

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
CC_LT_1117_020-1	<p>The comment author does not describe what analysis has been deferred that prevents an adequate assessment of the Proposed Action. CEQ Regulations for NEPA, part 40 CFR 1502.20 specifically provide for tiering of different stages of environmental review so that the analysis can focus on those actions that are ripe for review. Section 2.4 of the EIS/EIR provides a detailed description of the Proposed Action and Alternatives which are then analyzed in Chapter 3. The EIS/EIR also fully discloses those actions that are reasonably foreseeable future actions, and those that are addressed programmatically as part of the KBRA. As the Lead Agencies describe on p. 2-38 through 2-40 and Section 3.1.1.6 of the Draft EIS/EIR, many elements of the KBRA are unknown and not reasonably foreseeable at this time, so the analysis was undertaken at a programmatic level (see Master Response N/CP-13 KBRA is Analyzed as a Connected Action). Appropriate NEPA and CEQA compliance would be completed for some aspects of the KBRA as they become more clearly defined, should there be an Affirmative Secretarial Determination.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p>	No
CC_LT_1117_020-2	<p>The purpose of an EIS/EIR is to disclose to the decisionmakers and the public the potential environmental effects of implementing a proposed action and, based on this information, to inform decision makers of the possible implications of a decision (Pub. Resources Code §§ 21000-21004). The EIS/EIR accurately describes, based on the best available information and science, the benefits and the short-term and long-term environmental effects of the Proposed Action and the alternatives. The EIS/EIR is not meant to weigh the benefits against the impacts and make determinations on which benefits outweigh which adverse effects; it is simply meant to disclose all effects, whether beneficial or adverse. CEQA requires the Lead Agency to balance, as applicable, the benefits of a Proposed Action against its unavoidable environmental risks when determining whether to approve the project. (CEQA Guidelines Section 15093(a).)</p> <p>The comment author states that the document does not provide adequate information to determine if the Proposed Action would provide benefits that would not be achieved by implementation of the dozens of existing management measures and programs already mandated in the basin. The environmental analysis in an EIS/EIR is conducted by comparing the existing conditions (baseline) including all ongoing measures and programs (EIS/EIR, Section 3.1.1.5) to the conditions expected to result from each of the alternatives. For example, the water quality section of the EIS/EIR considers all applicable existing water quality measures and programs as part of the baseline (EIS/EIR, Section 3.2.3). The</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-3	<p>Proposed Action's water quality impacts and benefits are those that would occur above and beyond the existing programs and measures (EIS/EIR, Section 3.2.4). The benefits that would be achieved by implementation of the dozens of existing, legally mandated, and enforceable habitat and water quality management measures are part of the baseline or existing conditions, and have been taken into consideration.</p> <p>We agree that certain KBRA elements are ongoing or reasonably expected to occur in the future even if the Proposed Action is not approved. Those KBRA elements are included in the No Action/No Project Alternative. For example, p. 2-14 of the Draft EIS/EIR presents a list of all the ongoing KBRA resource management activities that are considered as part of the No Action/No Project Alternative.</p>	No
CC_LT_1117_020-4	<p>The comment incorrectly asserts that the total maximum daily loads (TMDLs) were not considered as "reasonably expected to occur in the foreseeable future". Section 3.2.4.1 (Draft EIS/EIR p. 3.2-35) clearly states the following:</p> <p>Master Response WQ-22 TMDLs and the No Action/No Project Alternative (and Alternative 4).</p> <p>Master Response WQ-4C and D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>The comment states "In addition, because the EIS/EIR will result in significant adverse water quality impacts with respect to at least some, and arguably with respect to the majority of the Pollutants of Concern, the EIS/EIR by law must, but fails to, assess whether the Proposed Action will actually significantly adversely impact or inhibit attainment of water quality standards under the No Action Alternative pursuant to the Oregon TMDLs and the California TMDLs." The analysis conducted for the EIS/EIR found that the Proposed Action would not result in significant adverse water quality impacts for a majority of Pollutants of Concern. To the contrary, data and numeric models described in the Draft EIS/EIR Section 3.2.4.3.2 (p. 3.2-76 to 3.2-125) indicate that dam removal will improve water quality in the Hydroelectric Reach and the Klamath River downstream from Iron Gate Dam by decreasing late summer/early fall water temperatures, increasing seasonal dissolved oxygen concentrations, decreasing seasonal pH levels*, and decreasing or eliminating high seasonal chlorophyll-a and algal toxin concentrations (see also Table 3.2-14, p. 3.2-149 to 3.2-161).</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-5	<p>The comment also incorrectly states that "...the impacts analysis of the EIS/EIR, including the impacts analyses for the Proposed Action, the No Action Alternative, and Alternative 4, fail to account for water quality improvements and the attainment of water quality standards that legally must occur pursuant to adopted TMDLs, the environmental benefits of the Proposed Action are overstated in the EIS/EIR." This is incorrect. The implementation of the TMDLs is included throughout the water quality analysis. The environmental benefits of the Proposed Action are due to dam removal and do not overstated benefits due to exclusion of the TMDLs.</p> <p>The PacifiCorp Habitat Conservation Plan generally describes existing operations of the hydroelectric project as well as several Interim Measures from KHSA; these are included in the No Action/No Project Alternative (see Section 2.4.2 of the EIS/EIR). The NOAA Fisheries Service biological opinion and the California Department of Fish and Game (CDFG) Section 5937 instream flow mandate are also included in the No Action/No Project Alternative as existing regulations that affect flows. They are not explicitly detailed in Section 2.4.2, but they are included in the hydrologic and hydraulic modeling efforts. The CDFG Code Section 5927 is not included in the No Action/No Project as this code is not relevant to dam removal or water management in Klamath River watershed.</p> <p>A mitigation and monitoring plan describes mitigation measures identified in a EIS associated with implementation of the Proposed Action and how to monitor those measures. The mitigation and monitoring plan for the 2007 FERC EIS is not included in the No Action/No Project Alternative because FERC did not issue a license to implement the Proposed Action of their 2007 EIS. Considering no license was issued for FERC's 2007 EIS, the mitigation and monitoring measures of that EIS are not reasonably foreseeable. Nor are those mitigation and monitoring measures included in Alternatives 2 and 3, for the same reason. Although Alternative 4 is similar to the Proposed Action from the 2007 FERC EIS, Alternative 4 and the FERC EIS proposed action are not identical. An independent analysis was conducted by the the Lead Agencies and appropriate mitigation was identified within this EIS/EIR rather than simply incorporating the mitigation and monitoring plan from the 2007 FERC EIS.</p> <p>Beyond the assertion that the EIR/EIS omitted reasonably foreseeable future actions, which as noted above, have been addressed, the author of the comment does not provide evidence</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

that the adverse environmental impacts of the No Action and Alternative 4 have been overstated.

The inference that implementation of the Proposed Action could preclude or impede realization of potential benefits to water quality and aquatic resources that result from TMDL actions or existing fish habitat restoration actions such as those described in the PacifiCorp HCP, the NOAA Fisheries Service biological opinion and the CDFG instream flow mandate is not supported by the evidence available to the Lead Agencies and presented in the EIS/EIR. To the contrary, the EIS/EIR states "Restoration activities similar to the general classes of actions described in the KBRA currently occur throughout the basin as funding is available. It is also expected that the Phase I Restoration Plan would build upon existing activities and identified restoration needs and that implementation would include the same types of restoration activities that are currently conducted within the basin. Activities would be prioritized under the Plan and additional funding that may become available under the KBRA would allow greater improvements to be realized than would occur without the KBRA." (EIS/EIR Section 2.4.3.9.) As part of the Proposed Action resource management actions implemented under KBRA would accelerate long-term improvements in water quality, including those anticipated under the TMDLs.

The EIS/EIR discusses the impacts and benefits to anadromous fish that would occur under each alternative and, as noted above, considers the applicable "Regulatory Restoration Measures" described in the comment. Alternatives 2 (Full Removal of the Four Facilities) and Alternative 3 (Partial Removal of the Four Facilities) contribute to the restoration of salmonids and other aquatic species with additional benefits that are not realized under alternatives 4 and 5, the No Action alternative or the "Regulatory Restoration Measures" described in the comment. These benefits include: 1) additional access to historical habitat currently under reservoirs that is of exceptional quality (FERC 2007; Hetrick et al. 2009); 2) disruption of habitat for the *C. shasta* intermediate host below Iron Gate Dam (FERC 2007; Hetrick et al. 2009; Hamilton et al. 2011); 3) free flowing conditions that provide optimal efficiency, decrease outmigrant delay, and likely increase concomitant adult escapement (Buchanan et al. 2011b); and 4) the elimination of current adverse effects to salmonids and salmonid habitat associated with hydropower peaking (ALJ Decision at 44 through 48 Finding of Fact (FOF) numbers 16-1 through 16-32) (Administrative Law Judge 2006).

In addition, the EIS/EIR discusses whether the Alternatives would advance salmonid fisheries for fall-run Chinook salmon, spring-run

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-6	<p>Chinook salmon, and steelhead as well as fisheries for Pacific lamprey and resident fish such as redband trout beyond the more limited focus of the Biological Opinion for coho Salmon and ESA recovery alone.</p> <p>The author of the comment does not provide evidence that implementation of the Proposed Action would interfere with the success of (a) the PacifiCorp Habitat Conservation Plan; (b) the National Marine Fisheries Service 2010 Biological Opinion; or (c) the CDFG Code Section 5927 in-stream flow mandate for tributaries to the mainstem Klamath River.</p> <p>The U.S. Department of Interior (DOI) developed and issued information quality guidelines (<a href="http://www.doi.gov/ocio/guidelines/515Guides.pdf">http://www.doi.gov/ocio/guidelines/515Guides.pdf</a>) and Reclamation developed its own guidelines (<a href="http://www.usbr.gov/main/qoi/guidelines.html">http://www.usbr.gov/main/qoi/guidelines.html</a>). These guidelines are companion agency materials to the OMB Information Quality Guidelines pursuant to Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001. Hallmarks of DOI's information quality standards include making data and methodology publicly available where practical, utilizing strict scientific standards for both agency and non-agency personnel that develop data for DOI, and designating officials responsible for information quality within each DOI component.</p> <p>"The Department conducts a substantial amount of business through processes which involve a structured opportunity for public review and comment on proposed documents prior to their issuance in final form. These activities include but are not limited to, rulemakings and analyses conducted under the National Environmental Policy Act (NEPA). In these instances, requests made under these Information Quality Guidelines for corrections of information in draft documents will be treated as a comment on the draft document and the response will be included in the final document."(DOI, 2008).</p> <p>Master Comment Response GEN-3 Best Available Informaiton.</p> <p>There are numerous assertions of incorrect or inaccurate data in many of the comments submitted by Siskiyou County. These are addressed as they occur with specific responses. This comment also asserts that information cited in the EIS/EIR is incomplete or the reasoning flawed. Notwithstanding the voluminous record presented in the EIS/EIR and the new scientific information developed to help fill data gaps in the EIS/EIR analysis, under CEQA, the Lead Agency is not required to conduct every test or</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-7	<p>perform all research, studies, or experimentation at the comment author's request (Pub. Resources Code, Section 21091(d)(2)(B), CEQA Guidelines sec. 15151 and 15204).</p> <p>This comment challenges the need for the Proposed Action and asserts that the EIS/EIR does not address critical issues relevant to restoring salmonid fisheries. The comment also asserts that existing analyses do not show that the Proposed Action will restore salmonid fisheries.</p> <p>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 (Draft EIS/EIR Section 1.4.2.1, p. 1-29). The Proposed Action is intended to address a complex range of issues that are interwoven with the restoration of salmonids in the Klamath Basin. Recent events related to this issue include:</p> <ul style="list-style-type: none"> <li>• In 2001, the Federal Government announced there would be no deliveries of water from Upper Klamath Lake or the Klamath River to Reclamation's Klamath Project due to the combined effects of severe drought and 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).</li> <li>• In 2002, returning adult fall-run Chinook salmon suffered a major die-off (at least 30,000 fish).</li> <li>• In 2006, low abundance of Klamath Basin Chinook salmon lead to severe restrictions on commercial and recreational harvest along 700 miles of the California and Oregon coast, as well as, major reductions in Klamath River recreational and tribal fisheries.</li> <li>• In 2010, there was a significant reduction in water deliveries to Reclamation's Klamath Project due to dry hydrologic conditions.</li> <li>• In 2010, the Klamath Tribes limited their harvest of suckers to ceremonial use for the 25<sup>th</sup> consecutive year and experienced their 92<sup>nd</sup> year without access to salmon.</li> </ul> <p>The KHSA and the KBRA are intended to address these, and other issues related to salmonid fisheries in the Klamath Basin. As specified in the KHSA, and in compliance with applicable laws, the Secretary of the Interior has undertaken this scientific and environmental analysis of potential facilities removal and connected actions under the KBRA (EIS/EIR, Section 1.3). Master Response GEN-3 Best Available Information.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-8	<p>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).</p> <p>The Chinook Expert Panel assessment indicated that dams out plus KBRA implementation (Alternative 2 or 3) offers greater potential than the Current Conditions in improving conditions for water quality (Goodman et al. 2011; p. 9), disease, (Goodman et al. 2011; p. 12), recolonization (Goodman et al. 2011; p. 14), increased harvest and escapement (Goodman et al. 2011; p. 16), predation (Goodman et al. 2011; p. 17), and tolerating climate change and changes in marine survival (Goodman et al. 2011; p. 19). These are all critical issues relevant to restoring salmonid fisheries.</p> <p>Overall, these comments assert that the Proposed Action is likely to jeopardize coho salmon and that findings of the EIS/EIR either conflict with the Coho Expert Panel, that insufficient information exists to make findings, - or that the Coho Expert Panel report is not accurately cited in the EIS/EIR. Many of these comments reflect the comment author's interpretation of the Expert Panel Report rather than the findings of the Expert Panel represented in EIS/EIR. The comment as written cites portions of the Expert Panel Report, sometimes out of context, without fully considering the entire EIS/EIR record. By doing so, the comment loses the context of the issue as presented in the EIS/EIR and does not accurately represent the EIS/EIR record. It is also important to distinguish the findings of the Coho Expert Panel Report from the findings of the EIS/EIR.</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Because of the length and complexity of this comment, it is broken down into smaller parts to allow responses to individual issues.</p> <p><b>Comment:</b> According to the EIS/EIR, the Expert Panel concluded the Proposed Action "would result in a modest increase in the coho salmon population compared with existing conditions." Draft EIS/EIR at 3.3-106. That is not what the Expert Panel said. What the Expert Panel did conclude was that the "difference between the Proposed Action and Current Conditions is expected to be small." Klamath River Expert Panel, Final Report, Scientific Assessment of Two Dam Removal Alternatives on coho Salmon and Steelhead, April 25, 2011 ("Coho and Steelhead Expert Panel</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

Report”) at ii. This is “especially” true for the ten years following dam removal. Id. Thereafter, “moderate” responses by coho salmon “are possible.” Id. But this possibility might happen only “if the KBRA is fully and effectively implemented...”, id., a result about which the Expert Panel had considerable doubt, and, as noted above, a result that is not inextricably tied to or conditioned upon implementation of the Proposed Action. In fact, the Expert Panel found that even with the KBRA, there is such a “high uncertainty” about the many and various actions necessary to truly make a difference for coho salmon that there is a “low likelihood” of even moderate responses by coho salmon to the Proposed Action. The actual statements of the Expert Panel stand in stark contrast to the characterization in the EIS/EIR that the Expert Panel agreed the Proposed Action “would result” in a “modest increase” in coho salmon populations.”

**Response:** The text in the EIS/EIR has been changed to more accurately represent the findings of the Expert Panel as follows:

While noting the constraints of the Panel to arrive at conclusions within a short time period and without adequate quantitative or synthesized information, the conclusion of the Panel was that: “Although Current Conditions would likely continue to be detrimental to coho, the difference between the Proposed Action and Current Conditions is expected to be small, especially in the short term (0-10 years after dam removal). Larger (moderate) responses are possible under the Proposed Action if the KBRA is fully and effectively implemented and mortality caused by the pathogen *C. shasta* is reduced. The more likely small response would result from modest increases in habitat area usable by coho with dam removal, small changes in conditions in the mainstem, positive but unquantified changes in tributary habitats where most coho spawn and rear, and the potential risk for disease and low ocean survival to offset gains in production in the new habitat.”

**Comment:** “Instead, the Expert Panel’s conclusions indicate that the Proposed Action may well inhibit any benefit that might result from implementation of the KBRA.”

**Response:** This conclusion is not reached in either the EIS/EIR or the Coho Expert Panel report. The EIS/EIR summarized the findings of the Coho Expert Panel in EIS/EIR, Section 3.3.4.3.

The comment implies that coho salmon would not benefit from dam removal without complete implementation of the KBRA and speculates the KBRA would not be implemented. While we are

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

addressing concerns for coho in this response, it should be noted that the Proposed Action is intended to advance the restoration of all salmonids native to the Klamath Basin, not just coho. The cautions concerning the KBRA expressed by the Expert Panels (Dunne et al, 2011; Goodman et al. 2011) are noted in the EIS (EIS/EIR Section 3.3.4.3). While the long-term success of recovering salmonids in the Klamath Basin would be enhanced by the full implementation of the KBRA, there are many benefits of the Proposed Action that are likely to occur independently of the KBRA because dam removal affects all of the reservoir reaches of the Klamath River below Keno Dam independently, to some degree, of the KBRA.

Master Response AQU-16 Benefits to Coho.

Under the KHSA and KBRA (Agreements) the United States would be a party to the KBRA at the time of a Secretarial Determination under the KHSA, and is obligated to implement the KBRA according to its terms (Draft EIS/EIR, p. ES-2). DOI, acting as the Federal Lead Agency, is analyzing the KBRA as a connected action. The 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. 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 (Draft EIS/EIR, p. ES-3).

Dam removal would restore connectivity to habitat on the mainstem Klamath River up to and including Spencer Creek and would create additional habitat within the Hydroelectric Reach. It is anticipated that as a result of the Proposed Action, the Upper Klamath River, mid-Klamath River, Shasta River, Scott River, Salmon River, and Lower Klamath River coho salmon population units would have an increase in abundance, productivity, population spatial structure, and genetic diversity. In general, free flowing conditions as per the Proposed Action, would likely provide optimal efficiency, decrease outmigrant delay, and increase concomitant adult escapement (Buchanan et al. 2011b). Based on increased habitat availability and improved habitat quality, the effect of the Proposed Action would be beneficial for the coho salmon from the Upper Klamath River, Mid-Klamath River, Lower

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	------------------------------

Klamath River, Shasta River, Scott River, and Salmon River population units in the long term. (EIS/EIR, Section 3.3.4.3).

**Comment:** “Further undermining the conclusion in the EIS/EIR that the Proposed Action “would result” in positive benefits are the Expert Panel’s finding that so much scientific information for an appropriate analysis is missing that there needs to be “further scientific investigation [including] necessary and feasible data collection, analyses, and modeling....” Coho and Steelhead Expert Panel Report at i. The Panel noted its report is no “substitute for scientific analysis of solid data,” id., and that further analysis needs to be done before any conclusions can be made about the effect of the Proposed Action on coho salmon. In other words, DOI lacks the information necessary to reach any real conclusions about the merits of the Proposed Action regarding coho salmon, but what is known indicates the benefits of the Proposed Action would be “small.”

**Response:** This comment takes the statements of the Coho Expert Panel out of context to assert that the EIS/EIR does not provide sufficient evidence to support findings that coho salmon would benefit from the Proposed Action. The Coho Expert Panel did not state that DOI lacks the information to make “any real conclusions about the effect of the Proposed Action on coho salmon” or that “further analysis needs to be done before any conclusions can be made about the effect of the Proposed Action on coho salmon”. The Coho Expert Panel Report noted the need for further scientific investigation including necessary and feasible data collection, analyses, and modeling to make quantitative findings about the effect of the Proposed Action on coho salmon. Absent that information the panel noted that their responses were qualitative in nature (Dunne et al. p. iii).

Findings in the EIS/EIR on the response of coho populations are not in conflict with the Coho Expert Panel Report. The EIS/EIR, considering all of the information in Coho Expert Panel Report and the various studies, reports and scientific information considered in the science review process concluded that based on increased habitat availability and improved habitat quality, the effect of the Proposed Action would be beneficial for the coho salmon from the Upper Klamath River, Mid-Klamath River, Lower Klamath River, Shasta River, Scott River, and Salmon River population units in the long term (EIS/EIR Section 3.3.4.3). This qualitative finding is consistent with the Purpose and Need for the Proposed Action, which is to advance the restoration of salmonids in the Klamath Basin.

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p><b>Comment:</b> the EIS/EIR has dramatically understated the amount of sediment that will be released into the environment.</p> <p>Master Response AQU-20 Bedload Sediment and Fish Habitat.</p> <p>The comment provides no evidence to support the assertion that the EIS/EIR has understated the amount of sediment that will be released by dam removal. See also responses to comments 10, 28, 44, 45 and 122.</p> <p><b>Comment:</b> "Reading beyond the unsubstantiated claims in the EIS/EIR, one finds the admission that the most likely scenario under the Proposed Action for coho salmon downstream from Iron Gate Dam is that coho salmon from the Upper Klamath River Population Unit that spawn in the Klamath River and their progeny will suffer "up to 100% mortality" in the dam removal phase due to the effects of released sediment. EIS/EIR at 3.3-107. There are nine coho salmon population units in the Klamath River watershed. Id. Thus, during dam removal, the Proposed Action will destroy the entire population within the mainstem Klamath River of one of nine (11%) population units of the threatened coho salmon. Id. at 3.3-110. Overall for the entire coho population, the EIS/EIR states the direct mortality could be as high as 18% of smelts in various population units. Id. at 4-77. The EIS/EIR cannot so lightly dismiss such adverse impacts on an ESA protected species.</p> <p>Indeed, the EIS/EIR admits that if just one year class of coho salmon is eliminated by the Proposed Action, it "could result in a jeopardy decision" under the ESA. Id. at 3.3-53. A jeopardy opinion means the action being considered is likely to jeopardize the continued existence of the ESA-listed species. 16 U.S.C. §1536(a)(2). In plain English, the EIS/EIR admits that the sediment impacts of the Proposed Action could, by themselves, jeopardize the continued existence of coho salmon." The comment then concludes that "There is a real possibility that the Proposed Action will jeopardize the continued existence of coho salmon."</p> <p><b>Response:</b> Neither the EIS/EIR nor the Coho Expert Panel Reports make a finding that the Proposed Action will jeopardize the continued existence of coho salmon. "Jeopardy" is a determination made in a Biological Opinion (BO) by a regulatory agency with jurisdiction under the ESA to make such a finding. The reference to "jeopardy" on p. 3.3-53 of the Draft EIS/EIR is simply a discussion of criteria to evaluate significance of impacts, not a finding that such an impact would occur as a result of the Proposed Action. As noted in the EIS/EIR, loss of an entire year class of coho would be significant and could be the basis of a jeopardy determination by a regulatory agency. The EIS/EIR does</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>not make a finding that an entire year class of coho would be lost as a result of the Proposed Action.</p> <p>There are nine coho salmon population units in the Klamath River watershed (see Section 3.3.3.1). Only negligible effects from suspended sediment would be expected on the three population units in the Trinity River, and on the Lower Klamath River Population Unit relative to existing conditions. Effects on the Salmon River Population Unit are anticipated to remain sub lethal even under a worst-case scenario (Table 3.3-7). Effects on the Upper Klamath River, mid-Klamath River, Shasta, and Scott population units under the most-likely-to occur or worst-case scenario are anticipated to be sub lethal on most life-stages (Table 3.3-7), with the following exceptions:</p> <ul style="list-style-type: none"> <li>• Under the most-likely-to-occur or worst-case scenario coho salmon from the Upper Klamath River Population Unit that spawn in the mainstem, as well as their progeny, would suffer up to 100 percent mortality. However, even under existing conditions and the No Action/No Project Alternative, 80–100 percent mortality is expected due to the effects of suspended sediment on these life stages (in addition to other sources of mortality). Based on spawning surveys conducted from 2001 to 2005 (Magneson and Gough 2006), from 6 to 13 redds could be affected in 2019 during the Proposed Action, many of which are thought to be hatchery returning fish (NOAA Fisheries Service 2010). Based on the range of escapement estimates of Ackerman et al. (2006), 13 redds could represent anywhere from 0.7 to 26 percent of the naturally returning spawning in the Upper Klamath River Population Unit, and much less than 1 percent of the natural and hatchery returns combined (EIS/EIR Section 3.3.4.3).</li> <li>• Coho salmon smolts outmigrating from tributaries in the Upper or Mid-Klamath River, Shasta, or Scott populations during early spring (around 46 percent of outmigrating smolts compared to those that outmigrate in late spring) are predicted to experience 20 percent mortality under a most-likely-to-occur scenario, or 49 percent mortality under a worst-case scenario. Anticipated total mortality varies by population, and is detailed in Appendix E. Overall, juvenile coho are predicted to experience about a 2 percent basinwide mortality under a most-likely-to-occur scenario, or about an 8 percent basinwide mortality under a worst-case scenario.</li> </ul>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

The EIS/EIR acknowledges short-term impacts to coho salmon and their habitat from sediment during drawdown, concluding that:

- Based on reductions in habitat quality during reservoir drawdowns that would be detrimental to Primary Constituent Elements (PCEs) of habitat, the Proposed Action would have a significant effect on coho salmon critical habitat in the short term. Based on benefits to the PCEs, the Proposed Action would have a beneficial effect on critical habitat for coho salmon in the long term (EIS/EIR, Section 3.3.4.3).
- Based on a substantial reduction in EFH quality during reservoir drawdown, the Proposed Action would have a significant effect on EFH for Chinook and coho salmon in the short term. Based on benefits to quality, the Proposed Action would have a beneficial effect on EFH for Chinook and coho salmon in the long term (EIS/EIR, Section 3.3.4.3).
- Based on substantial reduction in the abundance of a year class in the short term, the effect of the Proposed Action would be significant for the coho salmon from the Upper Klamath River, Mid-Klamath River, Shasta River, and Scott River population units in the short term. Based on no reduction in the abundance of a year class, the effect of the Proposed Action would be less-than-significant for the coho salmon from the three Trinity River population units, Salmon River and the Lower Klamath River Population Unit in the short term. (EIS/EIR, Section 3.3.4.3).

Overall, based on increased habitat availability and improved habitat quality, the effect of the Proposed Action would be beneficial for the coho salmon from the Upper Klamath River, Mid-Klamath River, Lower Klamath River, Shasta River, Scott River, and Salmon River population units in the long term (Draft EIS/EIR, Section 3.3.4.3, p. 3.3-112). Among recommendations for Klamath River coho salmon that can be justified from current knowledge is the serious evaluation of the benefits of elimination of Iron Gate Dam on the grounds that it blocks substantial amounts of coho habitat (National Research Council [NRC] 2004, p 351). Access to habitat within the Hydroelectric Project reach would benefit coho salmon by: a) extending the range and distribution of the species thereby increasing the coho salmon's reproductive potential; b) increasing genetic diversity in the coho stocks; c) reducing the species vulnerability to the impacts of degradation; and d) increasing the abundance of the coho population (Administrative Law Judge Decision at 86, Ultimate Findings of Fact and

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-9	<p>Conclusions of Law 9: Administrative Law Judge Decision at 36, FOF 7-16)(Administrative Law Judge 2006).</p> <p>Master Response AQU-21 NRC Dam Removal Help Coho.</p> <p>The effects of the Proposed Action to coho salmon, their designated critical habitat and essential fish habitat are described in the EIS/EIR in Section 3.3.4.3, and in Appendix E (Potential Suspended Sediment Effects on Anadromous Fish in the Klamath Basin) and Appendix F (Potential Bedload Sediment Effects on Anadromous Fish in the Klamath Basin). The EIS found that the effect of the Proposed Action would be significant for the coho salmon from the Upper Klamath River, Mid-Klamath River, Shasta River, and Scott River population units in the short term and the effect of the Proposed Action would be beneficial for the coho salmon from the Upper Klamath River, Mid-Klamath River, Lower Klamath River, Shasta River, Scott River, and Salmon River population units in the long term as a result of increased habitat availability and improved habitat quality.</p> <p>Section 3.3.4.3 of the EIS/EIR has been revised to disclose that diminished disease conditions and improved water quality (i.e. improved conditions for water temperature and dissolved oxygen) in the mainstem Klamath River would likely improve survival of smolts emigrating from tributaries downstream from Iron Gate Dam, such as the Scott and Shasta rivers, where extensive investment in restoration is underway and continuing.</p> <p>Master Response AQU-21 NRC Dam Removal Help Coho.</p> <p>Master Response AQU-16 Benefits to Coho.</p> <p>Recall that collectively, the “Regulatory Restoration Measures” referred to by the author of the comment include a) the PacifiCorp Habitat Conservation Plan; (b) the National Marine Fisheries Service 2010 Biological Opinion; (c) the CDFG Code Section 5927 in-stream flow mandate for tributaries to the mainstem Klamath River; and (d) the mitigation and monitoring plan for the 2007 FERC EIS.</p> <p>The PacifiCorp Habitat Conservation Plan generally describes existing operations with inclusion of several Interim Measures; these are included in the No Action/No Project Alternative (see Section 2.4.2 of the EIS/EIR). The NOAA Fisheries Service biological opinion and the CDFG Section 5937 instream flow mandate are also included in the No Action/No Project Alternative as existing regulations that affect flows They are not explicitly detailed in Section 2.4.2, but they are included in the hydrologic</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>and hydraulic modeling efforts. The CDFG Code Section 5927 is not included in the No Action/No Project as this code is not relevant to dam removal or water management in Klamath River watershed.</p> <p>The mitigation and monitoring plan for the 2007 FERC EIS is not included in the No Action/No Project Alternative. The mitigation and monitoring plan describes mitigation measures identified in the EIS associated with the FERC Proposed Action and how to monitor those measures. These measures are not included in the No Action/No Project Alternative because FERC did not issue a license to implement FERC EIS/EIRs Proposed Action. Alternative 4 is similar to the Proposed Action from the FERC EIS; however, the Lead Agencies completed an independent analysis of this alternative and identified appropriate mitigation within this EIS/EIR rather than simply incorporating the mitigation and monitoring plan from the 2007 FERC EIS.</p> <p>The TMDLs within the basin are expected to result in improvements to water quality conditions, but the improvements cannot be quantified due to uncertainties regarding the timing and mechanism of implementation plans, necessary to achieve water quality standards. Section 3.2, Water Quality, describes these TMDLs in detail. As described in Draft EIS/EIR Section 3.2.4.3.2.10 KBRA (p. 3.3-125 to 3.2-132), resource management actions implemented under KBRA as part of the Proposed Action would accelerate long-term improvements in water quality, including those anticipated under the TMDLs. Additional detail on the interaction of the TMDLs and the Alternatives is provided by the Water Quality SubTeam (2011) (also referred to as the Water Quality SubGroup), as cited in Draft EIS/EIR Section 3.3.5, p. 3.3-241. This document, entitled "Assessment of Long-Term Water Quality Changes for the Klamath River Basin Resulting from KHSA, KBRA, and TMDL and NPS Reduction Programs" can be found at <a href="http://klamathrestoration.gov/keep-me-informed/secretarial-determination/role-of-science/secretarial-determination-studies">http://klamathrestoration.gov/keep-me-informed/secretarial-determination/role-of-science/secretarial-determination-studies</a>.</p> <p>With enactment of authorizing legislation there would be the potential for additional funding to enhance some of the ongoing programs. Programs that would be increased in magnitude or would be accelerated in schedule with implementation of the KBRA are shown in Table 2-15 of the EIS/EIR. Most of the programs described in the KBRA would only occur with the enactment of Federal authorizing legislation and approval of funding at both the Federal and State levels.</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>The inference that implementation of the Proposed Action could preclude or impede realization of potential benefits to water quality and aquatic resources that result from TMDL actions or existing fish habitat restoration actions such as those described in the PacifiCorp HCP, the NOAA Fisheries Service biological opinion and the CDFG instream flow mandate is not supported by the evidence available to the Lead Agencies and presented in the EIS/EIR. To the contrary, the EIS/EIR states "Restoration activities similar to the general classes of actions described in the KBRA currently occur throughout the basin as funding is available. It is also expected that the Phase I Restoration Plan would build upon existing activities and identified restoration needs and that implementation would include the same types of restoration activities that are currently conducted within the basin. Activities would be prioritized under the Plan and additional funding that may become available under the KBRA would allow greater improvements to be realized than would occur without the KBRA." (EIS/EIR Section 2.4.3.9.) As part of the Proposed Action resource management actions implemented under KBRA would accelerate long-term improvements in water quality, including those anticipated under the TMDLs.</p> <p>The EIS/EIR discusses the impacts and benefits to anadromous fish that would occur under each alternative and as noted above, considers the applicable "Regulatory Restoration Measures" described in the comment. Alternatives 2 and 3 (removal of the Four Facilites) contribute to the restoration of salmonids and other aquatic species with additional benefits that are not realized under alternatives 4 and 5, the No Action alternative or the "Regulatory Restoration Measures" described in the comment. These benefits include: 1) additional access to historical habitat currently under reservoirs that is of exceptional quality (FERC 2007; Hetrick et al. 2009); 2) disruption of habitat for the <i>C. shasta</i> intermediate host below Iron Gate Dam (FERC 2007; Hetrick et al. 2009; Hamilton et al. 2011); 3) free flowing conditions that provide optimal efficiency, decrease outmigrant delay, and likely increase concomitant adult escapement (Buchanan et al. 2011b); and 4) the elimination of current adverse effects to salmonids and salmonid habitat associated with hydropower peaking (ALJ Decision at 44 through 48 Finding of Fact (FOF) numbers 16-1 through 16-32) (Administrative Law Judge 2006).</p> <p>In addition, the EIS/EIR discusses whether the Alternatives would advance salmonid fisheries for fall-run Chinook salmon, spring-run Chinook salmon, and steelhead as well as fisheries for Pacific lamprey and resident fish such as redband trout beyond the more limited focus of the Biological Opinion for coho Salmon and ESA recovery alone.</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>The author of the comment does not provide evidence that implementation of the Proposed Action would interfere with the success of (a) TMDLs; (b) the PacifiCorp Habitat Conservation Plan; (c) the National Marine Fisheries Service 2010 Biological Opinion; or (d) the CDFG Code Section 5937 in-stream flow mandate for tributaries to the mainstem Klamath River.</p>	
CC_LT_1117_020-10	<p>Overall, these comments assert that the EIS/EIR has substantially underestimated amounts of sediment that would result from dam removal, the temporal scale of effects and the associated impacts on aquatic biota. In making these assertions, the comment cites the Expert Panel reports stating that the reports provide evidence that was ignored in the EIS/EIR, that DOI provided incorrect information to the Expert Panels or that the Expert Panel contradicts the conclusions of the EIS/EIR.</p>	Yes
CC_LT_1117_020-28		
CC_LT_1117_020-44		
CC_LT_1117_020-45		
CC_LT_1117_020-122	<p>In our view, many of these comments reflect the author's of the comment interpretation of the Expert Panel report as opposed to the actual content of the reports. Similarly, in several places the comment does not accurately reflect the content of the EIS/EIR. The comment as written cites portions of the Expert Panel reports or the EIS/EIR, sometimes out of context, without fully considering the entire EIS/EIR record. By doing so, the comment loses the context of the issue as presented in the EIS/EIR and does not accurately represent the EIS/EIR record.</p> <p>Importantly, there was also ambiguity in some sections of the EIS/EIR over the type of sediment that would be released by dam removal. The EIS/EIR has been revised to more clearly distinguish between fine-sediment, which, in general has a relatively short term, negative impact on aquatic biota, and bedload or coarse sediment, which will have a relatively long-term impact that is primarily beneficial (EIS/EIR Chapters 3.2, 3.3, 3.11, See also text box in Chapter 2, titled "Existing and Future Sediment Weight and Volume in the Four Facilities with Projected Erosion Following Dam Removal"). The clarifications in the EIS/EIR do not significantly change estimates of sediment that would be released by dam removal</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p><b>otal Sediment Amounts:</b> The estimates of sediment released by dam removal used in the comment are significantly different than those used in the EIS/EIR. The comment as written substituted its own sediment calculations for those in the EIS/EIR (See footnote #4, page 20 of Comment CC-LT-1117-020) and then used those sediment calculations to conclude that both the EIS/EIR and the</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

Expert Panel had understated sediment amounts that would be released by dam removal and environmental consequences related to sediment. The comment however provided no additional evidence to support those calculations, noting that they were from “numbers tucked away in other sections of the EIS/EIR, numbers omitted from the aquatic resources impact section” and that the EIS/EIR and Expert Panels were “wrong by orders of magnitude”. Using their own calculations the author of the comment concluded that 8,430,000 cubic yards or 3.54 million tons of sediment would be released in the first year. While exact volumes or weights are impossible to calculate, the EIS/EIR concludes that sediment amounts released downstream by dam removal would be significantly lower than the 3.54 million tons calculated by the commentor.

The comment appears to conclude that all of the sediment behind the dams would be released downstream. That is not correct. Not all of the sediments behind the dams would be mobilized by dam removal. A portion of the sediment behind the dams would be transported downstream, and a portion would remain in place as terraces and floodplain deposits within the drawn-down reservoirs. The amount eroded is primarily driven by whether river flows are high or low during the reservoir draw down. The river channel under the present-day reservoirs would erode to the pre-dam bed elevations and not likely beyond because the natural sediment balance in the river would be restored. While it is impossible to make precise predictions due to variation in flows at the time of dam removal, sediment studies estimate that between 36 and 57% of the total sediment behind the dams would be released by dam removal (Reclamation 2012d). By 2020, the EIS/EIR documents that there will be an estimated 15 million cubic yards or 4.16 million tons of total sediment behind the dams (Reclamation 2012d). Of that total sediment, approximately 1.50 to 2.58 million tons (36 to 57% of the total sediment) of fine sediment and sand is predicted to erode downstream after dam removal. This is considered an upper estimate of the sediment released to the reach below Iron Gate Dam because a portion of the sediment behind J. C. Boyle dam is expected to deposit in the hydroelectric reach. The comment predicts 3.54 million tons of sediment would be released downstream. The comment with no other evidence than its own calculations overstates the total amounts of sediment that will be released downstream below Iron Gate Dam (and thus impacts) by approximately 1 to 2 million tons when compared to the Reclamation’s Klamath Project record documented in the analysis (See text box in Chapter 2, titled “Existing and Future Sediment Weight and Volume in the Four Facilities with Projected Erosion Following Dam Removal”)(Reclamation 2012d).

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	----------------------

**Amounts o Sand in Eroded Sediments:** The comment also makes fundamental errors related to the amount of sand in the sediments released downstream. When calculating the amount of sand that would be released by dam removal and comparing that to the Expert Panel comments, the comment author did not properly distinguish between total sediment weight which is currently estimated to be 3,600,000 tons and the sand weight, which is estimated to be 590,000 tons. By 2020, total sediment will increase to approximately 4,160,000 tons, of which 680,000 tons will be sand. In addition, the comment author assumed the percentages of sand were by volume, when in fact they are by weight. This compounding error led the author of the comment to conclude that the EIS/EIR and the Chinook Expert Panel had understated sand amounts in the sediment released downstream, and the potential impacts. Based upon the simulated results, about 230,000 to 370,000 tons of sand would be eroded from the reservoirs and a smaller portion of that would be released to the reach downstream from Iron Gate Dam. The Chinook Expert Panel assumed that there would be 300,000 to 400,000 tons of sand released as the result of dam removal. The Expert Panel was making general statements and rough calculations and therefore, the difference between the two estimates in terms of the weight of sand released is not significant.

The Expert Panel Report is also generally consistent with the EIS/EIR (Chapter 3.2, 3.3, 3.11) with respect to the total volume of sediment released compared to the sediment transported by the Klamath River, noting that “predicted first year total of flushed sediment is smaller than the total transported during major floods on the river” (Coho and Steelhead Expert Panel Report, p. 26). When considered in comparison to sediment loading from other existing sources along the lower Klamath River the magnitude of the total anticipated sediment release from behind the reservoirs is relatively small. (EIS/EIR Section 3.11.4.2, Table 3.11-1).

This comment also incorrectly equates the presence of sediment in a river system with universally adverse effects, and it misquotes the EIS/EIR as saying “...salmonids need spawning areas that are “relatively free” of sediment. EIS/EIR at 3.3-5.”. The actual statement is “...salmonids spawn in gravel or cobble substrates that are relatively free of fine sediment.” In other words, salmonids need coarse sediment, such as gravels and cobbles, for spawning. While there are acknowledged short-term adverse impacts on aquatic biota from fine sediment release, in the long term, the removal of the Four Facilities would restore normal (historical) bedload or coarse sediment transport and deposition essential to the creation and maintenance of aquatic habitat. The deposition of sediment from Iron Gate Dam to Cottonwood Creek, including the

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

issue raised in the comment that “A two-foot deposition of sediment does not sound as if it leaves spawning beds “relatively free” of sediment” is addressed in Appendix F and Section 3.3.1.1.1.1 of the EIS/EIR, Key Ecological Attributes. See text box in Chapter 2, titled “Existing and Future Sediment Weight and Volume in the Four Facilities with Projected Erosion Following Dam Removal.” which has been added to the EIS/EIR to clarify the types and amounts of sediment associated with the Four Facilities.

Master Response AQU–1 Sediment Amounts and Effects to Fish.

**Duration o E ects:** The comment asserts that the EIS/EIR failed to acknowledge that the duration of effects from sediment would last longer than one year and that the extent of sediment impacts was understated. Contrary to the comment, the EIS/EIR acknowledges many times that there are short-term (<2 years) and long-term (>2 to 50 years) effects from sediment (EIS/EIR Chapters 3.2, 3.3, 3.11). The comment cites a finding out of context on page 3-110 of the Draft EIS/EIR related to sediment impacts on pool depth to support the assertion that the EIS/EIR failed to consider longer term effects. The EIS/EIR does not state on page 3.3-110 that sediment impacts will only last one year; the EIS/EIR on page 3.3-110 is referring only to pool depth which is one metric for habitat, not the overall effects of sediment. The full citation is: “However, the effect on habitat is anticipated to be short term, and pools would likely return to their pre-sediment release depth within one year (Stillwater Sciences 2008)”.

Additional language has been added to Section 3.3 to clarify that suspended sediment concentration (SSC) would be highest during the period of greatest reservoir drawdown (January through mid March 2020), as erodible material behind the dams would be mobilized downstream (Reclamation 2012). During normal to dry water years, SSC concentrations would begin to decline in late March 2020 and would continue declining through early summer 2020 (Reclamation 2012d). If drawdown occurred during a wet year, it may take longer to drain the reservoirs and the high concentrations may extend until June 2020. After the first year, there may be minor sediment inputs during storm events or as river terraces stabilize that cause short-term elevations in SSCs, but these are not expected to have adverse effects. The SSC are expected to be near background conditions for all water year types within the first year following removal with minor exceptions as noted.

The EIS/EIR has been revised to clarify the effects of fine sediment after the first year.

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Master Response AQU–20 Bedload Sediment and Fish Habitat.</p> <p>Master Response AQU–2B Sediment Dredging. Master Response WQ–10 Permitting Sediment Release.</p> <p><b>Species Specific Effects:</b> Since most Chinook spawning occurs in tributaries, only redds in the main channel would be lost as a result of sediment deposition during drawdown. FERC (2007) found that only a small proportion (4 percent) of basin-wide fall-run Chinook spawning occurs in the mainstem Klamath River. Subsequent analysis documented in the EIS/EIR (Section 3.3.4.3) shows that the most-likely-to-occur or worst-case scenarios predicted complete loss of the eggs of the 2019 brood year deposited in the mainstem in fall 2019. Based on redd surveys from 1999 through 2009 (Magneson and Wright 2010), an average of around 2,100 redds could be affected. Based on escapement estimates in the Klamath Basin from 2001 through 2009 (CDFG, unpublished data) this loss would represent around 8 percent of all anticipated redds in the Klamath Basin in 2019. These independently derived estimates by FERC and CDFG are very close, indicating that an estimated loss of 4-8% of the redds in the Klamath Basin from sediment deposition is reasonable (EIS/EIR Section 3.3.4.3).</p> <p>Spring-run Chinook salmon current distribution extends from the mouth of the Klamath River upstream to the Salmon River (Stillwater Sciences 2010b). Most Spring-run Chinook spawning and rearing takes place within the Trinity and Salmon rivers which would not be affected by sediment deposition from drawdown. In most years spring Chinook would not be in main channel during drawdown. There may be small segments of the population that are migrating in the main channel during drawdown (See appendix E, Tables E-4 and 5) if the drawdown period is extended.</p> <p>For coho salmon, recent estimates show that 100 adults or fewer spawned within the mainstem Klamath River along the 63 mile reach from Iron Gate Dam to Portuguese Creek from 2001–2004 (Hamilton et al., 2010). Most coho salmon spawn in tributaries to the Klamath River. Most rearing occurs on these tributaries as well, although some coho juveniles may rear in the mainstem when conditions in the tributaries become unsuitable. The effects of bedload and sediment composition changes would likely eradicate any coho salmon eggs that were spawned on the mainstem above Willow Creek in 2019, although the number is expected to be very low because most spawning occurs in tributaries. In subsequent years, coho salmon would be able to behaviorally adapt to bed composition changes (i.e., disperse to</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>suitable spawning habitat including newly available tributaries above Iron Gate Dam) and no effect would be expected.</p> <p>The statement that there is no evidence of analysis of impacts on species that spend some or all of their life cycle in the estuary is not correct. SSCs in the estuary are expected to be similar to those encountered during storm events about 1 year in 10 under the current conditions. In other words, the SSCs in the estuary that would result from the dam removal are well within the range of natural events with which estuary species evolved. Each alternative in the EIS/EIR is sufficiently analyzed with regards to SSCs and effects to fish for the Secretary Determination. (EIS/EIR Chapters 3.2, 3.3, 3.11; Appendix E, Appendix F).</p> <p>Adult eulachon entering the Klamath River after January 2020 might be exposed to elevated SSCs for a portion of their migration period. Because eulachon generally occur within 8 miles of the coast and dam-release-related SSCs would decrease in the downstream direction from Iron Gate Dam due to dilution from tributaries, the magnitude of the effect would likely be low. Short-term increases in sediment might affect adults and larvae in the mainstem Klamath River. As with SSCs, these effects might be muted by tributary inputs. The Proposed Action is not expected to substantially change or affect estuarine habitat. In the long term, sediment, flow, and water temperature effects resulting from the Proposed Action would likely not extend downstream to the estuary. The Proposed Action would have a less-than-significant effect on eulachon in the short and long term (EIS/EIR Section 3.3.4.3).</p> <p>Impacts to longfin smelt would be the same as those described for eulachon. The Proposed Action would have a less-than-significant effect on longfin smelt in the short and long term (EIS/EIR Section 3.3.4.3).</p> <p>EFH would be affected by sediments released by dam removal. The short-term release of sediment from the dams under the Proposed Action would be detrimental to Chinook and coho salmon EFH during the months when SSC concentrations are elevated. In the long term, the Proposed Action would increase habitat for Chinook and coho salmon (upstream of currently designated EFH) by providing access to habitats upstream of Iron Gate Dam. Based on a substantial reduction in EFH quality during reservoir drawdown, the Proposed Action would have a significant effect on EFH for Chinook and coho salmon in the short term. Based on benefits to quality, the Proposed Action would have a beneficial effect on EFH for Chinook and coho salmon in the long term (EIS/EIR 3.3.4.3). Based on short duration of elevated</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

suspended sediments in the estuary during reservoir drawdown, the Proposed Action would have a less-than-significant effect on EFH for groundfish and pelagic fish in the short and long term. **Sediment Impacts on other species:** Suspended sediments and sediment deposition have short-term adverse impacts on mussels, benthic macroinvertebrates and pacific lamprey below Iron Gate Dam. All of these species or species groups would benefit by increased habitat availability and improved habitat quality in the long term (EIS/EIR, Section 3.3.4.3). In regard to impacts to these species in Reclamation's Klamath Project Reach, the EIS/EIR has been revised to include analysis of peaking effects to macroinvertebrates. Current peaking operations reduce the production of sessile organisms, like macroinvertebrates, by ten percent to 25 percent (Administrative Law Judge, 2006). Macroinvertebrate drift rates, a measure of food availability for trout, in the non-peaking Keno reach were five to six times greater than in the peaking reach. Fluctuations in the peaking reach are undoubtedly a contributing factor to the lower macroinvertebrate drift rates (Administrative Law Judge, 2006).

**Gravel Augmentation:** The comment does not accurately represent gravel augmentation as described in the EIS/EIR. Nowhere does the EIS/EIR argue that gravel augmentation is mitigation for "increased fouling of spawning gravel". Gravel augmentation is one of several Interim Measures associated with the "No Action" alternative and as part of the KBRA that would have some degree of beneficial effect on salmonid habitat (EIS/EIR Section 3.3.4.3; KBRA Section 10.1.2). Neither does the comment as written accurately represent the statement of the Coho and Steelhead Expert Panel on the topic of gravel augmentation. The complete citation at page 29 follows:

"Gravel augmentation, planned for some sites, will provide some expansion of gravel bars, but the river will continue to have a high capacity for transporting that gravel away from augmentation sites. Amounts of money currently envisioned in the ICP Interim Plan for this activity are sufficient to provide only several thousand cubic yards of gravel per year, which is a small amount relative to the river's transport capacity and relative to the extent of the valley floor in the currently impounded reach. Selection of low-gradient sites, such as the bed of the J.C. Boyle Reservoir, which currently receives almost no sediment, might be favorable for such gravel augmentation." (Dunne et al, 2011, p 29)

**Sediment Impacts in the Estuary:** The comment as written does not accurately describe the EIS/EIR analysis of sediment

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

impacts in Klamath estuary and nearshore ocean environment. The estuary is located approximately 190 miles downstream from Iron Gate Dam. The only sediment released as the result of dam removal that will reach the estuary in measurable quantities is the silts and clays. The fine sediment released as the result of dam removal that makes it to the estuary will not deposit in the Klamath estuary because the residence time in the estuary is not sufficient. These SSCs are expected to be similar to those encountered about one in ten years under existing conditions (EIS/EIR 3.2.4.3, Figure 3.3-7).

The sands and gravels will travel slowly down the river and be mixed with the existing bed material and tributary loads over a period of decades. There will be no measureable increase in the sand and gravel transport at the Estuary. The existing annual sand and gravel load at the estuary is approximately 1.8 million tons. The amount of sand released as the result of dam removal is expected to be between 230,000 to 370,000 tons with a much smaller portion of gravel. The sand and gravel will be metered throughout the 190 mile channel downstream from Iron Gate Dam over a period of several decades depending upon the hydrology. At the estuary, sediment modeling showed no significant difference in the sand transport with or without dam removal.

Stillwater Sciences (2010) estimated that Klamath River annual sediment discharge to the estuary is approximately 5.8 million tons. The predicted sediment release due to dam removal under the Proposed Action ranges from 1.5 to 2.6 million tons depending on water year type (see Figure 3.2-14 of the EIS/EIR) and is only about one eighth of the cumulative sediment transport in the Klamath River at Hoopa, CA in a four-day period during the December 1964 flood event. Lastly, the predicted sediment release due to dam removal is approximately the same as the cumulative sediment transport over a single day at the Salmon River confluence during a very large flood event (i.e., the January 1974 flood) (Stillwater Sciences 2010).

In the long term, dam removal would allow sediments previously intercepted by the dams to be transported downstream. Natural bedload transport processes would resume, as the dams would no longer trap sediments upstream of Iron Gate Dam. Bedload in the estuary and ocean would not be appreciably affected, because of the small contribution of the area above Iron Gate Dam to the total bedload in the system.

The assertion that there is no discussion of sediment effects on the near-shore ocean environment is not correct. An extensive discussion may be found in Section 3.2.4.3.

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	----------------------

**Impacts o Sediment on Beneficial Uses:** This comment incorrectly asserts that “nowhere does the EIS/EIR examine the long-term effects ...on beneficial uses of releasing millions of tons of sediment into the Klamath River.” One of the stated objectives of Reclamation’s Klamath Project is improvement of water quality consistent with beneficial uses (EIS/EIR Section 1.4.2.2). Designated beneficial uses are described in Table 3.2-2. Impacts on beneficial uses are discussed repeatedly in Chapter 3.2. While the EIS/EIR acknowledges short-term impacts of sediment releases (primarily silt and clay), on beneficial uses, no long-term adverse impacts on beneficial uses from sediment release have been identified in this extensive analysis, therefore, none are examined.

**Contaminants in Sediment:** The comment incorrectly asserts that there has been no analysis of contaminants in sediment that would be released by removal of the dams. In fact there has been extensive chemical analysis, and screening of the data that is appropriate for decisions about release of reservoir sediments into both the freshwater and marine environments. Draft EIS/EIR Section 3.2.3.8 Inorganic and Organic Contaminants (pages 3.2-30 to 3.2-33) and Appendix C, Section C.7 (pages C-63 to C-72) present existing information on sediment contaminants in Reclamation’s Klamath Project reservoirs and the Klamath River Estuary. The existing information is summarized from multiple studies, including a recent study carried out under the Secretarial Determination process entitled “Screening-Level Evaluation of Contaminants in Sediments from Three Reservoirs and the Estuary of the Klamath River, 2009-2011” (CDM 2011b).

As explained in Appendix A of the CDM (2011b) report, the sediment-chemistry results followed established protocols under the Sediment Evaluation Framework (SEF), established for the purpose of making decisions about disposal of dredge-materials in the marine environment (RSET 2009). The Puget Sound Dredged Material Management Program (DMMP) has issued sediment chemistry screening levels that include maximum levels (MLs) for marine disposal, and screening levels (SLs). No analogous levels have been established for the Northern California coastline including the near-shore environment along the Klamath estuary; therefore the DMMP values were considered the most directly applicable to the release of sediments from the Klamath reservoirs into the marine environment. The DMMP-MLs provide the first check on whether the material could be considered unsuitable for unconfined open-water disposal (USACE 2008), and represent the highest Apparent Effects Threshold (AET) for each contaminant. The ML is the chemical concentration at which all of the biological indicators used to develop AETs showed significant adverse

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>effects. Under the DMMP, exceedances of the MLs provisionally define the sediment as being unsuitable for unconfined aquatic disposal, and additional evaluation (including biological testing) is not needed to support this conclusion. If all chemicals are below the applicable DMMP-SLs and SEF- SL1 values then the sediment is considered to pose a very low risk for toxicity and is considered suitable for unconfined aquatic disposal, with no additional evaluation (including biological testing) needed.</p> <p>There were no detections of chemicals exceeding the DMMP-MLs; however, 11 organic compounds classified as phthalates, phenols, or semivolatile organics compounds had detection levels higher than their respective MLs and were therefore analyzed in subsequent biological testing during which they were not detected. There was one positive detection for a chemical exceeding the SEF-SL1 or DMMP-SL, a single sample for dieldrin (out of 46 total analyzed from the reservoirs) from J.C. Boyle Reservoir sediments. Considering these results in the context of all other findings regarding contaminants in reservoir sediments, there was no indication that the sediments would pose an unacceptable toxicity risk to the marine environment. Additional details are provided by CDM (2011b).</p> <p>Master Response WQ-1 Sediment Deposits Behind the Dams and Potential Contaminants.</p> <p>Master Response WQ-2 Chromium VI / Heavy Metals in Sediments Deposited Behind the Dams.</p> <p>See also responses to comments CC_LT_1117_020-55, 66 and 123, which address contaminants in sediments.</p> <p><b>Executive Order</b> : In response to comments, additional text has been added to the EIS/EIR concerning compliance with Executive Order 13547. Presidential Executive Order 13547 of July 19, 2010 establishes a national policy to ensure the protection, maintenance, and restoration of the health of ocean, coastal, and Great Lakes ecosystems and resources, enhance the sustainability of ocean and coastal economies, preserve our maritime heritage, support sustainable uses and access, provide for adaptive management to enhance our understanding of the capacity to respond to climate change and ocean acidification, and coordinate with our national security and foreign policy interests. In particular, the Proposed Action is consistent with this Executive Order in that it will “improve the resiliency of ocean, coastal, and Great Lakes ecosystems, communities, and economies” {Sec. 2. (a)(ii)} and that it comports with the Sec. 2 (a)(iv) direction to “use the best available science and knowledge to inform decisions</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>affecting the ocean, our coasts, and the Great Lakes, and enhance humanity’s capacity to understand, respond, and adapt to a changing global environment.”</p> <p><b>Regulatory Restoration Measures:</b> Recall that collectively, the “Regulatory Restoration Measures” referred to by the author of the comment include a) the PacifiCorp Habitat Conservation Plan; (b) the National Marine Fisheries Service 2010 Biological Opinion; (c) the CDFG Code Section 5927 in-stream flow mandate for tributaries to the mainstem Klamath River; and (d) the mitigation and monitoring plan for the 2007 FERC EIS.</p> <p>The PacifiCorp Habitat Conservation Plan generally describes existing operations with inclusion of several Interim Measures; these are included in the No Action/No Project Alternative (see Section 2.4.2 of the EIS/EIR). The NOAA Fisheries Service biological opinion and the CDFG Section 5937 instream flow mandate are also included in the No Action/No Project Alternative as existing regulations that affect flows. They are not explicitly detailed in Section 2.4.2, but they are included in the hydrologic and hydraulic modeling efforts. The CDFG Code Section 5927 is not included in the No Action/No Project as this code is not relevant to dam removal or water management in Klamath River watershed.</p> <p>The mitigation and monitoring plan for the 2007 FERC EIS is not included in the No Action/No Project Alternative. The mitigation and monitoring plan describes mitigation measures identified in the 2007 FERC EIS associated with FERC’s Proposed Action to re-license PacifiCorp’s Hydroelectric Project and how to monitor those measures. These measures are not included in the No Action/No Project Alternative of this Department of the Interior EIS/EIR because FERC did not issue as license to implement the Proposed Action. Alternative 4 is similar, but not identical, to the Proposed Action from the FERC EIS. Therefore, the Lead Agencies completed an independent analysis of this alternative and identified appropriate mitigation within this EIS/EIR rather than simply incorporating the mitigation and monitoring plan from the 2007 FERC EIS.</p> <p>The inference that implementation of the KHSR and KBRA under the Proposed Action could preclude realization of potential benefits to aquatic habitat and water quality that result from TMDL actions or existing fish habitat restoration actions such as those described in the PacifiCorp HCP, the NOAA Fisheries Service biological opinion and the CDFG instream flow mandate is not supported by the evidence available to the Lead Agencies and presented in the EIS/EIR. To the contrary, the EIS/EIR states</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-11	<p>“Restoration activities similar to the general classes of actions described in the KBRA currently occur throughout the basin as funding is available. It is also expected that the Phase I Restoration Plan would build upon existing activities and identified restoration needs and that implementation would include the same types of restoration activities that are currently conducted within the basin. Activities would be prioritized under the Plan and additional funding that may become available under the KBRA would allow greater improvements to be realized than would occur without the KBRA.” As part of the Proposed Action resource management actions implemented under KBRA would accelerate long-term improvements in water quality, including those anticipated under the TMDLs.</p> <p><b>Conclusion:</b> The comment as written provides no evidence other than incorrect calculations to support the argument that the EIS/EIR understated sediment amounts that would be released by dam removal or that sediment would have a long-term adverse impact on habitat, aquatic biota or beneficial uses. In response to comments, the final EIS/EIR has been revised to clarify types of sediment and amounts that would be eroded downstream by dam removal and to document compliance with E.O. 13547.</p> <p>Concern #1: Will the Proposed Action improve this important parameter for coho salmon?</p> <p>Master Response AQU–16 Benefits to Coho.</p> <p>Master Response AQU–31 Thermal Lag and Diel Temperatures.</p> <p>Master Response AQU–17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>The EIS/EIR focuses on the seasonal shift in water temperatures downstream from Copco 1 Reservoir and Iron Gate Dam. The EIS/EIR has been revised to include explicit statements about increased diel temperature variation, which are supported by the analysis already provided in the EIS/EIR (to be consistent with terminology used in Section 3.3, references to “daily water temperature variability” or “daily water temperature fluctuations” in Section 3.2 have been changed to “diel temperature variation”, which means water temperature variability in a 24-hour period).</p> <p>Additionally, discussion of diel temperature variation has been repeated in Section 3.2.4.3.1.1 (No Action/No Project Alternative) Lower Klamath Basin; this discussion was already present in EIS/EIR Section 3.2.4.3.2.1 (Proposed Action) Lower Klamath Basin.</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-12 CC_LT_1117_020-63 CC_LT_1117_020-118	<p>Master Response WQ-32 Expert Panel Discussion of Increased Water Temperature Variation Downstream Under the Proposed Action.</p> <p>The comment as written cites only a portion of the Expert Panel reports and does not fully consider the entire EIS/EIR record. By doing so, the comment loses the context of the issue as presented in the EIS/EIR and does not accurately represent the EIS/EIR record.</p> <p>Overall, these comments assert that the temperature analysis is flawed and relies too heavily on average daily mean temperature rather than time-specific temperature measurements or peak temperature measurements. Contrary to the comment, average daily mean temperature is not the exclusive focus of the EIS/EIR analysis. The Draft EIS/EIR cites mean daily water temperatures for the Klamath River twice; on p. 3.3-25 and p. 3.3-33 of the Existing Conditions/Affected Environment information for aquatic resources. The document more frequently cites other descriptive water temperature metrics such as “instantaneous maximum water temperatures”, “daily maximum water temperatures”, and “maximum weekly maximum temperatures”, throughout the Affected Environment/Environmental Consequences Sections 3.2, 3.3 and 3.20 and Cumulative Effects Section 4.4.</p> <p>The EIS/EIR addresses increased daily water temperature variability under the Proposed Action in multiple locations. Section 3.2.4.3.2.1 Water Temperature addresses increased daily fluctuations in water temperature under the Proposed Action in the J.C. Boyle bypass reach (p. 3.2-76 to 3.2-77), in the Klamath River downstream from Copco 1 Reservoir (p. 3.2-77 to 3.2-79), and in the Klamath River downstream from Iron Gate Dam (p. 3.2-80 to 3.2-83). Figures 3.2-3 and 3.2-5 clearly present the anticipated changes in daily water temperature fluctuations under the Proposed Action for the Klamath River at the California-Oregon State line and downstream from Iron Gate Dam. Further, for the Klamath River downstream from J.C. Boyle Dam, the Draft EIS/EIR explicitly calls out effects on water quality due to anticipated increases/decreases in daily water temperature fluctuations (p. 3.2-77). The EIS/EIR focuses on seasonal shift in water temperature in the Klamath River downstream from Copco 1 Reservoir and downstream from Iron Gate Dam focus. The EIS/EIR has been revised to include explicit statements about increased daily fluctuations, which are supported by the analysis already provided in the EIS/EIR.</p> <p>Daily temperature variation is also discussed in Section 3.3.4.3 (Aquatic Resources) Effects Determinations (Draft EIS/EIR p. 3.3-</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-13	<p>87 to 3.3-88). As discussed, the elimination of the thermal lag caused by the two largest reservoirs (Copco 1 and Iron Gate) would cause water temperatures to have higher natural diurnal (i.e., daily) variations and become more in sync with historical migration and spawning periods for Klamath River, warming earlier in the spring, and cooling earlier in the fall compared to existing conditions (Stillwater Sciences 2009b; Hetrick et al. 2009; Hamilton et al. 2011). Lastly, the Draft EIS/EIR briefly addresses daily water temperature variability with respect to potential recreation (i.e., sport fishing) impacts in Section 3.20.3.5 (p. 3.20-28 to 3.20-29).</p> <p>Master Response AQU-31 Thermal Lag and Diel Temperatures.</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Master Response AQU-22 Expert Panel Considered in Entirety.</p> <p>Master Response WQ-32 Expert Panel Discussion of Increased Water Temperature Variation Downstream Under the Proposed Action.</p> <p>The comment mischaracterizes the water quality analysis presented in the EIS/EIR. Pursuant to CEQA, the analysis considers the effects of the anticipated increase in nutrient concentrations on water quality and primary productivity before making a determination on whether the effects would be significant, less than significant, beneficial, or would have no effect.</p> <p>As described in the Draft EIS/EIR Section 3.2.3.4 (p. 3.2-24 to 3.2-26) and (Appendix) Section C.3 (p. C-19 to C-34), on an annual basis the reservoirs at the Four Facilities intercept and retain phosphorus and nitrogen; however, on a seasonal basis, including late summer and fall, the reservoirs are a source for nutrients downstream, which fuels periphyton (i.e., attached algae) growth in the river. As detailed in Section 3.2.4.3.2.3 (see Draft EIS/EIR p. 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 phosphorus and relatively larger annual increases in total nitrogen in the Klamath River immediately downstream from Iron Gate Dam. These increases would not necessarily “make the problem worse”, for the following reasons: 1) for much of the year (i.e., the non-growing seasons of winter and spring), the anticipated nutrient increases would have minimal effect on algal growth and any increased nutrient loads would be transported to the ocean without</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-14	<p>being processed by biota; 2) during the growing season (i.e., late spring through fall), the anticipated increases in nutrient concentrations would diminish in the river with distance downstream due to tributary dilution and algal retention; 3) additional regulation of periphyton growth is expected from KBRA-related stream flow variation and associated scour; and, 4) periphyton in the river downstream from the reservoirs are most likely nutrient saturated, meaning that both nitrogen and phosphorus are already so high that algal growth is limited more by available substrate or light than nutrients. Despite the overall increase in nutrients under the Proposed Action, it is not anticipated that productivity (i.e., periphyton growth) in the river downstream from the Hydroelectric dams would increase to the point that dissolved oxygen and pH (which are important to fish health) would be adversely affected. The increase in nutrients under the Proposed Action would be a less-than-significant effect (Draft EIS/EIR, p. 3.2-104 to 117).</p> <p>Master Response WQ-27 Nutrient Retention With Dams, Nutrient Release Without Dams, and Periphyton.</p> <p>Master Responses WQ-4C and D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Master Response WQ-39 Foreseeable Restoration Measures Not Defined.</p>	No
CC_LT_1117_020-15	<p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>The comment as written cites only a portion of the Expert Panel reports and does not fully consider the entire EIS/EIR record. By doing so, the comment loses the context of the issue as presented in the EIS/EIR and does not accurately represent the EIS/EIR record.</p> <p>Master Response WQ-4C and D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Overall, this comment asserts that even if dam removal occurred, flows may be too low to allow coho salmon to access available habitat and that the EIS/EIR failed to assess predation by redband trout and the possibility that predation may offset any gains from dam removal by salmonids. In response to comments, additional information has been incorporated in Section 3.3.4 the final EIS/EIR to address minimum flows and interactions among species.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>Master Response AQU–17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>The National Research Council (NRC) of the National Academy of Science reviewed causes of decline and strategies for recovery of endangered and threatened fishes of the Klamath Basin. Coho salmon are the only threatened or endangered salmon species in the Klamath Basin. The NRC concluded that “removal of Iron Gate Dam ... could open new habitat, especially by making available tributaries that are now completely blocked to coho” (NRC, 2004, p. 310).</p> <p>Master Response AQU–16 Benefits to Coho.</p> <p>Minimum flows are discussed at length in Sections 3.3.3 and 3.3.4 of the EIS/EIR.</p> <p>Master Response AQU–9 Minimum Flows.</p> <p>Master Response AQU–11 NMFS BO, ESA and KBRA Water Management.</p> <p>The comment accurately cites the Chinook Expert Panel concern that Proposed Action could result in increased predation-related mortality by resident redband/rainbow trout, particularly in the upper basin. Potential predation by redband trout was listed as one of nine factors the Chinook Expert Panel opined that needed to be addressed to successfully reintroduce Chinook salmon above Iron Gate Dam; however the Panel acknowledges that the success of the Proposed Action may not require resolving all of the factors (Goodman et al. 2011).</p> <p>The Klamath Basin has two subspecies of rainbow trout. Behnke (1992) identifies the inland form as the Upper Klamath redband trout, <i>Oncorhynchus mykiss newberrii</i>, but considers steelhead and resident rainbow trout downstream from Upper Klamath Lake to be primarily coastal rainbow trout, <i>Oncorhynchus mykiss irideus</i>. Since construction of Copco 1 Dam and Iron Gate Dam, resident trout upstream of Iron Gate Dam are considered redband trout, and resident trout downstream from Iron Gate Dam are considered coastal rainbow trout (FERC 2007). Anadromous salmonids currently co-exist with resident rainbow trout and resident cutthroat trout downstream from Iron Gate Dam, without any obvious ecosystem detriment.</p> <p>The Proposed Action would restore access for anadromous salmon and steelhead to habitat upstream of Iron Gate Dam, as described in detail above. Restoration of access would result in</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-16	<p>anadromous salmon and steelhead potentially interacting with resident redband trout and bull trout. Anadromous salmon and steelhead currently co-exist with resident trout below Iron Gate Dam. There are many examples from nearby river systems in the Pacific Northwest that show wild anadromous steelhead trout and resident rainbow/redband trout can co-exist and maintain abundant populations without adverse consequences. The Deschutes River in Oregon, the Yakima River in Washington, and the river systems in Idaho are examples (Administrative Law Judge 2006). As noted by Buchanan (et al. 2011a), existing trout and colonizing anadromous steelhead are expected to co-exist, as they do in other watersheds, although there may be shifts in abundance related to competition for space and food. Anadromous salmonids would potentially also compete with and prey upon bull trout fry and juveniles; however, as discussed above, bull trout would also be expected to consume the eggs and fry of Chinook salmon and steelhead. These species evolved together in the Upper Klamath Basin of the Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). It is anticipated that they would be able to co-exist in the future.</p> <p>Finally the comment incorrectly states that “the sole justification of the Proposed Action is to benefit salmon” The actual stated need for the Proposed Action as stated in the EIS/EIR, “is to advance restoration of the salmonid fisheries in the Klamath Basin consistent with the KHSAs and the connected KBRA. The term salmonid includes anadromous salmon, (Chinook salmon and coho salmon) and steelhead trout as well as resident redband trout and bull trout.</p> <p>Uncertainty is inherent to any analysis of present and future ecological conditions, particularly in a system as complex as the Klamath Basin. Describing present and future conditions for an action is associated with uncertainty due to several factors, including limited biological information, ecological uncertainty (such as incomplete information on the relationship of populations with environmental factors), and unpredictable events, such as the timing of floods and droughts. To minimize uncertainty, our analysis used multiple lines of evidence to draw conclusions, with more consideration given to the most current information available. Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>The comment incorrectly states that the Coho and Steelhead Expert Panel found that there is not enough information to reach any conclusions as to whether the Proposed Action will benefit salmon.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>Master Response AQU-6A Expert Panel Coho, Steelhead and Chinook.</p> <p>Master Response AQU-16 Benefits to Coho.</p> <p>The comment is correct in stating the Expert Panel found that the Proposed Action will likely increase the availability of thermal refugia over current conditions and the extent to which any increased thermal refugia will benefit the productivity of coho and steelhead is not known. However, in the following sentence the Expert Panel also states: "The Proposed Action should facilitate persistence of both species more than continuation of Current Conditions, especially in the face of habitat losses that are expected under climate change." Moreover, in the discussion of thermal refugia the Expert Panel also found that:</p> <ul style="list-style-type: none"> <li>• Warming and shrinkage of cold-water habitats within tributaries due to water withdrawals and diversions, land use, and riparian alteration have increased reliance of coho salmon and steelhead on the remaining remnant, and often fragmented, cold-water habitats.</li> <li>• In tributaries downstream from Iron Gate Dam, ongoing restoration efforts, including riparian vegetation protection and enhancement, water management to increase summer stream flows, and re-connection of isolated cold-water habitats in the tributaries, could increase the availability of thermally suitable habitats for coho salmon and steelhead.</li> <li>• Enhancement of tributary confluence refuges through placement of large wood, improved access, or additions of other types of cover could enhance the capacity of these refuges.</li> <li>• Under the Proposed Action, newly established populations of coho salmon and steelhead upstream of Iron Gate Dam should help spread the risk in the long-term viability of salmon and steelhead in the face of the continuing stresses from land and water resource use in the upper basin and climate change. This might be particularly applicable to populations in the Upper Klamath Basin, where groundwater-dominated refuges might allow persistence in thermally suitable habitats in spite of expected warming.</li> <li>• Benefits for coho salmon will depend on the success of establishing productive coho salmon populations in these</li> </ul>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
<p>CC_LT_1117_020-17            CC_LT_1117_020-22            CC_LT_1117_020-41            CC_LT_1117_020-120</p>	<p>colder upper-basin habitats. The highest probability of success will be within the known historical range of coho salmon where cold-water habitats can be rehabilitated or maintained, such as the lower reach of Spencer Creek.</p> <ul style="list-style-type: none"> <li>• Restoration of stream flows in tributaries downstream from Iron Gate Dam (e.g., Shasta and Scott Rivers) will likely be essential for enabling coho salmon populations to respond to habitat improvements there, providing a potential source of colonists for the new habitats above Iron Gate Dam.</li> <li>• Larger thermal refuge features can be more stable and predictable, and possess much higher capacity. Reach-scale or catchment-scale thermal refugia can also provide a suite of resources for fish, by containing a diversity of habitats that may support multiple life-history stages. These larger-scale refugia will provide the most significant benefits to steelhead and coho salmon, from a perspective of population persistence.</li> <li>• Significant benefits to productivity of coho salmon in tributaries could be realized in several ways by the KBRA. If water temperatures could be reduced by substantially increasing the extent of riparian vegetation, and summer stream flows increased substantially through improved flow management, summer carrying capacity of tributary habitats might be increased.</li> </ul> <p>Overall, these comments assert that the Proposed Action is likely to increase the prevalence of fish disease. The EIS/EIR concludes the Proposed Action would be expected to reduce the prevalence of salmon disease(EIS/EIR 3.3.4.3). The comments on disease, as written, cite portions of the Expert Panel reports, sometimes out of context, without fully considering the entire EIS/EIR. By doing so, the comments lose the context of the issue as presented in the EIS/EIR and do not accurately represent the EIS/EIR record. The comment provides no evidence to support the assertion that the Proposed Action will increase fish disease other than the comment author's interpretation of the Expert Panel findings. The EIS/EIR directly and comprehensively addresses the issue of disease, including its relationship with nutrients and growth of periphytic algae under the Proposed Action. These issues are treated in Sections 3.2, 3.3, and 3.4.</p> <p>The Expert Panel Reports are a valuable part of the science review for the Secretarial Determination, but they are only a part of the record cited in the EIS/EIR. The U.S. Fish and Wildlife Service</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

(USFWS) convened the Expert Panels to review, evaluate, and provide assessments regarding the likely trajectory of fish populations with and without implementation of the KBRA and KHSA. The Panels provided valuable independent reviews in addition to the various studies, reports and scientific information considered in the EIS/EIR analyses. Having the Expert Panel reports as a second line of analysis, which is largely consistent with the findings in the Technical Management Team reports, provides increased confidence in the science process and the findings relative to fish and fisheries. However, the EIS/EIR relied not only on the Expert Panel Reports, but on a broader record. This broader record included FERC (2007); Hetrick et al. (2009); Bartholomew and Foott (2010); Hamilton et al. (2011); Hendrix (2011) and other sources. The findings represented in these reports and the EIS/EIR are not necessarily the same as those found in the Expert Panel Reports.

**Contribution of the Hydroelectric Project to Current Disease Issues:**

Master Response AQU-28 FERC Conclusions for Disease.

FERC concluded that dam removal would enhance water quality and reduce the cumulative water quality and habitat effects that contribute to disease-induced salmon die-offs in the Klamath River downstream from Iron Gate Dam (FERC 2007). In general, improvements to water quality, diversity of flows, reduction in water temperature thermal lag caused by reservoirs, increased bedload mobility and sediment loads, and reduced planktonic drift from reservoirs with dam removal and KBRA implementation would likely alleviate many of the conditions conducive to disease outbreaks that currently occur downstream from Iron Gate Dam (Hamilton et al. 2011). In addition, FERC's analysis found that restoring access to reaches above Iron Gate Dam for anadromous fish would allow adult fall Chinook salmon to distribute over a greater length of the river, reducing the concentration of carcasses and thereby reducing the concentrations of disease pathogens that currently occur in the reach between Iron Gate Dam and the Shasta River (Federal Energy Regulatory Commission 2007).

**Comment on Fish Disease upstream:** The issue of fish disease resulting from fish movement was raised during the trial type hearing (ALJ 2006) in which the ALJ found that establishing fish passage will not increase the risk of disease. (Administrative Law Judge (2006) Decision FOF 2B-2, FOF 2B-10, 2B-11, 2B-17, and 2B-22).

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

While it is possible that the current infections nidus (reach with highest infectivity) for *C. shasta* and *P. minibicornis* may be recreated upstream where salmon spawning congregations occur, and there is associated uncertainty (Foott et al. 2011), the likelihood of this happening appears to be remote for the following reasons. Any creation of an infectious zone (or zones) would be the result of the synergistic effect of numerous factors, such as those that occur within the current disease zone in the Klamath River in the reach from the Shasta River downstream to Seiad Valley (FERC (2007; Bartholomew and Foott 2010). Here, flows in that reach that mimic natural conditions, combined with reestablishment of natural sediment transport rates, would restore natural geomorphic channel forming processes (Hetrick et al. 2009) necessary to create diverse habitat and reduce the influence of those synergistic factors that currently create conditions favorable for disease. Under a dams out alternative, those conditions that are believed to result in development of an infectious nidus below Iron Gate Dam, or a could result in development of a potential infectious nidus above Iron Gate Dam, are unlikely to occur.

Further, the likelihood of those synergistic factors in the Williamson River would be reduced as carcasses would likely be more dispersed in the watershed (Foott et al. 2011), and flow variability will act to reduce polychaete habitat stability above the Williamson River mouth. *C. shasta* in the Williamson River is currently maintained by planting of susceptible rainbow trout that become infected, likely produce myxospores, and die within a restricted reach in the lower Williamson River.

In addition, under a scenario of potential dam removal, it is likely that a greater diversity of salmon life histories will evolve, with some of those types more likely to avoid parasite exposure by migrating earlier or over wintering in tributaries and migrating in the fall (Bartholomew and Foott 2010; p. 40), thus missing the time of year when water temperatures in the Williamson River might possibly be conducive to disease. In some years, maximum temperatures in the Williamson River do not exceed the disease threshold of 15 C (Bartholomew and Foott 2010; Hamilton et al. 2010). The risk of a juvenile salmon disease response here would be lower than the current zone but not negligible in all water years (Scott Foott, USFWS, 2012, pers. comm.).

Historically, it appears spawning concentrations of upper basin Chinook salmon took place primarily in the Sprague River (Lane and Lane Associates 1981). There is no information indicating that high densities of polychaetes occur in the Sprague River (Foott et al. 2011). Thus, the synergistic factors that contribute to

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>an infectious nidus for emigrants below Iron Gate Dam and near the Iron Gate Hatchery are unlikely to occur here either. There is some concern regarding a disease zone in the lower Williamson River downstream from the confluence with the Sprague River (Hurst et al. 2012). However, some Chinook emigrants from both these tributaries may very well emerge from groundwater areas early, then rear in Upper Klamath Lake, with growth opportunities that allow them to migrate when they can minimize exposure to <i>C. shasta</i>.</p> <p>The Chinook Salmon Expert Panel convened to attempt to answer specific questions formulated by the project stakeholders to assist with assessing the effects of the Proposed Action compared with existing conditions (Goodman et al. 2011), concluded that the Proposed Action offers greater potential than the current conditions in reducing disease-related mortality in Klamath River Chinook salmon.</p> <p><b>abitat or Disease Carrying Worms:</b> To varying degrees, each of the alternatives would have different potential effects on fish disease and parasites because each alternative would have varying effects on the variables that favor development of fish disease (Final EIS 3.3.4.3). The main factors contributing high concentrations of disease carrying worms (<i>C. shasta</i> and <i>P. minibicornis</i>) and (the polychaete host), include pools, eddies, and organic sediment habitats; microhabitat characteristics of stable flows and low velocities; host proximity to spawning areas; increased planktonic food sources for these worms from the Hydroelectric Project reservoirs Copco 1 and Iron Gate; and water temperatures greater than 15°C (Bartholomew and Foott 2010; Hetrick et al. 2009; Hamilton et al. 2011). Of the alternatives analyzed, dam removal would do the most to reduce the impacts of <i>C. shasta</i> and <i>P. minibicornis</i> on salmon. The removal of the Four Facilities would likely reduce habitat quality for the polychaete host by restoring seasonal flow patterns and sediment dynamics (from tributaries as well as the mainstem) that reduce the stability of the host's favored habitats. The development of disease-related organisms in the bottom sediments is more likely if the bed materials remain immobile for long periods (on the order of years). Under natural, pre-regulated river conditions, the occasional large flood event, combined with considerable intra-annual flow variability, ensured that bed particles were frequently moved and redistributed. With dams in place, this flow variability was reduced, and diseases for fishes related to bed conditions became more likely. Further, because the particle size in stream beds would decrease downstream from the dam sites if dams were removed, less extreme flows would be required to produce bedload movement and scour (EIS/EIR 3.3.4.3),</p>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

and these scour events would occur more frequently, reducing the prevalence of intermediate disease hosts.

Cladophora, a periphytic green algae, also provides habitat for the polychaete intermediate host. Increases in Cladophora are likely to foster *C. shasta* by providing habitat for its intermediate host, while decreases in Cladophora reduce habitat for the intermediate host and thus interrupt the *C. shasta* life cycle. Cycling of dissolved nitrogen and phosphorus from upstream sources can affect growth of Cladophora. In the short term, dam removal is likely to increase total nutrient concentrations during drawdown by release of particulate (primarily organic) nitrogen and phosphorus that is currently processed and stored by planktonic algae and in sediment in the reservoirs (see Section 3.2.4.3.2.3 Nutrients). However, the drawdown would occur during winter months when rates of primary production and microbially mediated nutrient cycling would be low. Furthermore, this sediment pulse would be accompanied by considerable physical abrasion from the sediment, and reduced light penetration in water, so the potential for nutrient uptake and algal growth from total nitrogen (TN) and total phosphorus (TP) released with sediment deposits is expected to be a less-than-significant impact (Section 3.2.4.3.2.3 and Section 3.4.4.3.2)

Over the longer term, the concentrations and forms of nutrients entering the lower river would be determined primarily by releases from Keno Impoundment/Lake Ewauna; these would represent increases in total annual nutrient loads entering the lower river although there may be seasonal periods, such as late summer and fall, when loading or concentrations to the lower river are less than current conditions. In the absence of other factors offsetting factors this increase in nutrients could increase the growth of Cladophora and possibly increase the prevalence of *C. shasta*.

Dam removal would also create other conditions that tend to offset the potential effect of increases in nutrient concentrations and periphyton habitat (hydroelectric reach only) increases on the growth of Cladophora. For example, in-river retention (assimilative uptake, recycling, and denitrification) is expected to reduce nutrient concentrations longitudinally downstream during the growing season, resulting in net retention that may be of a similar order of magnitude as currently provided by reservoir processes. Furthermore, growth of periphyton, including Cladophora, in the river upstream of Orleans, CA is likely not currently limited by nutrients, implying that increases or even slight decreases in nutrient concentrations may not result in changes in periphytic biomass or species assemblages. Nutrient spiraling (uptake and subsequent release of nutrients during the algal growing season)

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>could cause a downstream extension of elevated nutrient concentrations in late summer that might result in changes in species composition (e.g. a shift to more Cladophora or an increase in other species) but this level of detail remains highly uncertain (EIS/EIR 3.4.4.3.2).</p> <p>Other factors offsetting the possible increased growth of periphyton if dams were removed and KBRA were implemented include reduced fall temperatures, a more mobile river bed, variable flows, and accelerated progress toward achievement of TMDL targets. The most likely net long-term effect of the Proposed Action is a slight-to-moderate decrease in Cladophora because physical conditions favorable for its growth would be reduced (EIS/EIR 3.4.4.3.2). This would decrease habitat for the intermediate host which would reduce the incidence of salmon disease.</p> <p>The removal of Iron Gate Dam would also remove a major barrier to fish migration, reducing the concentration of spawners and carcasses that presently occur downstream from the dam. Greater dispersal would reduce their proximity to dense populations of polychaetes (EIS/EIR 3.3.4.3) and would likely decrease the prevalence of disease.</p> <p>The complex interaction of competing factors, such as likely combination of long-term increases in riverine habitat and nutrient concentrations due to dam removal with long-term nutrient decreases from implementation of TMDLs, and changes in sediment mobility, provides inherent uncertainty in the prediction of periphytic growth following dam removal. The determination that periphyton growth in the Hydroelectric Reach will be significant (Section 3.4.4.3.2) is a conservative assessment. The other factors listed here and in section 3.3 provide many reasons why salmon mortality from <i>C. shasta</i> or other diseases is expected to be reduced by the Proposed Action, despite potential increases in periphytic growth.</p> <p>The No Action alternative was most likely to perpetuate the current <i>C. shasta</i> and <i>P.minibicornis</i> problems and other disease issues because it perpetuates the periodic factors that contribute to high infection rates currently observed in the Klamath River between Iron Gate Dam and the mouth of the Shasta River (EIS/EIR 3.3.4.3) .</p> <p><b>ncertainty:</b> The Expert Panel reports acknowledge that there is a degree of uncertainty in their findings and that future events primarily related to implementation of the KRBA agreements could influence predicted outcomes; the Panels did not conclusively</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
CC_LT_1117_020-18	<p>state there is little likelihood of success. Both the Chinook Salmon Expert Panel and the Coho and Steelhead Expert Panel noted that full implementation of the KBRA would increase probability of successfully restoring Chinook, coho, and steelhead runs. The Chinook Expert Panel assessment indicated that dams out plus KBRA implementation (Alternative 2 or 3) offers greater potential than the Current Conditions in improving conditions for water quality (Goodman et al. 2011; p. 9), disease, (Goodman et al. 2011; p. 12), recolonization (Goodman et al. 2011; p. 14), increased harvest and escapement (Goodman et al. 2011; p. 16), predation (Goodman et al. 2011; p. 17), and tolerating climate change and changes in marine survival (Goodman et al. 2011; p. 19).</p> <p>Uncertainty is inherent to any analysis of present and future ecological conditions, particularly in a system as complex as the Klamath Basin. Describing present and future conditions for an action introduces uncertainty due to several factors, including limited biological information, ecological uncertainty (such as incomplete information on correlation of species populations with environmental factors), and unpredictable events, such as timing of floods and droughts. To minimize uncertainty, our analysis used multiple lines of evidence to draw conclusions, with more consideration given to the most current information available.</p> <p>This comment asserts that the EIS/EIR failed to examine interspecies ecosystem relationships, and as a result, the EIS/EIR makes fundamental errors of analysis.</p> <p>Redband trout and anadromous salmon and steelhead evolved together in the upper basin of Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). While the precise geographic distribution is uncertain, historical records and tribal accounts demonstrate that the Upper Klamath Basin provided a viable ecosystem and habitat for anadromous fish and that Chinook salmon, coho salmon, and steelhead trout migrated past the present site of Iron Gate Dam to utilize that habitat (Administrative Law Judge Decision at 12, FOF 2A-3) (Administrative Law Judge 2006). Chinook salmon (both spring and fall-run) were abundant upstream of Iron Gate Dam in the Klamath River, Jenny Creek, Fall Creek and Shovel Creek, as well in the tributaries of Upper Klamath Lake, including the Wood, Sprague, and Williamson rivers (Administrative Law Judge Decision at 12, FOF 2A-4) (Administrative Law Judge 2006).</p> <p>Master Response AQU-6 Expert Panel Coho, Steelhead and Chinook.</p>	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Master Response AQU-19 Chinook Expert Panel Proposed Action Better Than No Action.</p> <p>Moreover, the Proposed Action would restore approximately 43 mi (69.2 km) of mainstem reservoir and isolated river habitat to free-flowing river habitat. It would cause abundance of most nonnative fishes to decline significantly. Removal of the dams would enable isolated populations of resident (native) fishes to co-mingle and colonize mainstem reaches that are not presently utilized. In the long term, the Proposed Action is likely to provide significant benefits for resident native fishes within the dam removal reach and immediately downstream from Iron Gate Dam. Immediately after dam removal, high suspended sediments may adversely affect resident (native) species located below and near Iron Gate Dam, but the resident (native) fish abundances would likely recover quickly and their populations would likely expand into the Hydroelectric Reach (Buchanan et al. 2011a, p 69). The Proposed Action has a greater probability of benefiting native fish populations compared with the Current Conditions (Buchanan et al. 2011a, p 64).</p> <p>The EIS/EIR has been revised to disclose to a greater degree the extent to which these ecosystem interrelationships change under Alternatives. However, the comment presents no evidence of a potentially significant adverse environmental effect caused by Alternative related changes to ecosystem interrelationships.</p>	
CC_LT_1117_020-19	<p>This comment incorrectly presumes that all reports and analyses must address each of the alternatives being considered and equates the lack of consideration of an alternative in a single report with a failure of the EIS/EIR. There is no requirement under NEPA or CEQA that any single report must address all of the alternatives being considered. That is a requirement of NEPA and CEQA for the EIS/EIR itself, rather than for specific reports or studies. The Expert Panel reports referenced in the comment were convened to answer specific questions from stakeholders in the context of "Current Conditions" and the "Proposed Action". As documented in the EIS/EIR, many other reports and sources of information were considered in addition to the Expert Panel reports to ensure a rigorous analysis of alternatives. Master Response GEN-3A through H Best Available Information.</p>	No
CC_LT_1117_020-20	<p>This comment asserts the EIS/EIR has substantially overestimated the potential benefits of Proposed Action for naturally spawned Chinook salmon. In making this assertion, the comments draw heavily from the Expert Panel reports stating that the Panel Reports provide evidence that was ignored in the EIS/EIR or that contradicts the conclusions of the EIS/EIR. Many of these</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>comments reflect an interpretation of the Expert Panel Report rather than the findings of the EIS/EIR. The comments as written cite portions of the Expert Panel Reports, sometimes out of context, without fully considering the entire EIS/EIR record. By doing so, the comments lose the context of the issue as presented in the EIS/EIR and do not accurately represent the EIS/EIR record.</p> <p>Master Response AQU-5 Will Benefit all Salmonids.</p> <p>Master Response AQU-6B Expert Panel Coho, Steelhead and Chinook. Master Response AQU-19 Chinook Expert Panel Proposed Action Better Than No Action.</p> <p>Master Response AQU-7 Expert Panel Uncertainty Likelihood of Success.</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Master Response AQU-23 Evaluation of Dam Removal and Restoration and Anadromy (EDRRA) Model.</p> <p>In addition to the quantitative modeling results, FERC (2007), Hetrick et al. (2009) and Hamilton et al. (2011) in synthesizing available information concluded that increased habitat access following dam removal would result in an increase in the abundance of fall-run Chinook salmon population in the Klamath River Watershed. Based on increased habitat availability and improved habitat quality, the effect of the Proposed Action would be beneficial for fall-run Chinook salmon in the long term (EIS/EIR Section 3.3.4.3).</p> <p>This comment also attributes the EIS/EIR with projecting an anticipated increase of 81.4 percent in the abundance of naturally spawned Klamath River Chinook salmon. The EIS/EIR contains no such reference to the stated percentage and does not make this projection. Rather, this percentage (81.4 percent) is found in one of the supporting documents (Hendrix 2011) and represents a modeled estimate of Chinook production (i.e. escapement in the absence of fishing). As noted above, the EIS/EIR does conclude that Chinook salmon populations are likely to increase, perhaps substantially, as a result of the Proposed Action.</p> <p>It is worth noting that the results from the Hendrix 2011 report (EDRRA Chinook modeling) was not available for the Chinook Expert Panel to evaluate and to consider and include in their</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-21	<p>overall findings. So it is not surprising that findings in the Chinook Expert Panel Report do not always align with findings from the more recent Chinook modeling work by (Hendrix (2011)). The Chinook Expert Panel did support the development of a Chinook model in order to improve quantification of likely Chinook production and harvest under the Proposed Action and the associated uncertainties.</p> <p>Additional text has been incorporated into Section 3.3.4 of the EIS/EIR clarifying the assumptions and findings of the EDRRA model as described in Hendrix (2011).</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Overall, this comment asserts that water quality will not be improved by the Proposed Action, and as a result, salmon restoration will not be advanced. The comment as written cites portions of the Expert Panel reports, sometimes out of context, without fully considering the entire EIS/EIR record. By doing so, the comment loses the context of the issue as presented in the EIS/EIR and does not accurately represent the EIS/EIR record. For example, the comment refers to the Chinook Expert Panel report, stating the following:</p> <ul style="list-style-type: none"> <li>• “any benefit of the Proposed Action in reducing nutrient loads and thermal inputs could occur only “if” the KBRA provides otherwise unavailable funding for the implementation of Total Maximum Daily Loads</li> <li>• “the Expert Panel found that “the major Proposed Actions” in the KBRA for addressing water quality “are unlikely to provide substantial improvements in water quality....”.</li> <li>• As to the likelihood of controlling water temperatures through the KBRA’s proposed actions, the Expert Panel concluded that it too “seems infeasible.”</li> </ul> <p>The comment uses these statements to conclude “the Proposed Action will make the problem (water quality) worse”. Neither the Expert Panel nor the EIS/EIR made that finding.</p> <p>Master Response WQ-4A and B Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>In another example, the comment accurately cites the Chinook Expert Panel’s rough calculation that approximately 18,000 hectares of wetlands would need to be restored to meet</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>phosphorous reduction objectives in the Upper Klamath Basin (Goodman et al. 2011, page 11). The comment then incorrectly correlates those Upper Klamath Lake wetland restoration acres with 184 acres of downstream riparian habitat that would be created at the edges of drawn down reservoirs (Draft EIS/EIR Section 3.5.4.3, page 3.5-55). These downstream riparian habitats are not related in any way to wetlands restoration in and around Upper Klamath Lake associated with the KBRA as suggested by the comment. These are different habitats (emergent marsh vs. riparian wetland) in different places and are not comparable. Thus, the EIS/EIR does not “admit that dam removal, when coupled with the planned restoration efforts, will result in a gain of only “approximately 184 acres”.</p> <p>Chapter 5 of the EIS/EIR has been revised to clarify, consistent with Section 3.4 Algae, dam removal, conversion of the reservoir areas to a free-flowing river, and the elimination or reduction of hydropower peaking operations could cause long-term increases in nuisance periphyton growth due to increases in available habitat along low-gradient channel margin areas downstream from J.C. Boyle Dam.</p> <p>The citation from the Draft EIS/EIR at page 5-100 refers to the effect of nutrients on periphyton, not overall water quality. In actuality, continued impoundment of water at the Four Facilities (Alternatives 1, 4, and 5) could also support long-term growth of nuisance periphyton such as Cladophora spp. downstream from Iron Gate Dam (Draft EIS/EIR, Section 5.4, page 5-35 and Section 3.4, pages 3.4-12 to 3.4-13) while Dam removal activities could decrease the spatial extent, temporal duration, or biomass of nuisance periphyton in the area of analysis (Draft EIS/EIR, Section 5.4, page 5-35 and Section 3.4, pages 3.4-13 to 3.4-18).</p> <p>Periphyton in the Klamath River plays an important role in nutrient dynamics, affecting nutrient fluxes and resulting in short-term changes in dissolved oxygen and pH. Excessive swings in dissolved oxygen and pH can be stressful to aquatic biota, thus too much periphyton can adversely affect water quality and aquatic resources. The growth of nuisance periphyton is therefore considered a significant cumulative effect.</p> <p>Master Response WQ-6 Periphyton Growth and Fish Disease.</p> <p>Whether or not water quality is improved or degraded cannot be easily measured by any single parameter. As noted earlier, the presence and operation of the Four Facilities affect many aspects of water quality in the Klamath River and dam removal would improve water quality for multiple water quality parameters.</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>Master Response AQU-22 Expert Panel Considered in Entirety.</p> <p>Master Response WQ-32 Expert Panel Discussion of Increased Water Temperature Variation Downstream Under the Proposed Action.</p> <p>Quantitative modeling of fall run Chinook salmon populations further substantiates the conclusions of the Chinook Expert Panel. Modeling under both the Proposed Action and existing conditions suggests that dam removal would increase numbers of spawners over a 50-year period (Oosterhout 2005). Additional research results also support this conclusion (Hendrix 2011, Lindley and Davis 2011) (see Draft EIS/EIR Section 3.3.4.3, page 3.3-95 for citations).</p> <p>The comment as written does not provide evidence to support its assertion that water quality will not be improved and that salmon restoration will not be advanced by the Proposed Action.</p>	
CC_LT_1117_020-22	See response to comment number CC_LT_1117_020-17.	
CC_LT_1117_020-23	<p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Overall, this comment asserts that water quality will not be improved by the Proposed Action, particularly with respect to dissolved oxygen, and as a result, salmon restoration will not be advanced. The comment as written cites portions of the Expert Panel reports, sometimes out of context, without fully considering the entire EIS/EIR record. By doing so, the comment loses the context of the issue as presented in the EIS/EIR and does not accurately represent the EIS/EIR record.</p> <p>For example, the comment refers to the Chinook Expert Panel report, stating the following:</p> <ul style="list-style-type: none"> <li>• “Reviewing the Proposed Action, including the KBRA, the Expert Panel concludes it is “uncertain” if the low oxygen problem in the Klamath River can be improved and, “[w]ithout solving the water quality problems, a fully self-sustaining run of fall Chinook salmon to the upper basin is unlikely.” Id. at 14-15.”</li> <li>• “Recall that the Expert Panel found it “unlikely” the Proposed Action will successfully address the water quality problems...”</li> </ul> <p>The comment uses these statements to conclude “the Proposed Action will make the problem (water quality) worse”. Neither the Expert Panel nor the EIS/EIR made that finding.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Master Response AQU-22 Expert Panel Considered in Entirety.</p> <p>Master Response WQ-32. Expert Panel Discussion of Increased Water Temperature Variation Downstream Under the Proposed Action.</p> <p>Master Response WQ-39 Foreseeable Restoration Measures Not Defined.</p> <p>Quantitative modeling of fall run Chinook salmon populations further substantiates the conclusions of the Chinook Expert Panel. Modeling under both the Proposed Action and existing conditions suggests that dam removal would increase numbers of spawners over a 50-year period (Oosterhout 2005). Additional production modeling efforts support this conclusion (Hendrix 2011, Lindley and Davis 2011) (see Draft EIS/EIR Section 3.3.4.3, p. 3.3-95 for citations).</p> <p>The comment as written does not provide evidence to support its assertion that water quality will not be improved and that salmon restoration will not be advanced by the Proposed Action.</p>	
CC_LT_1117_020-24	<p>Master Response GEN-3A through H Best Available Information.</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Master Response AQU-16 Benefits to Coho.</p> <p>Master Response AQU-19 Chinook Expert Panel Proposed Action Better Than No Action.</p> <p>Master Response AQU-23 Evaluation of Dam Removal and Restoration and Anadromy (EDRRA) Model.</p> <p>The Pacific Fishery Management Council (PFMC) was established by the Magnuson Fishery Conservation and Management Act of 1976 and has regulatory jurisdiction over salmon fishing within the 317,690 square mile exclusive economic zone from 3 miles to 200 miles off the coast of Washington, Oregon and California. Jurisdiction over commercial and recreational salmon fishing regulations in nearshore areas, (within 3 miles of shore), lies with the respective states. However, the States generally adopt regulations consistent with those established by the PFMC.</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-25	<p>The Salmon Fishery Management Plan developed by the PFMC describes the goals and methods for salmon management. Management tools such as season length, quotas, and bag limits vary depending on how many salmon are present. There are two central parts of the Plan: Conservation objectives, which are annual goals for the number of spawners of the major salmon stocks ("spawner escapement goals"), and allocation provisions of the harvest among different groups of fishers (commercial, recreational, tribal, various ports, ocean, and inland). The Council must also comply with laws such as the ESA.</p> <p>Since the management of salmon considers factors that can fluctuate greatly from year to year (population abundance and environmental conditions) it is impossible to predict how future management decisions regarding the specific harvest of Klamath Basin salmon might change as a result of the Proposed Action.</p> <p>Given these uncertainties, the EDRRA Chinook salmon life cycle model developed by Hendrix (2011) assumes that current management rules (fishery control rule) established by the PFMC for management of Klamath River Chinook salmon would remain in place throughout the 50-year period of analysis. Text has been added to Section 3.3 of the EIS/EIR further clarifying the assumptions of the model regarding the use of the current fishery control rule</p> <p>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Master Response WQ-6 Periphyton Growth and Fish Disease.</p> <p>Master Response WQ-27 Nutrients Retention With Dams, Nutrient Release Without Dams, and Periphyton.</p> <p>Master Response AQU-27 Disease.</p> <p>This comment is a recitation of a point made in the Chinook Expert Panel Report (Goodman et al, 2011) and appears to be concerned with the Panel's confidence in their findings related to interbreeding of native and hatchery stocks, and whether native stock survival will increase after Iron Gate Hatchery is closed. The comment as written takes the Chinook Expert Panel report out of context with respect to hatchery production and the effects of hatchery fish interbreeding with naturally spawning Chinook salmon. The complete citation from p. 16 and 17 of the Chinook Expert Panel Report (Goodman et al, 2011) is as follows:</p>	Yes

**Comment Author**  
**Agency/Assoc.**  
**Submittal Date**

Guarino, Thomas  
County of Siskiyou, Office of County Council  
November 17, 2011

---

**Comment Code**

**Comment Response**

**Change in  
EIS/EIR**

“The Proposed Action offers greater potential than the Current Conditions in increasing fitness and survival of wild Klamath Chinook salmon. Successful colonization and completion of the life cycle of Chinook salmon in new habitats, especially those upstream of Upper Klamath Lake (UKL), will require adaptations to new conditions especially with respect to timing, migration, and coping with conditions in UKL and KR. Development of traits leading to near-maximum survival will require time. Interbreeding of hatchery and naturally spawned Chinook salmon inhibits development of locally adapted traits in salmon that colonize new habitats (e.g., timing of migration and spawning). Evidence indicates that hatchery salmon, including those originating from the destination watershed, have lower fitness in natural environments than wild fish (Araki et al. 2008). Furthermore, interbreeding of hatchery and naturally spawned fish can reduce the fitness of their progeny. Estimates of this reduction vary considerably, but in some studies reproductive success was reduced by up to 90 percent (Araki et al. 2008).

The Proposed Action includes the proposal to eliminate production at the Iron Gate Hatchery approximately eight years after dam removal. Eliminating the hatchery will eliminate interbreeding of hatchery with naturally spawned salmon, and would likely increase the rate at which Chinook salmon develop traits adapted to their new habitats. This could increase survival of natural Chinook salmon. This would depend, in part, on the degree to which local Chinook salmon stocks have been integrated into the hatchery brood stock and the degree to which the current mixed hatchery and naturally spawning population maintained enough genetic potential for life history diversity to adapt to conditions in the upper basin. If the production at Iron Gate Hatchery is not reduced as planned, maintaining current hatchery production is expected to inhibit development of locally adapted traits to the extent that hatchery reared fish make up a substantial portion of the spawning escapement. In the lower Klamath River, similar concerns are associated with the Trinity River Hatchery.”

Uncertainty is inherent to any analysis of present and future ecological conditions, particularly in a system as complex as the Klamath Basin. Describing present and future conditions for an action is associated with uncertainty due to several factors, including limited biological information, ecological uncertainty

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>(such as incomplete information on the relationship of populations with environmental factors), and unpredictable events, such as timing of floods and droughts. To minimize uncertainty, our analysis used multiple lines of evidence to draw conclusions, with more consideration given to the most current information available.</p> <p>These comments by the Expert Panel are not inconsistent with modeling results for Chinook salmon populations documented in the EIS/EIR. Results of the EDRRA model runs after 2032, when Chinook salmon populations are assumed to be established in the tributaries to Upper Klamath Lake and hatchery production from Iron Gate Hatchery have ended, predict that median harvest of Chinook salmon in the ocean and in-river tribal fisheries will increase by 46.5% (95% CrI: -68.7, 1495.2%) and 54.8% (95%CrI: -71.0%, 1841.0%), respectively (Hendrix 2011). These results strongly suggest that sustainable native fish populations will not be dependent on hatchery outputs.</p> <p>In response to comments, additional information related to the Chinook salmon life cycle model (EDRRA) (Hendrix, 2011) has been incorporated into Section 3.3.4 of the EIS/EIR.</p>	
CC_LT_1117_020-26	<p>This comment asserts that the impact on commercial and recreational harvest levels that would result from eliminating the hatchery is never analyzed in the EIS/EIR. That is incorrect. Hendrix (2011) applied a life-cycle model (EDRRA) to forecast the abundance of Chinook salmon (Type I and Type II life history strategies) for both the Proposed Action and continuation of existing conditions (No Action) for the years 2012 to 2061. The EDRRA model includes hatchery releases of Chinook salmon from both Iron Gate and Trinity River hatcheries. All returning hatchery origin Chinook salmon are assumed to return to their respective hatcheries and therefore, do not contribute to naturally spawning populations. Production benefits of Chinook salmon releases from Iron Gate Hatchery are assumed to end in 2032, four years following the anticipated, although not certain, end of current mitigation hatchery fish releases as described in the KHSAs. The relative differences in Chinook salmon production between the Proposed Action and the No Action alternative were used to inform the socioeconomic analysis of the fishery benefits presented in Section 3.15 of the EIS/EIR. Text has been added to Section 3.3.4 of the EIS/EIR clarifying the assumptions related to Chinook salmon mitigation releases from Iron Gate Hatchery under the Proposed Action.</p>	Yes
CC_LT_1117_020-27	<p>This comment asserts that the EIS/EIR did not consider interspecies competition and predation by redband trout. In response to comments, additional information on Interactions</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>between species has been added to the final EIS/EIR in Chapter 3.3. This comment accurately cites the Chinook Expert Panel concern that Proposed Action could result in increased predation-related mortality by resident redband/rainbow trout, particularly in the upper basin. Potential predation by redband trout was listed as one of nine factors the Chinook Expert Panel opined that needed to be addressed to successfully reintroduce Chinook salmon above Iron Gate Dam; however the Expert Panel acknowledges that the success of the Proposed Action may not require resolving all of the factors (Goodman et al. 2011).</p> <p>The Klamath Basin has two subspecies of rainbow trout. Behnke (1992) identifies the inland form as the Upper Klamath redband trout, <i>Oncorhynchus mykiss newberrii</i>, but considers steelhead and resident rainbow trout downstream from Upper Klamath Lake to be primarily coastal rainbow trout, <i>Oncorhynchus mykiss irideus</i>. Since construction of Copco 1 Dam and Iron Gate Dam, resident trout upstream of Iron Gate Dam are considered redband trout, and resident trout downstream from Iron Gate Dam are considered coastal rainbow trout (FERC 2007). Anadromous salmonids currently co-exist with resident rainbow trout and resident cutthroat trout downstream from Iron Gate Dam, without any obvious ecosystem detriment.</p> <p>The Proposed Action would restore access for anadromous salmon and steelhead to habitat upstream of Iron Gate Dam, as described in detail above. Redband trout and anadromous salmon and steelhead evolved together in the upper basin of Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). While the precise geographic distribution is uncertain, historical records and tribal accounts demonstrate that the Upper Klamath Basin provided a viable ecosystem and habitat for anadromous fish and that Chinook salmon, coho salmon, and steelhead trout migrated past the present site of Iron Gate Dam to utilize that habitat. (Administrative Law Judge Decision at 12, FOF 2A-3) (Administrative Law Judge 2006). Chinook salmon (both spring and fall-run) were abundant upstream of Iron Gate Dam in the Klamath River, Jenny Creek, Fall Creek and Shovel Creek, as well in the tributaries of Upper Klamath Lake, including the Wood, Sprague, and Williamson rivers (Administrative Law Judge Decision at 12, FOF 2A-4) (Administrative Law Judge 2006).</p> <p>Restoration of access would result in anadromous salmon and steelhead potentially interacting with resident redband trout and bull trout. Anadromous salmon and steelhead currently co-exist with resident trout below Iron Gate Dam, without any obvious ecosystem detriment.</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>There are many examples from nearby river systems in the Pacific Northwest that show wild anadromous steelhead trout and resident rainbow/reddband trout can co-exist and maintain abundant populations without adverse consequences. The Deschutes River in Oregon, the Yakima River in Washington, and the river systems in Idaho are examples (Administrative Law Judge 2006). As noted by Buchanan et al. (2011a), existing trout and colonizing anadromous steelhead are expected to co-exist, as they do in other watersheds, although there may be shifts in abundance related to competition for space and food. Anadromous salmonids would potentially also compete with and prey upon bull trout fry and juveniles; however, as discussed above, bull trout would also be expected to consume the eggs and fry of Chinook salmon and steelhead. It is reasonable to conclude that redband trout would as well. Both bull trout and redband trout evolved together with anadromous species in the Upper Klamath Basin of the Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). It is anticipated that they would be able to co-exist in the future.</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p>	
CC_LT_1117_020-28	See response to comment number CC_LT_1117_020-10.	
CC_LT_1117_020-29	<p>The Expert Panel Reports are a valuable part of the science review for the Secretarial Determination, but they are only a part of the record provided in the EIS/EIR. The USFWS convened the Panels to review, evaluate, and synthesize evaluate and make findings regarding the likely trajectory of fish populations with and without implementation of the KBRA and KHSA. The Panels provided valuable independent reviews in addition to the various studies, reports and scientific information considered in the science review process EIS/EIR analyses. Having the Expert Panel reports as a line of analysis, which is largely consistent with the findings in the Technical Management Team reports, provides increased confidence in the science process and the findings relative to fish and fisheries.</p> <p>There is ample evidence and documentation regarding anadromous salmonids, native to the Klamath River, will recolonize this historical habitat given the opportunity and that either dam removal or the Proposed Action would result in increased steelhead numbers. Evidence includes:</p> <p>Published reports provide a sound basis for the occurrence and distribution of steelhead above Iron Gate Dam. Reports include:</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

- Hamilton et al., 2005
- On October 16, 2006 Administrative Law Judge Honorable Parlen L. McKenna's Decision included the following FOF in his decision:
  - While the precise geographic distribution is uncertain, historical records and Tribal accounts demonstrate that anadromous fish (Chinook salmon, coho salmon, and steelhead trout) migrated past the present site of Iron Gate Dam which provided a viable ecosystem and habitat for those stocks of fish. (FOF 2A-3, p. 12).
  - Anadromous fish are highly adaptive to differing conditions typically can readily migrate into and colonize new habitat or recolonize historic habitat. FOF 6-3, p. 32).
  - Disease problems in the Klamath River are far less likely to interfere with steelhead returns than with salmon returns, as Klamath steelhead trout are resistant to *C. shasta*. (FOF 2B-18, p. 22).
- FERC concluded that implementing fish passage would help to reduce adverse effects to steelhead associated with lost access to upstream spawning habitats (FERC 2007, p. 3-347).
- Hamilton et al. ( 2011) states:
  - Access to additional habitat in the upper Klamath River watershed would benefit steelhead runs. In general, dam removal with KBRA would likely result in the restoration of more reproducing populations, higher genetic diversity, and the opportunity for variable life histories and use of new habitats (p. 93).
  - For steelhead, habitat above IGD has the potential to increase returns by 6,800 to 20,000 spawners (p. 112; Table 1, p. 43).
  - Dam removal with KBRA would result in higher steelhead abundance in the long term (p. 130).

The EIS/EIR, at 3.3-112, has been revised to use the word "could", rather than "would", to describe the Expert Panel's reference to potential increase in steelhead numbers.

CC\_LT\_1117\_020-30

The comment correctly notes that the EIS/EIR states the steelhead population will increase because steelhead would be able to access a substantial extent of new habitat. The comment however also takes several parts of the coho and steelhead Expert Panel report (Dunne et al, 2011) out of context, and does not consider the complete EIS/EIR record.

Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	------------------------------

The Draft EIS/EIR p. 3.3.112 states:

“A coho Salmon and Steelhead Expert Panel was convened and charged with answering specific questions that had been formulated by the project stakeholders to assist with assessing the effects of the Proposed Action on coho salmon and steelhead (Dunne et al. 2011). The conclusion of the Panel was that the Proposed Action would result in increased spatial distribution and abundance of steelhead. This assessment is based on the observations that steelhead would be able to access a substantial extent of new habitat, steelhead are relatively tolerant to warmer water (compared to coho salmon), they are similar to other species (resident redband/rainbow trout) that are currently thriving in upstream habitats, and that while steelhead are currently at lower abundances than historical values, they are not yet rare. “

**Comment:** The comment asserts that the Expert Panel did not characterize any new habitat as “substantial.” Instead, the Expert Panels said the dam removal would only allow for “a small extension (likely 10 – 20 percent) of spawning and rearing habitat.” Coho and Steelhead Expert Panel Report at 18.

**Response:** This part of the comment is quoted out of context as the actual wording of the complete sentence the comment references on p. 18 of the Coho and Steelhead Expert Panel Report says:

“Dam removal will allow a small extension (likely about 10-20 percent) of spawning and rearing for both coho and steelhead into tributaries of the Project Reach, and probably in short, low gradient reaches of the mainstem in the Project Reach.” (Dunne et al. 2011).

Please note that this finding by the Coho and Steelhead Expert Panel is referring only to the Project Reach. (The Project Reach is defined in the Coho and Steelhead Expert Panel Report as that section of the mainstem Klamath River between Iron Gate Dam and upper end of J.C. Boyle reservoir.) The Project Reach is only approximately 82 mi or about 18 per cent of the total habitat that would become accessible through dam removal. There would be an additional 360 miles of historical steelhead habitat (~82 percent of the total) available upstream of the influence of J.C. Boyle reservoir upon dam removal.

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>The Draft EIS/EIR p. 3.3-112 and 3.3-113 discusses the various changes in habitat in both the hydroelectric reach and the Upper Klamath River reach upstream of the influence of J.C. Boyle reservoir.</p> <p>Furthermore the Expert Panel Report refers to “both coho and steelhead habitat” in the referenced sentence of the EIS/EIR. The comment however, alludes solely to increases in “steelhead trout habitat”.</p> <p>The Expert Panel Report further states on p. 40,</p> <p>“Proposed Action: Access to habitat between Iron Gate and Keno dams will allow for a small increase in coho and potentially larger increases in steelhead populations. If both upstream and downstream passage through Keno Impoundment/Lake Ewauna and Upper Klamath Lake are successful, then access to upstream habitat (above Upper Klamath Lake) could increase the abundance of steelhead (possibly substantially) and coho salmon if fish utilize the new habitat and can successfully complete their life cycles.” (Dunne et al. 2011).</p> <p>The Expert Panel Report p. 40 also states,</p> <p>“The Panel believes that the qualitative estimates of positive population responses for both coho (small because less likely to recolonize above Upper Klamath Lake) and steelhead (possibly substantial if recolonization occurs above Upper Klamath Lake) are reasonable, but information is currently insufficient for providing quantitative estimates.” (Dunne et al. 2011).</p> <p><b>Comment:</b> The second part of the comment states, “As to the actual effect of this new habitat availability on steelhead numbers, the Expert Panel stated the “information is currently insufficient for providing quantitative estimates.” Id. Equally important, the Expert Panel said any positive benefits from increased access to habitat depend on whether steelhead “can successfully complete their life cycles. One of the factors inhibiting life cycle completion is predation by other fish. Id. at 42. As noted above, predation by an expanding redband trout population is a serious problem ignored in the EIS/EIR. This is a significant failure of analysis in the EIS/EIR because, as the Expert Panels noted, predation arising from interspecies conflicts could cancel the alleged benefits of the Proposed Action. See Part II.C.1.d. Further, the Coho and Steelhead Expert Panel found that habitat expansion raises important issues of competition for food and space and these</p>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

aspects of ecosystem competition “have not been rigorously analyzed to date.” Coho and Steelhead Expert Panel Report at 51.”

**Response:** This portion of the comment needs to be put in the context of the full statement provided by the Expert Panel (Dunne et al. 2011) which reads:

“The Panel believes that the qualitative estimates of positive population responses for both coho (small because less likely to recolonize above Upper Klamath Lake) and steelhead (possibly substantial if recolonization occurs above Upper Klamath Lake) are reasonable, but information is currently insufficient for providing quantitative estimates.”

The Expert Panel (Dunne et al. 2011) on coho salmon and steelhead also concluded that:

“The Proposed Action could result in increased spatial distribution and numbers of steelhead, and in the long term (decades), increased numbers relative to those under Current Conditions. If the Proposed Action is implemented ineffectively, there may be no detectable response of steelhead. If the Proposed Action is implemented effectively, and the other related actions occur [e.g., Total Maximum Daily Load (TMDL)], then the response of steelhead may be broader spatial distribution and increased numbers of individuals within the Klamath system.” (Dunne et al, 2011, p. ii).

Hamilton et al. (2011) includes documentation that habitat above IGD has the potential to increase returns of steelhead by 6,800 to 20,000 spawners (p. 112; Table 1, p. 43).

**Comment:** The last part of the comment asserts that a significant failure of the EIS/EIR is that of ignoring interspecies ecosystem relationships including potential increases in the redband population.

**Response:** Redband trout and anadromous salmon and steelhead evolved together in the upper basin of Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). Below Iron Gate Dam, anadromous salmonids currently co-exist with native rainbow trout (the same species as redband trout above the dams) and cutthroat trout without any obvious ecosystem detriment.

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

While the precise geographic distribution is uncertain, historical records and tribal accounts demonstrate that the Upper Klamath Basin provided a viable ecosystem and habitat for anadromous fish and that Chinook salmon, coho salmon, and steelhead trout migrated past the present site of Iron Gate Dam to utilize that habitat. (Administrative Law Judge Decision at 12, FOF 2A-3)(Administrative Law Judge 2006). Chinook salmon (both spring and fall-run) were abundant upstream of Iron Gate Dam in the Klamath River, Jenny Creek, Fall Creek and Shovel Creek, as well in the tributaries of Upper Klamath Lake, including the Wood, Sprague, and Williamson rivers (Administrative Law Judge Decision at 12, FOF 2A-4) (Administrative Law Judge 2006).

There are many examples from nearby river systems in the Pacific Northwest that show wild anadromous steelhead trout and resident rainbow/redband trout can co-exist and maintain abundant populations without adverse consequences. The Deschutes River in Oregon, the Yakima River in Washington, and the river systems in Idaho are examples (Administrative Law Judge 2006). As noted by Buchanan (et al. 2011a), existing trout and colonizing anadromous steelhead are expected to co-exist, as they do in other watersheds, although there may be shifts in abundance related to competition for space and food. Anadromous salmonids would potentially also compete with and prey upon bull trout fry and juveniles; however, as discussed above, bull trout would also be expected to consume the eggs and fry of Chinook salmon and steelhead. It is reasonable to conclude that redband trout would as well. Both bull trout and redband trout evolved together with anadromous species in the Upper Klamath Basin of the Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). It is anticipated that they would be able to co-exist in the future.

The Coho and Steelhead Expert Panel report also states on p. 18,

“The fish will also be attracted to the cooling influence of large springs and more diffuse discharges of groundwater along the Project Reach. Thermal refugia are especially important to juvenile coho salmon when stream temperatures are warm. The outcome of interactions in refugial habitats between juvenile coho, steelhead, *O. mykiss*, and other species depends on a variety of factors, including fish size and density, and is difficult to predict.” (Dunne et al. 2011).

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-31	<p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>The Federal Energy Regulatory Commission concluded that implementing fish passage would help to reduce adverse effects to steelhead associated with lost access to upstream spawning habitats (Federal Energy Regulatory Commission 2007, p. 3-347).</p> <p>Hamilton et al. (2011) (p. 93) states that access to additional habitat in the upper Klamath River watershed would benefit steelhead runs. In general, dam removal with KBRA would likely result in the restoration of more reproducing populations, higher genetic diversity, and the opportunity for variable life histories and use of new habitats. Dam removal with KBRA would result in higher steelhead abundance in the long term (Hamilton et al., 2011; p. 130).</p> <p>Chapter 3.3 of the EIS/EIR has been revised to disclose to a greater degree the extent to which these ecosystem interrelationships change under Alternatives. However, the comment presents no evidence of a potentially significant adverse environmental effect caused by Alternative related changes to ecosystem interrelationships.</p> <p>Overall, this comment asserts that sediment release estimates in the EIS/EIR are off (understated) "by thousands of percent" and that impacts to steelhead from sediment release would outweigh any beneficial effect from dam removal.</p> <p>The comment author assumed the percentages of sand were by volume, when in fact the percentages are by weight. Of the total weight of sand, approximately 36 to 57 percent of it will be eroded and released to the downstream channel. This equates to 230,000 to 370,000 tons of sand. The Expert Panel assumed that there would be 300,000 to 400,000 tons of sand released as the result of dam removal. The Expert Panel was making general statements and rough calculations and therefore, the difference between the two estimates in terms of the weight of sand released is not significant. See comment 10 for additional discussion of sediment amounts.</p> <p>The EIS/EIR has been revised to include a text box titled <i>Sediment Weight and Volume in the Four Facilities and Erosion with Dam Removal</i> in Section 2.2 to clarify the estimates of sediment released by dam removal and uncertainty associated with these estimates.</p>	Yes

**Comment Author**  
**Agency/Assoc.**  
**Submittal Date**

Guarino, Thomas  
County of Siskiyou, Office of County Council  
November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>The Proposed Action would release dam-stored sediment downstream to the Lower Klamath River in the short term, and restore a flow regime that more closely mimics natural conditions in the long term. Suspended sediment effects on steelhead under the Proposed Action are described in detail in Appendix E, and are summarized here.</p> <ul style="list-style-type: none"><li>• Under the most-likely-to-occur scenario or worst-case scenario, no effect from suspended sediment relative to existing conditions is anticipated for the half-pounder life history, which are distributed in the lower river and its tributaries, and age 0 rearing (Table 3.3-8). Sub lethal effects are anticipated for all other life stages (Table 3.3-8), with the following exceptions:</li><li>• Under the most-likely-to-occur scenario, up to 36 percent mortality is predicted for the winter run steelhead (up to 1,008 adults, or up to 14 percent of the total basin-wide winter run escapement). On average around 20 percent of winter steelhead would migrate prior to the proposed initiation of reservoir drawdown on December 15<sup>th</sup>, 2020. In addition, steelhead are highly mobile species that have been known to stray to avoid habitat degradation (Bisson et al. 2005), and regularly occur in environments with high Suspended Sediment Concentrations (SSC), and therefore the predictions described here are likely higher than would actually occur. It is likely that at least some SSC would enter tributaries if conditions within the mainstem were adverse.</li><li>• Under the most-likely-to-occur scenario, up to 52 percent mortality is predicted for age 1 juveniles in the mainstem (up to 8,200 juveniles or around 14 percent of total basin-wide age 1 production).</li><li>• Under the most-likely-to-occur scenario, up to 52 percent mortality is predicted for age 2 juveniles in the mainstem (up to 6,893 juveniles or around 13 percent of total basin-wide age 2 production).</li><li>• Under the worst-case scenario, 0 to 20 percent mortality is predicted for the summer run steelhead (from 0 to 130 adults, or from 0 to 9 percent of the basin-wide escapement).</li><li>• Under the worst-case scenario, 71 percent mortality is predicted for the winter run steelhead (up to 1,988 adults, or up to 28 percent of the basin-wide escapement). On average around</li></ul>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>20 percent of winter steelhead migrate prior to initiation of proposed reservoir drawdown on December 15<sup>th</sup>, 2020. In addition, steelhead are highly migratory species that stray to avoid habitat degradation (Bisson et al. 2005), and regularly occur in environments with high SSC, and therefore the predictions described here are likely more dire than would occur.</p> <ul style="list-style-type: none"> <li>• Under the worst-case scenario, up to 71 percent mortality is predicted for age 1 juveniles in the mainstem (up to 11,207 juveniles or around 19 percent of total basin-wide age 1 production).</li> <li>• Under the worst-case scenario, up to 71 percent mortality is predicted for age 2 juveniles in the mainstem (up to 9,412 juveniles or around 18 percent of total basin-wide age 2 production).</li> </ul> <p>As described in detail in Appendix F, dam-released sediment associated with the Proposed Action might aggrade pools or overwhelm other habitat features used for adult holding or juvenile rearing above Cottonwood Creek. The effect would be short term, as pools would likely return to their pre-sediment release depth relatively quickly (Stillwater Sciences 2008). In the long term, the river would revert to and maintain a pool-riffle morphology.</p> <p>In general, the short-term effects of suspended sediment resulting from the Proposed Action on steelhead are likely to be much higher than under existing conditions and the No Action/No Project Alternative, particularly for the portion of the population that spawns in tributaries upstream of the Trinity River. For that portion of the population, effects are anticipated for at least six year-classes, including on adults, run-backs, half-pounders, any juveniles rearing in the mainstem, and outmigrating smolts. However, the broad spatial distribution of steelhead in the Klamath Basin and their flexible life history suggests that some would avoid the most serious effects of the Proposed Action by (1) remaining in tributaries for extended rearing, (2) rearing farther downstream where SSC should be lower due to dilution (e.g., the progeny of the adults that spawn in the Trinity River Basin or tributaries downstream from the Trinity River), and/or (3) moving out of the mainstem into tributaries and off-channel habitats during winter. The life-history variability observed in steelhead means that, although numerous year classes would be affected, not all individuals in any given year class would be exposed to the effects of the Proposed Action. Some portion of the progeny of those adults that spawn successfully would rear in tributaries long enough to not only avoid the most serious impacts of the</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Proposed Action in 2020, but may also not return to spawn for up to two years, when any SSC resulting from the Proposed Action would be much less. The high incidence of repeat spawning among summer-run steelhead (ranging from 40 to 64 percent, Hopelain 1998) should also increase that population's resilience (including all year classes) to effects of the Proposed Action. Based on substantial reduction in the abundance of a year class in the short term, the effect of the Proposed Action would be significant for summer and winter steelhead in the short term.</p> <p>Implementation of Mitigation Measures AR-2 and AR-3 (see Section 3.3.4.4 of the EIS/EIR) could be implemented to reduce the short-term effects of SSCs on steelhead adults and outmigrating juveniles. With implementation of mitigation measures there would still be short-term effects on summer and winter steelhead, including sub lethal and lethal effects. Based on substantial reduction in the abundance of a year class in the short term, the Proposed Action would be a significant effect on summer and winter steelhead in the short term after mitigation.</p> <p>It is important to note that there are long-term benefits associated with the restoring sediment supply to the Klamath River below the Hydroelectric Project.</p> <p>Master Response AQU-20 Bedload Sediment and Fish Habitat.</p> <p>Dam removal would restore connectivity to over 420 miles of historical habitat in the Upper Klamath Basin for steelhead (Huntington 2006) and would create additional habitat within the Hydroelectric Reach (Administrative Law Judge 2006). The Federal Energy Regulatory Commission concluded that implementing fish passage would help to reduce adverse effects to steelhead associated with lost access to upstream spawning habitats (FERC 2007, p. 3-347).</p> <p>It is anticipated that as a result of the Proposed Action the summer and winter steelhead within the Klamath River watershed would have an increase in abundance, productivity, population spatial structure, and genetic diversity. In general, free flowing conditions as per the Proposed Action, would likely provide optimal efficiency, decrease outmigrant delay, and increase concomitant adult escapement (Buchanan et al. 2011b). By providing an unimpeded migration corridor, the Proposed Action would provide the greatest possible benefit related to fish passage, hence, the highest survival and reproductive success. Based on increased habitat availability and improved habitat quality, the effect of the Proposed Action would be beneficial for summer and winter steelhead in the long term.</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-32	<p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>The comment is correct in stating that the EIS/EIR states the Proposed Action will expand the total distribution of redband trout.</p> <p>The actual wording from the Draft EIS/EIR p. 3.3-127 follows,</p> <p style="padding-left: 40px;">“A Resident Fish Expert Panel (Panel) was convened to compare the potential effects of the Proposed Action and existing conditions on resident fish, including redband trout (Buchanan et al. 2011a). The Panel concluded that the habitat improvements associated with KBRA implementation, including water quality and quantity and riparian corridor improvements and protection, are anticipated to increase trout productivity in headwater and lower tributary areas of the Upper Klamath Lake Basin. The Panel predicted that following the Proposed Action, the abundance of redband trout in the free-flowing reach between Keno Dam and Iron Gate Dam could increase significantly. In addition, they expect the existing trout and colonizing anadromous steelhead to co-exist, as they do in other watersheds, although there may be shifts in abundance related to competition for space and food.” (Draft EIS/EIR p. 3.3 -127).</p> <p>The EIS statement specifically states, as pointed out in the comment, The Panel predicted that following the Proposed Action, the abundance of redband trout in the free-flowing reach between Keno Dam and Iron Gate Dam could increase significantly.</p> <p>The actual wording of the section referenced by the comment is contained in the Resident Fish Expert Panel Report, which reads:</p> <p style="padding-left: 40px;">“Proposed habitat improvements, including water quality and quantity and riparian corridor improvements and protection, are anticipated to increase trout productivity in headwater and lower tributary areas of the Upper Klamath Lake basin. However, the level of improvement is uncertain in part because details of most activities have not been described. Recreational fishing opportunities would be expected to increase in proportion to the increase in trout abundance in all areas.</p> <p style="padding-left: 40px;">Following dam removal, the abundance of redband/rainbow trout in the free-flowing reach between Keno Dam and Iron Gate Dam could increase significantly. The amount of habitat with free flowing</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

waters would increase by 43 mi (69.2 km) following dam removal but the quality of this habitat for supporting each life stage of redband/rainbow trout has not been carefully evaluated because 22-23 mi (35.4-37.0 km) of habitat remains under the reservoirs (Cunanen 2009); approximately 4 mi (6.4 km) of habitat has been adversely affected by the dewatered (100 cfs) flows in the bypass reach; and 17 mi (27.4 km) of habitat has been adversely affected by the daily fluctuating flows in the peaking reach (Adm. Law Judge Orders 2006). Existing trout and colonizing anadromous steelhead are expected to co-exist, as they do in other watersheds, although there may be shifts in abundance related to competition for space and food. An increase in abundance for redband/rainbow trout in the project reach could provide significantly more recreational fishing opportunities than the current trophy trout fisheries.” (Buchanan et al. 2011a)

The EIS/EIR’s use of the term “could” to characterize the Expert Panels conclusion pertaining to trout productivity reflects the lack of certainty in part due to lack of details pertaining to the restoration activities.

The Draft EIS/EIR p. 3.3 -127 states that, “the abundance of redband trout in the free-flowing reach between Keno Dam and Iron Gate Dam could increase significantly.” This wording, though not an exact quote of the Expert Panel Report, borrows some of the language and mirrors the intent of the Expert Panel findings. As such it does accurately reflect the Resident Fish Panel’s conclusions.

The comment also asserts that, “the basis set forth in the EIS/EIR for concluding the Proposed Action will significantly increase the trout population are without support.”

The comment bases this on reservations and questions of Chinook Expert Panel regarding the KBRA’s ability to sufficiently address water quality problems.

It is important to point out that the Chinook Expert Panel provided a number of recommendations pertaining to their reservations concerning the implementation of KBRA and needed actions to effectively remediate the water quality problem (Goodman et al. 2011 pg 12).

The Chinook Expert Panel also stated, “water quality improvements are more likely under the Proposed Action than Current Conditions.” (Goodman et al. 2011. pg 12)

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-33	<p>The KBRA and the implementation of KBRA are discussed in Chapter 2 of the EIS/EIR. It is also discussed within Water Quality Section 3.2, of the EIS/EIR.</p> <p>The assertion that “The basis set forth in the EIS/EIR for concluding the Proposed Action will significantly increase the trout population are without support.” is unfounded. Indeed the best available information and literature relied upon by the Resident Fish Panel and used in the EIS/EIR clearly support the conclusion that trout populations will increase under the Proposed Action.</p> <p>This comment as written cites portions of the Resident Fish Expert Panel report, sometimes out of context, without fully considering the entire EIS/EIR or Expert Panel record. By doing so, the comment loses the context of the issue as presented in the EIS/EIR and does not accurately represent the EIS/EIR record.</p> <p>Master Response AQU–17 Expert Panel Second Line of Analysis Not the Only Evidence</p> <p>The Draft EIS/EIR discusses resident redband/rainbow trout in relation to the Hydroelectric Reach in Section 3.3 – p. 128, 129.</p> <p>Master Response AQU–14 Expert Panel Resident Fish.</p> <p>The Expert Panel Report further discusses the existing and predicted habitat conditions as well as the impacts of the dams for resident fish in the reach below Keno Dam in other sections the Report. In Section 5.2 p. 75, it states that “Trout spawning has been documented in the mainstem Klamath River below J.C. Boyle Dam in the bypass reach (see Section 2.1.2). In the 1950s, before the J.C. Boyle Dam was built, rainbow trout would use the Frain Ranch area of the J.C. Boyle peaking reach to spawn” (Administrative Law Judge Decision at 14, FOF 16-2). ). Currently, the peaking reach life history appears to be gone and the bypass reach life history has been reduced to less than 10 percent of historical abundance and is composed of significantly smaller trout (Administrative Law Judge Decision at 31, FOF 4-23). The stock of rainbow/redband trout in the bypass and peaking reaches below J.C. Boyle Dam is currently denied the use of Spencer Creek and other suitable habitat upstream of the J.C. Boyle Dam. (Administrative Law Judge Decision at 27, FOF 3-13). The Proposed Action would restore both flows suitable for spawning in the peaking reach, and, effective access to Spencer Creek and other suitable habitat upstream of the J.C. Boyle Dam. In addition, in the bypass reach a more dynamic channel with a wider range of sediment deposits will serve as an ecological benefit (ALJ Decision at 38 Finding of Fact 10-5).</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>The Proposed Action would eliminate extreme temperature fluctuations that impact redband trout in the peaking reach on a daily basis (City of Klamath Falls 1986).</p> <p>With dam removal, redband trout would no longer be entrained in turbines (Gutermuth et al. 2000). Stranding following spill reductions at Link River, Eastside, Westside, or J.C. Boyle project facilities, as reported by (Oregon Department of Fish and Wildlife 2006; Tinniswood 2006), would no longer occur, or effect redband trout.</p> <p>The comment further takes issue/reiterates concerns with trout predation on Chinook salmon. It is important to recognize that redband trout and anadromous salmon and steelhead evolved together in the upper basin of Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). While the precise geographic distribution is uncertain, historical records and tribal accounts demonstrate that the Upper Klamath Basin provided a viable ecosystem and habitat for anadromous fish and that Chinook salmon, coho salmon, and steelhead trout migrated past the present site of Iron Gate Dam to utilize that habitat. (Administrative Law Judge Decision at 12, FOF 2A-3)(Administrative Law Judge 2006). Chinook salmon (both spring and fall-run) were abundant upstream of Iron Gate Dam in the Klamath River, Jenny Creek, Fall Creek and Shovel Creek, as well in the tributaries of Upper Klamath Lake, including the Wood, Sprague, and Williamson rivers (Administrative Law Judge Decision at 12, FOF 2A-4)).</p> <p>“Existing trout and colonizing anadromous steelhead are expected to co-exist, as they do in other watersheds, although there may be shifts in abundance related to competition for space and food (Buchanan et al 2011a).” Resident trout have the genetic capacity to adopt anadromy and some may outmigrate to the ocean if passage exists (Administrative Law Judge Decision at 25, FOF 2C-7).</p> <p>Other than the reference to the Expert Panels considerations the comment provides no evidence to otherwise support the supposition that the redband trout will overly diminish the success of the Chinook salmon.</p>	
CC_LT_1117_020-34	In response to comments, additional information about interactions between species, including bull trout has been added to the EIS/EIR in Chapter 3.3. As noted in the EIS/EIR (Section 3.3.3.6.2.2.3) anadromous salmonids would potentially compete with and prey upon bull trout fry and juveniles; however, bull trout would also be expected to consume the eggs and fry of Chinook	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>salmon and steelhead. These species co-evolved in the watershed together, and it is anticipated that they would be able to co-exist in the future. Bull trout currently exist with redband trout in the upper basin and Proposed Action habitat benefits that would result in redband population increases would also benefit bull trout populations.</p> <p>In the BO on relicensing of the Hydropower Project, USFWS authorized take for bull trout and determined that the level of anticipated take associated with reintroduction of anadromous salmonids will not jeopardize the continued existence of bull trout or destroy or adversely modify designated critical habitat for bull trout (USFWS 2007).</p> <p>Since the BO on operations of the Hydropower Project was issued, the interaction of bull trout with other species has received additional analysis by the USFWS. Under present conditions, anadromous fish would only be able to interact with bull trout in Long Creek. In the other bull trout streams, barriers to upstream passage prevent any interactions (Roninger 2012). Assessment has also been completed by the Resident Fish Expert Panel. As noted in the EIS/EIR, (Section 3.3.4.3), and in Buchanan et al. (2011a, p 64) the proposed KBRA actions would enhance resident populations of headwater bull trout, and particularly in Three Mile and Sun creeks, from which waters ultimately flow into Upper Klamath Lake. Both of these populations are listed as populations with a high risk of extinction (Buchanan et al. 1997), and implementation of KBRA could have a significant contribution toward recovery of these populations. Passage from Sun Creek to the Wood River may be improved by KBRA actions allowing for fluvial life history forms of bull trout in the Wood River system. The cold waters of the Wood River may successfully provide habitat for reintroductions of anadromous salmon and steelhead. Rearing anadromous juveniles could provide an increased prey base for fluvial bull trout and produce predator/prey interactions ecologically similar to historical conditions (Buchanan et al. 1997). As noted in the EIS/EIR, the Resident Fish Expert panel concluded that the Proposed Action provides promise for preventing extinction of this species and for increasing overall population abundance and distribution (Buchanan et al. 2011a, p 77). Based on the restricted distribution of bull trout, the Proposed Action would have a less-than-significant impact on bull trout in the short and long term (EIS/EIR Section 3.3.3.6.2.2.3).</p>	
CC_LT_1117_020-35	The Lamprey Expert Panel Report (Close et al., 2010; p. 29) states: The current upstream limit on the occurrence of Pacific lamprey is Bogus Creek (River Mile 189.6) in the mainstem Klamath River; this species also occurs up to Lewiston Dam in the	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Trinity River and in Salmon, Shasta, and Scott rivers, and Clear and Dillon creeks giving approximately 310 miles of inhabited tributaries downstream from Iron Gate Dam. Dam removal would then increase the extent of potential mainstem habitat by approximately 14 percent. The EIS/EIR at p. 3.3-120 will be revised as such: "The Proposed Action could increase potential mainstem Pacific lamprey habitat by up to 14 percent."</p> <p>The comment that the quality of habitat for Pacific lamprey has not been evaluated is incorrect. The Administrative Law Judge found that, although the historical upstream distribution of Pacific lamprey is unknown, suitable habitat for spawning and juvenile rearing is available within tributaries and stream reaches in the Project area (Administrative Law Judge (2006); FOF 8-3; p. 37). In addition, Pacific Lamprey below Iron Gate Dam would migrate above the dam if access was provided through fishways (Administrative Law Judge (2006); FOF 8-7; p. 37). Thus, it is reasonable to conclude that they would be able to migrate upstream if dams were removed. The EIS/EIR has been revised to include these findings. The Federal Energy Regulatory Commission (2007 p. 3-315) concluded that "Removal of Iron Gate Dam provides the greatest potential to expand the range of Pacific lamprey, a species of cultural importance to the tribes, to potential habitat upstream of Iron Gate Dam." The Lamprey section for Alternative 2 (and 3) of the EIS/EIR has been revised to include these analyses.</p> <p>The last statement of the comment does not accurately reflect the complexity of the riverine environment and over-simplifies the relationship between habitat and viability of Pacific lamprey. As described in the EIS/EIR (Chapter 3.3, Under the Proposed Action, and in Appendices E and F) the Klamath River, under the Proposed Action, would more closely mimic the natural hydrograph and sediment regime. The sediment that makes up the bed and banks of the Klamath River ranges in size from silt and sand to gravel, cobbles, and boulders with outcrops of bedrock. Since their construction, project dams have trapped most sediment that was previously delivered to downstream reaches and altered the flows necessary to transport sediment in reaches of the river. Together, these changes have altered natural sediment transport processes, reduced gravel bar and pocket gravel deposits, and reduced salmonid and lamprey spawning and rearing habitat. Additionally, project operations have increased sediment supply from point sources of erosion and fill encroachment on the river channel (FERC 2007, p. 3-29). This should provide for increased habitat complexity within the active river channel and associated floodplain. The habitat complexity (such as riffles, glides, runs and pools) would allow a diverse set</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-36	<p>of organisms (such as lamprey, freshwater mussels and steelhead) to occur in the same river or stream reach, yet occupy different habitat units containing diverse substrates (such as gravel, sand, or silt). This habitat complexity allowed the diverse set of native organisms to evolve and coexist prior to dam construction.</p> <p>While the Lamprey Expert Panel (Close et al, 2011) noted that fine grained sediment would continue to be mobilized after dam removal, the Panel did not identify this sediment as a significant impact in the long term. As presented, the comment takes the statements of the Lamprey Expert Panel on fine grained sediment out of context. The complete citation follows:</p> <p style="padding-left: 40px;">“Model simulations from Stillwater Sciences (2008, 2009, 2010) suggest that approximately 40 percent of all sediments in the impoundments will be flushed downstream to the ocean as suspended load during the first year; however, it is acknowledged that a small portion of this sediment will be stored for unpredicted periods of time along the margins of the channel and floodplain of the lower Klamath River. It is reasonable to expect that this fine-grained sediment will be re-mobilized over a period ranging from years to decades. The long-term prospect is for an increase of approximately 127,000 tons per year of fine sediment from the currently impounded reach, but it is probably negligible compared to the supply from the Scott, Salmon, and Trinity rivers.”</p> <p>Master Response AQU–17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Master Response AQU–20 Bedload Sediment and Fish Habitat.</p> <p>The comment as written does not provide evidence that the amount of sediment that would actually be released into the river is understated, nor does it provide evidence for long-term adverse effects from this material on Pacific lamprey or salmonids. Based on increased habitat availability and improved habitat quality, the effect of the Proposed Action would be beneficial for Pacific lamprey, salmon and trout species in the long term (EIS/EIR Section 3.3.4.3).</p>	No
CC_LT_1117_020-37	<p>Ecological relationships between species were addressed in Chapter 3.3 of the EIS/EIR. In response to comments, additional information on Interactions between species has been added to the final EIS/EIR in Chapter 3.3.4.</p>	No

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>The Proposed Action would restore access for anadromous salmon and steelhead to habitat upstream of Iron Gate Dam, as described in detail above. Redband trout and anadromous salmon and steelhead evolved together in the upper basin of Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). While the precise geographic distribution is uncertain, historical records and tribal accounts demonstrate that the Upper Klamath Basin provided a viable ecosystem and habitat for anadromous fish and that Chinook salmon, coho salmon, and steelhead trout migrated past the present site of Iron Gate Dam to utilize that habitat. (Administrative Law Judge Decision at 12, FOF 2A-3) (Administrative Law Judge 2006). Chinook salmon (both spring and fall-run) were abundant upstream of Iron Gate Dam in the Klamath River, Jenny Creek, Fall Creek and Shovel Creek, as well in the tributaries of Upper Klamath Lake, including the Wood, Sprague, and Williamson rivers (Administrative Law Judge Decision at 12, FOF 2A-4) (Administrative Law Judge 2006).</p> <p>Restoration of access would result in anadromous salmon and steelhead potentially interacting with resident redband trout and bull trout. Anadromous salmon and steelhead currently co-exist with resident trout below Iron Gate Dam, without any obvious ecosystem detriment.</p> <p>There are many examples from nearby river systems in the Pacific Northwest that show wild anadromous steelhead trout and resident rainbow/redband trout can co-exist and maintain abundant populations without adverse consequences. The Deschutes River in Oregon, the Yakima River in Washington, and the river systems in Idaho are examples (Administrative Law Judge Decision at 25, FOF 2C-11) (Administrative Law Judge 2006). As noted by Buchanan (et al. 2011a), existing trout and colonizing anadromous steelhead are expected to co-exist, as they do in other watersheds, although there may be shifts in abundance related to competition for space and food. Anadromous salmonids would potentially also compete with and prey upon bull trout fry and juveniles; however, as discussed above, bull trout would also be expected to consume the eggs and fry of Chinook salmon and steelhead. It is reasonable to conclude that redband trout would as well. Both bull trout and redband trout evolved together with anadromous species in the Upper Klamath Basin of the Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). It is anticipated that they would be able to co-exist in the future.</p> <p>With respect to ecological context, the EIS/EIR noted that for all species analyzed, when the short-term deleterious effects occurring during reservoir drawdown in 2020 are weighed against</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-38	<p>the long-term benefits to the Klamath River, the systemic restoration espoused in the Proposed Action improves biological productivity and the quality of waters, streams, wetlands, estuaries, and lakes (EIS/EIR Chapter 3.3).</p> <p>The comment presents no evidence of a potentially significant adverse environmental effect caused by Alternative-related changes to ecosystem interrelationships.</p> <p>Overall, this comment asserts that the EIS/EIR failed to examine interspecies ecosystem relationships, and as a result, the EIS/EIR makes fundamental errors of analysis. The comment incorrectly states there is no analysis of the effects of the Proposed Action on resident fish. There are multiple references to resident fish populations in EIS/EIR Chapter 3.3. The comment accurately points out that the Resident Fish Expert Panel noted there are 16 such species that may benefit from the Proposed Action. (Buchanan 2011a, p. 64). What the comment fails to do is put the statement in the context of the entire paragraph which reads:</p> <ol style="list-style-type: none"> <li>1. "The Upper Klamath Basin includes native fishes that are adapted to lakes or warmer streams and rivers of lower gradient (NRC 2004). In total, 16 native species representing five families of fishes currently exist in the Upper Klamath Basin. Most of the native fishes in the Upper Klamath Basin are endemic to the watershed. Relatively abundant or common species include Klamath tui chub (<i>Gila bicolor bicolor</i>), blue chub (<i>Gila coerulea</i>), Klamath speckled dace (<i>Rhinichthys osculus klamathensis</i>), Upper Klamath marbled sculpin (<i>Cottus klamathensis klamathensis</i>), and Klamath Lake sculpin (<i>Cottus princeps</i>). Some of the species are not common including slender sculpin (<i>Cottus tenuis</i>) and Miller Lake lamprey (<i>Lampretra milleri</i>) and there is potential for them to be considered for protection under the ESA in the future (NRC 2004). The Proposed Action has a greater probability of benefiting native fish populations compared with the Current Conditions. NRC (2004) concluded that restoration of habitats in the Upper Klamath Basin would be beneficial for most native fishes. According to NRC (2004), restoration of habitats may also be detrimental to non-native fishes, which adversely affect survival and abundance of native fishes. The Proposed Action includes KBRA, which is a major effort to restore habitat throughout the Klamath Basin. Although efforts are ongoing to restore habitat, KBRA would accelerate and expand upon the ongoing efforts, thereby providing greater benefit to native fishes. Climate change has the potential to adversely</li> </ol>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>affect native fishes, leading to low population status and consideration for protection under the ESA. Given the potential adverse effect of climate change on native fishes, actions that increase habitat quantity and quality, such as the Proposed Action, are especially important as a means to reduce additional adverse effects to native fishes.” (Buchanan 2011a, p. 64).</p> <p>A similar discussion of other resident fish that occur downstream from Keno Dam can be found in the Resident Fish Report (Buchanan 2011a), beginning on p. 69.</p> <p>Master Response AQU–14 Expert Panel Resident Fish.</p> <p>While giving credence to the comment by providing the above details, it is important to note that the comment presents no evidence of a potentially significant adverse environmental effect caused by increasing the numbers of 16 different resident species and of the resulting predator prey relationships as mentioned in this comment.</p> <p>Moreover, the Lead Agencies are not required to conduct every test or perform all research, study, and experimentation recommended by comment authors or address issues that are not significant to the action in question (CEQA Guidelines, § 15204(b); NEPA Regulation 40 CFR 1500.1(b)).</p> <p>[also see comment responses CC_LT_1117_020-116 and CC_LT_1117_020-27]</p>	
CC_LT_1117_020-39	<p>Master Response AQU–17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Master Response AQU–11 NMFS BO, ESA and KBRA Water Management.</p> <p>Section 7 consultations will occur in the future as required by the ESA for Federal discretionary actions in the Klamath Basin, and 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 supersede 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</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-40	<p>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 will be used by parties to comply with requirements under the ESA (see, for example, KBRA Sections 22.1 and 22.2).</p> <p>Finally, at this time, spring Chinook are not listed under ESA and a Biological Opinion on the Proposed Action for coho salmon and listed suckers has not been issued, so it was speculation on the part of the Expert Panel as to how future Biological Opinions may affect implementation of the Proposed Action. The Chinook Expert Panel also speculated that resolution of the water aspects of the Biological Opinions includes some possibilities that would result in more water being available in the system under the Proposed Action (with Biological Opinions) than under Current Conditions. The Lead Agencies considered the input of the Expert Panels but are not required under NEPA or CEQA to speculate on the nature of future Biological Opinions. Additional information concerning flows and effects on aquatic species has been added to Chapter 3.3 of the EIS/EIR.</p> <p>Master Response AQU–30 BRT Current Status of Chinook Fisheries.</p> <p>In the Biological Opinion on relicensing of the Hydropower Project, the Service authorized take for bull trout and determined that the level of anticipated take associated with reintroduction of anadromous salmonids will not jeopardise the continued existence of bull trout or to destroy or adversely modify critical habitat for bull trout (USFWS 2007). Since the BO was published, additional analysis of this issue has been conducted by USFWS. In response to comments, additional information on interactions between species has been incorporated into Section 3.3.4 of the EIS/EIR.</p> <p>Under present conditions, anadromous fish would only be able to interact with bull trout in Long Creek. In the other bull trout streams, barriers to upstream passage prevent any interactions (Roninger 2012). Additionally, assessment has also been completed by the Resident Fish Expert Panel. As noted in the EIS/EIR, Section 3.3.4.3 and in Buchanan et al. (2011a, p 64) the proposed KBRA actions would enhance resident populations of headwater bull trout, and particularly in Three Mile and Sun creeks, from which waters ultimately flow into Upper Klamath Lake. Both of these populations are listed as populations with a high risk of extinction (Buchanan et al. 1997), and implementation</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>of KBRA could have a significant contribution toward recovery of these populations. Passage from Sun Creek to the Wood River may be improved by KBRA actions allowing for fluvial life history forms of bull trout in the Wood River system. The cold waters of the Wood River may successfully provide habitat for reintroductions of anadromous salmon and steelhead. Rearing anadromous juveniles could provide an increased prey base for fluvial bull trout and produce predator/prey interactions ecologically similar to historical conditions (Buchanan et al. 1997). As noted in the EIS/EIR, the Resident Fish Expert panel concluded that the Proposed Action provides promise for preventing extinction of this species and for increasing overall population abundance and distribution (Buchanan et al. 2011a, p 77).</p>	
CC_LT_1117_020-41	See response to comment number CC_LT_1117_020-17.	
CC_LT_1117_020-42	<p>As required by both NEPA and CEQA, the EIS/EIR (Section 3.3.4.3) provides an extensive assessment of the potential effects of the Proposed Action upon freshwater mussels. Under the Proposed Action, suspended sediment concentrations (SSCs) would be expected to be higher than under existing conditions and would likely exceed 600 mg/L, the minimum SSCs level that would be considered detrimental to freshwater mussels, for 2 to 4 months after facility removal, depending on hydrologic conditions and location on the river. However, the highest levels, well in excess of 1,000 mg/L, would occur between Seiad Valley and Iron Gate Dam.</p> <p>Effects of sediment deposition are expected to substantially reduce the abundance of multiple year classes in the short term. Combined with the slow recovery time of freshwater mussels, the effect of the Proposed Action would be significant in the short term.</p> <p>Implementation of mitigation measures would still result in a significant effect on freshwater mussels in the short term. It is however anticipated that mainstem Klamath freshwater mussel populations would rebound, recolonizing through the transport of larvae (glochidia) by host fish from downstream populations less affected by excessive SSCs or from populations within tributaries, such as the Salmon or Scott Rivers, or from populations on the Klamath River upstream of Iron Gate Reservoir. This process is expected to take many years. The EIS/EIR concludes the Proposed Action would have beneficial effects for freshwater mussels in the long term because of increased habitat availability and habitat quality (EIS/EIR Section 3.3.4.3).</p>	No

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
CC_LT_1117_020-43	<p>With respect to the broader ecological context, the EIS/EIR noted that for all species analyzed, when the short-term deleterious effects occurring during reservoir drawdown in 2020 are weighed against the long-term benefits to the Klamath River, the systemic restoration espoused in the Proposed Action improves biological productivity and the quality of waters, streams, wetlands, estuaries, and lakes (EIS/EIR Section 3.3.4.3).</p> <p>The Proposed Action would have significant short-term effects for macroinvertebrates based on substantial reduction in the abundance of a year class. Effects in the long term would be beneficial based on increased habitat availability and improved habitat quality (EIS/EIR 3.3.4.3). While a large proportion of macroinvertebrate populations in the Hydroelectric Reach and in the mainstem Klamath River downstream from Iron Gate Dam would be affected in the short term by the Proposed Action, their populations would be expected to recover quickly because of the many sources for recolonization and their rapid dispersion through drift or aerial movement of adults. Dam removal would increase connectivity between Upper Klamath Basin and the Hydroelectric Reach and would create additional riverine habitat within the Hydroelectric Reach.</p> <p>With respect to ecological implications, the EIS/EIR noted that for all species analyzed, when the short-term deleterious effects occurring during reservoir drawdown in 2020 are weighed against the long-term benefits to the Klamath River, the systemic restoration espoused in the Proposed Action improves biological productivity and the quality of waters, streams, wetlands, estuaries, and lakes (EIS/EIR Section 3.3.4.3).</p> <p>The comment as written provides no evidence to support the assertion that impacts to macroinvertebrates and aquatic ecosystems were not adequately considered. However, the EIS/EIR will be revised to include analysis of peaking effects to macroinvertebrates in the Project reach. Current peaking operations reduce the production of sessile organisms, like macroinvertebrates, by ten ("10") percent to twenty-five ("25") percent (Administrative Law Judge Decision at page 47, FOF 16-24) (Administrative Law Judge (2006). Macroinvertebrate drift rates, a measure of food availability for trout, in the non-peaking Keno reach were five to six times greater than in the peaking reach. Fluctuations in the peaking reach are undoubtedly a contributing factor to the lower macroinvertebrate drift rates (Administrative Law Judge Decision at page 47, FOF 16-25) (Administrative Law Judge (2006).</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-44	See response to comment number CC_LT_117_020-10.	
CC_LT_1117_020-45	See response to comment number CC_LT_117_020-10.	
CC_LT_1117_020-46	<p>The comment as stated fundamentally misinterprets the use of the term “significance” with respect to NEPA. In NEPA terminology, significance is used to determine whether an EIS or some other level of documentation is required, and once the decision to prepare an EIS is made, the magnitude of the impact is evaluated and no further judgment of significance is required. Any determinations of significance are for CEQA purposes only (EIS/EIR 3.1-3).</p> <p>When developing thresholds of significance, a precise definition of significant effect is not always possible because the significance of an activity often varies with the setting, environmental resource, and applicable species. (CEQA Guidelines, § 15064(b).) Accordingly, CEQA provides for using a qualitative threshold (CEQA Guidelines, § 15064.7(a).) Also, thresholds can be drawn from existing environmental standards and such use is considered an effective means of promoting consistency in significance determinations and integrating CEQA with other environmental program planning and regulation. (Protect the Historic Amador Waterways v. Amador Water Agency, (2004) 116 Cal. App. 4th 1099, 1107.) Against this regulatory backdrop, the Lead Agencies determined it would be appropriate to utilize, in part, the thresholds of significance provided by Appendix G of the CEQA Guidelines.</p> <p>Master Response AQU–17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p>	No
CC_LT_1117_020-47	<p>The first part of this comment is consistent with other comments made by Siskiyou County regarding nutrient increases and riverine periphyton growth under the Proposed Action. Multiple comment responses addressing these issues raised by Siskiyou County have already been given and are applicable to this comment as well. (See responses to comments CC_LT_1117_020-13, CC_LT_1117_020-14, and CC_LT_1117_020-58.) The comment as written cites only a portion of the Expert Panel reports and does not fully consider the entire EIS/EIR record. By doing so, the comment loses the context of the issue as presented in the EIS/EIR and does not accurately represent the EIS/EIR record.</p> <p>With regard to the fish disease and KBRA component of the comment, the EIS/EIR does not state that the Proposed Action would increase the habitat favorable for fish disease, thereby making the fish disease problem worse. On the contrary, Draft</p>	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>EIS/EIR Section 3.3.4.3 (p.3.3-88) states that the Proposed Action would be expected to reduce impacts on salmonids from fish disease.</p> <p>Master Response AQU-27 Disease. This analysis is not an attempt “to rescue the case for the Proposed Action” by “fall[ing] back on the alleged benefits of KBRA implementation” nor is it an admission that “there is not enough information in the KBRA to know if the projects are well designed, let alone if they will work.” The KBRA analysis is a programmatic analysis of the anticipated effects of multiple resource management actions that would occur in the Klamath Basin and KBRA, as a whole program, is evaluated as connected action to dam removal as described in the KHSA.</p> <p>Master Response WQ-4D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Regarding the fourth point “In other words, the most likely net result of the Proposed Action is to make the problem of harmful algae blooms a worse problem and to impede the benefits anticipated to result from already adopted Foreseeable Restoration Measures”, the comment appears to confuse toxic phytoplankton blooms (i.e., <i>Microcystis aeruginosa</i>) in the reservoirs with nuisance periphyton growth in the free-flowing river. There would not be “harmful algae blooms” under the Proposed Action in the sense that large, seasonal blooms of <i>M. aeruginosa</i> and associated microcystin toxin production would not occur in the reservoirs because the optimal habitat for the toxic blue-green algae would be gone. There may be additional periphyton growth in the free-flowing river reaches that replace the reservoirs, but such additional periphyton growth would not substantially adversely affect water quality (i.e. dissolved oxygen and pH) or the spread of fish disease as discussed in Section 3.2.4.3.2.4 (p. 3.2-104 to 3.2-106) and Section 3.3.3.3 (p. 3.3-88 to 3.3-89) of the Draft EIS/EIR. Additional discussion has been added to Sections 3.2.4.3.2.4 and 3.2.4.3.2.5 in the Final EIS/EIR to help clarify the anticipated effects of potential periphyton growth on dissolved oxygen and pH in the Hydroelectric Reach under the Proposed Action.</p>	
CC_LT_1117_020-48	<p>The USFWS has determined that the Siskiyou (= Chase) sideband, the species that was petitioned for listing, does not warrant Federal listing (Federal Register 76:61826-61853). This species is a Survey and Manage Species under the Northwest Forest Plan. A section has been added to address potential impacts to special-status invertebrate species, including impacts that could occur within construction areas if these invertebrates</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-49	<p>were present. The discussion was revised to include pre-construction surveys to assess the presence of habitat for special-status invertebrate species and surveys for the individual species that could occur, consistent with the Northwest Forest Plan and the 2011 Survey &amp; Manage settlement agreement.</p> <p>Section 3.5.4.3 of the EIS/EIR provides a detailed analysis of impacts to birds from the Proposed Action, including impacts during construction (see the "Construction Impacts on Wildlife" section and long-term impacts from loss or modification of habitat such as aquatic habitat at the reservoirs (see the "Long-term Habitat Loss and/or Modification" section).</p> <p>The analysis includes specific elements that would be incorporated during construction to avoid or reduce impacts, including pre-construction surveys. Within the impact discussion there are specific measures devoted to northern spotted owl, bald eagle, golden eagle, osprey, willow flycatcher, peregrine falcon, greater sandhill crane, and other migratory birds. The presence and location of known nesting sites and the availability of suitable habitat for each of these species is discussed. The pre-construction surveys would provide information on presence of habitat and individuals in the year of construction, such that appropriate specific protection measures can be applied.</p> <p>With few exceptions (e.g. osprey nesting platforms) nesting habitat for any species of bird would not be impacted outside of construction areas where habitat restoration would occur such that there would be no permanent loss of nesting habitat. Loss of foraging habitat from loss of the reservoirs is also discussed in Section 3.5.4.3.</p> <p>Pre-construction surveys would be conducted for these species in order to determine their presence and location prior to the disturbances associated with construction. Based on the results of pre-construction surveys for these species, buffer zones would be established. The specific details such as number and location of nesting surveys to be conducted, and size of buffer zones, as well as the mitigation measures specific to birds in Section 3.5.4.4 follow guidelines set by the USFWS (Strassburger 2011), developed to minimize disturbance to nesting birds.</p> <p>The specific details such as number and location of nesting surveys to be conducted, size of buffer zones, and mitigation measures specific to birds and outlined in EIS/EIR Section 3.5.4.4 were based on guidance provided by USFWS (Strassburger 2011). Typically the adequacy of a given disturbance-prevention buffer is site-specific based upon: the bird species in question; the type, magnitude, duration, seasonality, and time of day of the</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

disturbance; the distance of the disturbance to the nest site, the topography of the location; other on-going disturbances in the area; and whether the disturbance is in direct line of site from the nest, (e.g open space versus forest or other topographic features are blocking or diminishing nest site disturbance. Without knowing the specific nest site locations and proximities and bird species present during construction activities in 2020, a specific buffer for a given nest cannot be defined in advance. However, the buffer distances provided in EIS/EIR Section 3.5, Table 3.5-6, are examples of standard buffer distances used to protect nests in Northern California and the Pacific Northwest. For example, the nest-site disturbance buffers listed in EIS/EIR Section 3.5, Table 3.5-6, are similar to, or exceed, the disturbance buffer distances for bald and golden eagle, northern goshawk, osprey, and northern spotted owl included in three USFWS-approved timberland habitat conservation plans in California and Washington States (Simpson Timber Company 1992; Murray Pacific Corporation 1995; Pacific Lumber Company 1999). These disturbance buffers are effective mitigations because they minimize noise, vibration, or visual disturbance that could cause adult birds to abandon a nest; substantially alter their foraging, feeding, or parenting habits; otherwise result in nest failure or harm, harassment, annoyance or death to eggs, chicks, fledglings, or adults.

There is no evidence to suggest that removing the Four Facilities will significantly diminish future bird nesting site availability. The same is true for the potential loss of bird feeding sites in the area of analysis. There is now, and there will continue to be, substantial and diverse nesting and foraging habitat in the area. The Four Facilities do not provide significant unique nesting structure opportunities. Natural features such as trees, cliffs, steep river banks, and rocky canyons serve as adequate nesting locations for bird species, which may previously have nested on dams or other structures that would be removed as part of the Proposed Action. A more detailed post-facilities-removal analysis of bird nesting or foraging site availability beyond that which is already included in EIS/EIR Section 3.5 is not necessary.

Master Response TERR-2 Reservoir Habitat.

The EIS/EIR also notes that analysis of effects on northern spotted owl and other federally listed species that could be affected by the Proposed Action will be evaluated in a Biological Opinion (BO) under Section 7 of the Federal ESA. Avoidance measures and Reclamation's Klamath Project design standards will be detailed in the description of the Proposed Action in the BO.

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
CC_LT_1117_020-50	The language in Section 3.5.4.3 of the EIS/EIR regarding survey requirements for bald and golden eagle (and other special status birds including all migratory birds), as well as the language in Section 3.5.4.4 regarding mitigation measures specific to bald and golden eagle and other special status birds including migratory birds, was provided by the USFWS (Strassburger 2011). Survey requirements for new wind projects, which could result in direct, ongoing mortality of birds, do not apply to this type of project. Dam removal and related construction activities would have an indirect, short-term and temporary impact on birds during the construction period, which is very different from the on-going impacts of wind energy projects.	No
CC_LT_1117_020-51	The significance criterion is based on the statement in CEQA Guidelines Appendix G; the threshold captures, in summary fashion, the essence of the language in Appendix G.	No
CC_LT_1117_020-52	<p>The details of the peak flow analysis referenced in the EIS/EIR are given in section 6.2.1 of Reclamation (2012d). The analysis did not rely only on daily flow data. Peak flow data were inserted into the daily flow record to analyze the effect of dam removal on the peak flows. The peak flows were adequately captured in the analysis. The following statements are quoted from Reclamation (2012d), p. 6-2:</p> <p>“An attempt to estimate the flood control benefit provided by these reservoirs was modeled by performing a level pool routing of an estimated 100-year flood hydrograph through the reservoirs. The flood of record that occurred in Dec 1964 was used as a basis to develop the shape of the hydrograph.</p> <p>First, an instantaneous hydrograph of the 1964 flood was developed based upon the daily average flows and the recorded peak flows. For all days except the day in which the peak occurred, the instantaneous flow was assumed to pass through the daily average flow at 12 pm of that day and the flow at the transition between days was computed as the average flow between the two days. For the day in which the peak occurred, the timing of the peak was determined to conserve the volume of the flow for that day.”</p> <p>And from Reclamation (2012d), p. 6-3:</p> <p>“Fifteen minute data is available for the Iron Gate gage from 1988 until the present. The flood attenuation of floods in 1989, 1993, 1996, 1997, and 2005 were also simulated. The percent reduction in the peak was computed for each of the floods....”</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-53	<p>J.C. Boyle, Copco 1, Copco 2, and Iron Gate Dams are operated for power generation and not operated as flood control reservoirs, but have provided some incidental flood protection during flood events. Under the Proposed Action, the facilities would not be in place to provide this reduction in peak flow rate and there would be a slight increase in the 100-yr flood elevations as the result of dam removal from River Mile 190 (near Iron Gate Dam) to Humbug Creek located at River Mile 172.</p> <p>The increase in flood elevations is primarily due to an increase in the 100-yr flood discharge after dam removal, but there is also a small amount of sediment deposition expected downstream from Iron Gate Dam, although aggradation is likely temporary. The peak flow downstream from the current site of Iron Gate Dam would also occur several hours sooner if the dams were removed. Section 3.6.4.3 of the EIS/EIR describes the effects of the increase in flood elevation and change to the timing of the flood peak. Mitigation measure H-1 describes the actions necessary to mitigate the change to the timing of the flood peak. Mitigation measure H-2 addresses the actions necessary to mitigate the increase in water surface elevations (p. 3.6-39 of the Draft EIS/EIR). The Dam Removal Entity would implement these mitigation measures and the costs of these mitigation measures are included in the overall costs in the Detailed Plan for Dam Removal – Klamath River Dams (Reclamation, 2012d).</p> <p>The analysis of peak flows presented in Reclamation (2012d) is considered a conservative assessment of flood impacts, meaning that it is the largest likely impact of dam removal on flooding. It is expected that a more detailed assessment using a hydrologic rainfall-runoff model, coupled to a channel routing model, would result in a smaller calculated flooding impact.</p> <p>A similar analysis of flooding after dam removal was conducted by Bacigalupi, Jerry, P.E. (2010) and was provided to Reclamation by Siskiyou County. In this analysis, they concluded that Iron Gate Dam and Copco 1 Dam reduce the 100-yr flood by 22%. However, a time step of 3 hours was used in Bacigalupi (2010), which is a too large and caused error in the results. If the same analysis was performed with a time step of 15 minutes, the conclusions of Bacigalupi would be very similar to Reclamation (2012d).</p> <p>This comment does not accurately characterize the relationship between the KBRA and proposed mitigations for flood control. Although parts of the KBRA, such as the proposed Wood River Wetland Restoration and implementation of the Future Storage Opportunities are anticipated to have a beneficial effect (i.e. a reduction) on flood risk by increasing water storage in the Upper</p>	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Klamath Basin, these measures are not characterized in the EIS/EIR as mitigations for flood risk EIS/EIR Section 3.6.4.3, page 3.6-34). The KBRA was not utilized as mitigation for KHSA effects analyzed in this EIS/EIR.</p> <p>J.C. Boyle, Copco 1, Copco 2, and Iron Gate Dams provide only incidental flood protection during flood events. Table 3.6-9 shows peak flood flows and shows flood attenuation of less than 5 percent would have been provided by Iron Gate and Copco 1 Dams under the No Action/No Project Alternative. J.C. Boyle and Copco 2 Dams have negligible capacity for flood attenuation. (Draft EIS/EIR Section 3.6.4.3, page 3.6-30). Depending on flows, the Four Facilities may delay peak flows during a flood event. Under the Proposed Action, the Four Facilities would not be in place to provide this temporary reduction in flow. This means that flood peaks may occur a few hours earlier if the Four Facilities are removed, but the magnitude of potential flooding would not be substantially different than under the No Action Alternative.</p> <p>The change in timing of peak flows was analyzed as part of the flood hydrology evaluation. Additional text has been added to the impact describing the changes in flood patterns starting on Draft EIS/EIR page 3.6-27 to clarify that this impact was assessed.</p> <p>Floods are currently forecasted based on flows at Seiad Valley, which is downstream from the Four Facilities. If the Four Facilities were removed, the Lead Agencies would work with National Weather Service's (NWS) River Forecast Center to forecast floods at Iron Gate gage rather than looking at flows downstream. Shifting the forecast point upstream would help address the change in timing of the flood peak. The Lead Agencies would provide data and information to the NWS so that NWS could update their models. The comment indicates that the model updates could take a substantial amount of time; however, the updates needed are similar to those that are regularly performed by the NWS when updating models and the Lead Agencies, as well as the NWS, do not anticipate a problem completing model updates if dam removal occurred in 2020 (Hartman 2012). Initial model updates would need to be completed before dam removal to satisfy the mitigation measures described in the EIS/EIR.</p> <p>Mitigation Measures H-1 and H-2 were not developed, as suggested by the comment author, as mitigation for the KBRA. The Lead Agencies have analyzed how well Mitigation Measure H-1 would work in notifying residents of upcoming flood events, and committed to help the NWS in updating models and notification systems. The Lead Agencies found that this measure, in conjunction with Mitigation Measure H-2 (relocation or modification</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>of permanent structures) would be sufficient to reduce impacts to less-than-significant levels.</p> <p>The EIS/EIR does not defer analysis of the effects of the Proposed Action or its alternatives. Under the current system, the River Forecast Center provides official public warning of floods. The mitigation for the Proposed Action is to inform the River Forecast Center of a planned hydraulic change (the removal of four dams), and as needed, the River Forecast Center would update their hydrologic model to incorporate these changes. Timing and magnitude of flood peaks would then be included in their forecasts. As currently occurs, flood forecasts and flood warnings would be publicly posted. (Draft EIS/EIR, page 3.6-39.) Mitigation Measure H-1 has been revised in the Final EIS/EIR to provide additional detail on updates to the flood warning system.</p> <p>While it is true that the flood peaks may occur about 10 hours sooner under the Proposed Action, as noted in Section 3.6, the NWS uses weather and watershed models to predict how potential storms and precipitation forecasts could affect the Klamath basin and typically provides flood warnings days in advance. The NWS is now using newer methods of predicting storms that allow a prediction two days in advance that is as accurate as a one-day prediction was five years ago (Haynes and Soulliard 2010).</p>	
CC_LT_1117_020-54	<p>Master Response GEN-21 Access to Water for Fire Suppression.</p> <p>Turnaround times for firefighting helicopters in the vicinity of the existing reservoirs would be increased by the difference in time that it would take a helicopter to descend to the river, rather than the elevated water surface of the reservoirs. Initial response time would not be significantly lengthened, if at all.</p>	No
CC_LT_1117_020-55 CC_LT_1117_020-123	<p>Overall, these comments assert that the effects of contaminants in sediment did not receive adequate analysis, that known toxic substances were not considered and that there were incorrect and inconsistent assumptions regarding the fate of sediment deposits behind Reclamation's Klamath Project dams. Comments on amounts of sediment are addressed in responses to comments 020-10, 28, 44, 45, and 122.</p> <p>Master Response WQ-1 Sediment Deposits Behind the Dams and Potential Contaminants.</p> <p>Master Response WQ-2 Chromium VI / Heavy Metals in Sediments Deposited Behind the Dams.</p>	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

Contrary to the comment author's assertion, there is not an absence of analysis regarding the pollutant content of the sediment and potential effects of those pollutants on aquatic life and human health in the EIS/EIR.

Section 3.21, on Toxic/Hazardous Materials, was written primarily to assess stores of hazardous materials in the Hydroelectric Project area that would need to be considered if dams are to be removed. Although reservoir sediment chemistry was also considered, at the time of publication of the EIS/EIR those studies were not yet finalized. Section 3.21 has now been updated to better incorporate the findings of the sediment chemistry studies (CDM 2011b). Because the reservoir sediment chemistry results indicated that no chemicals were present at concentrations that would preclude their release to downstream reaches, the overall findings and significance determinations in Section 3.21 remain unchanged.

As part of the Klamath Dam Removal Secretarial Determination studies, a series of monitoring studies and evaluations were performed to investigate the potential environmental and human health impacts of contaminants associated with the sediment deposits trapped behind the four reservoirs. The monitoring studies included sediment chemistry, elutriate chemistry and toxicity bioassays (elutriate samples representing the water that results when sediments are resuspended), sediment toxicity bioassays, invertebrate bioaccumulation, and tissue analysis of resident fish from the reservoirs. The study approach followed the Sediment Evaluation Framework (SEF) (Regional Sediment Evaluation Team [RSET], 2009), along with additional chemical analysis of fish collected from J.C. Boyle, Copco1 and Iron Gate Reservoirs. The SEF is a decision making process that was developed by numerous regional State and Federal agencies for the Pacific Northwest and is commonly used to determine when sediments from regional dredging projects are chemically and biologically suitable to be discharged into freshwater or marine environments without causing unacceptable adverse impacts. This process generated 20 lines of evidence that were then compared to several relevant exposure pathways of biota and human receptors to identify potential adverse effects. The results of this SEF are presented in Screening-Level Evaluation of Contaminants in Sediments from Three Reservoirs and the Estuary of the Klamath River, 2009–2011 (CDM 2011b). EIS/EIR Section 3.2 summarizes the findings of this report in subsections titled "Inorganic and Organic Contaminants." Existing Conditions are summarized on p. 3.2-31 to 3.2-33. Environmental Effects Determination Methods are summarized on p. 3.2-41 to 3.2-42, while the Significance Criteria are summarized on p. 3.2-46 to 3.2-

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>47. Figure 3.2-2 is a summary of anticipated effects of the inorganic and organic contaminants in Klamath Reservoir and Estuary sediments under the No Action/No Project Alternative and the Proposed Action. The effects of organic and inorganic contaminants are discussed for each alternative (p. 3.2-71 to 3.2.76 for Alternative 1, p. 3.2-118 to 3.2.125 for Alternative 2, p. 3.2-132 to 3.2.134 for Alternative 3, p. 3.2-135 to 3.2.136 for Alternative 4, and p. 3.2-146 to 3.2.147 for Alternative 5. The SEF process concluded that none of the multiple lines of evidence generated by the data from the monitoring studies supported the potential for significant adverse effects for either No Action or Proposed Action alternatives. The No Action Alternative found multiple chemicals present at levels with potential to cause minor or limited adverse effects due to the level of sediment contamination, toxicity caused by the sediments, and presence of chemicals in the tissue of the resident fish in the reservoirs. While the various exposure routes under the Proposed Action Alternative also found multiple chemicals present, most of the chemicals were at levels unlikely to cause adverse effects. The one exception would be the short-term exposure of freshwater biota to sediments flushed downstream if the dams were removed. This short-term exposure has the potential to cause minor or limited adverse effects due to the estimated chemistry and toxicity levels in the elutriate.</p> <p>The stretch of river below J.C. Boyle is part of the Upper Klamath Basin and potential impacts are specifically addressed in Draft EIS/EIR p. 3.2-118 to 3.2-119; the analysis is conservative in assuming that the effects of sediment release on inorganic and organic contaminants in the Hydroelectric Reach downstream from J.C. Boyle Dam would be the same as those for the lower Klamath River, even though the volume of the sediment deposits behind J.C. Boyle Dam is 15% percent of the total volume of sediment deposits at the Four Facilities. As with sediment from Copco 1 and Iron Gate Reservoirs, sediments mobilized from behind J.C. Boyle Dam would be diluted with its own reservoir water and river flows from upstream.</p> <p>There are many sources of sediment and water column dilution associated with dam removal. For example, the volume of water overlying the sediments that would be mobilized is much greater than the volume of the sediments themselves, and some of this water would mix with the sediments before being transported downstream, even in J.C. Boyle Reservoir (the focus of the comment). Some degree of dilution would also occur due to mixing within the water column and the addition of river flows following drawdown (i.e., the upstream Klamath River would be flowing into the reservoir even as it is being drawn down). Dilution</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submission Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

of sediment and water column contaminants is discussed in detail in the sediment report produced by CDM (2011b), particularly with respect to anticipated dilution of elutriate chemical concentrations found in Appendix B.

The comment that “the potential harm is never analyzed” is a mischaracterization of the analysis conducted for the EIS/EIR. The EIS/EIR does not ignore the potential for effects on aquatic life. Rather, the analysis on Draft EIS/EIR p. 3.2-121 and throughout Section 3.2.4.3.2.7 acknowledges that there is the potential for toxicity based on the results from the J.C. Boyle sediment bioassays and considers these results in the context of other sediment bioassay results (i.e., from Copco 1 and Iron Gate Reservoirs) as well as other sediment chemistry and elutriate chemistry results. This analysis approach is consistent with the SEF for the Pacific Northwest, a regional framework adopted for the assessment and characterization of freshwater and marine sediments in Idaho, Oregon, and Washington.

CC\_LT\_1117\_020-56  
CC\_LT\_1117\_020-57  
CC\_LT\_1117\_020-58  
CC\_LT\_1117\_020-59  
CC\_LT\_1117\_020-60  
CC\_LT\_1117\_020-61  
CC\_LT\_1117\_020-62  
CC\_LT\_1117\_020-65  
CC\_LT\_1117\_020-119

Overall, these comments assert that nutrient increases associated with dam removal would cause increased algae blooms, decreased dissolved oxygen, increased pH and other unspecified water quality problems below Iron Gate Dam. These comments take isolated statements in the EIS/EIR out of context and draw conclusions that are not supported by the record. For example, the comment correctly cites the Draft EIS/EIR on p. 3.2-101 that “under the Proposed Action total nutrient concentrations in the Klamath River downstream from Iron Gate Dam would increase.” (Draft EIS/EIR p. 3.2-101). The comment fails to include the conclusion that this increase would have a less than significant impact in the lower Klamath River (Draft EIS/EIR p. 3.2-104) or that long-term increases in nuisance periphyton in the Klamath River downstream from Iron Gate Dam would be a less than significant impact (Draft EIS/EIR p. 3.4-18) and provides no additional evidence to support the argument that nutrient concentrations would make water quality worse.

Yes

The comment also misquotes the Coho and Steelhead Expert Panel, which does not state that that nutrient loading is the principle water quality problem. The actual quote is “The most important water quality issues occurring in Upper Klamath Lake and the reservoirs downstream from Upper Klamath Lake include low dissolved oxygen (DO), high ammonium concentrations, and the formation of blooms of cyanobacteria (“blue-green algae”) including the noxious *Microcystis aeruginosa*.” (Dunne et al., 2011, p. 31-32). While it is well acknowledged, including in the EIS/EIR, that these are critical water quality issues in the Klamath Basin, there are multiple beneficial uses and/or water quality objectives

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>that are affected by poor water quality, not all of which are related to salmonids. For instance, production of algal toxins from blooms of <i>M. aeruginosa</i> are better documented as a threat to human health than to fish health. Elevated nutrient concentrations are also recognized as critically important for fish, but in indirect ways, fostering production of algal toxins (See EIS/EIR Section 3.4.3) from reservoir blooms, or supporting periphytic algal growth that is part of the complex cycle involving the intermediate polychaete host for fish disease in the river (EIS/EIR Section 3.3.3.3). In fact, nowhere does the Expert Panel report or the EIS/EIR state that “the principal water quality problem [is] nutrient loading that inhibits increased salmon populations”. While no particular water quality problem is identified as “the principal” problem affecting fish, it is likely that the most direct water quality effects on fish are from the seasonal shift in patterns and timing of water temperatures exiting the reservoirs. Indeed, water temperatures would be expected to improve dramatically for fish within the first year following dam removal, should it occur.</p> <p>Water quality in the Klamath River is affected by the geology and meteorology of the Klamath Basin, as well as current and historical land- and water-use practices. Water quality issues associated with the presence of the Klamath Hydroelectric Project reservoirs are part of a systemic problem whereby high levels of nutrients that originate from upstream sources lead to the development of large algal blooms (phytoplankton) during the summer months, primarily in Copco 1 and Iron Gate Reservoirs (FERC 2007).</p> <p>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHS/KBRA Improvements.</p> <p>Master Response WQ-39 Foreseeable Restoration Measures Not Defined.</p> <p>These comments state that nutrient increases will cause increased algae growth which will negatively impact water quality, specifically dissolved oxygen and pH. The EIS/EIR states in 3.2.4.3 that there will be an increase in periphyton growth in the Hydroelectric Reach that is significant, and that increases below Iron Gate Dam will be less than significant. However, these changes do not directly translate to similar changes in dissolved oxygen and pH, in part because those parameters are already impaired in the hydroelectric reach and downstream during the late summer and fall.</p> <p>The assertion that an increase in nutrients from dam removal will “significantly” increase algal biomass is not correct. Available information indicates that periphytic algae growth in the Klamath</p>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

River is generally not limited by nutrients because the river is already nutrient-saturated, and any additional nutrient inputs are likely to have little effect when compared to background levels already present in the river. That means that an increase in nutrients is generally not going to result in a significant increase in periphytic algae growth (EIS/EIR Sections 3.2.4.3, 3.4.4.3). The comment cites the Chinook Expert Panel Report as stating that “There is a clear conceptual relationship between nutrient loading to a water body and algal biomass...”, however it fails to cite the full Expert Panel statement, which also notes that “There is some evidence that the Klamath system is on the saturated limb of the curve...”. Thus the EIS/EIR’s treatment of nutrients in the Klamath River downstream from Keno Dam is not inconsistent with that of the Chinook Expert Panel. Periphytic algal biomass is predicted to increase in the Hydroelectric Reach but that change is due to the increase in available habitat for periphyton growth and attachment rather than nutrients, which are already high. The effects of the changes in periphyton abundance are discussed below.

The comment that “Nowhere does the EIS/EIR examine the effects of respiratory consumption by the increased algae populations resulting from the Proposed Action” is not correct. Effects on dissolved oxygen and daily variability of dissolved oxygen due to potential periphyton growth following removal of the upstream reservoirs are addressed in Section 3.2.4.3.2.4. In response to comments, the EIS/EIR has been revised to clarify these effects on daily cycles of dissolved oxygen caused by respiratory consumption and primary production (EIS/EIR 3.2.4.3.2.4). Periphyton in low-gradient channel margin areas in the Hydroelectric Reach downstream from J.C. Boyle Dam could increase and could cause diel changes in dissolved oxygen and pH. The periphyton respiration in free-flowing reaches would, however, not have the same effects on dissolved oxygen as the large algae blooms in the reservoirs. Overall, long-term changes in dissolved oxygen would be beneficial because existing low dissolved oxygen concentrations from reservoir releases would be replaced by daily variations that include higher dissolved oxygen concentrations.

Master Response WQ-27 Nutrient Retention With Dams, Nutrient Release Without Dams, and Periphyton.  
To further clarify current conditions with respect to dissolved oxygen, Section 3.3.4, Alternative 1, has been revised to state that under current operations below Iron Gate Dam, dissolved oxygen levels are at times between 3.5 and 6 mg/L (Federal Energy Regulatory Commission 2007; Figure 3-51 and PacifiCorp, response to AIR AR-2, dated October 17, 2005). This level is considered poor for adult salmon (California North Coast Regional

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>Water Quality Control Board 2007).</p> <p>In the long term under the proposed action, dissolved oxygen levels would be higher (improved) and remain above 6 mg/L during all months below Iron Gate Dam (Federal Energy Regulatory Commission 2007; Figure 3-51 and PacifiCorp, response to AIR AR-2, dated October 17, 2005; North Coast Regional Water Quality Control Board 2010 A). A level of 6 mg/L is acceptable for adult and juvenile salmon (California North Coast Regional Water Quality Control Board 2007). In other words, the Proposed Action would increase dissolved oxygen over the current levels which would benefit aquatic biota and other beneficial water uses.</p> <p>Phytoplankton Algae: The comment appears to confuse toxic phytoplankton blooms (i.e., <i>Microcystis aeruginosa</i>) in the reservoirs with nuisance periphyton growth in the free-flowing river. There would not be "harmful algae blooms" under the Proposed Action in the sense that large, seasonal blooms of <i>Microcystis aeruginosa</i> and associated microcystin toxin production would not occur in the reservoirs because the optimal habitat for the toxic blue-green algae would be gone due to removal of the reservoirs. In addition, during the summer months current large algae blooms negatively impact water quality in the reservoirs and downstream from Iron Gate Dam by causing chronic very low dissolved oxygen levels and high pH (&gt;9 pH units) that adversely affect most aquatic biota and are unsuitable for salmonids.</p> <p>Elimination of these large blooms would be beneficial from a water quality standpoint by replacing low dissolved oxygen concentrations during certain times of the year with daily variation in dissolved oxygen levels that includes higher overall dissolved oxygen concentrations (see comments on dissolved oxygen below). The Proposed Action would also eliminate the occurrence of very high pH (&gt;9 pH units). See comments on periphyton and pH below.</p> <p>Periphyton Algae: Periphyton growth in low-gradient channel margin areas in the Hydroelectric Reach could increase on a seasonal basis following dam removal because removal of the reservoirs and elimination of hydropower peaking would provide additional low gradient habitat suitable for periphyton growth. Nutrient increases are expected to be relatively small and are not expected to contribute significantly to increased periphyton growth in the Hydroelectric Reach (EIS/EIR Section 3.2.4.3; 3.4.4.3). Increased habitat, rather than increased nutrients would drive the growth of periphyton in this reach of the river. Full attainment of</p>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>the Oregon and California TMDLs would contribute to reducing nutrient concentrations and algae growth over time. As noted below, full implementation of the KBRA would accelerate accomplishment of the TMDLs.</p> <p>Further, scouring in the free-flowing river may also limit growth of periphyton under the Proposed Action. (EIS/EIR Section 3.2.4.3).</p> <p>Regarding, the comment's assertion that "Second, there is no analysis of the frequency of any such scouring, let alone the effects of algae growth and elevated pH levels in the years that lie between such events", the statement of increased periphyton scour due to higher levels of sediment impingement and more dynamic flows is a reasonable qualitative assumption based on anticipated conditions. A reference to the general discussion of increased bedload sediment mobility under the Proposed Action in</p> <p>Draft EIS/EIR Section 3.3.4.3, p. 3.3-79 to 3.3-85, has been added to the algae section.</p> <p>Despite the possible increase in periphyton in the hydroelectric reach, the Proposed Action would likely cause long-term overall increases in dissolved oxygen, as well as increased diel variability in dissolved oxygen in the Hydroelectric Reach. Facility removal under the Proposed Action would cause slight long-term increases in summer and fall dissolved oxygen, increasing the likelihood of consistently supporting beneficial uses during this period.</p> <p>Comments also assert that periphyton will negatively impact pH. The EIS/EIR does not attempt to avoid an analysis of potential periphyton growth on pH in the Klamath River under the Proposed Action. Just the opposite, the EIS/EIR provides full disclosure of the TMDL model results that indicate the potential for increased daily variability in pH in the Hydroelectric Reach (at the Oregon-California State line) and immediately downstream from Iron Gate Dam (Section 3.2.4.3.2.5, p. 3.2-112 to 3.2-117). It also provides a discussion of the uncertainty in the model results that is consistent with the discussion provided in Section 3.4.4.3 (p. 3.4-15) regarding the inherent uncertainty in the predictions from the Nutrient Numeric Endpoints analysis, thereby supporting the pH significance determination (i.e., less than significant) for the Hydroelectric Reach. Nonetheless, in response to comments, the EIS/EIR has been revised to clarify the relationship between periphyton and pH.</p> <p>Note that the periphyton significance determination for the Hydroelectric Reach and the pH significance determination for the Hydroelectric Reach do not necessarily have to agree because</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submission Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

there are different thresholds of significance for each. The threshold of significance for periphyton growth is “an increase in the spatial extent, temporal duration, or biomass of nuisance periphyton (e.g., Cladophora) growth” (see Section 3.4.4.2, p. 3.4-10), while the threshold of significance for pH is “regular exceedances of water quality standards or waste discharge requirements” and “substantial adverse effects on beneficial uses of water” (for the purposes of the Draft EIS/EIR, substantial is defined as “of considerable importance to water quality and the support of beneficial uses”) (see Section 3.2.4.2, p. 3.2-42). An increase in periphyton growth is not necessarily sufficient to guarantee a regular increase in pH above water quality objectives.

In the lower Klamath River immediately downstream from Iron Gate Dam, the significance determinations for periphyton growth and pH do agree – they are both less than significant (EIS/EIR Sections 3.4.4.3.2 and 3.2.4.3.2.5).

Mitigating factors that could potentially limit periphyton densities to levels below the TMDL model estimate include increased scour and alterations in nutrient dynamics in the free flowing river due to nutrient retention from periphyton growth further upstream – see Section 3.4, Algae). As discussed under the No Action/No Project Alternative (see p. 3.2-61), adaptive management strategies will be employed to refine efforts toward achieving water quality objectives and targets as part of the TMDL process. Given that there are multiple lines of evidence suggesting potentially different responses to pH from dam removal, adaptive management monitoring under the Proposed Action should include provisions for monitoring periphyton density in the reaches downstream from where Iron Gate Dam is currently located.

With respect to the comment’s assertion that “the EIS/EIR has no analysis of the effects of elevated pH on aquatic species”, the anticipated increases in pH would be less than significant with respect to water quality objectives and attainment of designated beneficial uses. Under the current condition, pH in waters exiting the reservoirs can exceed 9 for weeks in summer during phytoplankton blooms. Under the proposed action, diel fluctuation of pH from periphytic algal growth during summer would more normally represent the natural condition to which salmonid are adapted. This means that restoration of salmonid fisheries would not be impaired by pH changes resulting from the Proposed Action.

**periphyton and Fish Disease:** While periphyton can provide habitat for the polychaete host associated with fish disease it does not necessarily follow that fish disease would increase because of

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>periphyton presence in the hydroelectric reach. This topic needs to be considered from the perspective of the complete life history of fish disease and affected salmonid species. The EIS/EIR does not state that the Proposed Action would increase the habitat favorable for fish disease, thereby making the fish disease problem worse. On the contrary, the Draft EIS/EIR Section 3.3.4.3 (p. 3.3-88) states that the Proposed Action would be expected to reduce impacts on salmonids from fish disease. The main factors contributing to parasitic fish disease in the Klamath River include habitat (pools, eddies, and sediment); microhabitat characteristics (stable flows and low velocities); host proximity to spawning areas; and water temperatures greater than 15°C (Bartholomew and Foott 2010). The removal of the Four Facilities would be likely to reduce habitat quality for the polychaete host by reducing reservoir habitat, and restoring seasonal flow patterns and sediment dynamics that reduce the stability of the host's favored habitats. The removal of Iron Gate Dam would also remove a major barrier to fish migration, reducing the concentration of adults that presently occurs downstream from the dam and that periodically create zones of high infection rates for juvenile salmon. Greater dispersal of spawning adult salmon would reduce their proximity to dense populations of polychaetes and would help break the cycle of disease transmission from adults to juveniles through the intermediatae polychaete host.</p> <p>FERC (2007) concluded that restoring natural sediment transport processes would likely contribute to the scour of attached algae downstream from the current site of Iron Gate Dam, and deposited gravel and sand would provide a less favorable substrate for attached algae because of its greater mobility during high flow events than the existing armored substrate. The reduction in attached algae would provide less habitat for the polychaete intermediate host of <i>C. shasta</i> and <i>P. minibicornis</i>, which should reduce the infection rate of juvenile salmonids downstream from Iron Gate Dam (FERC 2007). Master Response WQ-6 Periphyton Growth and Fish Disease.</p> <p><b>Sediment Release and Dissolved Oxygen:</b> Release of sediments from dam removal would have short-term impacts on dissolved oxygen but would not have the dire consequences predicted in the comment.</p> <p>As noted in responses to comments on sediment amounts, the comment author significantly overstates the amount of sediment likely to be released by dam removal and thus also overstates the impacts of sediment release on water quality. (See responses to comments 10, 28, 44, 45, 122)</p>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

The EIS/EIR has also been revised to further clarify the impacts of sediments released by dam removal on dissolved oxygen. Section 3.3.4, Alternative 2, of the document has been revised to state that, in the short-term oxygen demand per unit mass of wet sediment may be relatively high if suspended sediment concentrations are elevated during the dam removal process (Stillwater Sciences 2010b). As described in Section 3.2.4.3 and Table 3.2-13, modeling results suggest that dissolved oxygen concentrations could be reduced for 10's of miles downstream from the dam, and possibly for a few weeks if sediment concentrations remained elevated. The magnitude of this reduction in dissolved oxygen, and its effect on fish, would be dependent on the amount of reservoir sediment that would be resuspended and transported downstream during the dam removal process, with the most depletion occurring in the reach immediately downstream from Iron Gate Dam. Over the range of scenarios tested, dissolved oxygen concentrations increase downstream with reaeration and tributary dilution such that, even under worst-case scenarios, concentrations would return to a level that could be tolerated by fish (5.0 mg/L) by the Shasta River (River Mile 176.7), if not closer to Iron Gate Dam. Worst-case conditions would be likely if the drawdown takes place in a dry year; under this scenario, the minimum dissolved oxygen concentration would be about 1.3 mg/L for this stretch of the river. If the drawdown year occurs with median or wet hydrology, the minimum concentrations would be about 3.5 and 5.2 mg/L, respectively for this stretch of the river.

It is expected that this effect would be temporary, lasting for weeks to a few months episodically depending on suspended sediment concentrations and flow conditions during drawdown. Once the remnant sediments along the margins of the reservoir have been exposed to air following drawdown, the oxygen demand of those sediments would be expected to decrease, possibly reducing the impact during later sediment flushes.

As noted above, dissolved oxygen levels are expected to increase and remain above current levels once the reservoir drawdown is completed and shoreline sediment deposits have been exposed to the air.

The effect of reduced dissolved oxygen concentrations during drawdown on fish would be dependent on the length of time that concentrations are particularly low, especially less than about 3 mg/L, which was considered as a potentially lethal concentration. However, the physical effect of elevated suspended sediment concentrations on fish is expected to have a more substantially negative impact on fish than these dissolved oxygen levels, and

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

could produce up to 100% mortality of salmonids in the river at the time (EIS/EIR Section 3.3, Appendix F). In other words, the high suspended sediment concentrations are expected to be the primary short-term impacts to fish downstream from Iron Gate Dam if the dams were removed.

**RA and water quality:** KBRA is a negotiated settlement and continued agricultural use of water on Reclamation's Klamath Project is part of the agreement. The Draft EIS/EIR presents a programmatic analysis of KBRA under the Proposed Action (Section 3.2.4.3.2.10, p. 3.3-125 to 3.2-132), and indicates resource management actions implemented under KBRA as part of the Proposed Action would accelerate long-term improvements in water quality, including those anticipated under the TMDLs. This analysis is not an attempt "to rescue the case for the Proposed Action" by "fall[ing] back on the alleged benefits of KBRA implementation" nor is it an admission that "there is not enough information in the KBRA to know if the projects are well designed, let alone if they will work." However the cited statement regarding full implementation of KBRA has been removed from Section 3.4 of the EIS/EIR.

The KBRA analysis is a programmatic analysis of the anticipated effects of multiple resource management actions that would occur in the Klamath Basin and are part of the Proposed Action. Additional detail on the interaction of the TMDLs and the Alternatives is provided by the Water Quality SubTeam (2011) (also referred to as the Water Quality SubGroup), as cited in Draft EIS/EIR Section 3.3.5, p. 3.3-241. This document, entitled "Assessment of Long-Term Water Quality Changes for the Klamath River Basin Resulting from KHSA, KBRA, and TMDL and NPS Reduction Programs" can be found at <http://klamathrestoration.gov/keep-me-informed/secretarial-determination/role-of-science/secretarial-determination-studies>.

**Modeling of Dissolved Oxygen Levels:** As noted elsewhere (see responses to comments 020-10, 28, 44, 45, 122), the comment author substituted their own estimates of sediment amounts that would be eroded during drawdown for those in the EIS/EIR. The amount used by the comment author (3.54 million tons) is significantly higher than the range projected in the EIS/EIR so comments related to sediments likely overstate impacts of sediments on dissolved oxygen.

The approach taken for the short-term dissolved oxygen analysis is described in Section 3.2.1.4 (p. 3.2-38 to 3.2-39) and is based on the results of numerical modeling conducted by the Lead Agencies as part of the Klamath Dam Removal Secretarial

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>Determination studies and related to the mobilization of fine sediments following dam removal (Reclamation 2012d).</p> <p>The comment author has provided no evidence that the peer-reviewed approach or results of suspended sediment modeling (and hence impacts on dissolved oxygen from suspended sediment) in the EIS/EIR are incorrect, or any evidence to dispute the analysis of impacts to aquatics species based on this modeling. Neither the Chinook Salmon Expert Panel (Goodman et al. 2011) nor the Coho Salmon Steelhead Sxpert Panel (Dunne et al. 2011) dispute the analysis or the predictions of the suspended sediment modeling or impact analysis in the Draft EIS/EIR. On p. 21 of their report, Goodman et al. (2011) discuss the results and implications of suspended sediment predictions presented in the Draft EIS/EIR without dispute, and their conclusions are not inconsistent with the determinations of the EIS/EIR in regard to sediment release. In addition, the Coho Salmon Steelhead Expert Panel report (Dunne et al. 2011) discuss the implications of the sediment modeling and predictions presented in the Draft EIS/EIR without refuting or disputing the approach or results.</p> <p>With respect to fluctuations in dissolved oxygen, the comment mischaracterizes and confuses the two different dissolved oxygen analyses conducted for the EIS/EIR. The first analysis considers potential short-term (&lt; 2 years following dam removal) decreases in dissolved oxygen due to sediment release (p. 3.2-104 and 3.2-106 to 3.2-109), while the second considers anticipated long-term (&gt; 2 years following dam removal) increases in dissolved oxygen and daily variability due to potential periphyton growth following removal of the upstream reservoirs (p. 3.2-104 to 3.2-106 and 3.2-109 to 3.2-112). The comment's reference to p. 3.2-108 and Table 3.2-13 as linked to "the monthly average amount of dissolved oxygen in the river following dam removal" points to the short-term analysis as if it were related to long-term daily fluctuations in dissolved oxygen concentrations, which it is not.</p> <p>The short-term analysis was conducted by representing conditions by the predicted maximum daily suspended sediment concentration in each month. The resulting dissolved oxygen estimates predict a minimum daily dissolved oxygen concentration in each month, as a worst case scenario (Stillwater Sciences 2011, as cited in the EIS/EIR). Recognizing the uncertainties in sediment modeling, if the single day maximum of suspended sediment concentrations in a particular month resulted in dissolved oxygen depletion below relevant criteria (5 mg/L in this case), the subsequent dissolved oxygen modeling assumed that at least one day in that month would be below the criterion. Whether sediment and dissolved oxygen modeling was conducted to a time scale of</p>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>daily predictions or minute-by-minute predictions is irrelevant since the criteria was violated for at least one day in that month. In other words, if the monthly minimum predicted dissolved oxygen concentration is less than 5 mg/L, then a minute-by-minute analysis is unnecessary and irrelevant; the effect is significant, regardless of a finer time scale for analysis.</p> <p>The long-term analysis of dissolved oxygen effects under the Proposed Action was not conducted using monthly average values. The discussion of "increased daily variability in dissolved oxygen" would not make sense unless the analysis was conducted on a time scale of less than one day. As shown in Figures 3.2-17 to 3.2-21, despite the predicted increased daily variability in dissolved oxygen, minimum (daily) values would not drop below North Coast Regional Water Quality Control Board (NCRWQCB) or Hoopa Valley Tribe percent saturation criteria. The reference to 30-day mean values in the sentence "The same pattern is predicted for 30-day mean minimum and 7-day mean minimum dissolved oxygen criteria." (p. 3.2-104) is included solely to demonstrate that similar results are found by the TMDL model when a different dissolved oxygen metric is used.</p> <p><b>mitigations:</b> Under CEQA, mitigation measures are required when the potential for a significant impact is found. There is no instance in the EIS/EIR where a potential increase in nutrients is found to be significant. No mitigation measures are required for nutrient increases under the Proposed Action in the EIS/EIR.</p> <p>The Draft EIS/EIR does not specify a mitigation measure for the short-term decreases in dissolved oxygen because, as described in Section 3.2.5 (p. 3.2-147), the timing of reservoir drawdown under the Proposed Action was optimally developed to minimize environmental effects (i.e., high suspended sediment concentrations, low dissolved oxygen). While the Alternatives Formulation Report identified the option of mechanical sediment removal as mitigation for sediment erosion impacts associated with removal of the Four Facilities, subsequent analysis found this measure to be infeasible for a number of reasons, including marginal effectiveness for decreasing impacts to fish, potential adverse impacts to terrestrial species and cultural resources, and the high cost of sediment removal, among others (Lynch 2011).</p>	
CC_LT_1117_020-57	See response to comment number CC_LT_1117_020-56.	
CC_LT_1117_020-58	See comment response CC_LT_1117_020-56.	
CC_LT_1117_020-59	See response to comment number CC_LT_1117_020-56.	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
CC_LT_1117_020-60	See response to comment number CC_LT_1117_020-56.	
CC_LT_1117_020-61	See response to comment number CC_LT_1117_020-56.	
CC_LT_1117_020-62	See response to comment number CC_LT_1117_020-56.	
CC_LT_1117_020-63	See response to comment number CC_LT_1117_020-12.	
CC_LT_1117_020-64	Under CEQA, mitigation measures are required when the potential for a significant impact is found. The instances in which the EIS/EIR found the potential for a significant impact with respect to water temperature include Alternatives 2, 3 and 5 for summer/fall water temperatures in the J.C. Boyle bypass reach and Alternatives 2, 3 and 5 for spring water temperatures immediately downstream from Copco 1 Dam and immediately downstream from Iron Gate Dam (Draft EIS/EIR Section 3.2.4.3.2.1, p. 3.2-76 to 3.2-83 and Table 3.2-14 p. 3.2-149 to 3.2-161). These significance determinations have been changed to "less than significant" based on revisions to Section 3.3 Aquatic Resources, which include an expanded analysis of the potential impacts of increased spring water temperatures and summer/fall diel temperature variation on fish species. No mitigation measure is required for water temperatures in the Final EIS/EIR.	Yes
CC_LT_1117_020-65	See response to comment number CC_LT_1117_020-65.	
CC_LT_1117_020-66	Master Comment WQ-1 Sediment Deposits Behind the Dams and Potential Contaminants.  Master Comment WQ-2 Chromium VI / Heavy Metals in Sediments Deposited Behind the Dams.  Concern #1:  There will be no dilution of potential sediment contaminants in the J.C. Boyle Reach and "the solution to pollution is not dilution". Response #1:  The stretch of river below J.C. Boyle is part of the Upper Klamath Basin and potential impacts are specifically addressed in Draft EIS/EIR p. 3.2-118 to 3.2-119; the analysis is conservative in assuming that the effects of sediment release on inorganic and organic contaminants in the Hydroelectric Reach downstream from J.C. Boyle Dam would be the same as those for the lower Klamath River, even though the volume of the sediment deposits behind J.C. Boyle Dam is 15% percent of the total volume of sediment deposits at the Four Facilities. As with sediment from Copco 1 and Iron Gate Dams, sediments	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

mobilized from behind J.C. Boyle Dam would be diluted with its own reservoir water and river flows from upstream.

Concern #2:

"Moreover, the EIS/EIR ignores the fact that approximately 22 river miles of aquatic habitat lie between J.C. Boyle Dam and the next downriver dam. Id. at 3.3-25. There will be no dilution of organic and inorganic chemicals for the aquatic species in this area. Moreover, the problem is not confined to sediments behind J.C. Boyle Dam. Dioxin, a known carcinogen, exceeded human health screening levels in each of the three reservoirs behind the dams to be removed."

Response #2:

There are many sources of sediment and water column dilution associated with dam removal. For example, the volume of water overlying the sediments that would be mobilized is much greater than the volume of the sediments themselves, and this water would mix with the sediments before being transported downstream, even in J.C. Boyle Reservoir (the focus of the comment). Considerable dilution would also occur due to the addition of river flows following drawdown (i.e., the upstream Klamath River would be flowing into the reservoir even as it is being drawn down), and tributary inflows. Dilution of sediment and water column contaminants is discussed in detail in CDM (2011b), in Chapter 4 (relative to the 96 hour trout bioassays), in Chapter 5 (sediment-toxicity bioassays for invertebrates), and in Appendix B relative to anticipated dilution of elutriate chemical concentrations.

Contrary to the comment's assertion, dilution is commonly used by regulatory agencies when calculating the potential effects of sediment dredging and disposition, and there are guidelines for these procedures (United States Environmental Protection Agency [USEPA], 1998; RSET 2009). The CDM (2011b) report indicates that, for trout, the LC50 (Lethal Concentration for 50% of the population, a common toxicological and regulatory measurement) for elutriates is greater than 100%, meaning that no additional dilution from the full elutriate concentrations used in the bioassays would be needed to prevent unacceptable water column toxicity to rainbow trout. Given the estimates of 48- to 66-fold dilution factors, there is adequate protection for sensitive salmonids downstream from the hydroelectric reservoirs. These results are summarized in the Draft EIS/EIR on p. 3.2-119 to 3.2-120, Section 3.2.4.3.2.7 Inorganic and Organic Contaminants.

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>Concern #3:</p> <p>“The EIS/EIR also ignores the fact that aquatic life could be threatened even if contaminant levels are diluted. What the EIS/EIR actually says is that dilution will result in “diminishing the potential” problem. Id. at 3.2-121. Diminishing the potential for a problem is far different than not having a problem – and the potential harm is never analyzed.”</p>	
	<p>Response #3:</p> <p>The comment that “the potential harm is never analyzed “ is a mischaracterization of the analysis conducted for the EIS/EIR. The EIS/EIR does not ignore the potential for effects on aquatic life. Rather, the analysis on p. 3.2-121 and throughout Section 3.2.4.3.2.7 acknowledges that there is the potential for toxicity based on the results from the J.C. Boyle sediment bioassays and considers these results in the context of other sediment bioassay results (i.e., from Copco 1 and Iron Gate Reservoirs) as well as other sediment chemistry and elutriate chemistry results. This analysis approach is consistent with the SEF for the Pacific Northwest, a regional framework adopted for the assessment and characterization of freshwater and marine sediments in Idaho, Oregon, and Washington (see citations in the EIS/EIR).</p>	
	<p>Concern #4:</p> <p>“...the EIS/EIR fails to explain that the dioxin contamination problem is not limited to the reservoir behind J.C. Boyle Dam.”</p>	
	<p>Response #4:</p> <p>There is no place in the EIS/EIR that states that the dioxin contamination problem is limited to J.C. Boyle Reservoir sediments. On the contrary, the Draft EIS/EIR Section 3.2.4.3.2.7 (p.-3.2-119) states that “TEQs calculated for dioxin, furan, and dioxin-like PCBs were at concentrations above ODEQ Bioaccumulation SLVs for mammals in sediments from each of the reservoirs (CDM 2011b).” This statement covers Toxicity Equivalent Quotients (TEQs) for dioxin plus furans and dioxin-like polychlorinated biphenyls (PCBs). Draft EIS/EIR Appendix C (p. C-66) makes the following more general statement: “Sediment in J.C. Boyle Reservoir does have marginally higher chemical concentrations and more detected chemicals of potential concern (COPCs) as compared to Copco 1 and Iron Gate Reservoirs and Klamath Estuary sediments (CDM 2011b).” However, this text does acknowledge that there are COPCs in Copco 1 and Iron Gate Reservoir sediments, including dioxins.</p>	

**Comment Author**  
**Agency/Assoc.**  
**Submittal Date**

Guarino, Thomas  
County of Siskiyou, Office of County Council  
November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

Concern #5:

“The EIS/EIR also neglects to mention that the dioxin concentrations exceed the Environmental Screening Level for Human Health set by California.”

Response #5:

Dioxin results did not exceed environmental screening levels for human health set by California. Samples from the reservoir sediments, elutriate (representing the water that results when sediments are re-suspended), and fish tissue were all analyzed for dioxins. Results were compared to available screening levels (sediment and fish tissue) and water quality criteria (elutriate) for human health including screening levels and criteria from California. Levels of 2,3,7,8 TCDD in the sediments collected from the reservoirs or estuary did not exceed California Human Health Screening Levels (“CHHSLs”, refer to Table A-7, Appendix A in CDM 2011b). Levels of 2,3,7,8 TCDD in the elutriate samples from the reservoirs or estuary did not exceed California Department of Public Health California Code of Regulations (CCRs) Maximum Contaminant Levels (MCLs) (see Table B-6, Appendix B in CDM 2011b), or the Basin Plan Human Health California Toxics Rule (CTR) (see Table B-6, Appendix B in CDM 2011b). California has not established fish tissue screening levels for dioxin based on human consumption. Therefore, screening levels from the USEPA and Oregon were applied.

Concern #6:

“The EIS/EIR then fails to consider that dichlorodiphenyltrichloroethane (DDT) is found in J.C. Boyle reservoir sediments above both fresh water and human health standards.”

Response #6:

The EIS/EIR considers that legacy pesticides including DDT were found at concentrations above freshwater and human health screening levels; however, there is an incorrect statement in the Draft EIS/EIR Section 3.2.4.3.1.7 (p. 3.2-74) regarding the comparison to appropriate freshwater sediment screening levels. The statement indicates that “no exceedances of detected chemicals were found in sediment samples”, which is inconsistent with the later statement on the same page (also found in Appendix C Section C.7.1.1, p. C-66) that exceedances of Oregon Department of Environmental Quality (ODEQ) bioaccumulation Screening Level Values (SLVs) for DDTs occurred for a small

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>number of samples in J.C. Boyle Reservoir sediments, and other statements regarding the larger set of COPCs found elsewhere in this section and Appendix C. This statement has been corrected to be consistent with other information presented in the EIS/EIR. Despite the error, the analysis in the EIS/EIR considers the ramifications of these exceedances within the context of the SEF (i.e., multiple lines of evidence) (see also CDM 2011b). These current levels in the sediment are one line of evidence used to establish that one or more chemicals are present at levels with potential to cause minor or limited adverse effects under the No Action Alternative (p. Draft EIS/EIR Section 3.2.4.3.1.7, p. 3.2-74). However, if the sediments are mobilized and dispersed downstream under the Proposed Action Alternatives, the legacy pesticides would be reduced to levels that no longer exceed the existing screening levels or criteria for freshwater and human health (CDM 2011b2011).</p> <p>Concern #7:</p> <p>Finally, the EIS/EIR fails to consider that dioxin, furan, and PCBs were found in each reservoir sediment at levels above Oregon's hazardous threshold for mammals. Id. at 3.2-119.</p> <p>Response #7:</p> <p>The EIS/EIR considers that dioxin, furan, and PCBs were found at concentrations above ODEQ Bioaccumulation SLVs for mammals in sediments in each of the reservoirs. In Draft EIS/EIR Section 3.2.4.3.2.7, p. 3.2-119, the analysis clearly states this fact and considers the ramifications within the context of the SEF (i.e., multiple lines of evidence) and the appropriate screening criteria for biota and humans including criteria from Oregon, California, and USEPA (see CDM 2011b). Detected values do not represent a significant adverse impact based on comparisons to criteria, background levels, distribution in the watershed, and exposure pathways. For example, dioxin was detected in the reservoirs, but at levels that were near or just above available background levels for the U.S. (based on TEQ values). Dioxin levels in the reservoir sediments do not represent a significant change to the current conditions in the Klamath Basin (CDM 2011b).</p> <p>Concern #8:</p> <p>"The EIS/EIR cavalierly dismisses all of these problems by stating, for example, that Oregon's "human health thresholds" of harm are "lower" than Federal levels and Oregon's standards do not apply in California. Therefore, there is risk to human health or the environment that merits analysis. Id. at 3.2-31 and 3.2-119."</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Response #8:</p> <p>The analysis acknowledges that levels exceed ODEQ Bioaccumulation SLVs which are risk based and often lower than the analytical sensitivity of approved USEPA methods. This is not an attempt to be cavalier or dismissive; rather it represents full disclosure of the results and their comparison with State guidelines (even where they do not apply from a regulatory standpoint). There are currently no applicable California guidelines.</p> <p>Concern #9:</p> <p>“Such a dismissal of issues, such a lack of analysis of actual and potential effects of known carcinogens, cannot be said to meet NEPA’s or CEQA’s standards for a hard look at environmental effects.”</p> <p>Response #9:</p> <p>We disagree with the premise of the comment. The analysis is not dismissive and is conducted with full disclosure of the results and interpretation of the potential effects of contaminants, which meets the requirements of NEPA and CEQA.</p> <p>Concern #10:</p> <p>“Compounding these failures is the absence of any analysis of the effects of the plan to spray herbicides over up to 75% of the total reservoir area behind the dams. Id. at 3.2-120. The herbicides are to control invasive plant species. Id. However, the EIS/EIR does not examine the effects of adding herbicides to the environment, including the riverine environment into which the chemicals will wash. Why is there no analysis? Because DOI will be using approved herbicides and will be doing so in accordance with the labels. Id. That position ignores the fact that huge legal battles are now being waged about whether “approved” herbicides used in accordance with their labels are, in fact, causing harm to aquatic species. The EIS/EIR cannot ignore this issue, particularly when ESA protected species inhabit the river.”</p> <p>Response #10:</p> <p>Herbicide use is discussed in the Draft EIS/EIR Section 3.2.4.3.2.7 (p. 3.2-120). As stated in the EIS/EIR: “The reservoir area management plan recognizes the potential water quality effects of herbicide application and calls for the use of herbicides with low soil mobility, and thus low potential to leach into groundwater or surface waters. It also calls for low use rates of herbicides and</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-67	<p>application of chemicals that pose a low toxicity risk to fish and aquatic organisms.” Best management practices related to herbicide use under the Proposed Action and alternatives are described in the Draft EIS/EIR Appendix B, p. B-23 to B-25. The evaluation included in the EIS/EIR is based on the best available science. The agencies cannot speculate on the future outcome of any on-going legal action and how it may affect pesticide use, application, or regulation.</p> <p>Concern # 11:</p> <p>“Finally, it is a telling commentary on the bias in the EIS/EIR that the EIS/EIR concludes the alleged mild contaminant effects of the Proposed Action justify a finding that the Proposed Action will have less than significant impact while the same EIS/EIR concludes that the “minor or limited adverse effects” of the No Action Alternative supports a determination of potentially significant impacts. EIS/EIR at 3.2-74 and 75.”</p> <p>Response #11:</p> <p>The No Action/No Project Alternative does not state that there would be “a potentially significant impact”. It states “no change from existing conditions” (p. 3.2-74).</p> <p>The comment author misread EIS/EIR Section 3.7.1 and failed to recognize that the same paragraph states that the area of analysis for the KHSA includes the area within 2.5 miles upstream of J.C. Boyle, Copco 1, Copco 2, and Iron Gate Reservoirs. Additionally, section 3.7.3, which describes existing conditions, identifies wells found within 2.5 miles of each reservoir, including Copco 2 and Iron Gate Dam. And as stated in Section 3.7.3, Appendix K contains well data, cross sections, and maps with well locations near all four reservoirs.</p>	No
CC_LT_1117_020-68	<p>The reservoirs are likely sources of localized infiltration, and while the EIS/EIR acknowledges that data on how much each reservoir contributes to the groundwater system is not available, the modeling by Gannett, et al. (2010) demonstrates that in much of the impacted river reaches the Klamath River is a gaining stream – not a losing stream.</p> <p>The comment author is correct that the EIS/EIR determines that removing the reservoirs would generate a less than significant impact on groundwater discharge to the river. This impact determination is supported by analysis presented in the cited report <i>Hydrology, Hydraulics and Sediment Transport Studies for the Secretary’s Determination on Klamath River Dam Removal and Basin Restoration</i> (Reclamation 2012d) and Gannett et al, 2010. The determination is based on the evidence presented in</p>	No

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>these reports that the river reaches in Reclamation's Klamath Project area are gaining streams or were before the impoundments were built and that the natural groundwater discharge into the river following dam removal would be about the same as before the dams were constructed.</p> <p>Draft EIS/EIR page 3.15-72 in Section 3.15, Socioeconomics, describes the socioeconomic effects of increases in groundwater pumping that would occur during drought years under the KBRA. The water currently in the reservoirs is not separate water 'supply'; it is river water that is stored for use in hydropower production. As noted in EIS/EIR Section 3.7.4.3, changes in groundwater use in the Klamath Basin as a result of the KBRA will be governed by groundwater overdraft protections outlined in the KBRA and the KBRA would generate a beneficial effect on groundwater.</p>	
CC_LT_1117_020-69	Master Response GRO-1 Groundwater Use.	No
CC_LT_1117_020-70	<p>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 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</p>	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>been much less than what occurred in 2010, because water users would avoid the additional cost to pump groundwater.</p> <p>Recognizing that 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.</p> <p>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.)</p> <p>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</p>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

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 will “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 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

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>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).</p> <p>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).</p> <p>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 existing or future permitted land uses as well as surface water conditions and related resources.</p> <p>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”. <i>Id.</i> 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</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

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.

The comment also mischaracterizes the EIS/EIR as having failed to consider the cumulative effects on groundwater. Although the comment first states that the Lead Agencies never considered such effects, the comment goes on to imply that the Lead Agencies' consideration of such effects was deficient. However, the comment provides no evidence to support its claim. As noted by the comment author, the EIS/EIR states that, "the geographic separation between actions proposed under [the KBRA] and the hydroelectric facility removal actions analyzed above reduce any potential for groundwater improvements generated by [the KBRA] to contribute to groundwater effects generated by facility removal." (Draft EIS/EIR, p. 3.7-19.) Increased groundwater pumping has resulted in local groundwater declines within the Klamath Project (Gannett, 2007). Therefore, absent any evidence that pumping on Reclamation's Klamath Project would have discernible effects on groundwater levels several miles away around the dams, the EIS/EIR's statement is valid.

CC\_LT\_1117\_020-71

As cited by the comment author, page 3.15-72 of the Draft EIS/EIR discusses the increased cost of pumping.

No

Mitigation Measure GW-1 provides for the deepening (or replacement) of an existing affected domestic or irrigation groundwater well so the groundwater production rate from the well is returned to conditions prior to implementation of one of the action alternatives. A preconstruction well survey would be conducted prior to implementation of the Proposed Action or an alternative. This survey would measure water levels and pumping rates in existing domestic and irrigation wells. The resulting information would form the basis of review for potential claimed damages following implementation of the Proposed Action or an alternative. Well owners not participating in this preconstruction survey would be required to provide adequate documentation showing a decrease in production from their well before and after dam removal. The review of pre-construction data would be considered with respect to preceding hydrologic conditions (i.e.,

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>climatic cycles, wet year vs. dry year). This mitigation measure would also provide an interim supply of water prior to the completion of the modifications to an affected well.</p> <p>Increased costs associated with mitigating the adverse effects, which could include lowering a well pump or deepening a well, would be determined on a case-by-case basis and would depend on the location and the type of well affected. Ultimately, the total amount of water that could be required during the interim period is likely to be nominal, especially as compared to the quantity of water used on an annual basis within the Klamath Basin. As discussed in sections 3.7.3.1 and 3.7.4.3 of the EIS/EIR, there are 63 wells within 2.5 miles of one or more of the reservoirs and most domestic wells around the reservoirs are likely seasonal residences. However, there are likely existing wells in the reservoirs' vicinity not in the California Department of Water Resources (DWR) or OWRD databases.</p> <p>Therefore, identifying the specific source of water for an interim supply while a pump is being lowered, or a well is being deepened or replaced is premature at this point. Selecting an interim water source will depend on various factors including: the affected well's location, the affected well's use and the quantity of water needing replacement during the interim period.</p>	
CC_LT_1117_020-72	<p>The comment author states that the Lead Agencies should analyze the air quality effects related to replacement power. EIS/EIR Section 3.10, Greenhouse Gases/Global Climate Change, discusses the extent of information that can reasonably be known about replacement power and its emissions. Air quality impacts, criteria, and pollutants are discussed in EIS/EIR Section 3.9.</p> <p>Master Response GHG-1 Green Power.</p> <p>As discussed under Alternative 2 in EIS/EIR Section 3.18.4.3, the Northwest region, the electric region in which the Four Facilities are located, has a large surplus power supply. As a result, there are various sources of energy that could replace the 163 MW of nameplate capacity produced by operation of the Four Facilities. For example, PacifiCorp plans to acquire up to 800 MW of wind resources by the year the dams are scheduled to be removed, (PacifiCorp, 2011, Integrated Resource Plan).</p> <p>Also, PacifiCorp has identified over 100 MW of geothermal resources and continues to include geothermal projects as eligible resources. The power could also be provided by the Bonneville Power Administration and purchases on the open market. In short, there is no specific power production source that will replace</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>the power produced by operation of the Four Facilities. Operation of the Four Facilities accounts for less than 2% of PacifiCorp's power portfolio, and one cannot identify the specific source of the energy provided to PacifiCorp's customers. Therefore, it is not practical, nor possible, to identify where a local impact from replacement power production would occur, if any.</p>	
CC_LT_1117_020-73	<p>As described in EIS/EIR Section 3.10.4.4, the Dam Removal Entity (DRE) would be responsible for implementing mitigation measures CC-1, CC-2, and CC-3. The effectiveness of these mitigation measures would vary based on the type of measures and actions that would be implemented. Energy audits and conservation plans can identify deficiencies in the energy efficiency of a residential or commercial users, and suggest energy efficiency improvements, implementation would be at the discretion of the individual property owner.</p>	No
	<p>Accordingly, the Lead Agencies determined that despite implementation of mitigation measures CC-1 through CC-3, Greenhouse Gas (GHG) emissions would remain significant and unavoidable for all action alternatives. These and other mitigation measures would be made enforceable through permit conditions, agreements, or other legally binding instruments. A mitigation monitoring and reporting plan would be created and it is possible that mitigation measures could be included in any Record of Decision and implemented as part of any approved project.</p>	
CC_LT_1117_020-74	<p>The GHG emission reduction/climate action plans described in this comment are voluntary measures that local municipalities may choose to create; there is no legal or regulatory obligation for Siskiyou County or other municipalities and agencies to create such plans.</p>	No
	<p>Master Response GHG-1 Green Power.</p>	
CC_LT_1117_020-75	<p>The GHG emission reduction measures described in the Draft EIS/EIR, p. 3.10-43, were provided as examples of the range of GHG emission reductions that could be expected from certain measures. It is expected that there could be new construction before the Four Facilities would be removed in 2020. The provided ranges in efficiency could be incorporated into new development. The California Air Pollution Control Officers Association (CAPCOA) document discussed in the EIS/EIR is extremely extensive and provides multiple methods for reducing GHG emissions. Actual emission reductions can only be determined during alternative implementation when specific measures are incorporated into any mitigation and monitoring reporting program. Ultimately, the effectiveness of CC-2 and CC-3 would vary based</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-76	<p>on the type of measures and actions that would be implemented. While energy audits and conservation plans can identify deficiencies in the energy efficiency of a residential or commercial source, or suggest energy improvements, implementation of the improvements would be at the discretion of the individual property owner. Accordingly, the Lead Agencies determined that despite implementation of mitigation measures CC-2 and CC-3, GHG emissions would remain significant and unavoidable for all four action alternatives.</p> <p>The analysis completed by the Karuk Tribe in 2006 and updated by the Lead Agencies examined the range in GHG emissions that could occur from reservoirs with water quality conditions similar to those of the Four Facilities. CEQA does not require site-specific measurements to be conducted to establish existing conditions. The GHG emissions evaluation completed in the EIS/EIR is acceptable for establishing a range in methane emissions that could be produced from the reservoirs.</p> <p>Mitigation measures CC-1, CC-2, and CC-3 are discussed for all alternatives, not only for Alternative 2 as the comment suggests (see p. 3.10-30, 3.10-35, and 3.10-39 of the Draft EIS/EIR). It is important to understand that the environmentally superior alternative must be weighed against all resource areas, and not be limited to any one area, such as climate change. As discussed in Section 5.6 of the EIS/EIR, CDFG identified Alternative 3 as the environmentally superior alternative.</p>	Yes
CC_LT_1117_020-77	<p>P. 3.10-18 of the Draft EIS/EIR describes the effects of climate change on the No Action/No Project Alternative. While we recognize that 190 miles of the Klamath River is free-flowing and the condition of this 190 miles is a part of the existing conditions. All alternatives, including the No Action/No Project alternative, take into consideration this undammed portion of the river. The focus of the EIS/EIR analysis is on the change which would take place under an action alternative.</p> <p>The EIS/EIR does not contain mitigation measures or design features for the No Action/No Project alternative because the No Action/No Project Alternative analyzes current conditions, in the absence of action, which then serves as the basis of comparison for the potential affects of the action alternatives. Applying mitigation measures or design alternatives would effectively result in an action alternative.</p> <p>Where applicable, the Draft EIS/EIR does contain mitigation measures for Alternative 4, Fish Passage at Four Dams. For</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	Section 3.10, a discussion of mitigation measures for Alternative 4 can be found on on pages 3.10-36 through 3.10-40	
CC_LT_1117_020-78	The EIS/EIR analyzes impacts of dam removal at the current stage of deconstruction design. The Lead Agencies acknowledge where and when further analysis and study would be necessary to fully understand and mitigate impacts in the case that dam removal proceeds under an Affirmative Determination by the Secretary of the Interior. Potential mitigation measures for inadequate bridges could include either reinforcement or replacement, and would be included in the costs for the construction contracts. Allowances for such costs have been included in the range of construction cost estimates provided with the Detailed Plan report (Reclamation 2012b).	No
CC_LT_1117_020-79	<p>On p. 3.22-4 of the Draft EIS/EIR, the description of Copco Road reads: "a minor collector that leads from I-5 to the Iron Gate, Copco 1 and Copco 2 Dams. Copco Road is a paved, two-lane road in good pavement condition with few pavement cracks or ruts and is approximately 27 feet wide. Copco Road maintains this character from its intersection with I-5 east to a point about 10 miles from the Copco Developments near the Juniper Point Picnic Area. The section between the intersection of Copco Road with Ager Road and the Juniper Point Picnic Area, contains intermittent pavement surfacing that has not been as well maintained as the portions to the west of Ager Road. The final 3 miles, from Camp Creek Road near the Juniper Point Picnic Area to the Copco Dams, are gravel and narrow, and less than 18 feet wide in some locations."</p> <p>This description adequately captures the road's current condition. On p. 3.22-5, the Draft EIS/EIR describes that the speed limit is "generally" 55 Miles per hour (Mph).</p> <p>On p. 3.22-15, the Draft EIS/EIR acknowledges:</p> <p>"While many of these roads and bridges were put in place to facilitate the construction of the Four Facilities, it is unknown whether they are in good enough condition to withstand the weight and frequency of trips during deconstruction. As part of the development of the construction plan, an in depth analysis of bridge and road capacity and state of repair would be conducted by the DRE, with remedial actions taken prior to the commencement of facility deconstruction. Following completion of dam deconstruction, additional analysis of road condition would be completed and where needed, as a result of wear generated by deconstruction repairs and or replacement actions would be completed. Hauling on County</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>roads could be limited to the summer months if found to be necessary, without significant impact to the project.”</p> <p>Clarifying language has been added to the footnote to Section 3.22, Traffic and Transportation, of the EIS/EIR to address residential access concerns. Suitable allowances for road repairs and for temporary detours have been included in the construction cost estimates provided with the Detailed Plan report (Reclamation 2012b).</p>	
CC_LT_1117_020-80	<p>Analysis of the potential impacts from scour and erosion in culverts under the roadways were performed for the Detailed Plan report (Reclamation 2012b) using information provided by Siskiyou County, and would be analyzed in greater detail as part of the Definite Plan which would include construction plan developed by the DRE. Suitable allowances for roadway culvert relocations/repair/restoration have been included in the range of construction cost estimates provided in the Detailed Plan report.</p>	No
CC_LT_1117_020-81	<p>Section 3.23.3 of the EIS/EIR describes the existing conditions for the area that could be affected by the alternatives. As the section discusses, the Noise Element in the Siskiyou County General Plan was reviewed, but noise levels in the USEPA publication titled: Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (1974) for rural residential areas were found to be lower than the noise levels included in the General Plan. Using the USEPA values provided a more conservative level for the noise analysis. EIS/EIR Table 3.23-2 summarizes the estimated existing daytime and nighttime noise levels at residential receptors near construction sites, while Table 3.23-3 summarizes the existing noise levels along proposed haul and commute routes.</p>	No
CC_LT_1117_020-82	<p>Master Response GEN-24 Noise Levels.</p> <p>The significance criteria described in EIS/EIR Section 3.23.4.2 for noise and vibration levels are not applicable solely to urban areas. Rather, they represent commonly accepted standards for evaluating the level of annoyance to residents for noise levels or the degree of vibration that could cause damage to structures. These standards are a valid method for evaluating significance in a rural setting like Siskiyou County.</p>	No
CC_LT_1117_020-83	<p>While construction and deconstruction activities are expected to occur between January and September 2020, the analysis does not assume that the haul truck trips would be equally spread out over nine months. In fact, the Draft EIS/EIR acknowledges that</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>dam removal would likely only occur for four to six of the months due to wet and winter conditions (see p. 3.23-12).</p> <p>The noise evaluation does not underestimate noise levels because it uses peak daily haul truck trips to estimate noise levels. The peak daily haul truck trips would be a worst-case condition for truck trips and the noisiest possible level of construction traffic that might occur on or near the construction site. Average daily trucks trips, as described in the comment, were not used to evaluate impacts from the haul trucks. As shown in EIS/EIR Table 3.23-8, noise levels from the haul trucks would not increase by more than 10 A-weighted deibels (dBA); therefore, the increased noise from the haul trucks would not exceed the significance criteria provided in Section 3.23.4.2.</p> <p>Since impacts from the haul trucks would be less than significant, mitigation measure NV-1 is not applicable.</p>	
CC_LT_1117_020-84	<p>Landfill capacity as it relates to waste potentially generated by the alternatives is analyzed in Section 3.18 of the EIS/EIR. The EIS/EIR considers the varying amounts of waste potentially generated by the alternatives by waste type and compares that against existing capacity at the multiple regional landfill facilities that could be used. Additionally the DRE and found no shortage of potential disposal sites in 2020 when dam removal is proposed to take place. Additionally the Dam Removal Entity (DRE) will consider landfill capacities at the time of dam removal and will not use a landfill that does not have adequate capacity relative to the volumes from the Proposed Action.</p>	No
CC_LT_1117_020-85	<p>The Draft EIS/EIR in Section 3.15 p. 64 cites and summarizes conclusions in the Dam Removal Real Estate Evaluation Report (March 22, 2011) which was updated in July 2012 (BRI 2011; BRI 2012). The complete report identifies 668 parcels that would likely be affected by dam removal. Based on the 2008 Siskiyou County tax rolls the estimated market value of the land component of the impacted parcels before dam removal is \$9,006,616 and following dam removal and restoration it is \$5,340,522. This is a difference of about \$2,700,000 or about 30%. While the study and the EIS/EIR disclosed the estimated dollar amount of the impact, decisions about how any decline in tax revenue would be implemented is a decision only Siskiyou County can make.</p> <p>The Dam Removal Real Estate Evaluation Report was completed by Bender-Rosenthal, Inc. whose primary author met all of the requirements of the Appraisal Institute for professional appraisers and Bender-Rosenthal complied with the Uniform Standards for Professional Appraisal Practice in its study methodology. The</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>report was not intended as an analysis of specific impacts to any given parcel or property but rather was intended as a look, in the aggregate, at the potential impact on value of the real estate land values in the communities surrounding Copco 2 and Iron Gate Reservoirs. It is not a valuation of any specific property or properties in the communities. Appraisal theory attributes premiums to the overall price of a property such as reservoir frontage or views to the lot, and not the improvements. Since the change in property value is being attributed to the value of the lot following the removal of the reservoirs the value of the improvements was not considered.</p> <p>The effects of reduced property tax revenues to the counties are evaluated in the Environmental Justice section on Draft EIS/EIR p. 3.16-30. The Lead Agencies acknowledge that in the short and long term, there could be a decline in property tax revenues associated with a discontinuation of tax revenues from PacifiCorp and a potential decrease in property values near the reservoirs that could affect funding of county programs. In Section 3.16, the EIS/EIR also states that there could be long-term increases in tax revenues due to increased property values near and adjacent to the Klamath River due to improved water quality. In conclusion "it is speculative to quantify short- and long-term impacts on county social programs because many of these programs receive funding from the State and Federal Government in addition to county funds. If funding to social programs is reduced, effects would disproportionately affect low income county residents."</p>	
CC_LT_1117_020-86	<p>Section 3.15 identifies whether positive and negative economic effects would be short term or long term. Section 3.15.3 presents economic data on 2009 employment, labor income and output for each of the economic regions, most of which include Siskiyou County. Table 3.15-1 shows the 2009 regional economy for Siskiyou and Klamath counties, including employment in the government sector. The table shows that government and services are the two largest sectors for employment in the two counties. Appendix O includes regional economic descriptions individually for each county in the area of analysis, including Siskiyou County. Table O-24 specifically shows employment in Siskiyou County in 2005 and 2008.</p> <p>Section 4.4.14 evaluates socioeconomic cumulative effects of the Proposed Action and alternatives. The analysis considers general plans, other existing planning and management documents, and the unemployment and industry trends within the counties in the area of analysis in the cumulative condition. The analysis identifies positive and adverse cumulative effects of the Proposed Action on jobs and income in the counties.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-87	<p>The Proposed Action would result in a net increase in fishing and recreation industries which will continue over the long term; effects on specific fishing and recreational activities (positive and negative) are described on p. 3.15-56 through 3.15-61. Output and employment impacts were modeled using a standard modeling framework (IMPLAN) using the best available data. Additional details can be found in the Economics and Tribal summary technical report and supporting technical reports on the Klamathrestoration.gov Web site.</p>	No
CC_LT_1117_020-88	<p>Master Response LAND-1 Land Use Significance Criteria. EIS/EIR Section 3.14.4.3, Effects Determinations, describes the direct and indirect effects of dam removal on the significance criteria by which potential changes in land use would be considered.</p> <p>EIS/EIR Section 3.14-27 states: While no part of the KBRA implementation would directly convert agricultural land to other uses, the KBRA provisions discussed above could result in agricultural land being temporarily or permanently retired. However, the EIS/EIR cannot characterize the specific impact from the KBRA on the conversion of farmland to non-agricultural use as a result of these programs because the number of voluntary participants, acres and location of farmland, and the final use of the lands affected by the program are unknown. The KBRA programs would protect the sustainability of agricultural uses and communities by improving the reliability of the agricultural water supply and settling long standing disputes on the amount, timing, and other conditions of water diversion and delivery for agriculture. The potential land use conversions generated by activities in the Water Use Retirement Program (WURP) would not be expected to contribute to any land use effects generated by the hydroelectric facility removal action. The KBRA could result in the conversion of farmland to non-agricultural use or conflict with Williamson Act land or agricultural zoning, a potentially significant impact. However, the other potential measures outlined in the WURP would improve operational efficiency and are expected to benefit the long-term sustainability of agricultural practices in the Klamath Basin. Implementation of these programs would require future environmental compliance as appropriate.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p>	Yes
CC_LT_1117_020-88	<p>As stated on Draft EIS/EIR p. 3.14-2:</p> <p>"the area of analysis was defined as lands encompassed by the FERC boundary identified in the FERC EIS (2007), surrounding lands that could be affected by implementation of the KHSR and private lands adjacent to the reservoirs and the Klamath River</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-89	<p>downstream from the reservoirs to the estuary that would be affected by the removal of the dams and loss of the reservoirs. The Four Facilities that would be removed under the Proposed Action are in two counties, Siskiyou in California and Klamath in Oregon, and are not within any incorporated cities. The area of analysis includes the areas adjacent to the Four Facilities. The City of Yreka is included because its water supply facilities would be affected by the Proposed Action. In addition, lands downstream from the Iron Gate Dam that may be subject to flooding with or without the dams were identified.</p> <p>To account for the effects of KBRA implementation, the area of analysis includes the agricultural lands that receive water from Reclamation's Klamath Project in Klamath, Siskiyou, and Modoc Counties, and two of the wildlife refuges in the Klamath Basin National Wildlife Refuge System, the Tule Lake National Wildlife Refuge (NWR) and the Lower Klamath NWR. These areas are all within the Upper Klamath Basin above Keno Dam."</p> <p>EIS/EIR Figure 3.14-1 was revised and relocated in the section to avoid confusion in the definition of the area of analysis.</p> <p>P. 3.15-87 of the Draft EIS/EIR states: The loss of peaking flows in the Hell's Corner Reach would result in the river returning to natural flow conditions, with no ability to re-regulate peaking flows. Thus, there would be diminished whitewater boating opportunities in this reach. This would result in fewer rafting trips and reduced recreation expenditures and be a long-term adverse effect.</p> <p>Table 3.15-51 summarizes estimates of the changes in whitewater boating recreation regional economic activity for the Proposed Action compared to the No Action/No Project Alternative. The loss of whitewater boating activity on the Upper Klamath River (primarily the Hell's Corner Reach) would result in losses in expenditures and regional economic activity in the local region as compared to the No Action/No Project Alternative. Annual losses would begin in 2020. The difference in total average annual user days between the Proposed Action and the No Action/No Project Alternative was estimated at 2,763 user days. The difference in average annual lost expenditures between the Proposed Action and the No Action/No Project Alternative was estimated as \$715,903. Most employment, labor income, and output effects associated with whitewater boating would occur in the services sector. Employment created in this sector could be full-time or part-time. Reduced whitewater boating expenditures would result in long-term adverse effects to the regional economy under the Proposed Action relative to the No Action/No Project Alternative.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-90	<p>The potential economic impacts of the change to whitewater boating opportunities are also summarized in Table 3.15-65.</p> <p>The text quoted in this comment does not accurately reflect the text in Section 3.14, Land Use, of the Draft EIS/EIR. On p. 3.14-1, it states: "The EIS/EIR does describe potential changes in land use that would occur if the dams were removed."</p> <p>EIS/EIR Section 3.14.4.3, Effects Determinations, describes the direct and indirect effects of dam removal on the significance criteria by which potential changes in land use would be considered.</p> <p>Master Response LAND-1 Land Use Significance Criteria.</p> <p>The EIS/EIR Section 3.14, Land Use, analyzed the effects of alternative implementation on future land use within Reclamation's Klamath Project area. Furthermore Section 5.3 presents an analysis of growth inducing effects.</p>	No
CC_LT_1117_020-91	<p>CEQA does not require that economic and social effects be addressed in an EIR. The comment does not fully or accurately reflect the applicable provisions of the CEQA Guidelines regarding this issue. Provided below is, in its entirety with emphasis added, the subject section of the CEQA Guidelines:</p> <p>"15131. ECONOMIC AND SOCIAL EFFECTS</p> <p>Economic or social information may be included in an EIR or <i>may</i> be presented in whatever form the agency desires.</p> <p>(a) Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR <i>may</i> trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.</p> <p>(b) Economic or social effects of a project <i>may be used to determine the significance of physical changes caused by the project</i>. For example, if the construction of a new freeway or rail line divides an existing community, the construction would be the physical change, but the social effect on the community would be the basis for determining that the effect would be significant. As an additional example, if the construction of a road and the resulting increase in noise in an area disturbed existing religious practices</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>in the area, the disturbance of the religious practices could be used to determine that the construction and use of the road and the resulting noise would be significant effects on the environment. The religious practices would need to be analyzed only to the extent to show that the increase in traffic and noise would conflict with the religious practices. Where an EIR uses economic or social effects to determine that a physical change is significant, the EIR shall explain the reason for determining that the effect is significant.</p> <p>(c) Economic, social, and particularly housing factors shall be considered by public agencies <i>together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment identified in the EIR.</i> If information on these factors is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the project.”</p> <p>Section 3.15 in the EIS/EIR provides an economic analysis, per requirements of NEPA. Tax revenues received from PacifiCorps are identified in EIS/EIR Section 3.15.3.6. After dam removal, the State of California would assume payment of property tax assessments in the form of in-lieu fees for the lands underneath and adjacent to the reservoirs that will come under State management. In California, in-lieu fees would be equivalent to the current assessment paid by PacifiCorp for hydroelectric properties, as required by California Fish and Game Code Section 1504. To make in-lieu payments to counties, the California legislature has to authorize payments. It is unknown if the California legislature would authorize payments in future years. Lost tax revenues to Siskiyou County would be an adverse economic effect. Similar to California, Oregon law (State Wildlife Fund Section 496.340) requires the state to pay the current assessed value on transferred lands. The State Department of Revenue can review and revise assessed values if it is determined substantially incorrect.</p> <p>The loss in tax revenue from PacifiCorp owned lands would impact the regional economy. However, if Siskiyou and Klamath Counties receive in-lieu payments of equal value to PacifiCorp property tax payment, there would be no net effect to county revenues under the Proposed Action relative to the No Action/No Project Alternative (EIS/EIR Section 3.15.4.2).</p>	
CC_LT_1117_020-92	<p>Master Response HYDP-2 Power Production at the Four Facilities.</p> <p>Master Response GHG-2 Rate Increase.</p>	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
--------------	------------------	-------------------

Master Response GHG-3 Replacement Power.

Section 3.15 evaluates potential effects to utility rates of PacifiCorp customers, specifically on pages 3.15-48 for the No Action/No Project Alternative, 3.15-63 for the Proposed Action, 3.15-81 for the Partial Facilities Removal Alternative, 3.15-84 to 3.15-85 for the Fish Passage at Four Dams Alternative, and 3.15-87 for Fish Passage at J.C. Boyle and Copco 2, Remove Iron Gate and Copco 1 Alternative. PacifiCorp considers many factors in setting customer rates which in turn are subject to Oregon Public Utilities Commission (PUC) and California PUC approval; It is difficult to assess the size of potential rate effects or even the extent to which rates might increase at all under the No Action/No Project Alternative. Utility rates under the dam removal alternatives are not expected to increase above the existing surcharges as a direct result of dam removal costs. For the fish passage alternatives, customer rates would likely increase above the existing surcharges as a direct result of construction, operations and maintenance costs for fish passage facilities. The degree to which the cost could be passed to the ratepayers is not known and would be subject to Oregon and California PUCs.

CC_LT_1117_020-93	Master Response GHG-1 Green Power.	No
-------------------	------------------------------------	----

CC_LT_1117_020-94	Master Response WSWR-10 Effects on City of Yreka Water Supply.	Yes
-------------------	--	-----

Regarding specific concerns in the comment:

1. Master Response WSWR-10 Effects on City of Yreka Water Supply.

2. Design criteria related to the pipeline address the factors mentioned in this comment, including preventing impacts from natural disasters. A new impact has been added to Section 3.18, Public Health and Safety, to discuss potential impacts associated with vandalism. The impact discusses that the area around the pipeline would be fenced to prevent access. PacifiCorp has an above-ground pipeline at J.C. Boyle, and they have found that the pipeline has occasionally been the target of vandalism (including shooting). The vandalism, however, has not penetrated the pipe or disrupted the use of the pipe. During the design process, the Lead Agencies would work with the City of Yreka to design the pipe walls and coating to be resistant to vandalism, thereby reducing the potential public health impact.

3. The Lead Agencies recognize that water supply is critical , which led to the development of the significance criterion: "impacts

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>would be significant if they would result in... decreasing water supplies beyond what is needed for public health and safety (i.e., needs for drinking water and fire suppression) for the current population.” However, the analysis indicated that the Proposed Action would not cause an interruption of water service to the City of Yreka or change the water supply, so this significance criterion was not reached.</p>	
	<p>4 and 5.</p>	
	<p>Master Response WSWR-10 Effects on City of Yreka Water Supply.</p>	
	<p>The engineering team considered changes in pipeline length and found that the pipeline would not be noticeably longer. The proposed pipeline bridge would be constructed parallel to the existing pipeline to permit its continued operation until the new pipeline is complete and connected. As a result the new pipeline bridge would cross approximately the same width of river and would maintain a constant elevation across the reservoir, rather than the existing pipeline’s current layout that drops down to the river bottom before rising to the other bank (Reclamation 2012b). As a part of the programmatic level analysis of the pipeline replacement project, the Lead Agencies have assumed that given the similar length and layout of the new pipeline that the existing pumping infrastructure would be adequate and as a result no increased pumping costs are anticipated. As noted above, in the event of an Affirmative Secretarial Determination, the Lead Agencies, during the design process, have committed to work with the City of Yreka on pipeline design which could include further investigation of pumping effects.</p>	
	<p>6. Master Response WSWR-10 Effects on City of Yreka Water Supply.</p>	
	<p>The Lead Agencies recognize that water supply is critical to the City of Yreka and that the existing cathodic protection is an important component of that water supply. Installing the replacement pipeline below ground in the bedrock as suggested by the comment author would require underwater construction which the Lead Agencies determined would add unnecessary complexity and cost to the action. In the event of an Affirmative Secretarial Determination, the Lead Agencies, during the design process, have committed to work with the City of Yreka to design the pipeline in a manner that would reduce the potential for vandalism. Additionally, this design work would identify any necessary measures to ensure continued operation of the cathodic field.</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-95	Master Response WSWR-9 Information on Downstream Diversions.	Yes
CC_LT_1117_020-96	<p>The "geographic separation" language is not describing how each specific element of the KBRA could affect water supply or water rights. Each impact analysis first includes a discussion of how the KBRA element could affect water supply or water rights. These discussions are at a lesser level of detail than the analysis of the Proposed Action because the KBRA is a connected action analyzed at a programmatic level (see Draft EIS/EIR p. 2-37 for more information).</p> <p>After the initial analysis of impacts, each section also determines whether the KBRA element could compound effects of the Proposed Action in a way that would increase the significance of either independent element. The "geographic separation" language is explaining why the impacts from the Proposed Action and the impacts from the KBRA do not work together to result in impacts of increased significance. The section has been revised to clarify the intent of the "geographic separation" language.</p>	Yes
CC_LT_1117_020-97	<p>The DOI is complying with Section 106 of the National Historic Preservation Act (NHPA) through the NEPA process, pursuant to 36 CFR § 800.8(c), in consultation with the Advisory Council on Historic Preservation, the California and Oregon State Historic Preservation Officers (SHPO), tribes, and other consulting parties. DOI's level of effort to identify and evaluate historic properties and the potential effects to such properties is commensurate with the proposed undertaking and the alternatives being evaluated. Here, the proposed undertaking is a decision on whether to remove the four lower PacifiCorp's dams on the Klamath River in Oregon and California. An Affirmative Determination to remove the dams would require an evaluation of how to remove the dams, which would require future compliance with NEPA and Section 106 of the NHPA. NEPA permits the use of this approach to a tiered decision making process. See 40 CFR §§ 1502.20, 1508.27. As articulated in the EIS/EIR Section 3.13, Cultural and Historic Resources, "[s]election of one of the proposed alternatives, other than the No Action Alternative, would be the first part of a multi-tiered decision-making process. The Proposed Action and the alternatives being evaluated in this EIS/EIR would require additional environmental compliance prior to initiation of ground disturbing activities. Section 106 consultation was initiated with Advisory Council on Historic Preservation (ACHP), SHPOs, and other consulting parties, and will be ongoing through a final decision and any future agency decisions. DOI identified known historic properties and methods to further identify and evaluate historic properties. DOI has also sought information from Indian tribes regarding the identification of</p>	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

areas with religious or cultural importance, and this section discusses the potential effect to such resources.”

The ability of DOI to reasonably identify and evaluate all of the potentially affected historic properties is limited by the decision being made. Commensurate with these limits, and pursuant to 36 CFR § 800.8(c)(1)(i)-(v), DOI identified and evaluated 681 historic properties, one historic district, several Traditional Cultural Properties (TCP), and one potential ethnographic landscape within the area of potential effects, and consulted with consulting parties regarding the potential effects. DOI also considered the potential adverse effects on these sites, and included measures to avoid, minimize or mitigate such adverse effects and presented such measures in the EIS/EIR and will include such measures as binding commitments in the Record of Decision (ROD). Because the potential decision being made here will not permit on-the-ground activities to occur, the measures examined for the identified historic properties will be applied to future decisions being made. For the historic properties that are unknown because of the nature of the proposed undertaking, DOI has established a set of binding measures to ensure that consultation to identify and evaluate historic properties is ongoing and continuous as specific aspects or details of dam removal are developed and evaluated. These binding commitments set forth in the EIS/EIR, and which will be incorporated into the ROD pursuant to 36 CFR § 800.8(c)(4)(i)(A), mirror those permitted through a Programmatic Agreement (PA) under the Section 106 regulations “when effects on historic properties cannot be fully determined prior to the approval of an undertaking.” 36 CFR § 800.14(b)(1)(ii). Because DOI has elected to use the NEPA process to meet the requirements of Section 106 of the NHPA, and because this section of the regulations permit the agency to establish binding commitments in the ROD, the concept of establishing binding commitments to identify and evaluate effects on historic properties that cannot be fully determined for the proposed undertaking in this case is permitted by the regulations. In light of the foregoing, DOI believes that it has adequately met its obligations under Section 106 of the NHPA and NEPA for the proposed undertaking being evaluated here. Mitigation Measures (CHR-2 through CHR 4) provides for the continued consultations with applicable parties under Section 106 of NHPA to identify and evaluate cultural and/or historic resources and would determine alternatives to avoid, minimize, or mitigate any adverse effects. Additionally although DOI maintains that they are meeting their obligations under NHPA Section 106, DOI is providing revisions to the text in Section 3.13.4.4 of the EIS/EIR, to clarify this process.

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-98	Although DOI maintains that they are meeting their obligations under NHPA Section 106, DOI is providing revisions to the text in Section 3.13.4.4.	Yes
CC_LT_1117_020-99	<p>P. 5-104 of the Draft EIS/EIR presents a brief summary of Environmental Justice-related impacts identified in Chapter 3. Section 3.16 discusses specific Environmental Justice effects on low income and minority populations. Section 3.15 further evaluates economic effects on Tribes.</p> <p>P. 4-160 of the Draft EIS/EIR is the Cumulative Effects analysis for Environmental Justice. The sentence the comment author describes on P. 4-160 states “The timeframe for environmental justice concerns includes both the duration of construction (May 2019 through December 2020), as some environmental justice issues would only occur during construction (air quality, traffic, noise, water quality, employment), and the years following completion of construction (water quality). The timeframe would extend beyond the construction period indefinitely because impacts on socioeconomics and county revenues would be long term and could continue to occur after construction.” This describes the timeframe for the Environmental Justice cumulative effects analysis.</p> <p>Changes in county revenues associated with dam removal that could decrease county funding of social programs are described on p. 3.16-30 of the Draft EIS/EIR. Impacts on property values and local government revenues are described on p. 3.15-63 of the Draft EIS/EIR.</p>	No
CC_LT_1117_020-100	<p>Section 3.16 discloses short term potential adverse and disproportionate effects to tribal people as a result of sediment release and the related impact to freshwater mussels under the Proposed Action. Additionally in Section 3.3 of the EIS/EIR, there is analysis of the potential adverse effects on freshwater mussel populations. In the short term, the sediment release associated with dam removal (Alternatives 2, 3, and 5) would lead to a significant short-term impact on freshwater mussels. Though mitigation is presented for this effect, this short-term impact would remain significant with implementation of mitigation. In the long term, based on the increased habitat availability and improved habitat quality, the effect of Alternatives 2, 3, and 5 would be beneficial for mussels.</p> <p>Section 3.16 provides a comprehensive analysis of potential environmental justice impacts, including a discussion of disproportionate and adverse impacts to low income and minority</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	populations. The section also identifies potential benefits to low income and minority populations as a result of Reclamation's Klamath Project alternatives.	
CC_LT_1117_020-101	Master Response N/CP-21 Ongoing Fish Habitat Restoration Projects.  Master Response N/CP-22 How KBRA was Analyzed. Chapter 3 of the EIS/EIR includes a programmatic analysis of the KBRA for each environmental resource. The KBRA discussion is included at the end of the evaluation of the Proposed Action in each section of Chapter 3.	No
CC_LT_1117_020-102	The Lead Agencies considered potential mitigation measures for significant impacts associated with all action alternatives. Many of the mitigation measures are applicable to multiple alternatives and are first mentioned under Alternative 2; however, the subsequent alternatives also cite these mitigation measures to reduce potential effects.	No
CC_LT_1117_020-103	The EIS/EIR does not bifurcate the analysis of dam removal and mitigation. Mitigation measures are proposed for significant impacts resulting from dam removal. The mitigation measures themselves are also analyzed for any potential environmental effects, and these are discussed in the resource section following the mitigation measures. The KBRA is not used as mitigation for any impacts associated with dam removal. The KBRA is analyzed as a connected action to the Proposed Action. In Chapter 3 of the EIS/EIR, KBRA effects are presented alongside the effects of dam removal to describe long-term benefits and adverse effects of the KBRA, but do not mitigate for adverse impacts of dam removal. Separate mitigation for the KBRA is proposed for all KBRA impacts determined to be significant.  Text has been revised to clarify that KBRA is considered in this EIS/EIR as a connected action to the Proposed Action.  Master Responses N/CP-13 KBRA is Analyzed as a Connected Action.  Master Response N/CP-22 How KBRA Was Analyzed.	Yes
CC_LT_1117_020-104	The KBRA actions analyzed in the EIS/EIR are not used to mitigate significant impacts of the KHSA. Separate mitigation measures have been developed for all KHSA impacts determined to be significant.	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>Master Responses N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>Master Response N/CP-22 How KBRA Was Analyzed.</p> <p>Contrary to the comment author’s assertions, the EIS/EIR and the Expert Panels do not “admit the KBRA is so lacking in specifics that its effectiveness cannot be evaluated.” Likewise, the “effectiveness of the KBRA” has not been “called into question.” It is correct that once implemented, as described in the EIS/EIR in Chapter 3, the KBRA would have many beneficial effects. Contrary to the comment author’s assertion, “experts and the EIS/EIR” do not “admit” that the mitigation plan is not feasible and unlikely to succeed. Mitigation for each significant impact is provided for that particular resource in Chapter 3 of the EIS/EIR. Table 5-1 in the EIS/EIR presents a summary of environmental impacts and lists proposed mitigation measures for each impact. The comment author asserts that to the extent the EIS/EIR relies on the KBRA as providing “mitigation analysis” or mitigation, the EIS/EIR fails to meet NEPA and CEQA standards. It’s unclear what the comment author means by “mitigation analysis”, but the EIS/EIR does not rely on the KBRA as mitigation (see Tables 5-1 and 5-2). The comment author asserts that all 112 KBRA projects should have been analyzed in the EIS/EIR, and states that there was “virtually” no analysis. That statement is not correct. As stated in Section 3.1.1.6 of the EIS/EIR, the Lead Agencies considered the goals, programs, and plans for KBRA activities as described in Appendix C-3 in the impact analyses to determine their anticipated direct, indirect, and cumulative effects in each resource (see Table 3.1-1, EIS/EIR).</p>	
CC_LT_1117_020-105	<p>The KHSA Section 3.2.1(iii), signed by Secretary of the Interior Ken Salazar on February 18, 2010, directs the Secretary to undertake environmental review in support of the Secretarial Determination. All alternatives carried forward for further analysis in the EIS/EIR were analyzed using existing studies and other appropriate data as suggested in KHSA Section 3.2.1 (i), where such analysis met criteria in (40 CFR 1502.22 and 43 CFR 46.125) to incorporate available information.</p> <p>Appendix J of the KHSA outlines the Science Process for development of the Secretarial Determination. Appendix J specifies peer review of the scientific studies for the Secretarial Determination process using subject-matter experts to maintain a high level of scientific integrity in the technical information developed as part of that process. The Expert Panels were not part of the EIS/EIR process, and only included Alternative 2 in detail (although most of this information is also applicable to</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>Alternative 3). The Lead Agencies have used their best efforts to identify and disclose as much relevant information as possible in the EIS/EIR from the Secretarial Determination process.</p> <p>As described in KHSA Section 3.2.1(i), the FERC record is used to form Reclamation's Klamath Project description for Alternatives 4 and 5. Alternatives 4 and 5 were analyzed to ensure that the review of reasonable fish passage alternatives was comprehensive. In addition, at the time of developing a reasonable range of alternatives, the Lead Agencies recognized that the inclusion of Alternatives 4 and 5 would provide an assessment of the short- and long-term effects from a broader range of reasonable alternatives. Alternatives 4 and 5 are outside the authority of the DOI, the Four Facilities proposed for removal are privately owned structures, and there was no provision in the KHSA to include Alternatives 4 and 5 in the Detailed Plan. The result is differing levels of available information for alternatives carried forward in the EIS/EIR consistent with the elements of each action alternative. A summary of this information has been added to Section 3.1.</p> <p>The comment author supports his discussion regarding the level of detail of analysis by pointing out that Alternatives 1 and 2 have more pages of analysis than the other alternatives. To avoid duplication, the Lead Agencies focused the discussions of Alternatives 3, 4, and 5 on effects that differed from the discussions of Alternatives 1 and 2. (See e.g. Draft EIS/EIR, p. 3.3-145, "The retention of these structures would not be expected to result in any difference in the physical or biological effects of dam removal from those described for the Proposed Action.") Additionally, Alternatives 4 and 5 do not include the programmatic analysis of the KBRA, which reduces the page length of the analysis for those alternatives.</p>	
CC_LT_1117_020-106	Master Response N/CP-18 Process to Select Alternatives for Detailed Analysis.	No
CC_LT_1117_020-107	Draft EIS/EIR Section 1.4.2.1, on p. 1-29, contains DOI's Purpose and Need statement in accordance with NEPA. Draft EIS/EIR Section 1.4.2.2, on p. 1-30, contains CDFG Project Objectives in accordance with CEQA. DOI's Purpose and Need statement is not a CEQA objective.	No
CC_LT_1117_020-108	The comment author fails to explain exactly what in the baseline and the cumulative effects analysis is insufficient; therefore it is not possible to provide a response to this specific comment.	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-109	<p>Contrary to the comment, in Chapter 4, Cumulative Effects, under each resource is a discussion of the cumulative condition that includes the past, present, and reasonably foreseeable actions and projects, including those projects listed in Table 4-4, that would contribute to cumulative effects for that specific resource. Additionally, the comment author fails to identify a specific environmental topic in which the Lead Agencies failed to analyze the cumulative effects of past, present, and reasonably foreseeable future projects.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p>	No
CC_LT_1117_020-110	<p>It is assumed that the comment author is referring to the environmental impacts described in Chapter 3 as the “baseline effects”.</p> <p>Master Responses N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>Master Response N/CP-22 How KBRA Was Analyzed.</p> <p>Master Response AQU-5 Will Benefit all Salmonids.</p>	No
CC_LT_1117_020-111	<p>1) The Draft EIS/EIR states in Chapter 4, Cumulative Effects, on p. 4-93 that “Past and present actions potentially contributing to algal growth include point source discharges, agricultural activities, grazing, and sedimentation, which have increased nutrient loading in the Klamath River.” Runoff from other projects is assumed to fall under those categories.</p> <p>2) EIS/EIR Section 4.4.4 states that “Within the area of analysis, past, present and future cumulative actions such as timber harvesting, agriculture, recreation, residential developments, water diversions, and mining, have in the past, or have the potential in the future, to adversely affect wildlife and alter habitat. Construction of the Klamath Hydroelectric Project (KHP) and associated facilities has reduced some riparian habitat and may have blocked some wildlife corridors for species travelling along the Klamath River shoreline. Reclamation’s Klamath Project and associated infrastructure has reduced and fragmented wetland and riparian habitat. Future developments, such as those proposed in Siskiyou County (see Table 4-4), may also contribute to some loss of habitat or impacts on wildlife species.”</p> <p>Additionally each impact statement on the following pages discusses the cumulative actions, their effects on terrestrial resources, and how the Proposed Action would contribute to these cumulative effects.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>3) Mitigation measure WRWS-1 would provide for an investigation of potentially affected intake and pump sites at the request of the water user. If effects on water supply intakes occur as a result of dam removal, the DRE would complete modifications to intake points as necessary to reduce effects to a less-than-significant level. The Lead Agencies believe this is sufficient mitigation for the Proposed Action's contribution to cumulative effects of sediment on water intake pumps that may occur during reservoir drawdown.</p>	
	<p>4) Section 4.4.10 of the EIS/EIR states that "The major past actions that have affected geology, soils, and geologic hazards in the area of analysis are the construction of the KHP and Reclamation's Klamath Project. These actions have permanently altered the natural erosion and deposition processes of the Klamath River, increased the potential for landslides and erosion in some areas, and restricted access to mineral resources through the presence of the reservoirs. These actions continue to affect geology, soils, and geologic hazards today. Past actions that have increased soil erosion or altered soils include timber harvesting, urban development, agriculture, and mining. Actions potentially benefitting soil erosion include soil erosion control measures required by the Five Counties Road Maintenance Program, and the Northwest Forest Plan, as well as existing water quality and stormwater regulations (CWA Section 401, and 402, total maximum daily loads [TMDLs]). In the future, proposed new subdivisions identified in Table 4-3 could increase soil erosion; however, they are expected to adhere to existing regulations and implement measures to minimize soil erosion and stormwater runoff."</p> <p>Additionally, each impact statement presented in this section describes these cumulative actions and their effects on geology, soils and geologic hazards, and how the Proposed Action would contribute to these cumulative effects. It is not possible to quantify the total cumulative effects of sedimentation from past, present, and future actions; however the EIS/EIR explains the general cumulative effects from these actions.</p>	
	<p>5) The Draft EIS/EIR need only examine cumulative effects on a resource (from past, present, and reasonably foreseeable actions or projects) that the Proposed Action and alternatives would contribute to. If the Proposed Action and alternatives would not affect a certain resource, the Proposed Action would not contribute to any cumulative effects and no cumulative effects discussion is required.</p>	
	<p>Section 4.4.1 Water Quality, in Chapter 4, Cumulative Effects examines the cumulative impacts on the river, estuary, and marine</p>	

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>nearshore environment from sedimentation, changes in water temperature, changes in pH levels, changes in nutrient concentrations, changes in dissolved oxygen levels, changes in inorganic and organic contaminants, and changes in algal toxins, from the Proposed Action and other past, present, and reasonably foreseeable cumulative actions and projects.</p> <p>6) The comment author does not explain what would cause the increased demand for groundwater and what specific cumulative effects the comment refers to. However, Section 4.4.6 describes the cumulative effects from past, present, and reasonably foreseeable actions and the Proposed Action on groundwater. The analysis does describe increased groundwater use in the area around the reservoirs and increased groundwater pumping in the KBRA study area under the applicable impact discussions.</p> <p>7) The comment does not explain why cumulative effects on land use would extend beyond 18 months. The use of land for stockpiling, staging, and other construction activities would only last the duration of construction. The creation of new roads to provide recreation access would also occur during this timeframe. The Proposed Action's contribution to the cumulative effect on land use, agriculture, and forest resources would have a duration of 18 months.</p> <p>8) The Proposed Action would create a temporary waste stream during dam deconstruction. No permanent waste stream would be created., The Proposed Action's contribution to the cumulative effect would only be for the duration of dam deconstruction. However, the analysis under Section 4.4.17.1 considers the Proposed Action and future population growth and other projects that may also increase the generation of solid waste. As noted in Section 4.4.17.1, the selected landfills in the region have adequate capacity to absorb the debris from this temporary project. A portion of the waste would be sent to recycling facilities.</p> <p>9) Section 4.4.14.1 describes the high unemployment rates and large numbers of people living in poverty in the eight counties in the area of analysis, including Siskiyou County. It also notes that in Siskiyou County, the timber industry has had substantial declines in timber harvested and value in 2008 and 2009 relative to previous years. Section 3.15, Socioeconomics, and Appendix O provide additional economic information for Siskiyou County.</p> <p>10) PacifiCorp will be providing power from hydropower facilities at Bonneville Dam on the Columbia River and sources in the east. Currently, the Four Facilities only provide regionally important peaking power, but do not provide a baseload source for the area. Power is currently transmitted to the region from sources in the</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-112	<p>east and north to cover baseload requirements. PacifiCorp is already upgrading transmission and generating infrastructure to meet the expected demand in the Klamath region in 2018. These upgrades are being done now to cover power needs in 2018 and beyond, and are unrelated to the proposed removal of the Klamath Dams. PacifiCorp's Strategic Plan has identified the need for new power sources in the region regardless of the outcome of the proposed Klamath River Dam removal. These planned upgrades are described in the Draft EIS/EIR on p. 3.18-13 to 3.18-14, and 3.18-23 to 3.18-24.</p> <p>Section 4.4.9.1 in Chapter 4 analyzes the cumulative effects of replacement power on greenhouse gases/global climate change. Section 4.4.17.1 analyzes the cumulative effects of the loss of hydropower on power resources.</p> <p>a) Neither the Bureau of Land Management (BLM) nor the U.S. Forest Service (USFS) are involved in activities through this process or the EIS/EIR which implicate the Federal Land Management and Policy Act.</p> <p>This comment does not identify any specific inconsistencies of Reclamation's Klamath Project with approved State or local plans and laws.</p> <p>Master Response N/CP-2 Coordination.</p> <p>b) Some questions remain over the ultimate applicability of local regulations depending on the selection of the DRE (responsible for dam deconstruction) or Hydropower Licensee (responsible for taking over the dams and operations). Future environmental analysis and compliance documentation of the Definite Plan and the KBRA would specify the applicable regulations with greater certainty once the selection of the DRE or Hydropower Licensee is made. However, the DRE or Hydropower Licensee would coordinate with the appropriate agencies and governments to obtain all necessary permits and approvals prior to implementation of Reclamation's Klamath Project.</p> <p>c) Chapter 3 describes applicable Federal, State, and local laws and regulations by resource area. Table 6-4 lists applicable Siskiyou County plans, policies and ordinances and shows the locations where these are discussed in Chapter 3. Title 10, Chapter 3, Demolition, Deconstruction, Removal, or Reclamation ordinance has been added to Chapter 6, Table 6-4. Also see response b) above.</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>d) The weight of the trucks that would use county roads is not yet known. Once the DRE and a construction contractor have been identified, they will determine if such a permit is required. This permit has been added to Table 6-2 under compliance with California State Statutes and Regulations.</p> <p>e) It is assumed that the comment is referring to the Project Evaluation Procedure and Policy in the Noise Element. P. 52 of the Siskiyou County General Plan Noise Element outlines the Project Evaluation Procedure and Policy for evaluating potential noise effects associated with proposed projects. This noise evaluation procedure is generally more applicable to permanent new developments as it provides specific noise ranges for different land use types such as commercial, residential, etc. The Proposed Action would not involve construction of new residential, commercial, or industrial developments; it would mainly involve deconstruction of existing hydroelectric dams and associated hydropower infrastructure and facilities and various restoration actions. The Proposed Action would not result in any new permanent noise impacts. However, the noise evaluation in the EIS/EIR is consistent with the General Plan in that it:</p> <ul style="list-style-type: none"><li>i) Determines the location of the project with respect to existing noise parameters. As described in Chapter 3.23, existing outdoor ambient noise levels at affected sensitive receptor locations were estimated using published average ambient noise levels for various land uses. Siskiyou County presents average noise levels for various land use categories in the Noise Element of their General Plan (Siskiyou County 1978). However, these median ambient noise levels for different land use categories were developed based on a one-time field survey in the 1970s and none of the measurements were taken in the project area. Therefore, the Lead Agencies used daytime Equivalent average noise level (Leq) and nighttime outdoor Leq noise levels from USEPA's Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (1974) to estimate ambient noise levels at selected receptor locations. Noise levels for rural residential areas in the USEPA document are lower than the levels presented in the Siskiyou County General Plan; therefore they are more conservative. Section 3.23.3.1 presents existing noise conditions for the project area.</li><li>ii) Determines the potential noise generating effect and its characteristics. Section 3.23.4.3 analyzes the potential noise impacts from the Proposed Action and alternatives.</li></ul>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>iii) Adopts noise mitigation measures in borderline projects (e.g., those projects which may exhibit adverse noise characteristics, exhibit precedent setting examples in areas where of development, or where cumulative noise impacts of otherwise acceptable individual projects are a concern). Mitigation measures are proposed for all significant noise impacts identified in Chapter 3.23, Noise and Chapter 4, Cumulative Effects.</p> <p>f) In Chapter 6, Table 6-4, a line has been added to note that coordination would be required with Siskiyou County to determine how and when Copco Road could be used and any mitigation that may be required. Additionally, as noted in Section 3.22 the Lead Agencies acknowledge the potential for wear to the roadways that construction traffic would be routed on, and following completion of dam deconstruction, additional analysis of road conditions would be completed and where needed, repairs and or replacement actions would be completed.</p> <p>g) Chapter 6, Table 6-4, p. 3.6-4 and Section 3.6.2.2 of Chapter 3.6 Flood Hydrology in the EIS/EIR describe applicable local regulations associated with flood hazards in Siskiyou County, including Chapter 10 Flood Damage Prevention. Text has been added to Table 6-4 to note that applicable permits would be obtained if work occurs in the flood hazard area.</p> <p>h) As noted in Section 6.1 in Chapter 6 of the EIS/EIR, some questions remain over the ultimate applicability of local regulations depending on the selection of the DRE (responsible for dam deconstruction) or Hydropower Licensee (responsible for taking over the dams and operations). Future environmental analysis and compliance documentation of the Definite Plan and the KBRA will specify the applicable regulations with greater certainty once the selection of the DRE or Hydropower Licensee is made. All applicable permits and approvals would be obtained prior to implementation of Reclamation's Klamath Project, including any applicable local permits and approvals.</p>	
CC_LT_1117_020-113	<p>The Coastal Zone Management Act (CZMA) is addressed in the EIS/EIR in Section 3.1.1.4 Coastal Zone Management Act Consistency Determination and in Section 3.3.4.3. This text also addresses the consistency of Reclamation's Klamath Project with the California Coastal Act (CCA) of 1976. Section 3.3.4.3 provides an analysis of the effects of the Proposed Action on each of the relevant policies of the California Coastal Management Program as outlined in the California Coastal Act of 1976. The construction activities of the Proposed Action would begin approximately 190</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

miles from the mouth of the Klamath River. Therefore, this analysis focuses on impacts that would be evident many river miles downstream in the estuary and near shore. The policies identified as applicable are Article 4 Marine Environment Section 30231 and Section 30236. Also this is a phased CZMA analysis. Additional implementation specific analysis would be completed as needed when the Secretary makes a determination. The mechanism for this additional analysis is dependent on whether there is an Affirmative Determination and if the DRE is a Federal entity. The California Coastal Commission has provided additional clarity on this issue in comments on the EIS/EIR (Comment CA\_LT\_1230\_008).

If the DRE is a Federal agency (e.g., Reclamation, U.S. Army Corps of Engineers [USACE]) then it is the Federal agency's responsibility for complying with Federal CZMA requirements. In this case, the Federal agency would prepare and submit to the California Coastal Commission a CZMA Consistency Determination with additional project specific details for activities that would affect the coastal zone.

If Reclamation's Klamath Project becomes a non-Federal agency activity and a Federal agency is issuing a permit or license or authorization to another entity, then that entity is responsible for California Coastal Act compliance (i.e., prepare and submit to the California Coastal Commission a consistency certification); in addition, the Federal agency cannot issue the permit/license/authorization until the Commission has concurred with the consistency certification. Under this scenario, because Reclamation's Klamath Project is located inland of the coastal zone, the Commission would first need to obtain permission from the NOAA's Fisheries Service Fisheries Service, Office of Ocean and Coastal Resource Management (OCRM) to review Reclamation's Klamath Project under the CZMA.

The language in Table 6-1 and 6-2 of the EIS/EIR has been revised to provide this additional clarification and reference Section 3.1.1.4 and Section 3.3.4.3.

<p>CC_LT_1117_020-114 CC_LT_1117_020-115</p>	<p>The Expert Panel Reports are a valuable part of the science review for the Secretarial Determination, but they are only a part of the record provided in the EIS/EIR. The USFWS convened the Expert Panels to review, evaluate, and provide an assessment regarding the likely trajectory of fish populations with and without implementation of the KBRA and KHSAs. The Expert Panels provided valuable independent reviews in addition to the various studies, reports and scientific information considered in the</p>	<p>No</p>
--	--	-----------

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>EIS/EIR analyses. However, the EIS/EIR relied not only on the Expert Panel Reports, but on a broader record. This broader record includes FERC (2007); Hetrick et al. (2009); Hamilton et al. (2011); Hendrix (2011), and numerous other sources referenced in the EIS/EIR. The findings represented in the EIS/EIR are not necessarily the same as those in the Expert Panel Reports.</p> <p>The Expert Panel reports acknowledge that there is a degree of uncertainty in their findings and that future events primarily related to implementation of the KRBA agreements could influence predicted outcomes; the Expert Panels did not conclusively state there is little likelihood of success. Both the Chinook and the Coho and Steelhead Expert Panels noted that full implementation of the KBRA would increase probability of successfully restoring Chinook, coho, and steelhead runs. The Chinook Expert Panel assessment indicated that dams out plus KBRA implementation (Alternative 2 or 3) offers greater potential than the Current Conditions in improving conditions for water quality (Goodman et al. 2011; p. 9), disease, (Goodman et al. 2011; p. 12), recolonization (Goodman et al. 2011; p. 14), increased harvest and escapement (Goodman et al. 2011; p. 16), predation (Goodman et al. 2011; p. 17), and tolerating climate change and changes in marine survival (Goodman et al. 2011; p. 19).</p> <p>Uncertainty is inherent to any analysis of present and future ecological conditions, particularly in a system as complex as the Klamath Basin. Describing present and future conditions for an action introduces uncertainty due to several factors, including limited biological information, ecological uncertainty (such as incomplete information on correlation of species populations with environmental factors), and unpredictable events, such as timing of floods and droughts. To minimize uncertainty, our analysis used multiple lines of evidence to draw conclusions, with more consideration given to the most current information available.</p> <p>Master Comment GEN-3 Best Available Information.</p> <p>The comment as written cites portions of the Expert Panel reports, sometimes out of context, without fully considering the entire EIS/EIR. By doing so, the comment does not accurately represent the EIS/EIR record. The comment as written provides no evidence beyond the comment author's interpretation of the Expert Panel Reports to support the opinion that there is a very low likelihood the Proposed Action will achieve its goal or that the requisite studies have not been done.</p>	
CC_LT_1117_020-115	See response to comment number CC_LT_1117_020-114.	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
CC_LT_1117_020-116	<p>Interspecies interactions are addressed at length in Chapter 3.3 of the EIS/EIR. Additional information related to interspecies interactions has also been added to Section 3.3.4.3 in response to comments on this issue.</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p><b>Redband trout:</b> The comment accurately cites the Chinook Expert Panel concern that the Proposed Action could result in increased predation-related mortality of reintroduced anadromous salmonids by resident redband/rainbow trout, particularly in the upper basin. Potential predation by redband trout was listed as one of nine factors the Chinook Expert Panel opined that needed to be addressed to successfully reintroduce Chinook salmon above Iron Gate Dam. The Expert Panel acknowledges that the success of the Proposed Action may not require resolving all of the factors (Goodman et al. 2011).</p> <p>Redband trout and anadromous salmon and steelhead evolved together in the upper basin of Klamath River, and co-existed prior to the construction of dams (Goodman et al. 2011). While the precise geographic distribution is uncertain, historical records and tribal accounts demonstrate that the Upper Klamath Basin provided a viable ecosystem and habitat for anadromous fish and that Chinook salmon, coho salmon, and steelhead trout migrated past the present site of Iron Gate Dam to utilize that habitat. (Administrative Law Judge Decision at 12, FOF 2A-3) (Administrative Law Judge 2006). Chinook salmon (both spring and fall-run) were abundant upstream of Iron Gate Dam in the Klamath River, Jenny Creek, Fall Creek and Shovel Creek, as well in the tributaries of Upper Klamath Lake, including the Wood, Sprague, and Williamson rivers (Administrative Law Judge Decision at 12, FOF 2A-4) (Administrative Law Judge 2006). While there is little information on the nature of any competitive interactions between steelhead and resident trout in the Klamath basin, research does suggest that in some circumstances, resident trout may have a competitive edge over steelhead trout (Administrative Law Judge Decision at 25, FOF 2C-10) (Administrative Law Judge 2006). Conversely, a recent study showed that hatchery salmon supplementation negatively impacted resident trout abundance and salmonid biomass in a Washington watershed (Pearsons and Temple 2010). However, competition between steelhead and currently present indigenous species such as redband trout are not assumed to be a major limiting factor since these species historically co-evolved (Oregon Department of Fish and Wildlife 2008).</p>	Yes

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>There are many examples from nearby river systems in the Pacific Northwest where wild anadromous steelhead trout and resident rainbow/redband trout co-exist and maintain abundant populations without adverse consequences. The Deschutes River in Oregon, the Yakima River in Washington, and the river systems in Idaho are examples (Administrative Law Judge Decision at 25, FOF 2C-11) (Administrative Law Judge 2006). As noted by the EIS/EIR on p. 3.3-128 and the Resident Fish Expert Panel (Buchanan et al. 2011a), existing trout and colonizing anadromous steelhead are expected to co-exist, as they do in other watersheds, although there may be shifts in abundance related to competition for space and food.</p> <p><b>ull rout:</b> As noted in the EIS/EIR (Section 3.3.4.3) anadromous salmonids would potentially compete with and prey upon bull trout fry and juveniles; however, bull trout would also be expected to consume the eggs and fry of Chinook salmon and steelhead. These species co-evolved in the watershed together, and it is anticipated that they would be able to co-exist in the future. Bull trout currently exist with redband trout in the upper basin and Proposed Action habitat benefits that would result in redband population increases would also benefit bull trout populations.</p> <p>In the Biological Opinion on relicensing of the Hydropower Project, the Service authorized take for bull trout and determined that the level of anticipated take associated with reintroduction of anadromous salmonids is not likely to result in jeopardy to bull trout or destruction or adverse modification of critical habitat (US Fish and Wildlife Service 2007).</p> <p>Since the bull trout BO was published, additional analysis has been conducted on this issue. Under present conditions, anadromous fish would only be able to interact with bull trout in Long Creek. In the other bull trout streams, barriers to upstream passage prevent any interactions (Roninger 2012). Additionally, assessment has also been completed by the Resident Fish Expert Panel. As noted in the EIS/EIR, (Section 3.3.4.3), and in Buchanan et al. (2011a, p 64) the proposed KBRA actions would enhance resident populations of headwater bull trout, and particularly in Three Mile and Sun creeks, from which waters ultimately flow into Upper Klamath Lake. Both of these populations are listed as populations with a high risk of extinction (Buchanan et al. 1997), and implementation of KBRA could have a significant contribution toward recovery of these populations. Passage from Sun Creek to the Wood River may be improved by KBRA actions allowing for fluvial life history forms of bull trout in the Wood River system. The cold waters of the Wood River may successfully provide habitat for reintroductions of anadromous salmon and</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>steelhead. Rearing anadromous juveniles could provide an increased prey base for fluvial bull trout and produce predator/prey interactions ecologically similar to historical conditions (Buchanan et al. 1997). As noted in the EIS/EIR, the Resident Fish Expert Panel concluded that the Proposed Action provides promise for preventing extinction of this species and for increasing overall population abundance and distribution (Buchanan et al. 2011a, p 77).</p> <p><b>ther Resident ish:</b> The Proposed Action alternative will restore approximately 43 mi (69.2 km) of mainstem reservoir and isolated river habitat to free-flowing river habitat. It will cause abundance of most nonnative fishes, particularly those dependent on reservoir habitat, to decline significantly. Removal of the dams will enable isolated populations of resident (native) fishes to co-mingle and colonize mainstem reaches that are not presently utilized.</p> <p>In the long term, the Proposed Action is likely to provide significant benefits for resident native fishes within the dam removal reach and immediately downstream from Iron Gate Dam. Immediately after dam removal, high suspended sediment concentrations may adversely affect resident (native) species located below and near Iron Gate Dam, but the resident (native) fish abundances are likely to quickly recover and increase as the resident fish population moves into the dam removal reach (Buchanan et al. 2011a, p 69). The Proposed Action has a greater probability of benefiting native fish populations compared with the Current Conditions (Buchanan et al. 2011a, p 64).</p> <p>With respect to ecological implications, the EIS/EIR noted that for all species analyzed, when the short-term deleterious effects occurring during reservoir drawdown in 2020 are weighed against the long-term benefits to the Klamath River, the systemic restoration espoused in the Proposed Action improves biological productivity and the quality of waters, streams, wetlands, estuaries, and lakes (EIS/EIR Section 3.3.4.3).</p> <p>The comment as written provides no evidence beyond its interpretation of the Expert Panel reports to conclude that the EIS/EIR did not adequately address interspecies competition and the effects of predation by reintroduced salmonids on bull trout.</p>	
CC_LT_1117_020-117	This comment appears to reference the amount of sand in sediments released by dam removal as discussed in the Expert Panel on coho and steelhead (Dunne et al, 2011, page 26). The	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>comment has confused the total sediment weight, which is currently estimated to be 3,600,000 tons, and the sand weight, which is estimated to be 540,000 tons. The percentages of sand are by weight, not by volume. Of that total weight of sand, approximately 36 to 57 percent of it will be eroded and release to the downstream channel. This equates to 230,000 to 370,000 tons of sand. The Expert Panel assumed that there would be 300,000 to 400,000 tons of sand released as the result of dam removal. The Expert Panel was making general statements and rough calculations. Therefore, the difference between the two estimates in terms of the weight of sand released is not significant. Further details on the impact of the sediment on the downstream reach are detailed in Chapters 3.2, 3.3 and 3.11 of the EIS/EIR. See also responses to comments 10, 28, 44, 45 and 122 which address sediment amounts.</p> <p>The EIS/EIR has been revised to include a text box titled <i>Sediment Weight and Volume in the Four Facilities and Erosion with Dam Removal</i> in Section 2.2 to clarify the estimates of sediment released by dam removal and uncertainty associated with these estimates.</p> <p>The Coho Expert Panel (Dunne et al) did not conclude that silt contamination of spawning beds would limit population response of salmonids as suggested by the comment, nor did all of the Expert Panel Reports conclude that salmonid population responses would be “small” as suggested by the comment.</p> <p>Master Response AQU-6 Expert Panel Coho, Steelhead and Chinook.</p> <p>Master Response AQU-19 Chinook Expert Panel Proposed Action Better Than No Action.</p> <p>The Expert Panel reports acknowledge that there is a degree of uncertainty in their findings and that future events primarily related to implementation of the KBRA agreements could influence predicted outcomes; the Expert Panels did not conclusively state there is little likelihood of success. Both the Chinook and the coho and Steelhead Expert Panels noted that full implementation of the KBRA would increase probability of successfully restoring Chinook, coho, and steelhead runs.</p> <p>Master Response AQU–17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>In addition to quantitative modeling results in this regard (Hendrix 2011), FERC (2007), Hetrick et al. (2009), and Hamilton et al.</p>	

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>(2011) concluded in synthesizing available information that increased habitat access following dam removal would result in an increase in the abundance of Chinook salmon population in the Klamath River Watershed.</p> <p>Master Response AQU–20 Bedload Sediment and Fish Habitat.</p> <p>While impacts of dam removal to salmonids vary by species and individual runs (i.e. spring vs. fall Chinook) all salmonids are likely benefit from the Proposed Action in the long term because of greater access to habitat, improved water quality and restoration of natural stream processes.</p> <p>Under the Proposed Action and Alternative 3, anadromous salmonids would be able to migrate to at least 420 miles of historical habitat, enabling a greater diversity of life history strategies, with some of those strategies more likely to avoid periods of poor water quality, parasite exposure, and adverse effects of climate change than under Current Conditions. Within the reservoir reaches, anadromous fish would be able to migrate to low gradient historical habitat of critical importance for spawning and rearing.</p> <p>Alternatives 2 and 3 would maximize the recruitment of gravel within and downstream from the Hydroelectric Reach, which would benefit fish spawning in the mainstem Klamath River from at least the current site of Copco Reservoir to Cottonwood Creek. Additionally, flows under Alternatives 2 and 3 would more frequently mobilize bedload sediment such as sand, gravel, and cobbles, result in more variable flow patterns, and restore natural sediment transport. These conditions are likely to reduce the occurrence of juvenile salmon fish disease and create better conditions for fish migration, rearing, and spawning (EIS/SIR Section 3.3.4.3).</p>	
CC_LT_1117_020-118	See response to comment number CC_LT_1117_020-12.	
CC_LT_1117_020-119	See response to comment number CC_LT_1117_020-56.	
CC_LT_1117_020-120 CC_LT_1117_020-121	<p>See response to comment number CC_LT_1117_020-17.</p> <p>As required by both NEPA and CEQA, the EIS/EIR (Section 3.3.4.3) provides an extensive assessment of the potential effects of the Proposed Action upon freshwater mussels. Under the Proposed Action, SSCs would be expected to be higher than under existing conditions and would likely exceed 600 mg/L, the minimum SSCs level that would be considered detrimental to freshwater mussels, for 2 to 4 months after facility removal, depending on hydrologic conditions and location on the river.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>However, the highest levels, well in excess of 1,000 mg/L, would occur between Seiad Valley and Iron Gate Dam. Effects of sediment deposition are expected to substantially reduce the abundance of multiple year classes in the short term. Combined with the slow recovery time of freshwater mussels, the effect of the Proposed Action would be significant in the short term.</p> <p>Implementation of mitigation measures would still result in a significant effect on freshwater mussels in the short term. It is however anticipated that mainstem Klamath freshwater mussel populations would rebound, recolonizing through the transport of larvae (glochidia) by host fish from downstream populations less affected by excessive SSCs or from populations within tributaries, such as the Salmon and Scott Rivers, or from populations on the Klamath River upstream of Iron Gate Reservoir. This process is expected to take many years. The EIS/EIR concludes the Proposed Action will have beneficial effects for freshwater mussels in the long term because of increased habitat availability and habitat quality (EIS/EIR Section 3.3.4.3).</p> <p>With respect to ecological implications for other filter feeders, the EIS/EIR noted that for all species analyzed, when the short-term deleterious effects occurring during reservoir drawdown in 2020 are weighed against the long-term benefits to the Klamath River, the systemic restoration associated with the Proposed Action improves biological productivity and the quality of waters, streams, wetlands, estuaries, and lakes (EIS/EIR Section 3.3.4.3).</p>	
CC_LT_1117_020-122	See response to comment number CC_LT_1117_020-10.	
CC_LT_1117_020-123	See response to comment number CC_LT_1117_020-55.	
CC_LT_1117_020-124	A section has been added to address potential impacts to special-status invertebrate species, including impacts that could occur within construction areas if these invertebrates are present. The discussion was revised to include pre-construction surveys to assess the presence of habitat for special-status invertebrate species and surveys for the individual species that could occur, consistent with the Northwest Forest Plan and the 2011 Survey & Manage settlement agreement.	Yes
CC_LT_1117_020-125	The EIS/EIR notes the presence of 174 bird species in Reclamation's Klamath Project area stating that buffer zones will be needed to protect many of them from activities undertaken as part of dam removal. There is no discussion of whether the size of the buffer zones is adequate or why.	No

<b>Comment Author</b>	Guarino, Thomas
<b>Agency/Assoc.</b>	County of Siskiyou, Office of County Council
<b>Submittal Date</b>	November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
---------------------	-------------------------	--------------------------

The specific details such as number and location of nesting surveys to be conducted, size of buffer zones, and mitigation measures specific to birds and outlined in Section 3.5.4.4 were based on guidance provided by USFWS (Strassburger 2011). Typically the adequacy of a given disturbance-prevention buffer is site-specific based upon: the bird species in question; the type, magnitude, duration, seasonality, and time of day of the disturbance; the distance between the disturbance and the nest site, the topography of the location; other on-going disturbances in the area; and whether the disturbance is in direct line of site from the nest, e.g. is there open space in between the disturbance and the nest or is there forest or other topographic features blocking or diminishing the disturbance. Without knowing the specific nest site locations, proximities, and bird species that will be present during construction activities in 2020, a specific buffer for a given nest cannot be determined in advance. However, the buffer distances provided in EIS/EIR Section 3.5, Table 3.5-6, are examples of standard buffer distances used to protect nests in Northern California and the Pacific Northwest. For example, the nest-site disturbance buffers listed in EIS/EIR Section 3.5, Table 3.5-6, are similar to, or exceed, the disturbance buffer distances for bald and golden eagle, northern goshawk, osprey, and northern spotted owl included in three USFWS-approved timberland habitat conservation plans in California and Washington States (Simpson Timber Company 1992; Murray Pacific Corporation 1995; Palco 1999). These disturbance buffers are effective mitigations because they provide a sufficient distance between a potential disturbance and a nest so as to minimize noise, vibration, or visual disturbance that could cause adult birds to abandon a nest, substantially alter their foraging, feeding, or parenting habits or otherwise result in nest failure, or harm, harassment, annoyance, or death to eggs, chicks, fledglings, or adults.

CC_LT_1117_020-126	Master Response HYDG-1 Flood Protection.	Yes
--------------------	--	-----

The change in timing of peak flows was analyzed as part of the flood hydrology evaluation. Additional text has been added to the impact describing the changes in flood patterns starting on p. 3.6-27 to clarify that this impact was assessed.

Floods are currently forecasted based on flows at Seiad Valley, which is downstream from the Four Facilities. After the removal of the Four Facilities, the DRE will work with National Weather Service (NWS) River Forecast Center to forecast floods at Iron Gate gage rather than looking at flows downstream (Hartman 2012). Shifting the forecast point upstream will help address the change in timing of the flood peak.

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>It should be noted that J.C. Boyle, Copco 1, Copco 2, and Iron Gate Dams provide only incidental flood protection during flood events. Table 3.6-9 shows peak flood flows and shows flood attenuation of less than 5 percent would have been provided by Iron Gate and Copco 1 Dams under the No Action/No Project Alternative. (J.C. Boyle and Copco 2 Dams have negligible capacity for flood attenuation.) (Draft EIS/EIR Section 3.6.4.3, page 3.6-30) Depending on flows, the Four Facilities may delay peak flows during a flood event. Under the Proposed Action, the facilities would not be in place to provide this temporary reduction in flow. This means that flood peaks may occur a few hours earlier if the Four Facilities are removed, but the magnitude of potential flooding would not be substantially different than under the No Action Alternative.</p>	
CC_LT_1117_020-127	Master Response GEN-21 Access to Water for Fire Suppression.	No
CC_LT_1117_020-128	<p>The Draft EIS/EIR states (p. 3.18-20 and 3.18-21) that waste concrete and earth are expected to be disposed of in on-site disposal areas or in original borrow pits. All mechanical and electrical equipment from the J.C. Boyle Dam would be hauled to the Klamath Falls Landfill, while mechanical and electrical equipment waste from Iron Gate, Copco 1, and Copco 2 dams would be hauled to the Yreka Transfer Station. At both the Klamath Falls Landfill and the Yreka Transfer Station, mechanical and electrical equipment and scrap metal would be salvaged and recycled. That leaves 4,500 tons of rebar and 7,200 tons of metals for disposal at the Klamath Falls Landfill and Yreka Solid Waste Landfill. In addition, Dry Creek Landfill, also in the vicinity of Reclamation's Klamath Project area, has 165 million cubic yards (yd<sup>3</sup>) of disposal capacity, and could be utilized for disposal. The disposal capacities of the existing surrounding landfills are anticipated to be sufficient for the waste generated by the Proposed Action, and the waste generated would not conflict with the solid waste policies and objectives of Assembly Bill (AB) 939. Please see Table 3.18-5 for a breakdown of solid waste generation under each alternative.</p>	No
CC_LT_1117_020-129	<p>Chapter 1 of the EIS/EIR states:</p> <p>It is anticipated that additional CEQA analysis would be necessary prior to dam removal as contemplated in the KHSA.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>Draft EIS/EIR Section 3.22, Traffic and Transportation, p. 3.22-9 clearly acknowledges:</p> <p>In order to adequately assess the structural integrity and load carrying capacity of each road's surfacing section, a detailed geotechnical analysis would need to be conducted; this is out of the scope of this analysis. As part of the development of the construction plan, an in depth analysis of bridge and road capacity and state of repair would be conducted by the dam removal entity (DRE), with remedial actions taken prior to the commencement of facility deconstruction. Following completion of dam deconstruction additional analysis of road condition would be completed and where needed, as a result of wear generated by deconstruction repairs and or replacement actions would be completed.</p>	
CC_LT_1117_020-130	<p>Section 3.16 p. 3.16-30 discusses potential effects of reduced county revenues on county residents and tribal people. P. 3.15-64 discusses the effects of reduced PacifiCorp property tax payments to counties under the Proposed Action. California and Oregon law requires the States to pay the current assessed value on transferred lands. If the counties receives in-lieu payments of equal value to PacifiCorp property tax payment, there would be no net effect to county revenues under the Proposed Action relative to the No Action/No Project Alternative.</p> <p>Section 3.15 also states that effects to property tax revenues related to real estate values is uncertain in the long term; therefore, it is unknown how property tax revenues would be affected.</p>	No
CC_LT_1117_020-131	<p>Master Response LAND-1 Land Use Significance Criteria.</p> <p>The quoted text does not accurately reflect the text in Draft EIS/EIR Section 3.14, Land Use, p. 3.14-1 states: "The Draft EIS/EIR does describe potential changes in land use that would occur if the dams were removed."</p> <p>Section 3.14.4.3, Effects Determinations, describes the direct and indirect effects of dam removal on the significance criteria by which potential changes in land use would be considered.</p>	No
CC_LT_1117_020-132	<p>Master Response COST-1 Cost Estimate.</p> <p>Master Response COST-3 Cost of Power Surcharge.</p> <p>Master Response GHG-3 Replacement Power.</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
CC_LT_1117_020-133	Master Response WSWR-9 Information on Downstream Diversions.	Yes
CC_LT_1117_020-134	The water supply and water rights impacts of relocating the City of Yreka pipeline are analyzed in EIS/EIR p. 3.8. Relocation of the pipeline is found to have no effect on the City of Yreka's water rights or water supply because the new pipeline would continue to deliver the same quantity and quality of water. Pipeline relocation would not change the quantity or quality of water that could be diverted.	No
CC_LT_1117_020-135	<p>The DOI is complying with Section 106 of the NHPA through the NEPA process, pursuant to 36 CFR § 800.8(c), in consultation with the Advisory Council on Historic Preservation, the California and Oregon SHPO, tribes, and other consulting parties. DOI's level of effort to identify and evaluate historic properties and the potential effects to such properties is commensurate with the proposed undertaking and the alternatives being evaluated. Here, the proposed undertaking is a decision on whether to remove the four lower PacifiCorp's dams on the Klamath River. An Affirmative Secretarial Determination to remove the dams would require an evaluation of how to remove the dams, which would require future compliance with NEPA and Section 106 of the NHPA. NEPA permits the use of this approach to a tiered decision making process. See 40 CFR §§ 1502.20, 1508.27. As articulated in the EIS/EIR Section 3.13, Cultural and Historic Resources, "[s]election of one of the proposed alternatives, other than the No Action/No Project Alternative, would be the first part of a multi-tiered decision-making process. The Proposed Action and the alternatives being evaluated in this EIS/EIR would require additional environmental compliance prior to initiation of ground disturbing activities. Section 106 consultation was initiated with Advisory Council on Historic Preservation (ACHP), SHPOs, and other consulting parties, and will be ongoing through a final decision and any future agency decisions. DOI identified known historic properties and methods to further identify and evaluate historic properties. DOI has also sought information from Indian tribes regarding the identification of areas with religious or cultural importance, and this section discusses the potential effect to such resources."</p> <p>The ability of DOI to reasonably identify and evaluate all of the potentially affected historic properties is limited by the decision being made. Commensurate with these limits, and pursuant to 36 CFR. § 800.8(c)(1)(i)-(v), DOI identified and evaluated 681 historic properties, one historic district, several Traditional Cultural Properties (TCP), and one potential ethnographic landscape within the area of potential effects, and consulted with consulting parties</p>	Yes

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>regarding the potential effects. DOI also considered the potential adverse effects on these sites, and included measures to avoid, minimize or mitigate such adverse effects and presented such measures in the EIS/EIR and would include such measures as binding commitments in the ROD. Because the potential decision being made here will not permit on-the-ground activities to occur, the measures examined for the identified historic properties will be applied to future decisions being made. For the historic properties that are unknown because of the nature of the proposed undertaking, DOI has established a set of binding measures to ensure that consultation to identify and evaluate historic properties is ongoing and continuous as specific aspects or details of dam removal are developed and evaluated. These binding commitments set forth in the EIS/EIR, and which will be incorporated into the ROD pursuant to 36 CFR § 800.8(c)(4)(i)(A), mirror those permitted through a Programmatic Agreement (PA) under the Section 106 regulations “when effects on historic properties cannot be fully determined prior to the approval of an undertaking.” 36 CFR § 800.14(b)(1)(ii). Because DOI has elected to use the NEPA process to meet the requirements of Section 106 of the NHPA, and because this section of the regulations permit the agency to establish binding commitments in the ROD, the concept of establishing binding commitments to identify and evaluate effects on historic properties that cannot be fully determined for the proposed undertaking in this case is permitted by the regulations. In light of the foregoing, DOI believes that it has adequately met its obligations under Section 106 of the NHPA and NEPA for the proposed undertaking being evaluated here. Mitigation Measures (CHR-2 through CHR 4) provides for the continued consultations with applicable parties under Section 106 of NHPA to identify and evaluate cultural and/or historic resources and will determine alternatives to avoid, minimize, or mitigate any adverse effects. Additionally although DOI maintains that they are meeting their obligations under NHPA Section 106, DOI is providing revisions to the text in Section 3.13.4.4 of the EIS/EIR, in response to comments received.</p>	
CC_LT_1117_020-136	Master Response GEN-24 Noise Levels.	No
CC_LT_1117_020-137	The Environmental Justice analysis, Section 3.16, p. 3.16-30 of the Draft EIS/EIR describes the potential environmental justice effects of a short-term and long-term decline in tax revenues and the public services this could affect.	No
CC_LT_1117_020-138	Master Response N/CP-22 How KBRA was Analyzed.	No
CC_LT_1117_020-139	Mitigation measures are identified for the Action Alternatives in Chapters 3 and 4 of the EIS/EIR. Additionally, the comment	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

Comment Code	Comment Response	Change in EIS/EIR
	<p>author fails to identify any specific resource topic in which mitigation measures that were identified for the Proposed Action should also have been discussed for another alternative.</p> <p>Moreover, all environmental effects of the mitigation measures for the Proposed Action and alternatives are analyzed for their potential effects. When relevant, the resource areas described in Chapter 3 contain a section at the end that describes the potential impacts of mitigation measures. This analysis analyzes all mitigation measures, regardless of which alternative they are proposed for.</p>	
CC_LT_1117_020-140	<p>Analysis of the Proposed Action considers all information that could reasonably be known at this point in Reclamation's Klamath Project planning. The comment author asserts that all of the mitigation measures for dam removal are in the KBRA. However, the KBRA actions analyzed in the EIS/EIR are not analyzed as mitigation measures for dam removal. Rather, specific mitigation measures have been developed for all KHSA impacts determined to be significant.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p>	No
CC_LT_1117_020-141	<p>The Expert Panels were part of the Secretarial Determination process to maintain a high level of scientific integrity in the technical information developed as part of that process. The Office of Management and Budget's "Final Information Quality Bulletin for Peer Review" was the principal source of authority for these Expert Panels, rather than NEPA (Office of Management and Budget 2004). The Expert Panels were not part of the EIS/EIR process, and did not include all alternatives. The Lead Agencies have used their best efforts to identify and disclose as much relevant information as possible in the EIS/EIR from the Secretarial Determination process.</p>	No
CC_LT_1117_020-142	<p>Actions that would occur without the KBRA are described as ongoing resource management actions in the No Action/No Project Alternative and Alternatives 4 and 5. Section 2.4.2 describes the resource management actions. The environmental impacts of these actions are evaluated in Chapter 3 of the EIS/EIR.</p>	No
CC_LT_1117_020-143	<p>The KBRA is analyzed as a connected action. NEPA defines connected actions as those actions that are closely related or cannot or will 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</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>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 EIS/EIR Table 1-1). There are some elements that will proceed whether the dams are removed or not, while most of the KBRA programs would not occur or would be enhanced with implementation of dam removal.</p>	
CC_LT_1117_020-144	<p>The EIS/EIR does not present results consistent with the idea that pollutant releases considered to have an insignificant effect under the Proposed Action are considered to have a significant effect under the No Action/No Project Alternative. Since the comment does not provide an example of where in the EIS/EIR this situation occurs, the Lead Agencies can not specifically respond to the comment authors concern regarding inconsistent treatment of pollutant releases under the alternatives. Note that water quality effects determinations for the No Action/No Project Alternative are stated as "No change from existing conditions". There are no "Significant" effects determinations for water quality in the No Action/No Project Alternative.</p>	No
CC_LT_1117_020-145	<p>The first significance criterion listed in EIS/EIR 3.14 is:            Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over Reclamation's Klamath Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.            The EIS/EIR includes evaluation of all alternatives in Section 3.14 in regard to this criterion.</p> <p>P. 3.14-19 of the Draft EIS/EIR states:            The Lead Agencies also considered possible conflicts or inconsistencies between the proposed alternatives and Federal, State, regional, local, or tribal land use plans, policies, or controls relevant in the area of analysis.</p> <p>EIS/EIR Section 3.14.2.3, Local Authorities and Regulations, is a list of those local plans and ordinances that have been considered in the analysis.</p> <p>Additionally, EIS/EIR Chapter 6, Compliance with Applicable Laws, Policies and Plans, summarizes all Federal, tribal, State, and local statutes and regulations that are potentially applicable to the Proposed Action and alternatives. This chapter also notes, however, that some questions remain over the ultimate applicability of local regulations depending on the selection of the DRE (responsible for dam deconstruction) or Hydropower Licensee (responsible for taking over the dams and operations).</p>	No

**Comment Author** Guarino, Thomas  
**Agency/Assoc.** County of Siskiyou, Office of County Council  
**Submittal Date** November 17, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
CC_LT_1117_020-146	An agency may choose to recirculate a Draft EIS/EIR prior to issuing a Final EIS/EIR if significant new information is learned and incorporated into the document, which the public has not had a prior opportunity to comment on (40 CFR § 15.02.9(c)). However, after reviewing the comment letter from Siskiyou County, and addressing each comment, the Lead Agencies have determined there are no significant new information sources identified by the County that would necessitate the recirculation of the Draft EIS/EIR.	No