing or future permitted land uses as well as surface water conditions and related resources. If spring flows were reduced by 6% the impact on the KBRA Klamath River flows would be less than significant. The volume of flow from the springs and the volume of water in the river make the decrease detectable and an appropriate monitoring threshold. For a complete analysis see section 3.7.4.3. As the comment author notes, "a water plan does not yet exist that can be evaluated". Therefore, The KBRA is analyzed in this EIS/EIR programmatically. The KBRA includes programs that would undergo detailed development and analysis in the future. The KBRA analysis, however, is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of this plan are unknown and not reasonably foreseeable at this time. A program-level document is appropriate when a project consists of	Yes

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	a series of smaller projects or phases that may be implemented separately. These programs would likely undergo detailed development and analysis in the future. Therefore, it is anticipated additional National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analyses for the suite of actions contained in KBRA would be tiered as appropriate to this EIS/EIR. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment. Based on the prohibition against an adverse effect to springs in the Klamath River and the beneficial effects of the limitations on water diversions that would be provided with implementation of the On-Project Plan, the EIS/EIR conclusions at this programmatic level are reasonable. As detailed plans are developed, they would need to comply with existing laws and regulations and if there are Federal or State agency actions related to those plans, then public review under NEPA and CEQA would occur.	
AO_LT_1229_059-12	**Impacts to Lost River, Tule Lake, and Pitt River basins:** The commenter doesn't give a rationale as to why the groundwater protections don't apply to the Lost River and Tule Lake Basins. Monitoring of springs as well as regional groundwater monitoring and management should also protect these areas. Also the geographic scope of the KBRA is limited to the main Reclamation's Klamath Project area that is supplied by Upper Klamath Lake (UKL) or the Klamath River. It does not include Lost River basin above Harpold Dam. The future groundwater management described in the KBRA is limited to the main of vicinity of Reclamation's Klamath Project and does not provide for the development of new wells in the Lost River, Tule Lake Basin, or Pitt River basin. The KBRA does not supersede existing regulations that protect existing groundwater users and communities that are dependent on groundwater sources. As described in section 3.7.4.3 of the EIS/EIR, under Alternative 2 and 3, implementation of the KBRA is expected to be less than significant on groundwater in the long term by providing measures to monitor and protect groundwater where none currently exist. For example, if KBRA's Water Diversion Limitations program were in place during 2010, instead of receiving approximately 185,000 af of water, irrigators would have received 330,000 af, an increase of approximately 145,000 af. As a result, groundwater pumping would likely have been much less than what occurred in 2010.	Yes

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	Also, implementation of the On-Project Plan could include management, efficiency, or conservation measures; land acquisitions, additional storage, or agreements for Klamath Project irrigators to forebear the use of water from Upper Klamath Lake or the Klamath River. New production irrigation wells would not be allowed if an irrigator has a surface water forebearance or similar agreement under the On-Project Plan. The KBRA also includes implementation of a work plan that involves evaluating and monitoring groundwater levels within the Upper Klamath Basin where none currently occurs, and analysis and reporting of such data to better inform the public agencies. Moreover, KBRA would also provide a new source of funding to remedy any adverse impacts that could arise from groundwater use. Given the aforementioned actions to reduce groundwater pumping, increase monitoring, and increase funding related to groundwater, the Lead Agencies expect the KBRA to slow, halt, or reverse the declining trend in groundwater levels over the past decade (i.e. since 2001) and serve to protect existing or future permitted land uses as well as surface water conditions and related resources. However, out of an abundance of caution, the Lead Agencies have made a less than significant determination for groundwater impacts from the On-Project Plan to acknowledge the uncertainty in how the final plan would be implemented. Groundwater would only be used when surface water supplies are not sufficient to meet demand. D-plant pumping from Sump 1a to the Lower Klamath Lake Refuge and eventually to the Klamath River through the Straits Drain would not occur if surface water supplies were not sufficient to meet demand. D-plant pumping only occurs when excess water accumulates in Sump 1a. The geographic scope of the regulatory assurances in the KBRA Section 24 is limited to the areas served by the UKL and the Klamath River and does not extend to the Lost River basin above Harpold Dam. The CESA currently allows incidental take of the species listed under certain conditions. The KBRA recognizes that such conditions may occur and directs the CDFG to address those conditions in a timely fashion. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with ESA or CESA. In the future, the KBRA envisions a wide range of alternate tools for addressing drought conditions that reduce reliance on groundwater substitution. This suite of tools has been analyzed in this EIS/EIR programmatically. Plans and programs such as the On-Project Plan and the Drought Plan described in the KBRA would undergo detailed development and analysis in the future.	

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	The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of this plan are unknown and not reasonably foreseeable at this time. Under the KBRA, CDFG would provide draft legislation to the Parties regarding a limited authorization to take the species referred to by the commenter, if such authorization is necessary (KBRA, section 24.2). Legislation would be required if Reclamation's Klamath Project would cause take of any of those species, since they are all fully protected (Fish & G. Code, sections 3511 and 5515.) The proposed legislation will not "[set] aside existing CESA protections," since the proposed legislation would not affect CESA.	
AO_LT_1229_059-13	**Power and Pumping Cost Subsidies summary:** The Power for Water Management Program of the KBRA is not a "power subsidy". The program includes three elements including an interim power program, a Federal power program, and a renewable power program. The interim power program is intended to provide power to eligible users at a power cost target that is at or below the average cost for similar drainage projects in the surrounding area. The EIS/EIR notes that there are many factors that affect electricity rates and thus it is difficult to assess how rates may change, if at all. Appendix C-2 indicates an estimated amount of $7.6 million for the interim power program. The Federal power program is intended to obtain an allocation of cost-effective power from the Bonneville Power Administration. Again, as the EIS/EIR notes, it is difficult to predict what future electricity rates would be and although a source may be cost-efficient that does not predict whether the rates would be higher or lower than existing rates. There is an estimated $1 million allocated for the Federal power program in Appendix C-2. The largest portion of the Power for Water Management Program is directed at increasing power efficiency and developing new renewable sources of power. While these actions may result in lower power rates, it is difficult to predict how rates may change, if at all. There is an estimated $41 million allocated in Appendix C-2 for the efficiency and renewable energy programs. **D Plant Pumping Costs:** Under the KBRA, the USFWS would have standing to receive water for use on the NWR. Water allocations and delivery obligations would be established for the Lower Klamath National Wildlife Refuge (NWR) and Tule Lake NWR increasing the certainty of water deliveries. The current allocation to the refuges during drought years is 0.0 acre-feet. Under the KBRA, the NWRs would be guaranteed an allocation that could range from 48,000 acre-feet in normal to wet years down to 24,000 acre-feet in drier	No

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	years. As a water user, they would be required to pay for water delivery like all other users. The KBRA does not supersede existing laws or regulations. Reclamation's Klamath Project level actions and decisions would continue to be made in compliance with existing laws and regulations. Please see previous response with respect to power rates. **Federal Power Program:** Please see prior response regarding power rates. The KBRA attempts to find cost effective power that is at or below the cost for power on similar drainage projects. Power rates for irrigation generally have been trending towards market rates. The EIS/EIR notes that there are many factors that affect electricity rates and thus it is difficult to assess how rates may change, if at all. The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. Management of Refuge lease lands would remain subject to the Refuge System Improvement Act, the Kuchel Act, and all other applicable laws, regulations and policies. The parties would pursue collaborative conservation measures on the lease lands, including walking wetlands, as well as other practices beneficial to wildlife. The USFWS would maintain the ultimate administrative control over the lease lands. Under this provision, the Refuge would receive 20 percent of net lease revenues for implementation of conservation practices on the Refuge. Under existing law they do not receive any revenue from the lease lands. This EIS/EIR analyzes the effect of removing the Four Facilities consistent with KHSA and the connected actions included in KBRA. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR. See Klamathrestoration.gov for a copy of the KBRA. Though the KBRA does not dictate management of commercial farming on the refuges, the KBRA would change water delivery to irrigated agriculture and the refuges. A full analysis of the impact of Alternative 2 and 3 on waterfowl, nongame waterbirds, and habitat management by refuge is found in EIS/EIR Section 3.5. Using the Water Resource Integrated Modeling System (WRIMS), the USFWS (2012) conducted an analysis of the effects of Water Diversion Limitations, On-Project Plan, WURP, and Interim Flow and Lake Level Programs on the three National Wildlife Refuges. Generally this analysis showed that water management which would lead to additional water supply for the National Wildlife Refuges and therefore would be expected to increase the number of waterfowl using the National Wildlife Refuges.	

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	The analysis of these water management programs under KBRA found beneficial effects to the Lower Klamath National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management, and beneficial effects to Tule Lake National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management. For Upper Klamath National Wildlife Refuge, the analysis indicated that overall there would be a less than significant impact as there is an adverse effect on wetland habitat and some waterfowl; however, there is a beneficial effect on other waterfowl and nongame waterbirds. For a full description of this analysis please see Draft EIS/EIR 3.5-76 to 3.5-80. The KBRA does not supersede existing laws or regulations including the Reclamation Reform Act. Section 15.4.6 of the KBRA acknowledges that provisions of Title II of Public Law 97-293 does apply to Klamath Project Water Users. However Section 15.4.6 clarifies that "KPWU[Klamath Project Water Users] and the Secretary further agree that this Agreement [KBRA] and any amendment of this Agreement[KBRA] or any other agreement contemplated by this Agreement[KBRA] is not a "contract" as defined in section 202(a) of Public Law 97-293 (43 U.S.C. § 390bb(1))."	
AO_LT_1229_059-14	**Debt Forgiveness – KBRA Section 15.4.4:** KBRA Section 15.4.4 identifies a way to allocate past net revenues towards costs related to the Reclamation Project facilities. Implementation of the proposal would require authorizing legislation to be enacted by Congress. The KBRA is analyzed in this EIS/EIR programmatically. The KBRA includes programs that would undergo detailed development and analysis in the future. The KBRA analysis is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of this plan or program are unknown and not reasonably foreseeable at this time. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. These programs would likely undergo detailed development and analysis in the future. Therefore, it is anticipated additional National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analyses for the suite of actions contained in KBRA would be tiered as appropriate to this EIS/EIR.	No
AO_LT_1229_059-15	**Lease Land Revenue :** The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. Management of Refuge lease lands would remain subject to the Refuge System Improvement Act, the Kuchel Act,	No

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	and all other applicable laws, regulations and policies. The parties would pursue collaborative conservation measures on the lease lands, including walking wetlands, as well as other practices beneficial to wildlife. The USFWS would maintain the ultimate administrative control over the lease lands. Under this KBRA provision, the Refuge would receive 20 percent of net lease revenues for implementation of conservation practices on the Refuge. In 2009, the Refuge share would have been approximately $343,000. The net Lease Land Revenue currently goes to the General Treasury as a credit to the Reclamation Fund, not the Klamath Reclamation Project or the water users. Additionally, without authority from Congress for the Department of the Interior to enter into KBRA any reallocation of lease land revenues would not occur. It is unclear from the comment what existing law is inconsistent with reallocation of lease land revenues. This EIS/EIR analyzes the effect of removing the Four Facilities. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR. See Klamathrestoration.gov for a copy of the KBRA.	
AO_LT_1229_059-16	**Link River and Keno Dam Operation:** The KBRA includes programs that would undergo detailed development and analysis in the future including the transfer of Keno Dam to Reclamation. The KBRA analysis, however, is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of these plans are unknown and not reasonably foreseeable at this time. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. These programs would likely undergo detailed development and analysis in the future. Therefore, it is anticipated additional National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analyses for the suite of actions contained in KBRA would be tiered as appropriate to this EIS/EIR. The cost of operating Link River Dam and Keno Dam are paid for by PacifiCorp. As part of the negotiated agreement, a portion of lease land revenues collected from farming would be used to offset the cost of operating and maintaining the two dams. Though the Department of the Interior may direct Reclamation to take ownership of Link River and Keno Dam, Reclamation is not likely to assume the full cost of operating Link River Dam and	No

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	Keno Dam. Additionally, without authority for Department of the Interior to enter into KBRA or to transfer Link River Dam and Keno Dam any assessment on the consistency of Reclamation law on cost sharing would be speculative. The KBRA includes several provisions related to increasing water management flexibility and real time management of water throughout the basin. The KBRA does not require commercial farming on LKNWR or TLNWR. The KBRA also includes several programs that would seek willing sellers as a method of increasing inflows into Upper Klamath Lake and available water supplies on the Klamath Reclamation Project including the voluntary Water Use Retirement Program (WURP) and the On-Project Plan. The WURP is a voluntary program intended to increase the inflow to Upper Klamath Lake by purchase or retirement of surface water rights for irrigation from willing sellers and other techniques. The On-Project Plan is intended to align water supply and demand for areas within the Klamath Reclamation Project and would include consideration of a variety of techniques such as conservation easements and land acquisitions from willing sellers. NEPA's Forty Most Asked Questions from CEQ include a discussion of the No Action Alternative. It describes what should be included for different types of projects, including projects involving Federal decisions on proposals for projects, which is relevant for this EIS/EIR. "'No action' in such cases would mean the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward." There is no requirement that an EIS evaluate impacts from historic operations. Instead and EIS must compare the likely change in conditions between the No Action alternative and the action alternatives. This evaluation has been done for the Proposed transfer of the Keno Facilities from PacifiCorp to Reclamation (Keno Transfer) in the "Effects Determinations" sections of each resource area included in Chapter 3. The purpose of the NEPA and CEQA environmental review process is to disclose to decisionmakers and the public the significant environmental effects of a proposed action or project (40 CFR Section 1502.1). NEPA requires a discussion of the potential socioeconomic impacts of the action alternatives and EIS/EIR includes a socioeconomic analysis for the KBRA provisions of the Proposed action. However neither NEPA nor CEQA require an analysis of the costs of the water subsidies, power subsidies, debt cancellation, special contracts, Federal assumption of Keno and Link River Dam	

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	operational costs, and refuge leaseland revenue sharing as part of the Proposed Action. Therefore, it is beyond the scope of this EIS/EIR to analyze the costs of implementing the Proposed Action or to examine alternatives specifically because they may be more or less costly. However, cost would be considered by the Secretary of the Interior when making the Determination on whether or not to remove the four Klamath Facilities on the Klamath River. More information on the costs of implementing the proposed Action are presented in the reports titled Klamath Dam Removal Overview Report for the Secretary of the Interior, An Assessment of Science and Technical Information (Department of the Interior, 2012), available to the public at the following Web site: http://klamathrestoration.gov/. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment.	
AO_LT_1229_059-17	**KBRA impacts to National Wildlife Refuges:** Potential impacts to the National Wildlife Refuges with implementation of the KBRA are disclosed in the EIS/EIR. Water allocations and delivery obligations would also be established for the Lower Klamath National Wildlife Refuge (NWR) and Tule Lake NWR increasing the certainty of water deliveries. Under dam removal with implementation of the KBRA, the refuges would, for the first time in more than 100 years, receive a certainty of water delivery. The Lower Klamath NWR would be provided with a Refuge Allocation (Apr–Oct) of 48,000 AF in dry water years, increasing incremental to 60,000 AF in wet water years. Even the dry year allocation of 48,000 AF would provide for full refuge needs in 88 percent of years. The current allocation to the refuges during drought years is 0.0 AF. A full analysis of the impact of Alternative 2 and 3 on waterfowl, nongame waterbirds, and habitat management by refuge is found in EIS/EIR Section 3.5. Using the Water Resource Integrated Modeling System (WRIMS), the USFWS (2012) conducted an analysis of the effects of Water Diversion Limitations, On-Project Plan, WURP, and Interim Flow and Lake Level Programs on the three National Wildlife Refuges. Generally this analysis showed that water management which would lead to additional water supply would be expected to increase the number of waterfowl using the National Wildlife Refuges.	No

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	The analysis of these water management programs under KBRA found beneficial effects to the Lower Klamath National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management, and beneficial effects to Tule Lake National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management. For Upper Klamath National Wildlife Refuge, the analysis indicated that overall there would be a less than significant impact as there is an adverse effect on wetland habitat and some waterfowl; however, there is a beneficial effect on other waterfowl and nongame waterbirds. For a full description of this analysis please see Draft EIS/EIR 3.5-76 to 3.5-80. The NWRs would receive sufficient water for wildlife purposes in nine of ten years according to modeling (Mauser and Mayer 2011). If the KBRA had been in place in 2009, the summer water delivery to Lower Klamath NWR would have been 48,000 AF which is about twice as much water as the refuge actually received in 2009. Water supplies under KBRA, in an average water year, would result in significantly more wetland habitats which are estimated to provide habitat for more than 8,000 additional nongame waterbirds compared to existing conditions. The increase in non-game waterbird numbers is even greater in drier years (Mauser and Mayer 2011). KBRA provides more reliable access to water and funds for additional wildlife habitat conservation and management, but does not predetermine refuge management. Management of all aspects of the Klamath Basin National Wildlife Refuge Complex, would remain subject to its Comprehensive Conservation Plan (currently in progress), National Wildlife Refuge System Improvement Act, the Kuchel Act, and all other applicable laws, regulations and policies. This EIS/EIR analyzes the effect of removing the Four Facilities. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR.	
AO_LT_1229_059-18	**Commercial Farming on LKNWR and TLNWR:** LKNWR comprises approximately 53,600 acres. Lease Land farming and Cooperative farming respectively average 5,500 (10%) and 4,500 (8%) acres annually. Walking wetlands are commonly rotated with cropland areas in both programs (USFWS 2012a; Reclamation 2012g). TLNWR comprises approximately 39,100 acres. Lease Land farming and Cooperative farming respectively average 14,800 (38%) and 2,500 (6%) acres annually. The Kuchel Act requires 13,000 (33%) acres of wetlands at all times. Walking wetlands are	No

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	commonly rotated with cropland areas in both programs. Row crops are currently authorized by USFWS on Cooperative farming lands when associated with the private-land walking wetlands program (USFWS 2012b; Reclamation 2012g). LKNWR and TLNWR combined comprise approximately 92,700 acres for which up to 27,300 acres or 29% are dedicated to croplands. The Lease Land program totals 20,300 acres or 22% of the combined total while the Cooperative farming program totals 7,000 or 8% of combined total (USFWS 2012b; Reclamation 2012g). While 100% crop harvest is permitted on the Lease Lands, studies show grain harvester losses range from 3-5%. Thus a three-ton average yield leaves approximately 180-300 pounds (lbs)/ac of waste grain for waterfowl (Green 2012). These residual crops remain due to inefficiencies in harvest techniques and were factored into the bioenergetics analysis to estimate carrying capacity for waterfowl (Mauser and Mayer 2011). Certainly, grain from the cooperative farm lands provide more energy to birds than the lease lands, but crops grown on the lease lands also contribute.	
AO_LT_1229_059-19	**Impacts of Lease Land Farming:** The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with applicable statutes. Reclamation's Klamath Project level actions and decisions would continue to be made in compliance with existing laws and regulations. The KBRA includes programs that would undergo detailed development and analysis in the future. The KBRA analysis is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of future management plans are unknown and not reasonably foreseeable at this time. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. These programs would likely undergo detailed development and analysis in the future. Therefore, it is anticipated additional National Environmental Policy Act (NEPA) analyses for the suite of actions contained in KBRA would be necessary. 1. Commercial farming is an integral part on both programs (lease land and cooperative farming). The largest refuge cropland area resides on TLNWR which does not receive a direct allocation of water from Reclamation's Klamath Project, but receives return-flow irrigation water not utilized by private lands within Tulelake Irrigation District. Thus there is no adverse impacts to Upper Klamath Lake from the irrigation of said refuge lands. During the	No

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	post-harvest season, the pre-irrigating/flooding of up to 17,000 acres provides high quality habitat for Pacific Flyway waterfowl and other species. Refuge farming also serves the purpose of reducing crop depredation on neighboring private lands and in central California. 2. Management of NWR lease lands would remain subject to its Comprehensive Conservation Plan (currently in progress), National Wildlife Refuge System Improvement Act, the Kuchel Act, and all other applicable laws, regulations and policies. This EIS/EIR analyzes the effect of removing the Four Facilities. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR. 3, 4, and 5. The KBRA is analyzed as a connected action. NEPA defines connected actions as those actions that are closely related or cannot or would not proceed unless other actions are taken previously or simultaneously (40 CFR 1508.25(a)(1)(ii)). Some actions or component elements of the KBRA are independent obligations and thus have independent utility from the KHSA, but the implementation of several significant elements of the KBRA package would be different, if the determination under the KHSA is not to pursue full dam removal (see Table 1-1). Recognizing that implementation of many elements of the KBRA are unknown and not reasonably foreseeable at this time, the connected action analysis is being undertaken at a programmatic level. The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with Federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future. An analysis of using refuges to store water and phasing out refuge farming is not required. NEPA does not require analysis of alternatives to connected actions such as KBRA. 6. Community support for the farming programs is high, with no evidence showing that it “unfairly competes” with private lands. In fact, competition for lease lands is high with an average of 4-5 bids per lot. This indicates that there is sufficient demand for lease	

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	lands -both private and public. Lease land and cooperative farming supports approximately 60 individual families on an annual basis. 7. Recent studies have shown potatoes provide an important food source for geese during the fall migration. Waste grain on lease lands provides a vital food source for waterfowl. Due to the large acreage of waste grain produced, many acres go unutilized by waterfowl(Green 2012). 8. Pesticides can be very effective tools in an Integrated Pest Management program for managing a wide variety of disease, insect and weed pests that infest crops in any given year. All pesticides approved for use on Lower Klamath and Tule Lake National Wildlife refuges are carefully reviewed by a team of specialists from the U.S. Fish and Wildlife Service and Bureau of Reclamation. The decision to approve is based on toxicity, proposed use of the pesticide, environmental conditions, degradation rates, solubility, and availability of other cultural, biological, or less toxic alternatives. All chemical applications are evaluated and permitted consistent with DOI and FWS policy. All pesticide usage is evaluated using the Pesticide Use Proposal committee comprised of integrated pest management specialists, toxicologists, and fish and wildlife biologists. This aspect of refuge management would also be evaluated under the refuges Comprehensive Conservation Plan planning process. One recent trend in pesticide use on NWRs is an increase in the acreage of organic crops which has lessened the number of acres where chemicals are applied. This has been attributed to an increase in the acreage of the Walking Wetlands program. 9. Most farmed lots are not considered preferred nesting habitat areas. 10. Refuge personnel consider commercially farmed areas to be compatible with wildlife conservation. Thus an appropriate amount of time is justified for management. 11. Commercial farming on the refuges is part of the existing conditions on the refuges. For a detailed evaluation of existing water quality conditions and the No Action/ No Project of the Upper Klamath Basin see Section 3.2. The comment author overstates the requirement of Section 15.4.3 A. on page 100 of the KBRA. This text expressly indicates that management of the National Wildlife Refuges should enhance waterfowl management. The actual text in the KBRA is “Recognizing applicable law, the Non-Federal Parties support continued lease land farming on TLNWR and LKNWR managed as described in (ii).”	

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	Section 15.4.3 A(ii) states: "(ii) recognize that in the conduct of the leasing of the Refuge lease lands, the Secretary, through collaborative efforts with growers and water delivery agencies has made or may make use of practices such as walking weltands, lease incentives, and other programs that enhance waterfowl management while optimizing agricultural use and maximizing lease revenues;" Management of all aspects of the Klamath Basin National Wildlife Refuge Complex, would remain subject to its Comprehensive Conservation Plan (currently in progress), National Wildlife Refuge System Improvement Act, the Kuchel Act, and all other applicable laws, regulations and policies. This EIS/EIR analyzes the effect of removing the Four Facilities consistent with the KHSA and the connected KBRA. KBRA provides more reliable access to water and funds for additional wildlife habitat conservation and management, but does not predetermine refuge management. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR. Though the KBRA does not dictate management of commercial farming on the refuges, the KBRA would change water delivery to irrigated agriculture and the refuges. A full analysis of the impact of Alternative 2 and 3 on waterfowl, nongame waterbirds, and habitat management by refuge is found in EIS/EIR Section 3.5. Using the Water Resource Integrated Modeling System (WRIMS), the USFWS (2012) conducted an analysis of the effects of Water Diversion Limitations, On-Project Plan, WURP, and Interim Flow and Lake Level Programs on the three National Wildlife Refuges. Generally this analysis showed that water management which would lead to additional water supply would be expected to increase the number of waterfowl using the National Wildlife Refuges. The analysis of these water management programs under KBRA found beneficial effects to the Lower Klamath National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management, and beneficial effects to Tule Lake National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management. For Upper Klamath National Wildlife Refuge, the analysis indicated that overall there would be a less than significant impact as there is an adverse effect on wetland habitat and some waterfowl; however, there is a beneficial effect on other waterfowl and nongame waterbirds. For a full description of this analysis please see Draft EIS/EIR 3.5-76 to 3.5-80.	
AO_LT_1229_059-20	The National Wildlife Refuge Improvement Act of 1997 defines the mission of the National Wildlife Refuge System: 'to administer a	No

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	national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.' At its core, KBRA is an agreement to restore anadramous fish populations. The KBRA provides an appropriate way to improve fish populations overall and improve water reliability for the Klamath Basin National Wildlife Refuges specifically which supports conservation management and restoration of fish, wildlife, and plant resources. The National Wildlife Refuge Improvement Act of 1997 confers a new mission and purposes to the NWRS; however, where these purposes conflict with existing legislated refuge purposes (such as the Kuchel Act), those existing purposes take precedence. The Comprehensive Conservation Plan for the Klamath Basin National Wildlife Refuge Complex is currently in process and information on this topic can be found at: http://www.fws.gov/klamathbasinrefuges/ccp.html.	
AO_LT_1229_059-21	**Implementation of KBRA Refuge Allocation:** The water supply to Tule Lake NWR is similar under the No Action/No Project to that described under Alternative 2 and Alternatives 3. Positive effects under Alternatives 2 and 3 accrue to Tule Lake NWR terrestrial resources primarily from improvements to habitat condition. Increased operational flexibility and improved reliability of water supply, especially to the "walking wetlands" program, allow for optimization of current refuge management. Specifically Alternative 2 and Alternative 3 provide greater flexibility in the draining and refill of Sumps 1(A) and 1(B). This increased ability to manage sumps would mean improved habitat conditions for migratory waterfowl and nesting nongame birds. Also if the KBRA was implemented, there would be less uncertainty in agricultural water deliveries to refuge wetlands and agricultural lands than under No Action/No Project. More certainty in water for the "Walking Wetlands" program provides wetland-related food and habitats for waterfowl. There are some components of the KBRA that would occur without an Affirmative Determination on dam removal. These elements are described and analyzed in the EIS/EIR under the No Action/No Project Alternative. Furthermore, while it is technically possible that other elements of the KBRA could be implemented without an Affirmative Determination on dam removal, implementation of many of those actions would not occur because many of its provisions, in particular those related to diversion limitations and associated flows in the lower Klamath and lake levels in Upper Klamath lake, are predicated on the ecological	No

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	benefits of removing Klamath dams. Guessing which provisions might be implemented and which might not without an Affirmative Determination on dam removal would be speculative and is beyond the scope of this EIS/EIR. The Refuge Allocation is part of the agreement to limit water diversions to Reclamation's Klamath Project in order to support flows in the Klamath River for fisheries restoration. A number of milestones need to happen before those water diversion limitations become permanent. The EIS/EIR addresses a reasonable range of alternatives which include the KBRA as a connected action. Alternative future scenarios in which some portion of the KBRA provisions are implemented and others are not is highly speculative and beyond the scope of this EIS/EIR.	
AO_LT_1229_059-22	**Implementation of KBRA Refuge Allocation:** 1) The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment. 2) Future State court decisions are highly speculative and outside the scope of this EIS/EIR. 3) The deadline for implementation of the On-Project Water Plan has not passed. As described in KBRA Section 15.3.8A "No later than March 1, 2017, KWAPA shall select a deadline by which time KWAPA could achieve the full and complete implementation of the On-Project Plan within five years thereafter, but in any event no later than March 1, 2022." KWAPA has not yet selected a date for implementation and has until March 1, 2017 to do so. 4) The publication of a notice by the Secretary of the Interior upon completion of dam removal is part of the agreement to limit water diversions to Reclamation's Klamath Project in order to support flows in the Klamath River for fisheries restoration. A number of milestones need to happen before those water diversion limitations become permanent. The EIS/EIR addresses a reasonable range of alternatives which include the KBRA as a connected action. Alternative future scenarios in which some portion of the KBRA provisions are implemented and others are not is highly speculative and beyond the scope of this EIS/EIR. 5) Proposed settlement of contests regarding adjudication claims is subject to approval by the Klamath Basin Adjudication process. Under KBRA, the allocation would reduce the amount of water taken by certain water users to less than the likely full adjudicated amount. In this case, water users would be voluntarily foregoing	No

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	rights and it is unlikely the Adjudicator or court would oppose a settlement that would lead to the conservative use of a water right. The Refuge Allocation is part of the agreement to limit water diversions to Reclamation's Klamath Project in order to support flows in the Klamath River for fisheries restoration. A number of milestones need to happen before those water diversion limitations become permanent. The EIS addresses a reasonable range of alternatives which include the KBRA as a connected action. Alternative future scenarios in which some portion of the KBRA provisions are implemented and others are not is highly speculative and beyond the scope of this EIS/EIR. The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. Management of Refuge lease lands would remain subject to the National Wildlife Refuge System Improvement Act, the Kuchel Act, and all other applicable laws, regulations and policies. This EIS/EIR analyzes the effect of removing the Four Facilities. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR.	
AO_LT_1229_059-23	**Water Allocation During Dry Years:** Under dam removal with implementation of the KBRA, the refuges would, for the first time in more than 100 years, receive a certainty of water delivery. The Lower Klamath NWR would be provided with a Refuge Allocation (Apr–Oct) of 48,000 AF in dry water years, increasing incrementally to 60,000 AF in wet water years. Even the dry year allocation of 48,000 AF would provide for full refuge needs in 88 percent of years. The current allocation to the refuges during drought years is 0.0 AF. Under the KBRA, the NWRs would be guaranteed an allocation that could range from 60,000 to 48,000 acre-feet in wet to normal years down to 24,000 acre-feet in drier years. If the available water does not allow for an allocation of 24,000 acre-feet, then all water users would share in the reductions beyond that point. Both refuges and private farms would share in reductions in water under Alternatives 2 and 3, while under the No Action/No Project private farms receive water first. Similarly, the KBRA provides for a range of water diversions to irrigators depending on whether a particular year is projected to be wetter or drier than normal. The NWRs would receive sufficient water for wildlife purposes in nine of ten years according to modeling (Mauser and Mayer 2011). If the KBRA had been in place in 2009, the summer water delivery	No

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	to Lower Klamath NWR would have been 48,000 AF which is about twice as much water as the refuge actually received in 2009. The National Wildlife Refuge Improvement Act of 1997 defines the mission of the National Wildlife Refuge System: 'to administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.' At its core, KBRA is an agreement to restore anadramous fish populations. The KBRA provides an appropriate way to improve fish populations overall and improve water reliability for the Klamath Basin National Wildlife Refuges specifically which supports conservation management and restoration of fish, wildlife, and plant resources. The National Wildlife Refuge Improvement Act of 1997 confers a new mission and purposes to the NWRS; however, where these purposes conflict with existing legislated refuge purposes (such as the Kuchel Act), those existing purposes take precedence. The KBRA does not supersede existing laws or regulations, and Reclamation's Klamath Project level actions and decisions would continue to be made in compliance with existing laws and regulations. It is unclear what the comment author is referring to as "irrigation targets" and "refuge targets". Currently under the No Action/No Project irrigation needs and ESA Klamath River flows have a higher priority; the water supply needs for the refuges are prioritized last. The current allocation to the refuges during drought years is 0.0 AF. Under Alternative 2 and 3, water would be shared more equitable between irrigation and the refuges. In this case, the NWRs would receive sufficient water for wildlife purposes in nine of ten years (Mauser and Mayer 2011). The current USFWS and NOAA Fisheries Service Biological Opinions are the result of ESA Section 7 consultations with Reclamation for current water operations in the Klamath River. These analyses and resultant Biological Opinions were established under the current water operations regime that includes four operating hydropower facilities. The proposed river flows and lake levels under KBRA would require a new Klamath River operations plan that would require its own compliance under the ESA. The need for KBRA river operations to meet "current ESA flow requirements" would only be established under that separate and distinct ESA consultation. Therefore, currently the Klamath River management operations would not be applicable under a KBRA scenario where the dams are removed, and new	

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	ESA Section 7 consultations would need to occur once a new water operations plan is established that includes KBRA programs and activities. **Walking Wetlands Program:** The "Walking Wetlands" program that would benefit from the Refuge Allocation under the KBRA is a program that inserts wetlands into commercial crop rotation cycles. Lands in the program benefit from increased yields and reduced needs for fertilizers and soil fumigation following a wetland cycle. Waterfowl benefit from increased wetland acreage. Because not all lands in the program would be in a wetland cycle during the same year, the program results in wetlands that "walk" from place to place. Walking Wetlands would receive water from both the Lower Klamath allocation (1 AF/acre) and the irrigator's available supply (2 to 2.5 AF/acre). Through this program, the refuge would gain additional wetland habitat for a relatively minor cost in terms of water allocation, and Reclamation's Klamath Project irrigators would not be penalized for using additional water to provide wetlands on private lands. This provision would apply to "walking wetlands" on both private lands and lease lands on Tule Lake NWR. Use of the Lower Klamath NWR allocation for walking wetlands must be approved by the Refuge Manager. The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue the practice of walking wetlands and future refuge management decisions with respect to these practices would be speculative and are beyond the scope of the analysis of this EIS/EIR.	
AO_LT_1229_059-24	**Walking Wetlands Program:** The "Walking Wetlands" program that would benefit from the Refuge Allocation under the KBRA is a program that inserts wetlands into commercial crop rotation cycles. Lands in the program benefit from increased yields and reduced needs for fertilizers and soil fumigation following a wetland cycle. Waterfowl benefit from increased wetland acreage. Because not all lands in the program would be in a wetland cycle during the same year, the program results in wetlands that "walk" from place to place. Walking Wetlands would receive water from both the Lower Klamath allocation (1 AF/acre) and the irrigator's available supply (2 to 2.5 AF/acre). Through this program, the refuge would gain additional wetland habitat for a relatively minor cost in terms of water allocation, and Reclamation's Klamath Project irrigators would not be penalized for using additional water to provide wetlands on private lands. This provision would apply to "walking wetlands" on both private lands and lease lands on Tule Lake NWR. Use of the Lower Klamath NWR allocation for walking wetlands must be approved by the Refuge Manager. The KBRA does not require the Lower Klamath Lake and Tule Lake National	No

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	Wildlife Refuges to allow or continue the practice of walking wetlands and future refuge management decisions with respect to these practices would be speculative and are beyond the scope of the analysis of this EIS/EIR.	
AO_LT_1229_059-25	**Alternative Water Supplies for LKNWR and UKLNWR:** The implementation of programs under the KBRA would increase the amount of water in the Klamath River and maintain the elevation of Upper Klamath Lake. Water allocations and delivery obligations would also be established for the Lower Klamath National Wildlife Refuge (NWR) and Tule Lake NWR. The KBRA includes several programs that would increase inflows into and available storage on Upper Klamath Lake and available water supplies on the Klamath Reclamation Project including the voluntary Water Use Retirement Program (WURP) and the On-Project Plan. The WURP is a voluntary program intended to increase the inflow to Upper Klamath Lake by purchase or retirement of surface water rights for irrigation from willing sellers and other techniques. The On-Project Plan is intended to align water supply and demand for areas within the Reclamation's Klamath Project and would include consideration of a variety of techniques such as conservation easements and land acquisitions from willing sellers. The purpose of the NEPA and CEQA environmental review process is to disclose to decisionmakers and the public the significant environmental effects of a proposed action or project (40 CFR Section 1502.1). In this case, the proposed action is the removal of the Four Facilities from the Klamath River. While the KBRA is a connected action, it is not the proposed action and an analysis of alternatives to the KBRA would be speculative and beyond the scope of this analysis. Section 15.1.2 E iii (e) only applies to the water allocation described in the KBRA. Any water supply obtained for refuge use above and beyond the water supply described in the KBRA would not be subject to this provision. The National Wildlife Refuge Improvement Act of 1997 defines the mission of the National Wildlife Refuge System: 'to administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.' At its core, KBRA is an agreement to restore anadramous fish populations. The KBRA provides an appropriate way to improve fish populations overall and improve water reliability for the Klamath Basin National Wildlife Refuges	No

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	specifically which supports conservation management and restoration of fish, wildlife, and plant resources. The National Wildlife Refuge Improvement Act of 1997 confers a new mission and purposes to the NWRS; however, where these purposes conflict with existing legislated refuge purposes (such as the Kuchel Act), those existing purposes take precedence. Sections 18.3.2 B. ii. states “When first available, such water will be used to realize the increase in diversions to the Reclamation’s Klamath Project as describe in Section 15.1.1 and provided in Appendix E-1, if that increase has not otherwise occurred.” However the KBRA goes on to state in 18.3.2 B. v. “In addition, the TAT may recommend the use of any such water for Klamath Reclamation Project irrigation and/or Wildlife Refuges if circumstances so warrant.” Although preference is given to Reclamation’s Klamath Project irrigation, the agreement does not preclude refuges from receiving water associated with any additional storage. The agreement explicitly states that additional water from storage could be used by refuges. KBRA Section 15.1.2 Winter Period does address how water supplied to the refuge during the winter will be accounted for in the summer period. However, Section 15.1.2 does include the following provision which does allow for some storage of water on the refuges “except if such additional water is made available upon recommendation of the KBCC to provide for augmentation of the Refuge Summer Allocation pursuant to Section 18.3.2.b.v, but not including the 10,000 acre-feet identified in Section 15.1.1.” The refuges have representation on the KBCC as well as the other major water interests in the Klamath Basin. This institutional mechanism to allocate water allows for more informed water decisions basin-wide and a tool to optimize the use of available water. Both NEPA and CEQA include provisions that the draft environmental review analyze a reasonable range of alternatives that meet most of the purpose and need/project objections, and are potentially feasible (40 CFR § 1502.14; 43 CFR § 46.420(b); Pub. Resources Code, sec. 21002; CEQA Guidelines, sec. 15126.6(a), (c), (f)). Alternatives should be limited to ones that avoid or substantially lessen the Proposed Action’s significant environmental effects (CEQA Guidelines secs. 15126.6(a), (c), (f), sec. 15204(a); Draft EIS/EIR, section 2.3). The Lead Agencies are not required to consider all conceivable alternatives to the Proposed Action. (Pub. Resources Code, § 21091(d)(2)(B); CEQA Guidelines, sec. 15126.6(a); sec. 15204(a). Nor are the Lead Agencies required to analyze an alternative whose effects cannot be reasonably ascertained and whose implementation is remote	

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	and speculative. (CEQA Guidelines, sec. 15126.6(f)(3). The Lead Agencies developed a list of 18 preliminary alternatives that were screened down to five. These five alternatives were analyzed in the EIS/EIR because they best meet the NEPA purpose and CEQA objectives, minimize negative effects, and are potentially feasible (EIS/EIR, section 2.3). (A full description of the alternatives and the rationale for screening the alternatives is presented in Appendix A, the Alternatives Formulation Report).	
AO_LT_1229_059-26	A full analysis of the impact of Alternative 2 and 3 on waterfowl, nongame waterbirds, and habitat management by refuge is found in EIS/EIR Section 3.5. Using the Water Resource Integrated Modeling System (WRIMS), the USFWS (2012) conducted an analysis of the effects of Water Diversion Limitations, On-Project Plan, WURP, and Interim Flow and Lake Level Programs on the three National Wildlife Refuges. Generally this analysis showed that water management which would be expected to increase the number of waterfowl using the National Wildlife Refuges. The analysis of these water management programs under KBRA found beneficial effects to the Lower Klamath National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management, and beneficial effects to Tule Lake National Wildlife Refuge waterfowl, nongame waterbirds, and habitat management. For Upper Klamath National Wildlife Refuge, the analysis indicated that overall there would be a less than significant impact as there is an adverse effect on wetland habitat and some waterfowl; however, there is a beneficial effect on other waterfowl and nongame waterbirds. For a full description of this analysis please see Draft EIS/EIR 3.5-76 to 3.5-80. The KBRA is analyzed as a connected action. NEPA defines connected actions as those actions that are closely related or cannot or would not proceed unless other actions are taken previously or simultaneously (40 CFR 1508.25(a)(1)(ii)). Some actions or component elements of the KBRA are independent obligations and thus have independent utility from the KHSA, but the implementation of several significant elements of the KBRA package would be different, if the determination under the KHSA is not to pursue full dam removal (see Table 1-1). Recognizing that implementation of many elements of the KBRA are unknown and not reasonably foreseeable at this time, the connected action analysis is being undertaken at a programmatic level. The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis	No

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	including an evaluation of compliance with Federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future. An analysis of alternatives that improve lake levels in Upper Klamath Lake is not required. NEPA does not require analysis of alternatives to connected actions such as KBRA. Impacts from the various programs under KBRA on Upper Klamath Lake and the Upper Klamath Basin including Upper Klamath Lake and Keno Nutrient Reduction, Interim Flow and Lake Level Program, Water Use Retirement Program, Water Diversion Limitations, are fully evaluated in Section 3.2 Water Quality and Section 3.3 Aquatic Resources. The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. The KBRA provides for an allocation of water to the refuges. Water required for lease land farming does not count against the Refuge Allocation (KBRA Section 15.1.2.D.i). See Klamathrestoration.gov for a copy of the KBRA. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR. With respect to the water quality of the wetting and drying cycles on refuge lands text has been added to clarify the EIS/EIR analysis in Section 3.2.4.3.2.11 Water Use Retirement Program. In summary, based on available research for Upper Klamath Lake and surrounding wetland areas suggests that, if additional nutrients are released as a result of an increased frequency of drying events under KBRA, concentrations would be small compared to other loading sources, notably the large internal load that occurs in most summers, and would have minimal effect on the water quality or algal blooms in the lake.	
AO_LT_1229_059-27	Master Response AQU–9 Minimum Flows for Fish. The KBRA contains an agreement to limit diversions to Reclamation's Klamath Project in exchange for certain assurances among the parties in the Oregon water rights adjudication process and with respect to the exercise of certain tribal water rights. A description of the Programmatic Measures under KBRA is also provided in Section 2.4.3.9 of the EIS/EIR. Among other things, the Water Resources Program of the KBRA requires development of a plan for Reclamation's Klamath Project to align water supply and demand in order to meet the diversion limits (see KBRA Section 15.2). Before implementation of this plan, the KBRA	Yes

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	provides for consultation under Section 7 of the ESA to consider the effects on listed species and designated critical habitat, including the SONCC ESU of coho salmon and its critical habitat, that would result from implementation of the plan and diversion limits (see KBRA Section 22.1.2).	
	Master Response AQU-10 NOAA BO, ESA and KBRA Water Management.	
	The Hardy (2006) Phase II flow recommendations do not consider physical, biological, and chemical alterations to the Klamath system resulting from dam removal. The anticipated future changes to the system that would occur under the KHSA and KBRA led Hardy (2008) to conclude that future flow releases as described in the KBRA was a logical extension of the Hardy Phase 2 Flow recommendations, balancing multiple needs, including those of anadromous salmonids. Improved water quality and water temperature conditions, restoration of sediment transport processes, potential reductions in disease, restored access to thermal refugia and instream habitats upstream are all factors that led Hardy (2008) to conclude "that the threshold flow at which significant concerns over thermal and disease factors would drop well below 1000 cfs to something on the order of 700 to 800 cfs." Consistent with these findings the Federal Team incorporated minimum base flows of 800 cfs into the KBRA flow simulations during the period from October through February (Reclamation 2012d, Appendix E). Base flows of 800 cfs would provide greater than 75 percent of the currently available Chinook salmon spawning habitat from the R-Ranch study site downstream to the Brown Bear study site in every year (Hardy et al.2006) and flow levels of this magnitude should be adequate allow adult coho salmon to migrate freely upstream. However, under real time flow management that is envisioned by the KBRA incorporation of variable flows during the spawning season would increase spawning habitat above what would be provided under a static flow condition.	
	Results of this hydrology modeling analysis indicate that the average monthly flows at Iron Gate are generally similar between the No Action Alternative and Alternatives 2 and 3. The exceptions to this are the months of October to December, where the average flows are about 200 to 400 cfs less under Proposed Action than under the No Action Alternative, and in April, where the flows are about 300 cfs higher under Alternatives 2 and 3 than under the No Action Alternative.	
	The annual flow at Keno Dam is generally similar between the two alternatives except for the few driest years on record. In these dry years, the agricultural supply is reduced under the No Action Alternative, whereas the agricultural supply is much less severely	

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	impacted under Alternatives 2 and 3; therefore, more flow is released to the Klamath River under the No Action Alternative than under Alternatives 2 and 3. At Iron Gate Dam from July through November, the flows are commonly around 800 cfs under Alternatives 2 and 3 during these extremely dry years whereas the flows are more commonly between 1000 and 1300 cfs under the No Action Alternative. However, under Alternatives 2 and 3 a more natural thermal regime would exist eliminating the current thermal shift caused by the presence of the dams. Sediment transport would be restored and additional spawning habitat would be available to adult anadromous salmonids upstream of Iron Gate Dam and anadromous salmonids would also have access to additional thermal refugia. Reclamation (2012d) also found that the 50 percent exceedance flows (normal years) under Alternatives 2 and 3 are about 5 to 15 percent greater for the months of April and June to August and about 15 to 20 percent less for the months of October to December. The 90 percent exceedence flows (dry years) are similar for the two alternatives from March to September, but for the months of October to February, the No Action Alternative 90 percent exceedance flows are about 20 to 30 percent larger (290 to 360 cfs larger). During February and March the modeled KBRA simulated flows at the 90% exceedence are less than the 2010 BO flow simulation in February, are greater in March, and are similar in April. The KBRA simulations are very similar to Hardy Phase II flows (slightly lower or higher) from May through September. For the KBRA flow simulation (Reclamation 2012d, Appendix E) minimum base flows equal to the Ecological Base Flow (EBF) levels recommended by Hardy (2006) were incorporated into Alternatives 2 and 3 hydrologic simulation for the periods from March through June, and from August through September to insure adequate protection of anadromous fish during dry water years. Flow targets that were a component of the WRIMS Run 32 Refuge model described in Hetrick et al. (2009) were also adjusted as described in Appendix E of Reclamation (2012d) to reduce the threat of a fish kill similar to the one that occurred in 2002. Those adjustments included reducing the target from 921 to 840 cfs for July 1 to 15, increasing the target from 806 to 840 cfs for July 16 to 31, increasing the target from 895 to 1110 cfs in August, and increasing the targets from 1010 to 1110 cfs in September. These flow targets exceed those recommended by Hardy Phase II for years with exceedences greater than 75 percent. In general, KBRA flow simulations and WRIMS Run 32 Refuge flow simulations have similar seasonal flow patterns with the exception	

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	of drier water years when flows during August and September tend to be slightly higher under the KBRA simulation. In response to the concern that the effect of the KBRA Water Diversion "Limitation" is inaccurately described in the EIS/EIR, text in the EIS/EIR has been modified to more accurately describe this program. To clarify, the water diversion limitations described in the KBRA are limitations on the amount of water that may be diverted from the Klamath River to Reclamation's Klamath Project. The KBRA does not contain minimum guaranteed diversions. Depending on the March 1 Natural Resources Conservation Service 50 percent exceedance forecast for net inflow to Upper Klamath Lake during the period April 1-September 30, the allowable diversions vary up to the specified amounts. There are many steps that must occur before the water diversion limitations and the various assurances are made permanent. KBRA Section 15.3.4 describes the milestones that need to happen before the Secretary of the Interior can publish a Notice making the United States' assurances permanent. These steps are described in the EIS/EIR in Figure 2- 14 found in Section 2.4.3.9 and they include the passage of authorizing legislation, funding for fisheries programs, tribal programs, and various measures to increase storage in Upper Klamath Lake and water use retirement programs. The Modeled KBRA Hydrology that is described in Reclamation (2012d) and used in the analysis for the Proposed Action Alternative in the EIS/EIR and are not identical to the KBRA hydrology found in Appendix E5 of the KBRA. Flows under the Proposed Action Alternative include minimum based flows equal to the Ecological Base Flow (EBF) levels recommended by Hardy (2006) for the periods from March through June, and from August through September to insure adequate protection of anadromous fish during dry water years. In addition, flow targets were increased above those EBF flows recommended by Hardy (2006) from 895 to 1110 cfs in August, and from 1010 to 1110 cfs in September to further reduce the likelihood of another adult fish kill similar to the one that occurred in 2002. As a result of these changes daily flows at Iron Gate never drop below 950 cfs in September in the driest water years. In addition, under KBRA there is anticipated to be additional operational flexibility to optimize water use through the implementation of the drought plan and implementation of real time water management through the Technical Advisory Team's management of environmental water.	
AO_LT_1229_059-28	The current USFWS and NOAA Fisheries Service Biological Opinions are the result of ESA Section 7 consultations with Reclamation for current water operations in the Klamath River.	Yes

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	These analyses and resultant Biological Opinions were established under the current water operations regime that includes four operating hydropower facilities. The proposed river flows and lake levels under KBRA would require a new Klamath River operations plan that would require its own compliance under the ESA. The need for KBRA river operations to meet "current ESA flow requirements" would only be established under that separate and distinct ESA consultation. Therefore, currently the Klamath River management operations would not be applicable under a KBRA scenario where the dams are removed, and new ESA Section 7 consultations would need to occur once a new water operations plan is established that includes KBRA programs and activities. Master Response AQU-9-Minimum Flows describes effects to fish from minimum flows under Alternative 2 and 3. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with ESA or CESA. Project level actions and decisions would continue to be made in compliance with existing laws and regulations. Master Response TTA-1 Federal Trust Responsibility and the KBRA	
AO_LT_1229_059-29	As described in section 3.7.4.3 of the EIS/EIR, under Alternative 2, implementation of the KBRA is expected to have a less than significant impact to groundwater in the long term by providing measures to monitor and protect groundwater where none currently exist. For example, if KBRA's Water Diversion Limitations program were in place during 2010, instead of receiving approximately 185,000 af of water, irrigators would have received 330,000 af, an increase of approximately 145,000 af. As a result, groundwater pumping would likely have been much less than what occurred in 2010. Also, contrary to the comment author's assumption, implementation of the On-Project Plan could include management, efficiency, or conservation measures; land acquisitions, additional storage, or agreements for Reclamation's Klamath Project irrigators to forebear the use of water from Upper Klamath Lake or the Klamath River. New production irrigation wells would not be allowed if an irrigator has a surface water forebearance or similar agreement under the On-Project Plan. Also, Oregon law concerning limits on groundwater pumping are to be applied in both the California and Oregon side of Reclamation's Klamath Project as part of the On-Project Plan. The KBRA also includes implementation of a work plan that involves evaluating and monitoring groundwater levels within the Upper Klamath Basin where none currently occurs, and analysis and reporting of such data to better inform the public agencies. Moreover, KBRA would	Yes

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	also provide a new source of funding to remedy any adverse impacts that could arise from groundwater use. Given the aforementioned actions to reduce groundwater pumping, increase monitoring, and increase funding related to groundwater, the Lead Agencies expect the KBRA to slow, halt, or reverse the declining trend in groundwater levels over the past decade (i.e. since 2001) and serve to protect existing or future permitted land uses as well as surface water conditions and related resources. If spring flows were reduced by 6% the impact on the KBRA Klamath River flows would be less than significant. The volume of flow from the springs and the volume of water in the river make the decrease detectable and an appropriate monitoring threshold. For a complete analysis see section 3.7.4.3. As the comment author notes, “a water plan does not yet exist that can be evaluated”. Therefore, The KBRA is analyzed in this EIS/EIR programmatically. The KBRA includes programs that would undergo detailed development and analysis in the future. The KBRA analysis, however, is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of this plan are unknown and not reasonably foreseeable at this time. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. These programs would likely undergo detailed development and analysis in the future. Therefore, it is anticipated additional National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analyses for the suite of actions contained in KBRA would be tiered as appropriate to this EIS/EIR. As described in Section 3.7.4.3 of the EIS/EIR, under Alternative 2, implementation of the KBRA is expected to (1) benefit groundwater in the long term, and, (2) result in less than significant effects on groundwater by providing water delivery certainty in the driest years and measures to monitor and protect groundwater where none currently exist. As an initial matter, it is important to keep in mind that groundwater levels within the Klamath Basin are influenced by various factors including climate and pumping (Gannet 2007, p. 17, 48, 50). Historically, water diversions to meet Reclamation's Klamath Project needs have been largest during dry years when inflows to Upper Klamath Lake tended to be lower than average. As a result, groundwater pumping has arguably been greater during these dry periods in order to supplement any reduction in available surface water. (Gannet 2007, p. 41, Gannet 2012, p. 61.) Consistent with these historical trends, until 2001, groundwater levels declined during droughts but returned to prior levels during wet periods (Gannet 2007, p. 59.). However, starting in 2001, a prolonged drought combined with increased pumping	

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	due to changes in water management (e.g. resulting from biological opinions related to Lost River sucker, shortnose sucker, and coho salmon) resulted in long-term declines in groundwater levels. The KBRA's Water Diversion Limitation program will address such declines by providing more surface water during the dry years and greater certainty of that water being delivered than it was historically. For example, if KBRA's Water Diversion Limitations program were in place during 2010, instead of receiving approximately 185,000 acre-feet (AF) of water, Reclamation's Klamath Project irrigation water contractors would have received 330,000 AF, an increase of approximately 145,000 AF. As a result, groundwater pumping would likely have been much less than what occurred in 2010, because water users would avoid the additional cost to pump groundwater. Recognizing that Reclamation's Klamath Project irrigators are likely to require supplemental water during dry and other years, the KBRA provides for creation of the On-Project Plan by the Klamath Water and Power Agency (KWAPA). Implementation of the On-Project Plan could include water conservation and improved efficiency, increased water storage, groundwater management, and demand reduction (e.g. forbearance agreements, change to crop type, and crop idling). (KBRA, § 15.2.3., KWAPA, Technical Memorandum 2, § 10.3.) KWAPA is developing the On-Project Plan and anticipates the need for future environmental analysis in accordance with the NEPA and CEQA if implementing the On-Project Plan could result in adverse environmental effects (e.g. installation/operation of a groundwater well, or substantial land idling/crop substitution.) (KWAPA, Technical Memorandum 1, § 7.0.) As a result, accurately assessing the effects on groundwater is premature at this point because the quantity, timing, and location of groundwater pumping in accordance with the On-Project Plan are currently undetermined. Despite lacking specific information related to On-Project Plan implementation, KWAPA and the KBRA provide parameters that are protective of groundwater. For example, one On-Project Plan goal is to "use groundwater in a long-term and sustainable manner." (KWAPA, Technical Memorandum 1, §§ 2.2., 10.3.3.) KWAPA recognized that in order to meet such a goal, "groundwater use occurring under the OPP will need to be carefully planned and managed, and potential benefits and impacts identified." (KWAPA, Technical Memorandum 1, § 3.0.) The KBRA is also protective of groundwater by prohibiting the On-Project Plan from using new irrigation wells when an irrigator has a surface water forbearance or similar agreement. (KBRA, p. 75, § 15.2.4.D.)	

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	Another impediment to accurately assessing the effects on groundwater related to implementation of the KBRA is the lack of data and practical inability to acquire it. For example, the scarcity of data on previous drought cycles makes it difficult to determine how much decline in groundwater levels is attributed to pumping versus drought (Gannet 2007, p. 60). Additionally, it is unclear how much lower the groundwater table must fall to meet the first significance threshold, i.e. how much lower the groundwater table must fall for the production rate of the hundreds of preexisting wells to drop to a level that would not support existing land use or planned uses for which permits have been granted. Wells in the Klamath Basin are typically drilled deep enough and pumps set low enough to accommodate historical groundwater level fluctuations (Gannet 2007, p. 59). Moreover, long term declines in groundwater began in 2001 and well owners may have already instituted remedial measures (e.g. well deepening, etc.) in response. As a result, it is not feasible to determine if the significance threshold is met, i.e. what existing or permitted land uses would be affected by any further decline in the groundwater table. Not only is there a lack of data concerning pumping effects on groundwater levels, but current data pertaining to the Lost River Subbasin and Sprague River Subbasin is insufficient to determine how changes to discharges from streams can be attributed to pumping versus natural (Gannet 2007, p. 33). As a result, the Lead Agencies cannot currently determine if implementation of the Water Diversion Limitations Program and On-Project Plan would meet the second threshold of significance i.e. if implementation would substantially interfere with the groundwater levels or groundwater recharges so there would be changes to the groundwater/surface water interaction that would adversely affect surface water conditions or related resources. To help bridge this data gap, KWAPA will utilize a new groundwater simulation and management model developed by the United States Geological Survey (USGS) in collaboration with the Oregon Water Resources Department (OWRD) and Reclamation (the 2012 USGS Model). The 2012 USGS Model can calculate the effects of pumping on groundwater levels and discharges to streams and assist KWAPA in developing the On-Project Plan to maximize the amount of groundwater that may be pumped (Gannet 2012, p. 2). KWAPA anticipates that the 2012 USGS model would “provide for a more comprehensive evaluation of long-term groundwater pumping sustainability, leading to a better understanding of the relationship between safe yield of the groundwater basin and climatic conditions.” (KWAPA, Technical Memo 2, § 9.6.4.) Although further refinement and fine tuning of the 2012 USGS Model would be appropriate before applying it to current	

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	groundwater management, its preliminary results are promising (Gannet 2012, p. 85). In one case, USGS used the 2012 USGS Model to determine the maximum quantity of groundwater that could be pumped from 112 managed wells used in Reclamation's groundwater acquisition program and pilot water bank (Gannet 2012, p. 63). The modeled pumping was subject to the following constraints: well drawdown could be no greater than 20 ft for seasonal drawdown, 4 ft for year-to-year drawdown, and 25 ft for 10-year drawdown; reduction in groundwater discharge to streams limited to 6% (including the Lost River); discharge to drains limited to 20%; and fourth quarter pumping demand set at zero (Gannet 2012, pp. 67, 70). The results indicated that by optimizing pumping from certain wells, about 56,000 acre-feet could be pumped from the managed wells during the April – September irrigation season (Gannet 2012, p. 70). This quantity of pumping represented an increase of about 35% compared to pumping before 2001. Also of note, the model determined that pumping 56,000 AF would have minimal effect on the Lost River because groundwater discharge to the Lost River would be reduced by less than 0.2% (Gannet 2012, p. 79). By providing a regional view of pumping effects on groundwater, the 2012 USGS Model illustrates for water managers the trade-offs associated with increasing or decreasing pumping at specific wells. For example, the modeled case identified wells that would experience the greatest benefit with least detriment by increasing their capacity (Gannet 2012, p. 71). Water managers could also evaluate the potential increase in pumping by relaxing constraints or the decrease in pumping by increasing a constraint (Gannet 2012, p. 79). In short, the 2012 USGS Model gives water managers, and more specifically KWAPA, the ability to develop the On-Project Plan to maximize the quantity of groundwater that could be pumped with the least amount of adverse effects as defined by the modeled parameters (Gannet 2012, p. 87). KBRA provides for additional data acquisition in order to fine tune/refine the 2012 USGS Model. A monitoring plan would be funded and developed under the KBRA for evaluating and monitoring groundwater levels within the Upper Klamath Basin where none currently occurs, and analysis and reporting of such data (KBRA, Appendix E-2, §§ III.C, IV). KBRA also provides a new source of funding to remedy any adverse impacts that could arise from groundwater use. Given the aforementioned actions to reduce groundwater pumping, increase data collection, model the maximum potential groundwater withdrawals, and increase funding related to groundwater, the Lead Agencies expect the KBRA to slow, halt, or reverse the declining trend in groundwater levels over the past decade (i.e. since 2001) and serve to protect	

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	existing or future permitted land uses as well as surface water conditions and related resources. The comment mischaracterizes the Draft EIS/EIR by stating, "the KBRA will reduce surface water diversion by a significant amount in order to leave water in the river for fish". *Id.* at p. 3.7-19. The EIS/EIR goes on to state this will increase the need for groundwater pumping as a replacement water supply." The EIS/EIR does not state that there would be a significant reduction in surface water. Instead, it states that the "Water Diversion Limitations program (KBRA Section 15.1) would reduce the availability of surface water for irrigation on Reclamation's Klamath Project to 100,000 acre-feet less than the demand in the driest years to protect mainstem flows." (Draft EIS/EIR, p. 3.7-19.) As described above, the 100,000 acre-feet of surface water reduction is actually much less than what would occur if the KBRA is not implemented. Nor does the EIS/EIR conclude that there would be a greater need for groundwater pumping. Instead, the Lead Agencies recognize there "could" be an increased reliance on groundwater pumping, but as explained in this response and the EIS/EIR, there would be a less than significant effect on groundwater. Based on the prohibition against an adverse effect to springs in the Klamath River and the beneficial effects of the limitations on water diversions that would be provided with implementation of the On-Project Plan, the EIS/EIR conclusions at this programmatic level are reasonable. As detailed plans are developed, they would need to comply with existing laws and regulations and if there are Federal or State agency actions related to those plans, then public review under NEPA and CEQA would occur.	
AO_LT_1229_059-30	The current process which this EIS/EIR supports is the Secretarial Determination which, by using the best available information, would answer whether dam removal as described in the KHSA and implementation of the associated KBRA would advance restoration of salmonid fisheries. This analysis looks at whether and two what degree the alternatives would achieve this measurable goal. If an Affirmative Determination is made, the KBRA would be implemented. Under KBRA, the Fisheries Program would be implemented and includes a suite of actions to improve salmonid fisheries including development and implementation of the Fisheries Restoration Plan Phase I and Phase II, Fisheries Reintroduction and Management Plan, and Fisheries Monitoring Plan. When the Fisheries Program is developed and implemented, as per KBRA Section 9.2.6, the goals of the program are i) to adaptive management techniques will be	Yes

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	measurable goals for fish restoration and mechanisms to track fishery status and trends The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with Federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future. Master Response AQU–9 Minimum Flows for Fish. The KBRA contains an agreement to limit diversions to Reclamation's Klamath Project in exchange for certain assurances among the parties in the Oregon water rights adjudication process and with respect to the exercise of certain tribal water rights. A description of the Programmatic Measures under KBRA is also provided in Section 2.4.3.9 of the EIS/EIR. Among other things, the Water Resources Program of the KBRA requires development of a plan for Reclamation's Klamath Project to align water supply and demand in order to meet the diversion limits (see KBRA Section 15.2). Before implementation of this plan, the KBRA provides for consultation under Section 7 of the ESA to consider the effects on listed species and designated critical habitat, including the SONCC ESU of coho salmon and its critical habitat, that would result from implementation of the plan and diversion limits (see KBRA Section 22.1.2). Master Response AQU-10 NOAA BO, ESA and KBRA Water Management. The Hardy (2006) Phase II flow recommendations do not consider physical, biological, and chemical alterations to the Klamath system resulting from dam removal. The anticipated future changes to the system that would occur under the KHSA and KBRA led Hardy (2008) to conclude that future flow releases as described in the KBRA was a logical extension of the Hardy Phase 2 Flow recommendations, balancing multiple needs, including those of anadromous salmonids. Improved water quality and water temperature conditions, restoration of sediment transport processes, potential reductions in disease, restored access to thermal refugia and instream habitats upstream are all factors that led Hardy (2008) to conclude "that the threshold flow at which significant concerns over thermal and disease factors would drop well below 1000 cfs to something on the order of 700 to 800 cfs." Consistent with these findings the Federal Team incorporated	

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	minimum base flows of 800 cfs into the KBRA flow simulations during the period from October through February (Reclamation 2012d, Appendix E). Base flows of 800 cfs would provide greater than 75 percent of the currently available Chinook salmon spawning habitat from the R-Ranch study site downstream to the Brown Bear study site in every year (Hardy et al.2006) and flow levels of this magnitude should be adequate allow adult coho salmon to migrate freely upstream. However, under real time flow management that is envisioned by the KBRA incorporation of variable flows during the spawning season would increase spawning habitat above what would be provided under a static flow condition. Results of this hydrology modeling analysis indicate that the average monthly flows at Iron Gate are generally similar between the No Action Alternative and Alternatives 2 and 3. The exceptions to this are the months of October to December, where the average flows are about 200 to 400 cfs less under Proposed Action than under the No Action Alternative, and in April, where the flows are about 300 cfs higher under Alternatives 2 and 3 than under the No Action Alternative. The annual flow at Keno Dam is generally similar between the two alternatives except for the few driest years on record. In these dry years, the agricultural supply is reduced under the No Action Alternative, whereas the agricultural supply is much less severely impacted under Alternatives 2 and 3; therefore, more flow is released to the Klamath River under the No Action Alternative than under Alternatives 2 and 3. At Iron Gate Dam from July through November, the flows are commonly around 800 cfs under Alternatives 2 and 3 during these extremely dry years whereas the flows are more commonly between 1000 and 1300 cfs under the No Action Alternative. However, under Alternatives 2 and 3 a more natural thermal regime would exist eliminating the current thermal shift caused by the presence of the dams. Sediment transport would be restored and additional spawning habitat would be available to adult anadromous salmonids upstream of Iron Gate Dam and anadromous salmonids would also have access to additional thermal refugia. Reclamation (2012d) also found that the 50 percent exceedance flows (normal years) under Alternatives 2 and 3 are about 5 to 15 percent greater for the months of April and June to August and about 15 to 20 percent less for the months of October to December. The 90 percent exceedence flows (dry years) are similar for the two alternatives from March to September, but for the months of October to February, the No Action Alternative 90 percent exceedance flows are about 20 to 30 percent larger (290 to 360 cfs larger).	

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	During February and March the modeled KBRA simulated flows at the 90% exceedence are less than the 2010 BO flow simulation in February, are greater in March, and are similar in April. The KBRA simulations are very similar to Hardy Phase II flows (slightly lower or higher) from May through September. For the KBRA flow simulation (Reclamation 2012d, Appendix E) minimum base flows equal to the Ecological Base Flow (EBF) levels recommended by Hardy (2006) were incorporated into Alternatives 2 and 3 hydrologic simulation for the periods from March through June, and from August through September to insure adequate protection of anadromous fish during dry water years. Flow targets that were a component of the WRIMS Run 32 Refuge model described in Hetrick et al. (2009) were also adjusted as described in Appendix E of Reclamation (2012d) to reduce the threat of a fish kill similar to the one that occurred in 2002. Those adjustments included reducing the target from 921 to 840 cfs for July 1 to 15, increasing the target from 806 to 840 cfs for July 16 to 31, increasing the target from 895 to 1110 cfs in August, and increasing the targets from 1010 to 1110 cfs in September. These flow targets exceed those recommended by Hardy Phase II for years with exceedences greater than 75 percent. In general, KBRA flow simulations and WRIMS Run 32 Refuge flow simulations have similar seasonal flow patterns with the exception of drier water years when flows during August and September tend to be slightly higher under the KBRA simulation. In response to the concern that the effect of the KBRA Water Diversion “Limitation” is inaccurately described in the EIS/EIR, text in the EIS/EIR Section 3.2 has been modified to more accurately describe this program. To clarify, the water diversion limitations described in the KBRA are limitations on the amount of water that may be diverted from the Klamath River to Reclamation’s Klamath Project. The KBRA does not contain minimum guaranteed diversions. Depending on the March 1 Natural Resources Conservation Service 50 percent exceedance forecast for net inflow to Upper Klamath Lake during the period April 1-September 30, the allowable diversions vary up to the specified amounts. There are many steps that must occur before the water diversion limitations and the various assurances are made permanent. KBRA Section 15.3.4 describes the milestones that need to happen before the Secretary of the Interior can publish a Notice making the United States’ assurances permanent. These steps are described in the EIS/EIR in Figure 2- 14 found in Section 2.4.3.9 and they include the passage of authorizing legislation, funding for fisheries programs, tribal programs, and various measures to increase storage in Upper Klamath Lake and water use retirement programs.	

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	The Modeled KBRA Hydrology that is described in Reclamation (2012d) and used in the analysis for the Proposed Action Alternative in the EIS/EIR and are not identical to the KBRA hydrology found in Appendix E5 of the KBRA. Flows under the Proposed Action Alternative include minimum based flows equal to the Ecological Base Flow (EBF) levels recommended by Hardy (2006) for the periods from March through June, and from August through September to insure adequate protection of anadromous fish during dry water years. In addition, flow targets were increased above those EBF flows recommended by Hardy (2006) from 895 to 1110 cfs in August, and from 1010 to 1110 cfs in September to further reduce the likelihood of another adult fish kill similar to the one that occurred in 2002. As a result of these changes daily flows at Iron Gate never drop below 950 cfs in September in the driest water years. In addition, under KBRA there is anticipated to be additional operational flexibility to optimize water use through the implementation of the drought plan and implementation of real time water management through the Technical Advisory Team's management of environmental water.	
AO_LT_1229_059-31	Master Response AQU–9 Minimum Flows for Fish. Master Response AQU-10 NOAA BO, ESA and KBRA Water Management. As described in Chapter 2 and illustrated in Table 2-16, some KBRA actions builds on programs currently on-going in the Klamath Basin. The implementation of KBRA for these actions would increase the magnitude or accelerate the schedule for these programs. For example more restoration work may be completed in a shorter time period with the additional resources provided by KBRA.	Yes
AO_LT_1229_059-32	The modeled KBRA hydrology, described in Reclamation (2012d) and used in the analysis for the Proposed Action Alternative in the EIS/EIR, is not identical to the KBRA hydrology found in Appendix E5 of the KBRA. As with any model, some assumptions are required to simplify the physical world. However the modeled KBRA hydrology assumptions were conservative assumptions, made using the best available science. The assumptions made in Reclamation (2012d) are described in detail in that document. Master Response GEN-3 Best Available Information. Flows under the Proposed Action Alternative include minimum based flows equal to the Ecological Base Flow (EBF) levels recommended by Hardy (2006) for the periods from March through June, and from August through September to insure adequate	Yes

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	protection of anadromous fish during dry water years. In addition, flow targets were increased above those EBF flows recommended by Hardy (2006) from 895 to 1110 cfs in August, and from 1010 to 1110 cfs in September to further reduce the likelihood of another adult fish kill similar to the one that occurred in 2002. As a result of these changes daily flows at Iron Gate never drop below 950 cfs in September in the driest water years. In addition, under KBRA there is anticipated to be additional operational flexibility to optimize water use through the implementation of the drought plan and implementation of real time water management through the Technical Advisory Team's management of environmental water.	
AO_LT_1229_059-33	The comment presents no evidence of a potentially significant adverse environmental effect caused by the KBRA's predicted low lake levels on salmon restoration in the Upper Basin. Moreover, the Lead Agencies are not required to conduct every test or perform all research, study, and experimentation recommended by comment author s or address issues that are not significant to the action in question (CEQA Guidelines, § 15204(b); NEPA Regulation 40 CFR 1500.1(b)). Regarding the historical importance of Upper Klamath Lake as a rearing area for salmon, estimates by Huntington (2006) and Dunsmoor and Huntington (2006) address this issue but do not fully account for the historical (and unknown) production potential of Upper Klamath Lake itself, which could have been considerable. A recent experimental reintroduction into Upper Klamath Lake suggests that habitat here would continue to support Chinook salmon (Maule et al. 2009). To assess what this might mean for reintroduced salmon, Iron Gate Chinook salmon stock were tested in Upper Klamath Lake and the lower Williamson River to assess whether current conditions would physiologically impair Iron Gate Hatchery Chinook salmon reintroduced into the Upper Klamath Basin. Juvenile Chinook salmon were tested in cages in Upper Klamath Lake and the Williamson River in 2005 and 2006. These juveniles showed normal development as smolts in Upper Klamath Lake and survived well in both locations. This evidence (documented in Section 3.3.4.3 of the EIS/EIR) strongly suggests that Upper Klamath Lake habitat is suitable to support salmonids for at least the October through May period. The authors concluded that there was little evidence of physiological impairment or significant vulnerability to C. shasta (a fish parasite) that would preclude this stock from being reintroduced into the Upper Klamath Basin. The life history of fall-run Chinook salmon generally does not include a freshwater phase from June through September. Thus, conditions for fall-run Chinook migration through Upper Klamath Lake appear favorable. Due to the timing of the migration period for spring-run Chinook salmon and steelhead,	No

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	these runs would generally avoid the period of poor water quality in Upper Klamath Lake. Spring inputs in the Williamson River and on the west side of Upper Klamath Lake would likely provide thermal habitat for these year round life histories.	
AO_LT_1229_059-34	TMDL compliance model runs, where all water quality objectives are met and beneficial uses supported, used existing hydrologic conditions. This suggests that the comment is not correct in the assumption that flows greater than those allowed under KBRA conditions are needed.	No
AO_LT_1229_059-35	Master Response TTA – 1 Federal Trust Responsibility and the KBRA.	Yes
AO_LT_1229_059-36	The actions described in the KBRA are largely intended to occur within the next 10 years which is within the analysis timeframe for this EIS/EIR. The long term effects of those actions have been analyzed programmatically. The water diversion limitations provided for in the KBRA would be in effect throughout the 50 year life of the agreement. In addition, Section 7 of the KBRA provides a mechanism for adjusting the agreement in response to changed circumstances.	No
AO_LT_1229_059-37	The KBRA does not supersede existing laws or regulations including the Reclamation Reform Act. Section 15.4.6 of the KBRA acknowledges that provisions of Title II of Public law 97-293 does apply to Reclamation's Klamath Project Water Users. However Section 15.4.6 clarifies that "KPWU[Klamath Project Water Users] and the Secretary further agree that this Agreement [KBRA] and any amendment of this Agreement[KBRA] or any other agreement contemplated by this Agreement[KBRA] is not a "contract" as defined in section 202(a) of Public Law 97-293 (43 U.S.C. § 390bb(1))." The National Wildlife Refuge Improvement Act of 1997 defines the mission of the National Wildlife Refuge System: 'to administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.' At its core, KBRA is an agreement to restore anadramous fish populations. The KBRA provides an appropriate way to improve fish populations overall and improve water reliability for the Klamath Basin National Wildlife Refuges specifically which supports conservation management and restoration of fish, wildlife, and plant resources. The current USFWS and NOAA Fisheries Service Biological Opinions are the result of ESA Section 7 consultations with	No

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	Reclamation for current water operations in the Klamath River. These analyses and resultant Biological Opinions were established under the current water operations regime that includes the Four Facilities. The proposed river flows and lake levels under KBRA would require a new Klamath River operations plan that would require its own compliance under the ESA. The need for KBRA river operations to meet "current ESA flow requirements" would only be established under that separate and distinct ESA consultation. Therefore, currently the Klamath River management operations would not be applicable under a KBRA scenario where the dams are removed, and new ESA Section 7 consultations would need to occur once a new water operations plan is established that includes KBRA programs and activities. Factors affecting Klamath River flows described in (and modeled for) the KBRA would not direct river operations until an Affirmative Determination is made and the subsequent removal of the four dams initiated. The Secretarial Determination, the subsequent removal of the facilities, and a new water operations plan for the Klamath River are subject to ESA and its requirements. The KBRA does not supersede any existing laws or regulations and does not exempt any actions from compliance with ESA or CESA. Reclamation's Klamath Project level actions and decisions would continue to be made in compliance with existing laws and regulations. The KBRA includes programs that would undergo detailed development and analysis in the future. The KBRA analysis, however, is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of this plan are unknown and not reasonably foreseeable at this time. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. These programs would likely undergo detailed development and analysis in the future. Therefore, it is anticipated additional National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) analyses for the suite of actions contained in KBRA would be tiered as appropriate to this EIS/EIR.	
AO_LT_1229_059-38	The statement provided in the Executive Summary was crafted to briefly describe the complex conditions on the Klamath River noted by the comment author. Many of the detailed figures noted by the comment author pertain to the Lost River Basin. The description presented in the Executive Summary will not be changed given the Executive Summary's broad overview of reductions to agricultural deliveries, as they relate to conditions on the Klamath River, which were projected in early 2001 and then	No

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	later increased which is accurate. A more detailed description of the water supply conditions observed in 2001 is presented in Chapter 1.	
AO_LT_1229_059-39	The 2001 and 2002 BOs were added to the timeline figure in the Executive Summary and the same figure in Chapter 1 of the EIS/EIR.	Yes
AO_LT_1229_059-40	The Lead Agencies have chosen not to speculate on the future outcome of the FERC proceedings in the event of a Negative Determination.	No
AO_LT_1229_059-41	Master Response TTA-1 Federal Trust Responsibility and the KBRA.	Yes
AO_LT_1229_059-42	There are a number of sections of the KBRA that clarify that Federal agencies must comply with all applicable laws, regulations, and other legal requirements, including the ESA, when implementing the KBRA (see, for example, KBRA sections 2.1, 2.2, and 7.4.3). Section 22.5 of the KBRA specifically clarifies that the KBRA does not supercede NOAA Fisheries Service and USFWS' obligations under the ESA and related regulations. Section 22.5 of the KBRA provides, "By entering into this Agreement, NOAA Fisheries Service and USFWS are not prejudging the outcome of any process under the ESA and NOAA Fisheries Service and USFWS implementing regulations, and NOAA Fisheries Service and USFWS expressly reserve the right to make determinations and take actions as necessary to meet the requirements of the ESA and implementing regulations." In addition, the KBRA specifically describes processes that are available and would be used by parties to comply with requirements under the ESA (see, for example, KBRA sections 22.1 and 22.2). Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management. Master Response GEN-1 Comment Included as Part of the Record.	No
AO_LT_1229_059-43	Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management.	No
AO_LT_1229_059-44	As described in Section 3.15, changes in Reclamation's Klamath Project hydrology from changes in operations under the KBRA would increase water supplies during drought years. This would provide water supply reliability and would not result in disproportionate effects to farm workers, as concluded in Section 3.16.	No

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	The agricultural economic effects of the KBRA programs are described in more detail in Irrigated Agriculture Economics Technical Report For the Secretarial Determination on Whether to Remove Four Dams on the Klamath River in California and Oregon which can be found on www.klamathrestoration.gov.	
AO_LT_1229_059-45	Text changed: "Water is delivered to Reclamation's Klamath Project water users under contractual obligations between the United States and the water districts subject to the availability of water and in accordance with the Reclamation's Klamath Project water rights. Reclamation's Klamath Project also provides water to the refuges when available, which is usually after meeting contractual deliveries. Additionally, Reclamation has an obligation to ensure that the refuges receive adequate water to fulfill their Federal reserved water rights, when in priority and when water is available. Beginning in 1995, in compliance with the ESA and tribal trust responsibilities, water was first made available to meet the needs of the ESA listed fishes in Upper Klamath Lake and the Klamath River, then to meet contractual irrigation deliveries and then to the refuges. Under the proposed KBRA flows, the refuges would receive a specific annual allocation unless all demands cannot be met. The KBRA provides for sharing of shortage between Reclamation's Klamath Project irrigators and the refuges in drought and severe drought years. Shortages are expected to be offset by measures to be provided through the On Project Plan and other KBRA actions designed to reduce demand, conserve water and increase supply."	Yes
AO_LT_1229_059-46	The Lead Agencies believe this comment does not accurately reflect the KHSA and KBRA negotiation process or timeline. KBRA negotiations were ongoing when PacifiCorp was brought into KHSA negotiations. KHSA negotiations did not commence until late 2007, early 2008. Master Response KHSA-1 Negotiations of KHSA and KBRA. This EIS/EIR has been developed in accordance with the requirements of NEPA and CEQA to analyze the potential impacts to the environment from the removal of the four PacifiCorp dams on the Klamath River as contemplated in the KHSA and from the implementation of the KBRA. Together, these two agreements attempt to resolve long-standing conflicts in the Klamath Basin. Some of the conflicts and issues these agreements attempt to resolve are enumerated on Draft EIS/EIR p. ES-1 and ES-8-9. The activities leading to the development of the KHSA and the KBRA are discussed on p. ES-7-13. Both the KHSA and KBRA were negotiated and signed by a diverse array of over 40 parties with an interest in resolving Klamath Basin issues. The goal of the KHSA	No

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Submittal Date	December 29, 2012

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	is found on p. 3 or the agreement and the goals of the KBRA are found on p. 4 of that agreement. See Klamathrestoration.gov for the KHSA and KBRA.	