

## **11.6 Indian Tribes**

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MR. BELCHIK: Hi. My name is Michael Belchik, spelled M-i-c-h-a-e-l B-e-l-c-h-i-k. I'm a senior fisheries biologist for the Yurok Tribe. I've been working here for 16 and a half years now. My primary duties, during this time, has been working on water flows in the Klamath and Trinity Rivers and Klamath dam removal.

And I've been working on dam removal since -- well, the Yurok Tribe and the Karuk Tribe were the first ones to start talking about it, and we were literally laughed out of the room at first. So, it is gratifying to see us here at this stage, where we're beginning to give it some really serious thought.

I thought, last night, that the gentleman from Humboldt County, Hank Seemann, made a really interesting point, in that this is the mitigation project, the entire project. The very purpose of this project is to improve the fisheries of the Klamath River.

Yesterday, at noon, they blew a giant hole in the bottom of Condit Dam, and the lake drained in about an hour. This was a PacifiCorp dam. This was reached -- the dam removal agreement was reached almost in the same manner as this dam. It gives us hope that -- at least some faith that PacifiCorp will follow through on their commitments.

And with that, I would like to talk a little bit about some of the issues in the EIS. First of all, one of the things that the Fisheries Benefit Summary didn't make a big deal about, or I think really needs to be emphasized more, is the resurrection of the now extinct spring run that's above the Salmon River. What we're looking at doing here is a tremendous goal of bringing back a lost run of fish that will greatly benefit the spring Chinook in here.

Another issue is that we talked about access to what they call thermal refugia. I think it's much larger than that. Taking the dams down is going to give the fish access to stable sources of cool groundwater, very large volumes of cool groundwater, capable of holding fish, like, an entire spring run.

Comment 1 - Fish

Comment 2 - Approves of Dam Removal

This is a very vital thing to happen in the face of climate change. We're going to be facing issues with loss of snowpack.

I think it's very important for the long-term health of the Chinook salmon to get them access to the Upper Basin, and dam removal is, by far, the best alternative to that. And I have taken a close look at the other alternatives, such as fish passage.

I think it's important to note, with respect to the KBRA, that, currently, the flows are managed by the Endangered Species Act. This means that they're managed for Coho only, which I don't believe is acceptable, but it is the current status quo. That protection, the ESA backstop, is left in place. Under the KBRA, it will not go away.

So, we commonly hear that there are guarantees of water for farmers. That simply is not true. It will be the same status that it is right now.

The KBRA, the model runs, the best available information shows that the KBRA -- the flows will protect the river from fish kill flows. If this is not the case, I would not have recommended it to the Tribal Council. It has to work for fish. And I believe it does.

We know that this Agreement is not complete. For example, it does not address major and important issues in the Shasta and Scott River. There's still a lot of work to do. It doesn't address every water quality issue in the Upper Klamath Basin. There is still other work to do on that, too. And with that, I conclude my comments.

Thank you.

**Comment Author** Belchik, Michael  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1027_052-1	<p><b>Background:</b> As noted in the Environmental Impact Statement /Environmental Impact Report (EIS/EIR) on p. 3.3-7, historically, the spring-run Chinook salmon may have been as abundant as the fall run (Moyle 2002). Large numbers of Chinook salmon once spawned in the basin above Klamath Lake in the Williamson, Sprague, and Wood rivers (Snyder 1931, as cited in National Research Council 2004). Large runs of spring Chinook salmon also returned to the Shasta, Scott, and Salmon rivers.</p> <p>In Section 3.3 the following text has been added:</p> <p><b>Cause of the Decline:</b></p> <ul style="list-style-type: none"> <li>• Huntington (Huntington 2006) reasoned that spring-run Chinook likely accounted for the majority of the upper basin's actual salmon production under pristine conditions, but were apparently in substantial decline by the early 1900s. The cause of the decline of the Klamath River spring-run Chinook salmon prior to Copco 1 Dam has been attributed to dams, overfishing, irrigation, and largely to commercial hydraulic mining operations (Coots 1962; Snyder 1931). These large scale mining operations occurred primarily in the late 1800's, and along with overfishing, left spring Chinook little chance to recover prior to dam construction in early 1900's (p. 3.3-7).</li> <li>• Dam construction eliminated much of the historical spring-run spawning and rearing habitat and was partly responsible for the extirpation of at least seven spring-run populations from the Klamath-Trinity River system (Myers et al. 1997). The construction of Dwinnell Dam on the Shasta River in 1926 was soon followed by the disappearance of the spring Chinook salmon run in that tributary (Moyle et al. 1995 in National Research Council 2004) (p. 3.3-7).</li> <li>• Under this Alternative, spring-run Chinook salmon are likely to remaining at significantly suppressed levels over the years of analysis (50 years) (added to end of 2<sup>nd</sup> paragraph under spring Chinook on p. 3.3-63, Alternative 1).</li> </ul> <p>As noted in the EIS/EIR on p. 3.3-63 and 3.3-64, the consequences of this ongoing loss of habitat to the population could include reduced resilience to recover from catastrophic disturbances of natural or anthropogenic origin, such as wildfire or chemical spills. Because areas upstream of the barrier include coldwater refugia, opportunities for the population to adapt to changing climate are reduced, whether these changes are a result of short- or long-term cycles or trends. Overall, spring Chinook salmon mostly use the mainstem Klamath River as a migratory corridor during adult migration, and downstream smolt migration.</p>	Yes

**Comment Author** Belchik, Michael  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

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Comment Code	Comment Response	Change in EIS/EIR
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**Access to Additional Habitat:** The EIS/EIR (Chapter 3.3.4.3) states access to additional habitat would provide a long-term benefit to spring-run Chinook salmon populations.

Alternatives 2 and 3 (p. 3.3-101) have been revised to integrate the following:

- A) Successful passage would provide access to important thermal refugia, most notably in the J.C. Boyle Bypassed Reach and in tributaries upstream of Upper Klamath Lake (Federal Energy Regulatory Commission [FERC] 2007). Dam removal would make habitat accessible to both spring-run and fall-run Chinook salmon above Iron Gate Dam (IGD) (FERC 2007). Removing the dams would allow access to at least 49 tributaries upstream of Iron Gate Dam that would provide hundreds of miles of habitat for Chinook salmon (U.S. Department of the Interior [DOI] 2007), including groundwater-fed areas resistant to water temperature increases caused by changes in climate (Hamilton et al. 2011). Some of these areas, such as the lower Williamson River, have habitat that would provide substantial holding areas for spring Chinook (Hamilton et al. 2010). Other holding areas with suitable temperatures above the Project include Big Springs in the J.C. Boyle Bypassed Reach (DOI, Bureau of Land Management [BLM] 2003), groundwater influenced areas on the west side of UKL (Gannett et al. 2007), and the Wood River (Gannett et al. 2007). Providing an unimpeded migration corridor, the Proposed Action would provide the greatest possible benefit related to fish passage, hence, the highest survival (Buchanan et al. 2011a) and reproductive success. It is anticipated that as a result of the Proposed Action the spring-run Chinook salmon population within the Klamath River watershed would have an increase in abundance, productivity, population spatial structure, and genetic diversity.
- B) The Draft EIS/EIR (chapter 3.3.4.3.) presents information from the Chinook Salmon Expert Panel Report (Goodman et al. 2011). The report noted uncertainties based on existing data and concluded the prospects for the Proposed Action to provide a substantial positive effect for spring Chinook salmon is more remote than for fall-run Chinook salmon. The primary concern of the panel was that low abundance and productivity (return per spawner) of spring Chinook salmon would limit recolonization of habitats upstream of Iron Gate Dam. However, this concern would be addressed in that the Klamath Basin Restoration Agreement (KBRA) includes a

**Comment Author** Belchik, Michael  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>reintroduction component to establish populations in the new habitats. Above Upper Klamath Lake (UKL), KBRA implementation would reintroduce Chinook salmon in Phase 1 (KBRA Section 11.3.1.A) – no sooner than one year after the KBRA Effective Date. The adaptive management approach to reintroduction will include spring Chinook as well as fall Chinook (Oregon Department of Fish and Wildlife [ODFW] 2008). Even without supplementation, it is likely that Chinook salmon recolonization would occur as it did following barrier removal at Landsburg Dam in Washington (Kiffney et al. 2008). In addition, KBRA actions would be implemented that are anticipated to improve productivity of existing and potentially newly accessible habitats.</p>	
	<ul style="list-style-type: none"> <li>• C) Historically, adult spring-run Chinook salmon migrated upstream of the current location of IGD, perhaps as early as February and March (Klamath Republican articles in Fortune et al. 1966) and likely held over in large holding pools in the mainstem, in tributaries fed by cool water, and in headwater habitat above UKL (California Department of Fish and Game [CDFG] 1990; Moyle 2002; Snyder 1931). One benefit of such early migration would be the avoidance of periods of poor water quality. The restored water temperature regime may change upstream migration timing of adult spring-run Chinook salmon because of the shift in water temperatures below IGD (Bartholow et al. 2005).</li> <li>• D) With large scale hydraulic mining operations now outlawed, spring-run Chinook salmon would no longer be subject to one of their most significant threats in the Klamath River as discussed above. Current improved fisheries management minimizes overharvest.</li> <li>• E) While access to the upper basin provides considerable promise of increasing spring-run abundance, Huntington (2006) cautioned that the existing potential for Chinook salmon production within the basin above UKL is clearly much lower than his estimate of historical potential. His approach, however, did not fully account for the historical (and unknown) production potential of UKL itself, which could have been considerable. A recent experimental reintroduction into UKL suggests that habitat here would continue to support Chinook salmon (Maule et al. 2009).</li> <li>• F) To strengthen resiliency in salmon populations, habitat opportunities need to be expanded to allow maximum expression of life-history variation. Restoration of migration to</li> </ul>	

**Comment Author** Belchik, Michael  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>habitat above Iron Gate Dam, in particular Upper Klamath tributaries with important groundwater resources, will be conducive to variation of life-histories, including spring Chinook, and population resilience (Hamilton et al. 2011).</p> <p><u>Alternative 4</u> (p. 3.3-157) and <u>Alternative 5</u> (p. 3.3-181) have been revised to integrate A, C, D, E, and F above either by reference or the addition of the text.</p> <p>As noted in the EIS/EIR in Section 3.3-15, spring Chinook salmon are highly desirable and would provide quality benefits to the subsistence fishery and lengthen the duration of harvest. Restoration of spring Chinook is of particular importance for Tribes, as it could lead to revival of the traditional First Salmon Ceremony.</p>	
IT_MC_1027_052-2	Master Response GEN-2 Some People Support Dam Removal and Others Oppose Dam Removal.	No

IT\_MC\_1026\_062

KLAMATH DAM REMOVAL  
 DRAFT EIS/EIR HEARING  
 OCTOBER 26, 2011  
 PUBLIC TESTIMONY  
 ARCATA, CALIFORNIA

Partial Duplicate

MR. BELCHIK: Hi. My name is Michael Belchik. of  
 That's spelled M-i-c-h-a-e-l B-e-l-c-h-i-k.  
 I'm a fisheries -- senior fisheries biologist  
 for the Yurok Tribe. What I work on is Klamath dam  
 removal, that's all -- mostly what I've done for about  
 the last ten years. When I started, nobody was talking  
 about dam removal, and it's somewhat gratifying to see a  
 turnout like this where it's all about dam removal.

I want to talk a little bit about the science  
 behind the dam removal. First of all, in the Fisheries  
 Benefit Summary in the document, I think one thing that's  
 really big here is that one of our goals is to resurrect  
 a now extinct run of spring run Chinook, which is the  
 Upper Klamath spring run Chinook. We believe, given the  
 fisheries information that's developed, that this is  
 going to happen if the dams come out under Alternatives 2  
 or 3. I think that needs to be emphasized.

Another thing that was mentioned, but I don't  
 think quite in the right way, it says that fish will have  
 access to thermal refugia areas. I think it's quite a  
 bit more significant than that. What we're talking about  
 is getting fish to stable areas of cold water in the face  
 of the loss of significant snow pack and temperature  
 increases due to climate change. We think that this is a  
 necessary step for -- to ensure the long-term survival of  
 the salmon in the Klamath River and that that needs to be  
 stated that way.

Another thing is that there is some controversy  
 about the science, so one of my roles was to take a look  
 at the science about the flows, about the results of  
 theirs. It's not simple. It's not easy to tell exactly  
 what would happen if we did this or didn't do that. But  
 I can say that the ESA protections, which currently  
 protect flows on the river, which are about the only  
 thing that protect flows, will still be left in place. I  
 think that needs to be emphasized in the document.

So, the ESA protections that currently protect  
 flows, they will still protect flows. It says that in  
 the KBRA, something on the order of 15 different places  
 and times on there.

Duplicate of  
 IT\_MC\_1027\_052

Comment 1 - Hydrology

Comment 1 cont.

The KBRA also protects the Klamath River from flows which caused the Klamath River fish kill. We believe that implementation of the KBRA will be a significant step in the prevention from that disaster ever happening again.

And then, finally, I just want to acknowledge that the KBRA, while it does attempt to address comprehensive and large scale, landscape scale, ecological issues on the Klamath, which is what I believe needed to be done, it's not complete. It doesn't address significant issues in some of the tributaries, such as the Shasta and Scott, and there still is more work to be done, not just in those areas but other areas.

Thank you very much.

Comment 2 - Out of Scope

**Comment Author** Belchik, Michael  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 26, 2011

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Portions of this letter are verbatim duplicates of comments submitted in the comment author's submittal coded - IT\_MC\_1027\_052. Responses to those initial comments that were duplicated in this letter are presented in this EIS/EIR alongside IT\_MC\_1027\_052. Responses to comments provided in this letter that were not also submitted as a part of IT\_MC\_1027\_052 are listed below.

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1026_062-1	Master Response HYDG-1 Flood Protection.	No
	Master Response WSWR-4 Summary of Effects to Water Rights/Water Supply for Alternatives 2 and Alternative 3 for Municipal, Agricultural, and Tribal Use.	
IT_MC_1026_062-2	Master Response GEN-1 Comment Included as Part of Record.	No

IT\_WI\_1113\_079

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From: [dboomgarden@yahoo.com](mailto:dboomgarden@yahoo.com)[SMTP: DBOOMGARDEN@YAHOO.COM]  
Sent: Sunday, November 13, 2011 1:03:40 PM  
To: BOR-SHA-KFO-Klamathsd; [werner@wrinkledog.com](mailto:werner@wrinkledog.com)  
Subject: Web Inquiry: Save the dams  
Auto forwarded by a Rule

Name: Donnabelle Boomgarden  
Organization: Shasta Indian Nation

Comment 1 - Cultural Resources

Subject: Save the dams

Body: By removing the dams Village and burial sites will be destroyed and\or open to vandalism. This is our heritage, a key to our culture. Most of Siskiyou County is our aboriginal land. We need to protect it. Thank You

**Comment Author** Boomgarden, Donnabelle  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** November 13, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_WI_1113_079-1	<p>Master Response CUL-1 Shasta Nation Participation.</p> <p>Master Response CUL-2 Federal Recognition.</p> <p>EIS/EIR Section 3.13, Cultural and Historic Resources, addresses potential impacts to village and burial sites. Additional details regarding potential impacts to buried sites and management of those sites were added to Sections 3.13.4.3 and 3.13.4.4 of the Draft EIS/EIR. The potential for vandalism of exposed sites was considered and is addressed in Mitigation Measure CHR-2 through the development of management plans and discovery plans, through consultations under the National Historic Protection Act (NHPA) Section 106, as applicable. In addition, Shasta would be included in the additional consultations under NHPA Section 106 for each mitigation measure.</p>	Yes

**Klamath Settlement**



EIS/EIR PROCESS

IT\_MF\_1025\_025

# Comment Form

Please mail your comments to:

**Ms. Elizabeth Vasquez**

Bureau of Reclamation  
2800 Cottage Way  
Sacramento, CA 95825

OR

**Mr. Gordon Leppig**

California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**

KlamathSD@usbr.gov

**Website:**

KlamathRestoration.gov

**Fax:**

(916) 978-5055

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

**Name:** Deborah Bruce-Hoeller

**Organization:** ~

**Title:** ~ Emerged to Hoopa tribe member

**Address:** P.O. Box 433, Orleans CA 95556

**Email:** Comment 1 - Environmental Justice

**Comments:**

As indicated in the Executive Summary of the draft EIS/EIR on Klamath Facilities Removal, in Table ES-7: Summary of Controversies & Issues Raised by Agencies & the Public, a subject is missing that has been raised, regarding KBRA/KHSA impacts related to Environmental Justice, Water Rights, Trust Responsibility and the like.

- The language in the KBRA/KHSA and any legislative rewrite needs to be clarified and made absolutely specific that "Klamath tribes" <sup>(pg. ES-19)</sup> refers only to tribes that were signatories to the Agreements and can never in future be interpreted to refer to non-signing tribes in the Klamath-Trinity watershed, so that waivers or ~~termination~~ <sup>termination of</sup> of water rights or federal Trust Responsibility cannot be applied to non-signing tribes (such as the Hoopa Valley Tribe).
- The EIS/EIR and legislative language affecting the KBRA/KHSA ~~to~~ need to acknowledge potential negative impacts to the environment, social justice, and environmental justice created by waiving or termination of water rights or Trust Responsibility and NOT SET LEGAL PRECEDENT for the federal government to impose on other tribes anywhere in the U.S. such a waiver or end to Trust Responsibility. → (over)

**Public Disclosure:** It is not required that you submit personal information. If you decide to do so, please note that this information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Please place  
first class  
postage here

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

Comment 1 cont. - EJ

DOI needs to describe - legal precedent's impacts and other  
impacts per if DOI decides for down removal / KGRA / KHSA  
but legislatures never fund it.

**Comment Author** Bruce-Hostler, Deborah  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 25, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1025_025-1	Draft EIS/EIR Table ES-7 has been revised to include environmental justice, water rights, and tribal trust responsibility.  Master Response TTA-1 Federal Trust Responsibility and the KBRA.	Yes

IT\_EM\_1117\_083

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 From: Clarence/Deborah[SMTP:ACORNCAPP@YAHOO.COM]  
 Sent: Thursday, November 17, 2011 6:24:50 PM  
 To: BOR-SHA-KFO-Klamathsd  
 Cc: [KSDcomments@dfg.ca.gov](mailto:KSDcomments@dfg.ca.gov)  
 Subject: KBRA and dam removal comments  
 Auto forwarded by a Rule

**Amended Comments by Deborah Bruce-Hostler (additions and main points are in bold italics)--  
 revised from comments given at Public Hearing on Klamath Dam Removal Draft  
 EIS/EIR, 10-25-2011, Orleans CA**

I am a resident of Orleans, CA; married to a Hoopa Tribal member; our family feeds dancers, ceremonialists and families at Jump Dance world renewal ceremonies in Hoopa; we serve acorns, salmon, and sometimes sturgeon to dancers and families at the 10-day ceremonies. *The salmon that are are part of these ceremonies come from the Trinity River, the main tributary to the Klamath, and from the Klamath itself when Yurok friends bring fish from the mouth of the Klamath. Since juvenile and spawning salmon must travel the lower Klamath to reach the Trinity, the health of the Klamath, its water quality and temperature, and the health of the fish are of highest importance to us. I support dam removal but consider the KBRA and KHSA to be seriously flawed documents that were reached in bad faith and that violate the rights of the Hoopa Valley Tribe. Restoration of the Klamath River and its salmon, should be achieved without the KBRA and KHSA.*

As indicated in the Executive Summary of the Klamath Facilities Removal *Public* Draft EIS/EIR, in Table ES-7, Summary of Controversies and Issues Raised by Agencies and the Public, a subject is missing that has been raised, regarding KBRA/KHSA *impacts related to environmental justice, water rights, Trust Responsibility*, and the like.

The language in the KBRA/KHSA *and any legislative rewrites/revisions* needs to be clarified and made absolutely specific that *“Klamath Tribes” refers only to tribes that were signing Parties to the Agreements and can never in future be interpreted to refer to nonsigning tribes in the Klamath-Trinity watershed, so that waivers of water rights or termination of federal Trust Responsibility cannot be applied to nonsigning tribes.*

A version of draft legislation at this time has language addressing this concern but in numerous other paragraphs repeatedly and *vaguely* refers to “Klamath Tribes” which in future could be interpreted as a geographic description and not a specific reference to specific tribal government entities.

*The EIS/EIR and final legislative language affecting the KBRA/KHSA need to acknowledge and protect against potential negative impacts to the environment, social justice, and environmental justice created by waiving or termination of water rights or Trust Responsibility and not set legal precedent regarding diminishment of Trust Responsibility, rights and protections for tribes anywhere in the U.S.*

Comment 1 - Environmental  
Justice



Comment 2 - ITAs

Comment 3 - Water Quality

As Mr. Pat Higgins has pointed out, KBRA implementation disallows participation by federally recognized tribes in the Klamath-Trinity region who did not sign on to the Agreements—on committees and in decision-making related to fisheries or water quality for 50 years, *which is a major social injustice.*

On the subject of water quality impacts on the Klamath *and Trinity River* fisheries: dam removal without reducing nutrients in the Upper Klamath Basin will increase nitrogen seasonally in the lower Klamath leading to continued fish disease epidemics *affecting also the Trinity River.* The DEIS/DEIR does not discuss applying ecological restoration techniques and principle that are the only scientifically valid means of abating the water pollution crisis and restoring native fish.

Comment 4 - Hydrology

**The EIS/EIR and legislative language need to correct these flaws and weaknesses in the Agreements and alternative plans, as well as presenting a plan for restoration, guaranteed flows for the health of the rivers and fisheries in the event of a positive Secretarial determination rendered ineffective by legislative stalling or becoming an unfunded mandate.**

Comment 5 - KHSA

*In addition, Department of the Interior must revise its approach to this and parallel processes insofar as desisting from favoritism to extractive water users, and bad faith and actual lack of transparency, and rather practice true, ethical transparency and uphold restoration values.*

Comment 6 - Other/General

**ADDED COMMENTS:** *To reinforce this statement, drawing attention to parallels with the KBRA/KHSA process and the exclusion of crucial stakeholders, I quote below portions of the recent letter to Secretary Salazar from five California state representatives regarding procedural violations with the Bay Delta Conservation Plan (BDCP). This is relevant to current Klamath issues in several ways, including that the Bay Delta Conservation Plan will not only impact fisheries in the Central Valley and Delta, but the fish, communities and Indian tribes of the Trinity--a Delta Tributary Watershed affected by the Bay-Delta Conservation Plan--and Klamath rivers.*

*First to quote from an article by Dan Bacher on alternet: ‘Five Northern California Representatives today demanded answers on the current state of the Bay Delta Conservation Plan (BDCP) process – and called on the Interior Department to rescind a “flawed” Memorandum of Agreement (MOA) that they say “was developed behind closed doors.” The Members of Congress accused the memorandum of giving water export agencies south of the Delta and in Southern California “unprecedented influence” over an important public process concerning California’s fresh water supplies.*

*The Representatives echoed the concerns of Delta residents, family farmers, fishing groups, Indian Tribes and environmentalists, who oppose the state-federal plan to build the peripheral canal to export more water from the Sacramento-San Joaquin River Delta to corporate agribusiness and southern California. They oppose the canal because of the threat it poses to imperiled Central Valley salmon and Delta fish populations, Delta farms and Delta communities.*


 Comment 6 cont.

*In a letter to Interior Secretary Ken Salazar, U.S. Reps. George Miller (CA-7), Mike Thompson (CA-1), Doris Matsui (CA-5), Jerry McNerney (CA-11) and John Garamendi (CA-10) asked that the recent agreement between the Department and water agencies be rescinded and that the process be opened up to include other key stakeholders left out of the discussions, including Bay Area, Delta and coastal communities, farmers, businesses, and fishermen.'*

And to quote portions of the representatives' letter to Salazar:

*"Dear Secretary Salazar:*

*We are writing to follow up our recent meetings with Interior officials and other participants in the Bay Delta Conservation Plan (BDCP) and to express our strong objections to the current direction of that plan.*

*The constituents we represent have a great deal at stake in the future of the BDCP process and ultimate plan. Delta, Bay Area and coastal communities, residents of the floodplain, farmers, businesses, fishermen, and the rest of our constituents could be profoundly affected by the BDCP. But to date, the BDCP planning process has failed to treat these affected groups in a fair and transparent manner, and we do not believe that the emerging plan is reflecting Bay-Delta constituencies' concerns and interests.*

*[...] Specifically, it does not appear that the federal government is taking seriously the goal of restoring endangered salmon or that it intends to operate the Central Valley Project to meet the statutory mandate to protect, restore, and enhance fish, wildlife, and associated habitats*

*The agreement further establishes an unequal process going forward: the MOA invites the water export contractors to collaborate with the federal agencies on the responses to public comments, allows the water export contractors early and exclusive access to draft consultant work product, and gives the water export contractors direct control over the consultants who are writing the documents. California's Legislative Analyst's Office recently testified before the State Assembly about additional provisions of this document that "may be seen as favorable to the contractors," including the fact that a public NEPA document may not be issued without explicit authorization from the water export contractors. This raises very serious questions about whose process this is, ultimately; if the water export contractors' funding has given them control over the process, it would be to the detriment of the Bay-Delta and to the public interest. [...]*

*Interior should immediately rescind this flawed MOA and work instead to establish a successful BDCP process that is transparent and based on parity, and that genuinely puts the restoration of the Bay-Delta and its fisheries, the needs of local communities, and the quality of local water resources on par with other water supply goals. That includes: [...]*  
*Maintaining state and federal agencies' ability to implement other statutory mandates including, but not limited to, the CVPIA's anadromous fish restoration program (including*

Comment 6 cont.

***B2 water, the Restoration Fund, and other activities), the refuge water supply program, Trinity River restoration [...]***

[I submit this document as additional comments to those given at the Orleans hearing, 25 October 2011.]

Deborah Bruce-Hostler

[acorncapp@yahoo.com](mailto:acorncapp@yahoo.com)

P.O.Box 433, Orleans CA 95556

**Comment Author** Bruce-Hostler, Deborah  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 17, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_EM_1117_083-1	Draft EIS/EIR Table ES-7 has been revised to include environmental justice, water rights, and tribal trust responsibility.  Master Response TTA-1 Federal Trust Responsibility and the KBRA.	Yes
IT_EM_1117_083-2	Master Response TTA-7 Tribal Involvement in Future Discussions of Water Management.	No
IT_EM_1117_083-3	It is expected over the life of the project that improvements in water quality will contribute to reducing or ending fish disease epidemics.  Master Response WQ-22 TMDLs and the No Action/No Project Alternative (and Alternative 4).  Master Response WQ-4 C, D Hydroelectric Project Impacts to Water Quality & Anticipated Klamath Hydroelectric Settlement Agreement (KHSA)/KBRA Improvements.	No
IT_EM_1117_083-4	The KBRA and KHSA were developed to address the flaws noted by the comment author in the comment coded IT_EM_1117_083-3. As noted above in the response to comment IT_EM_1117_083-3, it is expected over the life of the project that improvements in water quality will contribute to improved conditions in the health of the river and the fisheries.	No
IT_EM_1117_083-5	Master Response GEN-7 Unsubstantiated Information.  Master Response KHSA-1 Negotiations of KHSA and KBRA.  Master Response GEN-16 Public Involvement.  Master Response N/CP-20 Response to Public Comment.	No
IT_EM_1117_083-6	Master Response GEN-1 Comment Included as Part of Record.	No

IT\_LT\_1230\_098



## YUROK TRIBE

190 Klamath Boulevard • Post Office Box 1027 • Klamath, CA 95548

Ms. Elizabeth Vasquez  
Bureau of Reclamation  
2800 Cottage Way  
Sacramento, CA 95825,  
June 22, 2011

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

Re: Yurok Tribe's Comments on Klamath Facilities Removal Public Draft  
Environmental Impact Statement/ Environmental Impact Report (EIS/EIR).

Dear Ms. Vasquez and Mr. Leppig:

With this letter and the attached comments, the Yurok Tribe transmits its comments on the Facilities Removal Public Draft EIS/EIR. Specific comments can be found in an accompanying document titled: Specific Comments of the Yurok Tribe on the on the Klamath Facilities Removal Public Draft EIS/EIR.

Comment 1 - Approves of Dam Removal

The Yurok Tribe firmly believes that the available information overwhelmingly indicates the need for either full or partial dam removal (Alternatives 2 or 3) in order to bring about the restoration of the salmon and the communities in the Klamath Basin. We believe that when the Secretary looks at the intent of the KBRA, the purpose and need of this EIS/EIR, and the vast amount of information collected for this EIS/EIR, the Secretary will select either Alternative 2 or 3 as the Preferred Alternative. We are strongly supportive of selection of one of these alternatives because the available scientific and technical information confirm that either one of them would greatly benefit the Klamath River and affected communities.

However, the Draft EIS/EIR fails to properly assess the Yurok Tribe interest in the Klamath agreements and dam removal as compared to the Hoopa Valley Tribe and Resighini Rancheria. The Yurok Tribe catches fish from the Klamath River side of the basin. The Hoopa Valley Tribe does not fish on the Klamath River, and Resighini

Comment 2a - ITAs

← Comment 2a - cont.

Rancheria has no fishing rights on the Klamath River. The Document fails to characterize the fish harvest of the Yurok Tribe in terms of the number of fish the Yurok Tribe catches. As a result it appears that the Yurok and other Tribes mentioned in the DEIS have the same interests. They do not. The Yurok Tribe has a greater interest as compared to the Hoopa Valley Tribe and Resighini Rancheria.

**General Comments:**

Since time immemorial, the Yurok Tribe has lived on the Klamath River and has depended on the river for spiritual and physical sustenance. It is our sacred duty as Yurok People to care for and restore the Klamath River. This responsibility has been carried through the generations, and is at the core of our identity as river people.

In modern times, the Yurok Tribe has expended considerable time and effort to restore the Klamath River, guided by traditional knowledge and western scientific knowledge. We have heeded the advice of both elders and scientists who have advised us that the dams were killing our river and our salmon. This document proves beyond any doubt the incalculable harm that JC Boyle, Copco 1, Copco 2, and Iron Gate Dams have done to the Klamath River.

This EIS/EIR represents a huge step forward in our knowledge of the Klamath River, for it pulls together for the first time the vast amount of information that is known about how the dams are harming our fish, and about what effects dam removal would have to the river.

In particular, the Yurok Tribe firmly believes that the information in the Draft EIS/EIR is generally high quality and unbiased, and we point out the robust peer-review process as an example by which the Federal Government adds to the value of the science they (and others) conduct.

Comment 3 - NEPA/CEQA

There are some aspects of the document which call for attention, however. By law, a NEPA/CEQA document such as this must look at all effects, both positive and negative, of implementing a proposed action (removal of four dams). However, the prescribed structure of both NEPA and CEQA are poorly suited to analyzing actions where the essence of the action is to bring about an improvement for fish. All restoration actions have some undesirable effects, yet these undesirable effects have become the focus of analysis for an action that is inherently restorative. Another fundamental flaw of the EIS is an inherent inability to balance the significant gains with the risk of no action. This is a particular problem with the CEQA analysis which requires (sometimes expensive) mitigations on all actions with significant effects, even if the long-term effect is overwhelmingly positive.

Another concern we have is in the analysis of the "No Action" alternative of the Draft EIS/EIR. For many of the resources, an assumption has been made for the No Action

2

← Comment 4 - Alternatives

← Comment 4 - cont.

alternative that current conditions would continue unchanged into the future if no action was taken. We disagree with this fundamental assumption, because in many instances there is insufficient information to draw that conclusion, and in other cases, information exists that suggests that the situation for salmon will continue to deteriorate. As bad as things are for salmon because of the dams and other factors, it is not clear that the situation has stabilized and there is a possibility that "No Action" means a continuing and inexorable slide into conditions that will threaten the very existence of salmon in the Klamath Basin. The Draft EIS/EIR should explicitly acknowledge this uncertainty throughout the document where appropriate.

Comment 2b - ITAs ↓

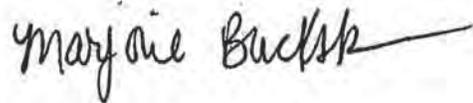
Finally, the Yurok Tribe has very serious concerns about the way that Tribal Trust resources were characterized for the Klamath River in the Draft EIS/EIR. The Draft EIS/EIR is deficient because it doesn't put the Yurok Tribal fishing rights in proper context to the other tribes. The Draft EIS/EIR fails to point out the fact that under the Hoopa-Yurok Settlement Act, the Resighini Rancheria as an entity and as individuals have given up all rights to resources on the Yurok Reservation. The Yurok Tribe harvests 90% of the Chinook (as a share of tribal harvest) in the Klamath Basin. The Hoopa Valley Tribe harvests no Klamath fish, and the Resighini have no fishing rights on the Klamath River.

The Klamath River should never have been dammed in the first place. Promises were made and consequently broken, to provide fish passage, and now that passage and water quality improvements are required, an agreement has been reached to remove the dams. It is clear from looking at the EIS/EIR that dam removal and associated restoration actions will:

1. Alleviate significant water quality problems in the basin, particularly warm fall temperatures that harm spawning salmon;
2. End the poisoning of the river with toxic microcystin which has sickened many Tribal members and appears to be worsening over time;
3. Create a significant number of jobs;
4. Increase the geographic and genetic diversity of salmon runs on the Klamath;
5. Save PacifiCorp ratepayers (including many tribal members) a significant amount of money;
6. Restore the geomorphic processes necessary to sustain fisheries habitat and control deadly disease conditions on the Klamath River;
7. Form a basic foundation for the restoration of the entire Klamath ecosystem as a whole.

The attached document Specific Comments of the Yurok Tribe on the on the Klamath Facilities Removal Public Draft EIS/EIR contains the Yurok Tribe's detailed technical comments on the EIS/EIR.

Sincerely:

A handwritten signature in black ink that reads "Marjorie Buckskin" with a long horizontal flourish extending to the right.

Marjorie Buckskin  
Vice Chair  
Yurok Tribe  
PO Box 1027  
Klamath, CA 95548  
(530)482-1350

## Specific Comments of the Yurok Tribe on the on the Klamath Facilities Removal Public Draft EIS/EIR..

Comments Apply to Pages and Sections noted. We provide comments on:

1. Tribal Trust and Fishing Rights Issues
2. Water Quality
3. Aquatic Ecology and Hydrology
4. Aquatic Resources; Diseases and Parasites
5. Dam Removal Detailed Plan and Cost Estimates
6. Broadly Applicable Comments from YTEP

In general, quotes from the Draft EIS/EIR are italicized, and the page number is referenced at the beginning of the comment.

1. Tribal Trust and Fishing Rights Issues

← Comment 5 - ITAs

General comment: the DEIS fails to properly assess the Yurok Tribe interest in the Klamath agreements and dam removal as compared to the Hoopa Valley Tribe and Resighini Rancheria. The Yurok Tribe catches fish from the Klamath River side of the basin. The Hoopa Valley Tribe does not and Resighini has no fishing rights. The Document fails to characterize the fish harvest of the Yurok Tribe in terms of the numbers of fish the Yurok Tribe catches. As a result it appears that the Yurok and other Tribes mentioned in the DEIS have the same interests. They do not. The Yurok Tribe has a greater interest as compared to the Hoopa Valley Tribe and Resighini Rancheria.

Pg 3.8-12 *"The 239-acre Resighini Rancheria is located near the mouth and on the south bank of the Klamath River, and is surrounded by the Yurok Reservation. The Rancheria Reservation was purchased by the Bureau of Indian Affairs in 1938 under the authority of the Indian Reorganization Act, and proclaimed an Indian reservation by Secretarial Order in 1939. Any fishing and concomitant water rights associated with the Resighini Rancheria have not yet been determined."*

The Yurok Tribe disagrees with this assessment of Resighini Rancheria's fishing rights. Resighini Rancheria members have expressly given up their rights to resources (including fish) on the Yurok Reservation. Under the Hoopa-Yurok Settlement Act of 1988, 25 U.S.C. §§ 1300i, *et seq.*, (the Settlement Act") the extended strip of land along the Klamath River was cleaved from the original Hoopa Valley Reservation and designated the Yurok reservation. Section §1300i-1(e) then vested in the Yurok Tribe the authority to govern the Yurok

← Comment 6- ITAs

← Comment 6 cont.

Reservation and to administer the unallotted trust land and assets – including the fisheries – of the Yurok Reservation.

Pursuant to the Settlement Act, members of the Resighini Rancheria with Yurok heritage were given two opportunities to join the Yurok Tribe, either as a political unit or individually. Rancheria members were given the opportunity to merge the Rancheria as a political unit into the Yurok Reservation. 25 U.S.C §1300i-10(b). However, the members of the Rancheria voted against any merger with the Yurok Reservation. The Settlement also provided qualified Indians of the original Hoopa Valley Reservation, which included allottees or their descendants, the opportunity to elect membership in the Yurok Tribe. 25 U.S.C. 1300i-5(c)(1). An Indian who chose not to affiliate with the Yurok Tribe (or the Hoopa Valley Tribe) received a lump sum payment, but lost any "interest or right whatsoever in the ... resources within or appertaining to... the Yurok Reservation." 25 U.S.C. 1300i-5(d)(3).

Comment 7 - ITAs

Page 3.12-27 *"A small length of the northern border of the reservation includes about a quarter mile reach of the Klamath River called Saints Rest Bar several miles upriver from Weitchpec, California."*

Please add text that indicates that no Hoopa Valley Tribal members reside on or near the Klamath River in this portion of the Hoopa Valley Reservation, and that no fishing takes place by Hoopa Valley Tribal members at that location.

Comment 8 - ITAs

Page 3.12-31: First hand descriptions of river conditions by Sherman and Nelson apply to Trinity River, and this needs to be made clear. The EIS/EIR is correct when it states on page 3.12-28 that the primary effect of the Proposed Action to the Hoopa Valley Tribe is that Trinity fish could be affected positively by the proposed action as they migrate through the lower 42 miles of the Klamath River. The effects described in this section are real, and are significant, but are unrelated to the proposed action because they apply to the Trinity River and not the Klamath River.

Page 3.12-43 *"While the "fish wars" and accompanying litigation of the 1970s and 1980s reinstated Yurok fishing rights and the Hoopa-Yurok Settlement Act further confirmed that the Yurok Tribe had fishing rights, (Resighini) Rancheria members were left out of that settlement."*

The Yurok Tribe disagrees that Resighini Rancheria was left out of the Hoopa-Yurok Settlement Act. Pursuant to the Settlement Act, members of the Resighini Rancheria with Yurok heritage were given two opportunities to join the Yurok Tribe, either as a political unit or individually. Rancheria members were given the opportunity to merge the Rancheria as a political unit into the Yurok Reservation. 25 U.S.C §1300i-10(b). However, the members of the Rancheria

Comment 9 - ITAs

Comment 9 cont.

voted against any merger with the Yurok Reservation. The Settlement also provided qualified Indians of the original Hoopa Valley Reservation (which encompassed present day Hoopa Valley and Yurok Reservation), which included allottees or their descendants, the opportunity to elect membership in the Yurok Tribe. 25 U.S.C. 1300i-5(c)(1). An Indian who chose not to affiliate with the Yurok Tribe (or the Hoopa Valley Tribe) received a lump sum payment, but lost any "interest or right whatsoever in the ... resources within or appertaining to... the Yurok Reservation." 25 U.S.C. 1300i-5(d)(3).

Comment 10 - ITAs

Page 3.12-44 *"Any Klamath River salmonid fishing rights and concomitant water rights to which the Resighini Rancheria may be entitled have not yet been determined. The United States does not currently recognize a Rancheria right to a fishery and the Rancheria does not currently have an instream water right."*

The Yurok Tribe disagrees with this assessment of Resighini Rancheria's fishing rights. Resighini rights have been determined because Resighini Rancheria members have expressly given up their rights to resources (including fish) on the Yurok Reservation. Under the Hoopa-Yurok Settlement Act of 1988, 25 U.S.C. §§ 1300i, *et seq.*, (the Settlement Act) the extended strip of land along the Klamath River was cleaved from the original Hoopa Valley Reservation and designated the Yurok reservation. Section §1300i-1(e) then vested in the Yurok Tribe the authority to govern the Yurok Reservation and to administer the unallotted trust land and assets – including the fisheries – of the Yurok Reservation.

Pursuant to the Settlement Act, members of the Resighini Rancheria with Yurok heritage were given two opportunities to join the Yurok Tribe, either as a political unit or individually. Rancheria members were given the opportunity to merge the Rancheria as a political unit into the Yurok Reservation. 25 U.S.C. §1300i-10(b). However, the members of the Rancheria voted against any merger with the Yurok Reservation. The Settlement also provided qualified Indians of the original Hoopa Valley Reservation, which included allottees or their descendants, the opportunity to elect membership in the Yurok Tribe. 25 U.S.C. 1300i-5(c)(1). An Indian who chose not to affiliate with the Yurok Tribe (or the Hoopa Valley Tribe) received a lump sum payment, but lost any "interest or right whatsoever in the ... resources within or appertaining to... the Yurok Reservation." 25 U.S.C. 1300i-5(d)(3).

## **2. Water Quality**

Eli Asarian and Jake Kann assisted Yurok Tribal Environmental Program (YTEP) and the Klamath Basin Tribal Water Quality Workgroup members in reviewing the following sections: Executive Summary, Chapters 1 (Introduction), 3.2 Water Quality, 3.4 Algae,

Appendix C Water Quality Supporting Technical Information, and a very limited portion of section 3.3, Aquatic Resources.

Eli Asarian serves as Kier Associates' principal water quality analyst and Klamath River basin water quality science support team leader. Mr. Asarian has participated in the work of the Klamath Basin Tribal Water Quality Work Group for the past seven years, acquiring and reviewing reports and datasets and preparing comments to support Tribal involvement in watershed assessment and restoration programs, including those concerning Klamath Hydroelectric Project relicensing and decommissioning; Total Maximum Daily Load (TMDL) plan development; the Klamath Basin Restoration Agreement, Klamath Hydropower Settlement Agreement and the Klamath Basin Monitoring Program. Eli has co-authored many reports analyzing water quality conditions in the Klamath River. More details available at: <http://www.riverbendsci.com/cv>.

Dr. Jacob Kann, owner of Ashland, Oregon-based Aquatic Ecosystem Sciences, is an aquatic ecologist and has extensive knowledge and experience working in the Klamath Basin. He has worked for the Klamath Tribes' (of Oregon) natural resources department. While serving with the Klamath Tribes Dr. Kann completed his doctoral dissertation concerning the relationships among water quality, phytoplankton development and fish health in Klamath Lake. Over the past 20 years Dr. Kann has completed a number of key Klamath River water quality investigations, including the 2009 assessment of nutrient budget dynamics for the Klamath's Iron Gate and Copco reservoirs. More details available at: <http://www.aquatic-ecosciences.com/Home/curriculum-vitae-for-j-kann-ph-d>.

#### General Comments

Overall the water quality information presented in the Klamath TMDL is of high quality and will provide the Secretary of the Department of the Interior with the information necessary to adequately understand the effects of the Proposed Action on water quality in the Klamath River. In our comments, we provide many suggested edits to improve the scientific accuracy and completeness of the DEIS/DEIR. There are many cases in which issues are discussed in multiple parts of the DEIS/DEIR. If we suggested a revision regarding an issue in one part of the DEIS/DEIR, and that same suggested revision would logically apply to another part of the DEIS/DEIR, it is our intent that the revision should be made throughout the DEIS/DEIR even if we did not explicitly list every section in which the issue appears.

Our comments below are organized according to the chapter numbers and page numbers used in the DEIS/DEIR.

#### Executive Summary

← Comment 11 - Water Quality

Page ES-44: The word "in" is missing before 2020 in the sentence listed below in Table ES-6 (beneficial effects): *"Largely eliminates 2020 dissolved oxygen and pH problems produced in reservoirs in the Hydroelectric Reach and transported downstream."*

Page ES-45: The following footnote at the end Table ES-6 should probably be deleted, because increased periphyton is not mentioned in the table:  
*"Increased periphyton biomass would not affect levels of algal toxins in the Klamath River. The noxious blooms of phytoplankton (suspended algae) occurring in the calm, lake-like waters of Copco 1 and Iron Gate Reservoirs are responsible for the production of algal toxins, such as microcystin, in the Klamath River downstream of Iron Gate Dam (see Section 3.4). Noxious phytoplankton would not thrive in the free-flowing river following dam removal."*  
However, this is a very important point, so if it is deleted here, it should be included prominently somewhere else.

Comment 12 - Water Quality

Chapter 1, Introduction

← Comment 13 - Water Quality

Comment 14 - Other/  
General

Page 1-6: *"Upper Klamath Lake has become more enriched with nutrients, leading to nuisance blooms of blue-green algae that produce toxins (primarily microcystin) and creating pH and dissolved oxygen problems that are stressful to aquatic biota."* Major issues are pH/DO not toxins. Revise sentence to reverse order.

Page 1-6: The DEIS/DEIR appears to use the term "Keno Reach" to describe Keno Reservoir, which is different than is typical in most other Klamath Basin literature (for example, see PacifiCorp's [2004] Final License Application and FERC's [2007] EIS). For example: *"The 20-mile Keno Reach of the Klamath River receives large loads of decaying organic matter (blue-green algae) from Upper Klamath Lake, producing extremely low dissolved-oxygen levels that persist in the summer and fall."*

In most other Klamath River documents, "Keno Reach" typically refers to un-impounded reach of the Klamath River between Keno Dam and J.C. Boyle Reservoir, while "Keno Reservoir" is typically used to refer to the impoundment that spans from Link River to Keno Dam. For example, see pages 3-9 and 3-11 in FERC (2007):

- "Keno Reservoir (RMs 253.1–233.0)"
- "Keno Reach (RMs 233–228.3)"

If possible, this should be corrected throughout the document, though it is not essential because "Keno Reach" is used by some people/documents to describe Keno Reservoir (as is done in the DEIS/DEIR). Note: we did not look through the entire DEIS to see if "Keno Reach" is also sometimes used to refer to the un-impounded reach of the Klamath River between Keno Dam and J.C. Boyle Reservoir.

Comment 15 - Water Quality

Page 1-7: *"The four dams create water temperature in the river that are too warm in the fall for fish migration..."* This should be checked, as it is likely (though we did not do a detailed investigation of available evidence to confirm) that the reservoirs probably do not actually make the river too warm for migration, just too warm for optimal spawning and incubation. For example, look at Josh Strange's studies of how fall Chinook migration is affected by water temperature. ([www.yuroktribe.org/fisheries](http://www.yuroktribe.org/fisheries).)

3.2 Water Quality

Comment 16 - Water Quality

Page 3.2-17: *"Annual TP and TN loading reduction (TP=22,367 lbs and TN=120,577 lbs) to offset the reduced nutrient assimilative capacity in the reservoirs (as compared to a free-flowing river condition)"*

It is important to define what is meant here by assimilative capacity, because people use the word assimilative capacity in different ways and you need to be clear which one you are using here. The reservoirs absorb more nutrients (per mile) than the free-flowing river does; therefore if someone is thinking of the other definition of "assimilative capacity" they will be very confused when the document says that the reservoirs have LESS assimilative capacity.

The suggested revision is to add a footnote about the definition of assimilative capacity: (begin suggested text) *"The phrase 'assimilative capacity' here refers to the maximum amount of nutrients that can enter the reservoirs and still allow for water quality conditions in the reservoirs to meet water quality standards (i.e. for dissolved oxygen and algae). Because of their warm quiescent waters, the reservoirs are inherently more prone to nuisance blue-green algal blooms than free flowing reaches are. In other contexts (on page 3.3-87 of this document), 'assimilative capacity' is used to refer to the amount of nutrients that are removed (through physical, biological, and chemical processes) as water flows downstream." "In the absence of the reservoirs, hydraulic residence time in this reach would decrease from several weeks to less than a day, and water quality would also be improved by nutrient assimilation in this reach (Hamilton et al. 2011)."* This should be removed this is an awkward way to make the point.

Page 3.2-21: This sentence *"Water temperatures in the bypass reach can decrease by 5–15°C (9-27°F) when peaking operations are underway (Kirk et al. 2010)."* Should be revised to *"...when bypass operations are underway..."* because the peaking operations do not affect water temperatures in the bypass reach. The bypass operates almost constantly (except during the highest flows when both turbines at the Boyle Powerhouse are at capacity and water is allowed to spill of Boyle Dam into the bypass reach), whereas the peaking typically occurs for some hours each day. Water temperatures in the bypass reach are not affected by peaking operations, because during non-peaking hours water is stored in Boyle Dam, it is not released in the bypass reach.

Comment 17 - Water Quality

Comment 18 - Water Quality

Page 3.2-23: Grammatical correction: the sentence "Under low-flow summertime conditions, when the mouth can closed..." should be revised to "...mouth can close..."

Comment 19 - Water Quality

Page 3.2-29: The wording of the following quoted sentence suggests that *M. aeruginosa* can produce anatoxin and saxitoxin, which is incorrect: "Some cyanobacteria species, such as *M. aeruginosa*, produce cyanotoxins (e.g., cyclic peptide toxins that act on the liver such as microcystin, alkaloid toxins such as anatoxin-a and saxitoxin that act on the nervous system) that can cause irritation, sickness, or in extreme cases, death to exposed organisms, including humans (World Health Organization [WHO] 1999)."

We suggest that this sentence be revised as follows:

"Some cyanobacteria species produce cyanotoxins (e.g., cyclic peptide toxins that act on the liver such as microcystin, alkaloid toxins such as anatoxin-a and saxitoxin that act on the nervous system) that can cause irritation, sickness, or in extreme cases, death to exposed organisms, including humans (World Health Organization [WHO] 1999). Species capable of producing microcystin include *Microcystis aeruginosa*, while species in the genus *Anabaena* can produce anatoxin-a and saxitoxin."

Comment 20 - Water Quality

Page 3.2-29: "Additional microcystin data collection in Upper Klamath Lake is ongoing, including measurement of toxin levels in native suckers (Vanderkooi et al. 2010, see Section 3.3, Aquatic Resources for more detail)." While Vanderkooi et al. 2010 found histological evidence (i.e. physical changes observed in dissections) consistent with damage from microcystin toxin, there have not yet been any published reports that actually measure toxin levels in suckers.

Comment 21 - Water Quality

Page 3.2-26: "These scenarios also represent Keno Dam as the historical natural Keno Reef, such that the Keno Reach is not a free-flowing reach (Tetra Tech 2009)." This sentence is unclear and thus potentially misleading and should be revised. The height of the rock reef in T1BSR is lower than Keno Dam. Excerpt from Kirk et al. 2010: "The natural conditions baseline scenario simulated the Klamath River from Upper Klamath Lake to the Pacific Ocean in the absence of all dams, except for Link Dam, but represented the presence of the historic Keno Reef (a natural basalt outcrop that was removed prior to construction of the Keno dam). Keno Reef was represented using data provided by the Bureau of Reclamation with an elevation of 1244.5 meters (4083 feet), whereas normal full pool elevation is 1245 meters (4085 feet) (PacifiCorp 2004a)." Therefore, the suggested revision for the sentence is "In the T1BSR, TOD2RN, and TCD2RN scenarios (but not T4BSRN), Keno Dam is replaced by the historical natural Keno Reef, such that the Keno Reach is still partially impounded even though the

Comment 21 cont.

reef's elevation is two feet lower than the current full pool elevation of Keno Reservoir (Tetra Tech 2009, Kirk et al. 2010)."

Comment 22 - Water Quality

Page 3.2-59: This sentence over-states the degree to which the reservoirs release TN:  
*"Continued impoundment of water at the Four Facilities could result in long-term interception and retention of TP and TN in the KHP reservoirs on an annual basis and release (export) of TP and TN to the Klamath River downstream of Iron Gate Dam on a seasonal basis."*

The suggested revision is to revise the sentence to end with "...release (export) of TP to the Klamath River downstream of Iron Gate Dam on a seasonal basis."

For justification, see comments regarding Page 3.2-60 below.

Comment 23 - Water Quality

Page 3.2-60: These sentences over-state the degree to which the reservoirs release TN:  
*"Further, in late-summer and fall (i.e., August-November), TP and TN concentrations can increase downstream of the KHP reservoirs due to release of TP (as ortho-phosphorus) and, to a lesser degree, TN (as ammonium), which are formed during periods of seasonal hypolimnetic anoxia in Copco 1 and Iron Gate reservoirs. This seasonal release occurs during periods that may stimulate periphyton growth in the Klamath River downstream of Iron Gate Dam (see Appendix C, Sections C.3.1.4 C.3.2.1)."*

While some ammonia is released into the Klamath River from Iron Gate Dam (i.e. ammonia concentrations are higher immediately below Iron Gate than immediately above Copco Reservoir) the reservoirs remove many times that amount of nitrate and therefore the reservoirs have an overall reducing effect on the amount of bioavailable inorganic (nitrate plus ammonia) nitrogen in the Klamath River below Iron Gate Dam.

Therefore, the suggested replacement language for the two sentences quoted above is:

"On a seasonal basis, reservoir sediments can release phosphorus to the water column during periods of seasonal hypolimnetic anoxia (see Appendix C, Sections C.3.1.4 C.3.2.1); however, most of the phosphorus released from the reservoir sediments during the anoxic period appears to remain within the hypolimnion until the reservoirs begin to turn over in the fall, and therefore is primarily not released into the river during the summer period of peak primary productivity downstream. An exception to this is that in many years TP concentrations are higher below Iron Gate Dam than above Copco Reservoir at times during the months of August through October during peak in-reservoir algal blooms, indicating that some release of TP does occur at times when it could stimulate periphyton growth in the Klamath River downstream of Iron Gate Dam."

Page 3.2-61: *"In the Hydroelectric Reach, the seasonal variability in dissolved oxygen concentrations in J.C. Boyle Reservoir is highly influenced by the adverse dissolved oxygen conditions in the upstream Keno Impoundment."* We are not aware (though have not fully investigated) of any evidence that dissolved oxygen levels

Comment 24 - Water Quality

Comment 24 cont. ↘

in Keno Reservoir directly affect dissolved oxygen levels in J.C. Boyle Reservoir. Due to the steep and turbulent nature of the un-impounded river reach between Keno Dam and J.C. Boyle Reservoir, even if water leaves Keno with zero dissolved oxygen, it should be quickly brought back to near-saturation due to riffles and cascades in the turbulent river. It is true that the factors that cause low D.O. in Keno Reservoir (decomposition of algae and organic matter) also strongly affect D.O. in J.C. Boyle Reservoir; however, the actual D.O. concentration in water discharged from Keno Reservoir should not directly affect D.O. in J.C. Boyle Reservoir. Therefore, this sentence should be revised accordingly.

Comment 25 - Water Quality

Page 3.2-63: *"Continued impoundment of water at the Four Facilities could result in long-term seasonal and daily variability in dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam, such that levels do not meet California North Coast Basin Plan and Hoopa Valley Tribe water quality objectives and adversely affect beneficial uses."*

The impoundment of water in the reservoirs does not contribute to *daily variability* in D.O. below Iron Gate Dam, but it does contribute to decreased overall (i.e. daily mean) D.O. (for example, see Figure 3.2-19 and 3.2-20 in the DEIS/DEIR). In addition, we are not aware of any evidence that the reservoir impoundments have a negative effect on dissolved oxygen on the Hoopa reservation (the only areas where the Tribe's water quality objectives apply); thus, the reference to "and Hoopa Valley Tribe" should be deleted if the intent is to discuss the effects of the dams. Therefore, the suggested revision is to either delete "and daily variability" from the sentence, or replace the sentence with "Current dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam are adverse, such that levels do not meet California North Coast Basin Plan water quality objectives and adversely affect beneficial uses. Continued impoundment of water at the Four Facilities could result in continued release of water with low dissolved oxygen concentrations from Iron Gate Dam into the Klamath River, contributing to those adverse conditions, particularly in the vicinity of the dam."

Comment 26 - Water Quality

Page 3.2-67: *"Continued impoundment of water at the Four Facilities could result in long-term seasonal and daily variability in pH in the Klamath River downstream of Iron Gate Dam."*

There is inconsistency regarding the pH issue in the DEIS/DEIR. In some sections, it is stated that the Proposed Action will increase pH below Iron Gate Dam, whereas in other places it is stated that it will decrease. We have researched the available information regarding this topic, and the evidence is confusing and unclear. On one hand, existing monitoring data from continuously recording pH probes indicate that pH during the summer is often higher, but not always, at Iron Gate than at sites downstream such as Seiad Valley (for example, see the

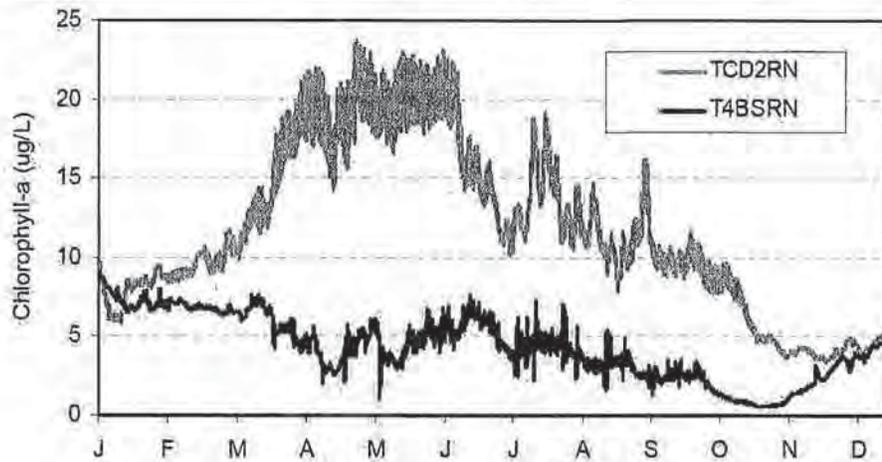
Comment 26 cont. 

2000-2004, 2005, and 2007 data presented on pages C-47 to C-50 of the DEIS/DEIR appendix C). Additional pH data are available in the Karuk Tribe's 2008 water quality report (Karuk Tribe 2009) and the upcoming Klamath Hydroelectric Settlement Monitoring 2010 report (currently in draft). Additionally, as noted in comments regarding page 3.2-113 below, pH values in the surface of the reservoirs are extremely high (though they are less high at the ~5 m depth from which most water is withdrawn). These existing-conditions data would suggest that algal blooms within the reservoirs are contributing to high pH in the Klamath River below Iron Gate Dam under current conditions.

However, the TMDL model predicts that for the dams-in TMDL-compliance scenarios (T4BSRN)(used in the DEIS/DEIR to approximate the No Action/No Project Alternative), mid-summer pH would be extremely low (i.e. near 8.0 with almost no daily fluctuation), whereas mid-summer pH under the dams-out scenario (TCD2RN)(used in the DEIS/DEIR to approximate the Proposed Action), would range from 8.5-9.0(see Figure 3.2-24).

We are skeptical of these extremely low pH value for the dams-in scenario. Examination of the model results presented in Appendix 7 of NCRWQCB (2010a), indicate the low pH values appears to be caused by a combination of two factors: 1) lower periphyton biomass at Iron Gate Dam, and 2) extremely low water column chlorophyll levels in Iron Gate Reservoir. With the large decreases (relative to current conditions) assumed for TMDL implementation, it definitely seems possible that periphyton biomass would be lower with a dams-in scenario (due to nutrient-trapping in the reservoirs). However, the very low chlorophyll levels in Iron Gate Reservoir seem unlikely. The following figure (from page C-56 of NCRWQCB 2010a Appendix 7) shows that the model predicts that there would be mid-summer chlorophyll levels at Iron Gate Dam would be 3-7 ug/L for the dams-in scenario but 8-19 ug/L for the dams-out scenarios:

Comment 26 cont.



It seems extremely unlikely that impoundment of water would decrease water-column chlorophyll levels at Iron Gate Dam (which, in a dams-in scenario, reflect the output of Iron Gate Reservoir).

Due to the contradictory evidence described above, it is difficult to recommend how the DEIS/DEIR should approach this issue. In summary, the field data suggests that the reservoirs are increasing pH downstream of Iron Gate Dam; however, the TMDL model results suggest *with very aggressive upstream nutrient reductions*, it is potentially possible (though as we note above, it seems unlikely) that the reservoir's effect on pH could be eliminated or even reversed.

Page 3.2-69: Regarding meeting TMDL targets for algal toxins and chlorophyll-a, the DEIS states: "This would require decades to achieve and it is highly dependent on improvements in nutrients in the upstream reach from Link River Dam to J.C. Boyle Dam (particularly Keno Impoundment including Lake Ewauna)." This should also mention Upper Klamath Lake, the source of the water in Link River, thus the suggested revision is: "This would require decades to achieve and it is highly dependent on decreasing nutrients upstream in Upper Klamath Lake, Link River, and the Keno Impoundment including Lake Ewauna."

Comment 27 - Water Quality

Page 3.2-70: "Under existing conditions, chlorophyll-a concentrations during summer through fall in the Klamath River downstream of Iron Gate Dam are lower than those in Upper Klamath Lake and the KHP reservoirs due to interception of algae by the KHP dams. However, concentrations are variable by location and increase as a result of periodic seasonal (i.e., summer, fall) in-reservoir algal blooms that are transported into the lower river (see Section 3.2.3.7)."

Comment 28 - Water Quality

## Comment 28 cont.

This first sentence is incorrect and confusing because it combines issues/processes that should be kept separate: 1) reasons for the decrease from UKL to above Copco Reservoir, 2) reasons for the increase from above Copco Reservoir to within the reservoirs, and 3) reasons for the decrease from within the reservoirs to below Iron Gate Dam). Also, since this section is about the Lower Klamath basin, it seems irrelevant to mention UKL (it would make more sense to discuss UKL in the preceding section: Upper Klamath Basin). Therefore, the suggested revision is:

“Under existing conditions, chlorophyll-a concentrations during summer through fall in the Klamath River downstream of Iron Gate Dam are higher than those in the river directly above Copco Reservoir, due to in-reservoir algal blooms that are transported into the lower river (see Section 3.2.3.7).”

Comment 29 - Water Quality

Page 3.2-70: *“The California Klamath River TMDLs include specific load allocations for TN and TP upstream of the Four Facilities to offset the reduced nutrient assimilative capacity in the reservoirs (see Section 3.2.2.4, Klamath River TMDLs); the decreased nutrient loads would limit algal growth and decrease chlorophyll-a and algal toxin levels in the KHP reservoirs toward the TMDL targets of 10 µg/L chlorophyll-a (growing season average), M. aeruginosa cell density 20,000 cells/L, and microcystin toxin <4 µg/L (NCRWQCB 2010a).”*

This should be revised to acknowledge the uncertainty of achieving the nutrient reductions and the effects of those reductions once met. The wording in the Upper Klamath Basin section on the previous page is better and therefore it is the suggested revision:

“Additionally, the Oregon and California TMDLs include specific load allocations for TN and TP upstream of the Klamath Hydropower Facilities (see Section 3.2.2.4), which are intended to eventually limit the extensive algal blooms in Copco 1 and Iron Gate Reservoirs and thus decrease chlorophyll-a and algal toxin levels toward the TMDL targets of 10 µg/L chlorophyll-a (growing season average), M. aeruginosa cell density 20,000 cells/L, and microcystin toxin <4 µg/L (see Table 3.2-10)”

Comment 30 - Water Quality

Page 3.2-77: This page contains several sentences referenced to Asarian and Kann (2006a), however the information is not actually stated in the text of the cited report (which focused on nutrients, not temperature), but rather is derived from graphs created from PacifiCorp’s water quality model outputs that are included as an electronic appendix to that report. The references should be clarified stating, instead, “data from electronic appendices of Asarian and Kann 2006a”.

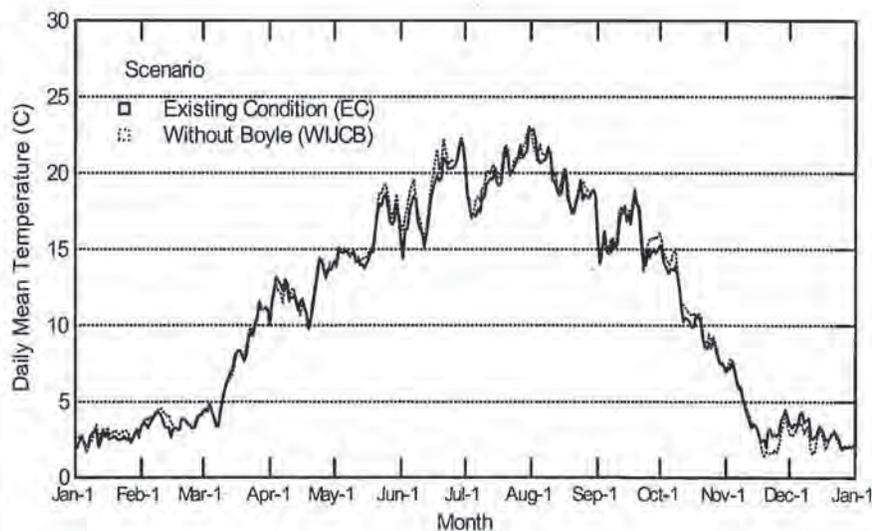
Here are the three sentences referenced to Asarian and Kann (2006a), with some suggested revisions:

Comment 30 cont. →

1) "Higher daily fluctuations would also occur in the J.C. Boyle bypass reach because it would no longer be dominated by cold groundwater inputs at a relatively constant temperature of 11-12 C (Kirk et al. 2010, Asarian and Kann 2006a)" suggested revision: change citation to just "(Kirk et al. 2010)" (not necessary to cite Asarian and Kann 2006a).

2) "In the J.C. Boyle peaking reach model results indicate that water temperatures under the Proposed Action would be slightly lower (0.5-1 C [0.9-1.8 F]) than those predicted under the No Action/No Project and would exhibit lower daily fluctuation during June through September (NCRWQCB 2010a, Asarian and Kann 2006a)." The DEIS/DEIR Figure 3.2-3 shows water temperatures at Stateline in the peaking reach and does not indicate a consistent slightly lower overall (i.e. mean) temperature except in October and November, though it does indicate reduced daily fluctuations, i.e. lower maximum and higher minimum temperatures. Modeled mean temperatures are actually very similar between the two scenarios, with the No Action/No Project being generally very slightly lower (<0.5 C) in June –September, as illustrated in the following figure (generated from the data in the Asarian and Kann 2006a electronic appendix):

Stateline, KRWQM Outputs, Year 2000



## Comment 30 cont.

The suggested revision is : "In the J.C. Boyle peaking reach model results indicate that water temperatures under the Proposed Action have lower daily maximums (0.0-2 C [0.0-3.6 F]) than those predicted under the No Action/No Project and would exhibit lower daily fluctuation during June through September (NCRWQCB 2010a) (Figure 3.2-3)."

3) "In the Klamath River downstream of the J.C. Boyle bypass and peaking reaches, TMDL model results indicate that water temperatures under the Proposed Action would be slightly lower (0.5-1C [0.9-1.8F]) than those predicted under the No Action/No Project and would exhibit lower daily fluctuation during June through September (NCRWQCB 2010a, Asarian and Kann 2006a; Figure 3.2-3)."

This is confusing. What is meant by "In the Klamath River downstream of the J.C. Boyle bypass and peaking reaches..."? Stateline (the location shown in cited Figure 3.2-3) is in the Peaking Reach. This should be clarified. Model results from Stateline would be a good approximation for the whole peaking reach (from the Boyle Powerhouse down to the upper end of Copco Reservoir) but the difference in temperature between the scenarios will be quite different between Stateline and downstream at Copco Dam and Iron Gate Dam due to the thermal mass of the reservoirs. For Copco Dam and Iron Gate Dam, it would be much better to use Figure 3.2-4 or Figure 3.2-5. Again, the citation of Asarian and Kann (2006a) is not necessary here.

Comment 31 - Water Quality

Page 3.2-100: The discussions how TN and TP would change with the removal of Boyle Reservoir should also reference some field data in addition to the TMDL modeling results. While there have been no in-depth empirical analyses of the effect of Boyle Reservoir, the effect can be inferred from comparing concentrations above/below the reservoir. For example, see Figure 4-4 PacifiCorp (2006a) showing TN and TP above/below Boyle Reservoir, and the PacifiCorp (2006a) statement that "Because of the short residence time, lack of stratification, and limited photic zone, the observed concentrations of total inorganic nitrogen (TIN), total nitrogen (TN), orthophosphate (PO<sub>4</sub>), and total phosphorus (TP) in outflowing waters from the reservoir are similar to those in inflowing waters (Figure 4-4), indicating the J.C. Boyle reservoir has no substantial effect on nutrients". Or just refer to Appendix C, which includes this statement: "In J.C. Boyle Reservoir (RM 224.7), the furthest upstream reservoir in this reach, concentrations of TN and TP measured between the inflow and outflow are typically similar, likely due to the shallow depth and short residence time characteristic of this impoundment (PacifiCorp 2006), indicating that relatively little nutrient retention occurs in this reservoir"

Comment 32 - Water Quality

Page 3.2-103: "The TMDL model does not include denitrification as a possible nitrogen removal term in riverine segments (Tetra Tech 2009), meaning that TN

← Comment 32 cont.

*concentrations under the Proposed Action (but also the No Action/No Project Alternative) may be slightly overpredicted."*

This is understating the issue. For example, using data from 2005-2008 Asarian et al. (2009) calculated that the TN retention in the Iron Gate to Seiad reach was ~15% (of inflow load) for the June-October period, whereas the TN retention predicted by the TMDL model for that same reach was 0% in June-October of 2000 (see table 3 in Tetra Tech 2009). Additionally, here is an excerpt from Asarian et al. (2009):

"For example, in the July-September periods of 2007-2008, flow-weighted average TN concentrations decreased from 1.055 mg/L at Iron Gate to 0.388 mg/L at Orleans, a decline of 63%. Of that 63% decline, 65% was due to dilution and 35% due to retention. The percent reductions in concentration due to retention were lower for phosphorus parameters and ON than for TN, but higher for TIN. These results have important implications for Klamath River water quality computer models, because under-representation of natural retention processes in a model could substantially over-estimate nutrient concentrations in the lower Klamath River. For example, in the Iron Gate to Seiad TN example cited above, a dilution-only (no retention) model would predict an Orleans concentration of 0.620 mg/L, 60% higher than the measured value of 0.388 mg/L."

Therefore, the suggested revision is to remove the word "slightly" from the DEIS' sentence.

Comment 33 - Water Quality

Page 3.2-103: *"TMDL model results indicate that while resulting TP levels would meet the existing Hoopa Valley Tribe numeric water quality objective (0.035 mg/L TP) at the Hoopa reach (≈RM 45-46) of the Klamath River, TN levels would continue to be in excess of the existing objective (0.2 mg/L TN) (NCRWQCB 2010a)."*

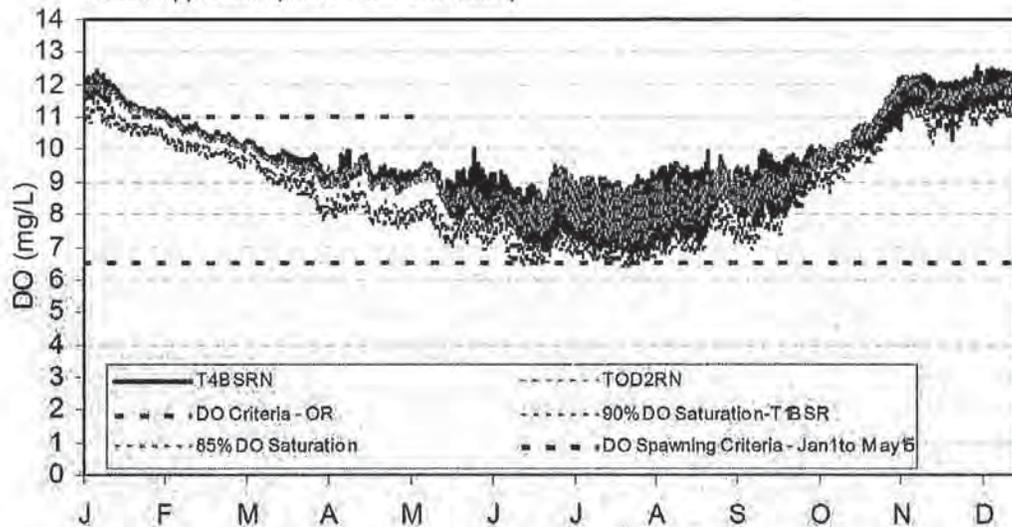
It is important to interpret these model results in the context of the model's underestimation of nitrogen retention. Therefore, the suggested revision is: *"TMDL model results indicate that while resulting TP levels would meet the existing Hoopa Valley Tribe numeric water quality objective (0.035 mg/L TP) at the Hoopa reach (≈RM 45-46) of the Klamath River, TN levels would exceed the existing objective (0.2 mg/L TN) in some months (NCRWQCB 2010a). However, as noted previously, TN concentrations in the model may be over-predicted and therefore the Hoopa Valley Tribe objective may in fact be met."*

Comment 34 - Water Quality

Page 3.2-104: *"The Klamath TMDL model (see Appendix D) also predicts that daily fluctuations in dissolved oxygen at these locations during this same period may be greater under the Proposed Action (TCD2RN) than the No Action/No Project Alternative (T4BSRN), a condition potentially linked to greater periphyton biomass and associated daily photosynthetic swings in oxygen production in the free flowing river."*

← Comment 34 cont.

That sentence is an incorrect summarization of the model results, because while the statement is correct for the below J.C. Boyle Dam site, it is incorrect for Stateline. The model predicts the opposite for Stateline: daily fluctuations are less under the Proposed Action (TCD2RN) than the No Action/No Project Alternative (T4BSRN). The figure presented in the DEIS/DEIR for Stateline D.O. is somewhat blurry. The following extraction of the TMDL figure (from NCRWQCB 2010a Appendix 7) shows it more clearly:



Interestingly, the TMDL model does predict increased periphyton biomass for the Proposed Action (TCD2RN), presumably due to slightly less trapping of nutrients and organic matter in J.C. Boyle Reservoir under a free-flowing condition. Thus, the prediction of decreased D.O. fluctuations under the Proposed Action (TCD2RN) is likely due to the lack of hydropower peaking, not increased periphyton biomass. Note: the TMDL model does not incorporate scour into the mechanisms governing periphyton growth, so it likely overestimates periphyton growth with peaking. In summary, the suggested revision for the sentence quote above is:

"The Klamath TMDL model (see Appendix D) predicts that daily fluctuations in dissolved oxygen directly downstream of J.C. Boyle Dam would be larger during this same period under the Proposed Action (TCD2RN) than the No Action/No Project Alternative (T4BSRN) (Figure 3.2-16), presumably due to the removal of the reservoir. In contrast, the TMDL model predicts reduced daily fluctuations in dissolved oxygen at Stateline in the peaking reach under the Proposed Action (TCD2RN) than the No Action/No Project Alternative (T4BSRN) (Figure 3.2-16), likely due to the lack of hydropower peaking."

Comment 35 - Water  
Quality

Page 3.2-110: This paragraph about the Klamath TMDL modeling results is confusing because it is unclear which locations are being referred to. The first sentence states "*immediately downstream of Iron Gate Dam*" but then refers to four figures that span from Iron Gate to about the Trinity River. Also, mention of the Hoopa WQ standards should be limited to the river on the Hoopa Reservation, not to other places on the Klamath (it is currently ambiguous what is being referred to).

Comment 36 - Water Quality

Page 3.2-112: "*The increased daily fluctuations in dissolved oxygen immediately downstream of Iron Gate Dam predicted by the PacifiCorp and Klamath TMDL modeling efforts are not entirely certain; the role of photosynthesis and community respiration from periphyton growth in the free-flowing reaches of the river replacing the reservoirs at the Four Facilities is unknown because nutrient cycling and resulting rates of primary productivity under the No Action/No Project Alternative are uncertain (see Section 3.4, Algae)*"

This statement is unnecessarily uncertain (the directionality of the effect is near-certain, it is the precise magnitude that is uncertain). Nothing is entirely "certain" but it is highly likely that predictions of increased intra-day and inter-day fluctuations will occur following dam removal are correct. The reasons are logical and well-supported by available data (modeling not required). Currently, water immediately below Iron Gate Dam reflects water discharged from depths of approximately 4.0 to 6.4 m below the water surface (see footnote on page 58 of Kann and Asarian 2007) where intra-day D.O. fluctuations are dampened because most of the phytoplankton biomass (and hence photosynthesis and respiration), occurs closer to the reservoir surface (see Figure 41 in Kann and Asarian 2007 on page 68).

As the water flows downstream, intra-day D.O. dynamics are then dominated by periphyton and macrophytes, which exhibit a strong intra-day signal. Within some relatively short distance (exact distance unknown due to lack of data between Iron Gate and the Shasta River, but it is no further downstream than above the Shasta River) the reservoir's muting effect on intra-day D.O. is entirely overwhelmed by the river dynamics.

Under a dam removal scenario, there are no reservoirs, so the river at Iron Gate would have tens of miles of river upstream with strong intra-day influences on D.O. Therefore, regardless of changes in nutrient cycling, the river at Iron Gate Dam would exhibit a river D.O. signal with higher intra-day fluctuations, rather than the current reservoir-dampened signal. Note: increased *inter-day* D.O. fluctuations at Iron Gate with dam removal are due to the lack of the reservoir's thermal buffering effect (D.O. saturation is strongly affected by water temperature). We suggest revising the first half of the sentence to read: "The magnitude of the increased daily fluctuations in dissolved oxygen immediately

Comment 36 cont. →

downstream of Iron Gate Dam predicted by the PacifiCorp and Klamath TMDL modeling efforts are somewhat uncertain..." and deleting also "potentially" from "...the Proposed Action would cause long-term increases in summer and fall dissolved oxygen in the lower Klamath River immediately downstream of Iron Gate Dam, along with potentially increasing daily variability."

Comment 37 - Water Quality

Page 3.2-113: The discussion of how the Proposed Action would affect pH in the Upper Klamath Basin and the Hydroelectric Reach is incomplete and misses the "big picture" because it is all about how pH will change in the reaches that are current free-flowing river reaches. There is no explicit discussion of how pH will change in the reaches that are currently reservoirs. In our opinion, this is just as important and worthy of mention. Dam removal would eliminate the extremely high pH that occurs in the surface waters of the Iron Gate and Copco Reservoirs during peak summer blooms. We recommend that a discussion of this topic be added. Information about high pH in the reservoirs can be found in Asarian et al. (2009) and in PacifiCorp's annual water quality monitory reports by Raymond (various years). For example, Figure 7 in Asarian et al. (2009) shows pH >9 at the surface of Iron Gate Reservoir (note: variation in the time of day that measurements were take confounds detailed interpretation; however, the data do document the presence of very high pH):

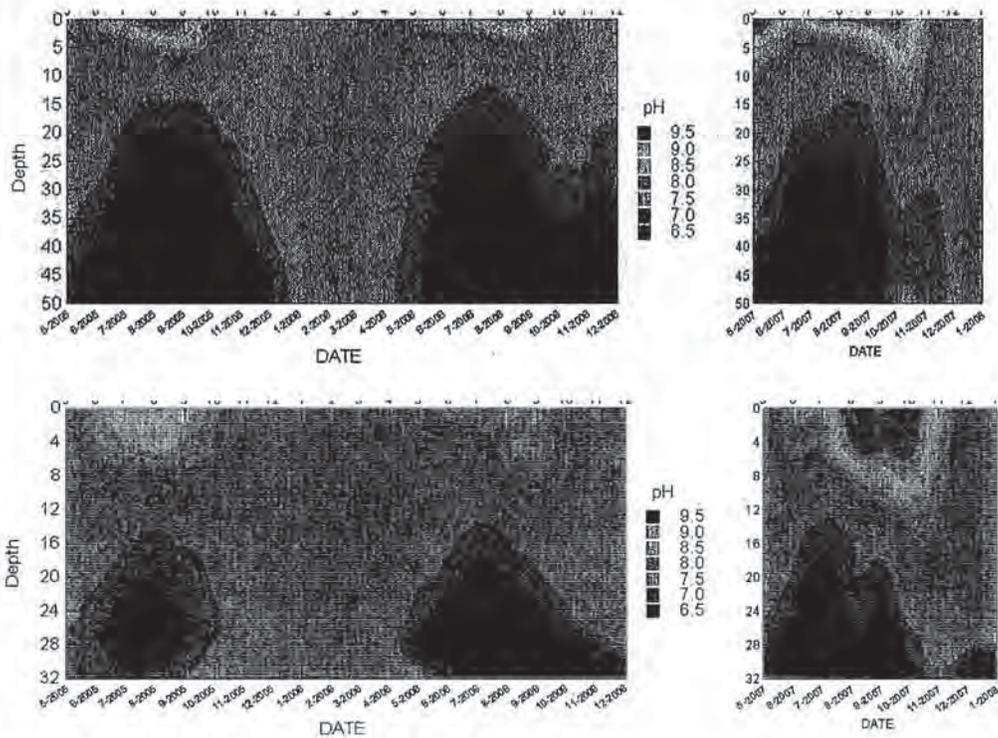


Figure 6 in Asarian et al. (2009) shows pH >9 at the surface of Copco Reservoir:

← Comment 38 - Water Quality

Page 3.2-113: The conclusion that *"Under the Proposed Action, the short-term (<2 years following dam removal) and long-term (2–50 years following dam removal) decrease in high summertime daily pH fluctuations in the Hydroelectric Reach would be beneficial."* is not supported by Figure 3.2-23, which shows increased (not decreased) intra-day variability under the Proposed Action in the summer at Stalentine (and nearly no change directly below J.C. Boyle Dam). Also, as noted in the previous comment, there is no mention of how pH will change in the reaches that are currently reservoirs. Therefore, we recommend that the sentence be changed to *"Under the Proposed Action, the short-term (<2 years following dam removal) and long-term (2–50 years following dam removal) decrease in high summertime daily pH fluctuations in portions of the Hydroelectric Reach, such as the J.C. Boyle Peaking Reach and the surface waters of Copco and Iron Gate Reservoirs, would be beneficial."*

Comment 39 - Water Quality

Page 3.2-117: While mostly correct, the following statement is misleading because it overstates the risk of toxin export from UKL: *"While algal toxins and chlorophyll-a produced in Upper Klamath Lake may still be transported into the Hydroelectric Reach at levels exceeding water quality objectives for Oregon and California, additional in situ production of the toxins and chlorophyll-a associated with suspended algae would be significantly less likely to occur in the free flowing river under the Proposed Action."*

We are not aware of any evidence that algal toxins are being exported from UKL at levels that exceed WQ objectives for California or Oregon (high chlorophyll from UKL is mostly from *Aphanizomenon*). The highest levels of toxins in UKL are in the northern part of the lake, or in Agency Lake. Therefore, this sentence should be expanded and revised: *"While algal toxins and chlorophyll-a produced in Upper Klamath Lake may still be transported into the Hydroelectric Reach, currently available data indicates that the concentration of microcystin toxin leaving Upper Klamath Lake has rarely, if at all, exceeded levels that would exceed water quality objectives for California and Oregon. Under the proposed action, additional in situ production of the toxins and chlorophyll-a associated with suspended algae would be significantly less likely to occur in the free flowing river under the Proposed Action."*

← Comment 40 - Water Quality

Page 3.2-125; *"3.2.4.3.2.9 East and West Side Facilities: Decommissioning the East and West Side Facilities could cause adverse water quality effects. Decommissioning of the East and West Side canals and hydropower facilities of the Link River Dam by PacifiCorp as a part of the KHSR will redirect water flows currently diverted at Link River Dam into the two canals, back in to Link River. Following*

← Comment 40 cont.

*decommissioning of the facilities there will be no change in outflow from Upper Klamath Lake or inflow into Lake Ewauna. Therefore, implementation of the East and West Side Facility Decommissioning action would result in no change from existing conditions."*

Actually, there could be some subtle slightly beneficial effects on water quality at the mouth of Link River. Although short, Link River is turbulent and well oxygenated. More water flowing through the entire length of the Link River, rather than the canals, could decrease oxygen demand slightly through turbulent breakup/decomposition of algal cells, which could slightly improve dissolved oxygen conditions in Keno Reservoir.

In addition, during times when there are high ammonia levels in UKL (following algal bloom crashes), more water flowing through Link River would allow for more nitrification (conversion of ammonia to nitrate), resulting in slightly reduced concentrations of ammonia entering Keno Reservoir, which could slightly reduce ammonia toxicity in Keno Reservoir. Although water quality dynamics in Link River have not been studied intensively, supporting evidence for this phenomenon can be inferred from the Deas (2008) study which found substantial nitrification in the short turbulent river reach between Keno Dam and J.C. Boyle Reservoir.

Comment 41 - Water Quality

Page 3.2-134: Regarding the "Partial Facilities Removal Alternative", the DEIS states that *"Long-term summertime increases in pH would be beneficial for the Hydroelectric Reach and the lower Klamath River from Iron Gate Dam to the confluence with the Scott River."*

This is inconsistent with what is stated for the Proposed Action and needs to be corrected. Increased summer pH is generally not beneficial in the Klamath River.

Comment 42 - Water Quality

Page 3.2-134 This page contains a discussion of the water quality effects of decommissioning the East and West Side Facilities that fails to mention that decommissioning will slightly improve water quality conditions through more rapid decomposition of algal cells and increased nitrification. Details are provided above in the comments regarding a similar section on page 3.2-125.

Page 3.2-135: The sentence contains some erroneous information and requires revision: *"Under the Fish Passage at Four Dams Alternative, the reduction in frequency of J.C. Boyle peaking operations (from daily to weekly) and overall higher flow releases would result in warmer and more variable water temperatures in the bypass reach during summer and early fall, and cooler temperatures in late fall and winter."*

Comment 43 - Water Quality

Comment 44 - Water Quality

Comment 43 cont.

Temperatures will be warmer during summer and early fall, but will not be more variable. The cause of the increased temperatures would be increased amounts of warm river water in that reach. The cause of increased variability in the Proposed Action is the lack of thermal mass of J.C. Boyle Reservoir. In Alternative 4, however, the reservoir and its thermal mass are still present so there will be no increased variability (because there will be no mechanism causing increased variability). Therefore, the suggested revision is to delete "...and more variable..."

Page 3.2-135: This sentence is erroneous and requires correction: *"Similar to the Proposed Action, water temperatures in the peaking reach would be slightly cooler and less variable, also due to higher overall flows and the lower frequency of peaking operations at the J.C. Boyle Powerhouse."*

It is true water temperatures in the peaking reach under Alternative 4 will be similar to those under the Proposed Action; however, those effects are mischaracterized here. See comment regarding page 3.2-77, above, for details.

Page 3.2-135: This is erroneous and requires correction: *"Further downstream, at the Oregon-California state line, water temperatures would likely be similar to those under the No Action/No Project Alternative since large temperature effects of the peaking operations do not extend this far downstream."*

Stateline is in the peaking reach. See comments regarding page 3.2-77 above for details.

Comment 46 - Water Quality

Comment 45 - Water Quality

Page 3.2-137: The following passage has three issues that require correction: *"Since Alternative 5 would include no peaking power generation or release of flow for recreation at J.C. Boyle, water temperature effects in the J.C. Boyle bypass and peaking reaches would be the same as under the Proposed Action i.e., warmer and more variable water temperatures in the bypass reach during summer and early fall, and cooler temperatures in late fall and winter; and, slightly cooler and less variable water temperatures in the peaking reach during summer and early fall. Further downstream, at the Oregon-California state line, water temperatures would be similar to those under the No Action/No Project Alternative since large temperature effects of the peaking operations do not extend this far downstream. Within the remainder of the Hydroelectric Reach, effects on water temperature under the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative would be the same as effects for the Hydroelectric Reach under the Proposed Action."*

The suggested revision is to replace the above excerpt with:  
*"Since Alternative 5 would include no peaking power generation or release of flow for recreation at J.C. Boyle, water temperature effects in the J.C. Boyle bypass would be the same as Alternative 4, i.e., warmer water temperatures in*

← Comment 46 cont.

the bypass reach during summer and early fall, and cooler temperatures in late fall and winter. In the peaking reach, water temperatures would be similar to those under the Proposed Action, i.e. decreased daily fluctuation due to the lack of peaking. In the area that is currently occupied by Copco and Iron Gate Reservoirs, temperatures would also be similar to those under the Proposed Action."

The three issues are discussed in the following text, providing justification for the proposed changes requested above:

1) The effects of Alternative 5 on water temperature in the Peaking Reach will not be the same as the Proposed Action. Temperatures will be warmer during summer and early fall, but will not be more variable. The cause of the increased temperatures is increased amounts of warm river water in that reach (which occurs in both the Proposed Action and Alternative 5). The cause of increased variability in the Proposed Action is the lack of thermal mass of J.C. Boyle Reservoir; however, in Alternative 5 the reservoir and its thermal mass are still present so there will be no increased variability (because there will be no mechanism causing increased variability)

2) The DEIS states "Further downstream, at the Oregon-California state line, water temperatures would be similar to those under the No Action/No Project Alternative since large temperature effects of the peaking operations do not extend this far downstream." This sentence is erroneous (Stateline is in the peaking reach, so the lack of peaking in Alternative 5 will result in different water temperatures than the No Action/No Project Alternative) and duplicative (water temperature effects of the peaking reach were already discussed in the preceding sentence) and thus should be deleted.

3) "Within the remainder of the Hydroelectric Reach, effects on water temperature under the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative would be the same as effects for the Hydroelectric Reach under the Proposed Action." It should be clarified what is meant by "the remainder of the Hydroelectric Reach", because the effects between Stateline and above Copco Reservoir are different than those at downstream sites (Copco Dam and Iron Gate Dam). Which one is intended here? (the river reach between Stateline and above Copco Reservoir, or further downstream at Copco Dam/Iron Gate Dam?).

Page 3.2-137: This sentence is partially erroneous: *"Under the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative, long-term (2–50 years following dam removal/construction of fish passage facilities) increases in summer/fall water temperatures and daily fluctuations in the J.C. Boyle bypass*

Comment 47 cont. →

*reach due to the elimination of hydropower peaking operations would be a significant impact."*

Hydropower peaking does not affect the bypass reach. The suggested revisions is to end the sentence with "...in the J.C. Boyle bypass reach due to the increased dilution of consistently cool springs by additional Klamath River water would be a significant impact."

Comment 48 - Water Quality

Page 3.2-137: This sentence about the effects of Alternative 5 on water temperature requires revision: *"Slight decreases in long-term summer/fall water temperatures and less daily fluctuation in the J.C. Boyle peaking reach would be beneficial."* There will be less daily fluctuation in the peaking reach (due to no peaking) under Alternative 5, but there will not be a slight decrease in summer/fall water temperatures. See comments above on Page 3.2-77 for details.

Comment 49 - Water Quality

Page 3.2-137: This sentence about the effects of Alternative 5 on water temperature is erroneous and should be deleted: *"From the J.C. Boyle peaking reach to Copco 1 Reservoir, long-term water temperature effects would be similar to those under the No Action/No Project Alternative (i.e., no change from existing conditions)."* because the peaking reach ends at Copco 1 Reservoir (so there is no "J.C. Boyle peaking reach to Copco 1 Reservoir" separate from the peaking reach). There will be less daily fluctuation in the peaking reach (due to no peaking) under Alternative 5.

Comment 50 - Water Quality

Page 3.2-151 and Page 3.2-152:

These two statements about the effects of the reservoirs on algal-derived (organic) suspended material in the Hydroelectric Reach are somewhat contradictory:

*"Continued impoundment of water in the reservoirs could cause short-term and long-term seasonal (April through October) increases in algal-derived (organic) suspended material in the Hydroelectric Reach due to in-reservoir algal blooms."* (Page 3.2-151)

and:

*"Dam removal could eliminate the interception and retention of algal-derived (organic) suspended material behind the dams and result in long-term increases in suspended material in the Hydroelectric Reach."* (Page 3.2-152)

These two statements describe the two opposing effects of the reservoirs on algal-derived suspended material: 1) the settling algal-derived material from upstream sources (as well as settling of in-reservoir growth) and 2) internally-generated (i.e. re-growth) of algal material. There may be some CEQA-specific or NEPA-specific reason to address these items as two separate potential impacts; however, from a common-sense perspective it would seem to make more sense

← Comment 50 cont.

to assess the combined effects of these opposing forces and make a judgment about the net effect.

Page 3.2-153: Similar to the comment above regarding the effects of the reservoirs on algal-derived (organic) suspended material in the Hydroelectric Reach, this same issue applies to the Lower Klamath Basin where these two seemingly contradictory statements are made:

*"Continued impoundment of water in the reservoirs could result in short-term and long-term seasonal (April through October) increases in algal-derived (organic) suspended material in the KHP reservoirs and subsequent transport into the Klamath River downstream of Iron Gate Dam."*

and:

*"Dam removal could eliminate the interception and retention of algal-derived (organic) suspended material behind the dams and result in long-term increases in suspended material in the lower Klamath River, the Klamath Estuary, and the marine nearshore environment."*

These two statements describe the two opposing effects of the reservoirs on algal-derived suspended material: 1) the settling algal-derived material from upstream sources (as well as settling of in-reservoir growth) and 2) internally-generated (i.e. re-growth) of algal material. There may be some CEQA-specific or NEPA-specific reason to address these items as two separate potential impacts; however, from a common-sense perspective it would seem to make more sense to assess the combined effects of these opposing forces and make a judgment about the net effect.

Comment 51 - Water Quality

Page 3.2-154 *"Continued impoundment of water in the reservoirs could cause long-term interception and retention of TP and TN on an annual basis but release (export) of TP and TN on a seasonal basis"*

This statement overstates the degree to which the reservoirs can increase nutrient concentrations downstream of Iron Gate Dam. Because this section is regarding the Klamath River below Iron Gate Dam, the use of the word "export" implies release of nutrients from the reservoirs into the river downstream (i.e. that nutrient concentrations are higher at some point in time at Iron Gate Dam under current conditions than they would be without the dams/reservoirs). Basically this does not occur for TN (only for TP). So the suggested revision is to change "...release (export) of TP and TN on a seasonal basis" to "...release (export) of TP on a seasonal basis".

Note that earlier on that same page (3.2-154), it is stated that regarding the Upper Klamath Basin (i.e. Hydroelectric Reach) that *"Continued impoundment of water in the reservoirs could cause long-term interception and retention of TP and TN on an annual basis but release (export) of TP and TN on a seasonal basis"*.

Comment 51 cont.

In that case it is okay to mention "export" of TN because in that context it signifies release from the reservoir sediments to the reservoir water column (not from the reservoirs into the Klamath River), which does occur and could potentially contribute to in-reservoir algal blooms.

Comment 52 - Water Quality

Page 3.2-155: *"Dam removal and conversion of reservoir areas to free-flowing river conditions could cause long-term increases in dissolved oxygen, as well as increased daily variability in dissolved oxygen, in the Hydroelectric Reach."*

As is noted above on comments regarding page 3.2-104, this statement is not true for the entire Hydroelectric Reach, just parts of it. In particular, the Proposed Action would cause decreased intra-daily variability in D.O. at Stateline (not increased as stated here). This potential effect should be split up into multiple pieces, according to the differing effects by specific location.

Comment 53 - Water Quality

Page 3.2-155: *"Continued impoundment of water at the Four Facilities could result in long-term seasonal and daily variability in dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam, such that levels do not meet California North Coast Basin Plan and Hoopa Valley Tribe water quality objectives and adversely affect beneficial uses."*

The impoundment of water in the reservoirs does not contribute to *daily variability* in D.O. below Iron Gate Dam, but it does contribute to decreased overall (i.e. daily mean) D.O. (for example, see Figure 3.2-19 and 3.2-20 in the DEIS/DEIR). In addition, we are not aware of any evidence that the reservoir impoundments have a negative effect on dissolved oxygen on the Hoopa reservation (the only areas where the Tribe's water quality objectives apply); thus, the reference to "and Hoopa Valley Tribe" should be deleted probably be deleted if the intent is to discuss the effects of the dams (however, if it is just to describe generally the conditions in the river then it is fine to leave it in). Therefore, the suggested revision is to either delete "and daily variability" from the sentence, or replace the sentence with "Current dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam are adverse, such that levels do not meet California North Coast Basin Plan and Hoopa Valley Tribe water quality objectives and adversely affect beneficial uses. Continued impoundment of water at the Four Facilities could result in continued release of water with low dissolved oxygen concentrations from Iron Gate Dam into the Klamath River, contributing to those adverse conditions, particularly in the immediate vicinity of the dam."

Comment 54 - Water Quality

Page 3.2-156: This sentence appears to be an erroneous near-duplicate (it is very similar to the next row, but reaches some different conclusions) and therefore should be deleted: *"Dam removal and conversion of the reservoir areas to a free-flowing river could cause short-term and long-term decreases in summertime pH in the*

Comment 54 cont. →

*lower Klamath River, Klamath Estuary, and the marine nearshore environment.*"  
The information presented on pages 3.2-115 to 3.2-117 is more correctly described by the next row in the table, which is the Potential Impact "Dam removal and conversion of the reservoir areas to a free-flowing river could cause long-term summertime increases in pH in the lower Klamath River downstream of Iron Gate Dam" with Significance Pursuant to CEQA of "LTS (from Iron Gate Dam to confluence with the Scott River) NCFEC (Klamath River just downstream of Seiad Valley, the Klamath Estuary, and the Marine Nearshore Environment".

There is inconsistency regarding the pH issue in the DEIS/DEIR. In some sections, it is stated that the Proposed Action will increase pH below Iron Gate Dam, whereas in other places it is stated that it will decrease. See comments above regarding page 3.2-67.

← Comment 55 - Water Quality

Page 3.2-157: *"Dam removal and conversion of the reservoir areas to a free-flowing river would cause short-term and long-term decreases in levels of chlorophyll-a and algal toxins in the Hydroelectric Reach."*

The changes will be major, particularly for algal toxins (chlorophyll-a will still occasionally be high due to upstream blooms of *Aphanizomenon*). Therefore, the suggested revision is: "Dam removal and conversion of the reservoir areas to a free-flowing river would cause short-term and long-term decreases in levels of chlorophyll-a and substantially reduce or eliminate algal toxins in the Hydroelectric Reach."

Comment 56 - Water Quality

Page 3.2-158: *"Dam removal and conversion of the reservoir areas to a free-flowing river would cause short-term and long-term decreases in levels of chlorophyll-a and algal toxins in the lower Klamath River and the Klamath Estuary."*

The changes will be *major*, particularly for algal toxins (chlorophyll-a will still occasional be high due to upstream blooms of *Aphanizomenon*). Therefore, the suggested revision is: "Dam removal and conversion of the reservoir areas to a free-flowing river would cause short-term and long-term decreases in levels of chlorophyll-a and substantially reduce or eliminate algal toxins algal toxins in the lower Klamath River and the Klamath Estuary."

← Comment 57 - Water Quality

Page 3.2-160: *"Decommissioning the East and West Side Facilities could cause adverse water quality effects."*

Nowhere in the DEIS/DEIR is it described how the decommissioning of the East and West Side Facilities cause adverse water quality effects. In fact, as described above in comments on Page 3.2-125, it is likely that decommissioning these facilities would result in a minor improvement to water quality in Keno Reservoir.

← Comment 58 - Water Quality

Page 3.2-169: The citation for Perry et al. (2011) is missing the OFR number. It should be "2011-1243"

3.3 Aquatic Resources ← Comment 59 - Fish

Page 3.3-40 The study results referencing Vanderkooi 2010 are over stated. The Vanderkooi et al 2010 reference is not a report or a study, it is a 2 page fact sheet that was never published.

There was disagreement as to whether microcystin was actually the cause of the lesions. No one has ever reviewed the data or report. Thus, unlike the Klamath River studies where microcystin was found and confirmed directly in fish tissue, the UKL results are highly speculative and have not been confirmed.

Comment 60 - Fish

Page 3.3-40 The sentence describing the bioaccumulation in salmonids leaves out some of the data. The 3 of 7 Chinook salmon livers that were positive for toxin were for September. Samples collected on the 14th and 15th of October also showed that 1 of 7 Chinook livers had a high level of microcystin-RR (121 ppb), and 1 of 15 steelhead livers had a high level of microcystin-LR (152 ppb) , both of which exceeded public health guideline levels.

The October Chinook and steelhead need to be included- especially the steelhead because it is confirming of the Fetcho 2006 detection.

3.4 Algae ← Comment 61 - Algae

Page 3.4-2: "quite" should be changed to "quiet" in this sentence: "*Submerged aquatic macrophytes may also be present in quite backwater areas in the Klamath River.*"

← Comment 62 - Algae

Page 3.4-4: Reference for elevated pH in UKL:  
Kann, J., and V. H. Smith. 1999. Chlorophyll as a predictor of elevated pH in a hypereutrophic lake: estimating the probability of exceeding critical values for fish success using parametric and nonparametric models. *Can. J. Fish Aquat. Sci* 56: 2262-2270

← Comment 63 - Algae

Page 3.4-4: VanderKooi et al. 2011 is cited at several places on this page but is not listed in the references section. Should it be added to the references list, or is this an incorrect citation?

← Comment 64 - Algae

Page 3.4-4:  
"several occasions" should be changes to "many occasions" in the following sentence:

Comment 64 cont.

*"The World Health Organization (WHO) guidelines for exposure to microcystin have been exceeded in Upper Klamath Lake (VanderKooi et al. 2011) and the middle and lower Klamath River on several occasions..."*

Comment 65 - Algae

Page 3.4-4: This sentence overstates the abundance of *Anabaena* in the KHP reservoirs: *"Large Anabaena flos-aquae blooms occur in the Klamath Hydroelectric Project reservoirs, along with M. aeruginosa, and their toxin has been documented in the reservoirs and downstream (Raymond 2009)."*

For example, here are some excerpts from the cited Raymond (2009) document, documenting that *Anabaena* does not have "large blooms" in the reservoirs: *"Anabaena flos-aquae was present briefly at low abundance."* and *"Anabaena flos-aquae was observed only in Iron Gate reservoir in 2008. It was largely confined to surface samples, appearing only once in the 8 m integrated sample. It did not appear to collect preferentially at the surface; samples taken at 0.5 m depth typically had greater biovolume than samples collected at the surface. Anabaena planctonica was observed in one 8 m integrated sample from Iron Gate reservoir."* Additional information on *Anabaena* in sampling in Iron Gate and Copco reservoir by the Karuk Tribe and PacifiCorp in 2005-2010 can be found in Asarian and Kann (2011). The sentence should be revised accordingly. Anatoxin was only detected once in Iron Gate reservoir in September of 2005 at levels ranging from 20-34 ug/L. (Trina Mackie CA DHS 2005)

Comment 66 - Algae

Page 3.4-5: This sentence is way too simplistic and limited, with no supporting references: *"Periphyton abundance and community composition appears to be controlled in large part by nutrient availability and flow rates, with high flow rates frequently corresponding to low periphyton abundance, and nutrient enrichment corresponding to an increased abundance of Cladophora."*

The recommended revision is to replace that sentence with: *"The factors influencing periphyton abundance and community composition are complex and include abiotic factors such as nutrients, substrate, flow velocity, shading, light availability, and water temperature (Biggs 2000), as well as ecological factors such macroinvertebrate grazing that interact with abiotic factors (Powers et al. 2008)."*

Full citations:

Biggs, B.J.F. 2000. New Zealand Periphyton Guideline: Detection, Monitoring, and Managing Enrichment of Streams. Prepared for Ministry of Environment. NIWA, Christchurch. Accessed online 11/4/2008 at:

<http://www.mfe.govt.nz/publications/water/nz-periphyton-guide-jun00.pdf>

Power, M.E., Parker, M.S., Dietrich, W.E., 2008. Seasonal reassembly of a river food web: floods, droughts, and impacts of fish. *Ecological Monographs* 78, 263–282.

Comment 67 - Algae

Page 3.4-6: "However; this decreasing trend is interrupted by large blooms of blue-green algae in Copco 1 and Iron Gate Reservoirs (Kann and Asarian 2006, Asarian et al. 2009)." An additional good reference to add here would be Asarian and Kann (2011):

Asarian, E. and J. Kann. 2011. Phytoplankton and Nutrient Dynamics in Iron Gate and Copco Reservoirs 2005-2010. Prepared by Kier Associates and Aquatic Ecosystem Sciences for the Klamath Basin Tribal Water Quality Work Group.

Comment 68 - Algae

Page 3.4-6: "Blue-green algae dominate the algal community during the mid-summer to fall months, with large blooms of *Anabaena flos-aquae* and *M. aeruginosa* in the reservoirs (Kann 2006, FERC 2007)."

Actually, *Aphanizomenon* is much more abundant than *Anabaena* (though *Anabaena* is present). Also, neither of the cited documents mentions *Anabaena*. A newly completed report by Asarian and Kann (2011) analyzes the PacifiCorp and Karuk Tribe's 2005-2010 phytoplankton data collected in the Iron Gate and Copco and would be a good citation for this sentence. Additionally, blue-green algal blooms can be large in July (not late summer).

Therefore, the suggested revision is: "Blue-green algae dominate the algal community during the mid-summer to fall months, with large blooms of *Aphanizomenon flos-aquae* and *M. aeruginosa* in the reservoirs (Asarian and Kann 2011)." Full citation:

Asarian, E. and J. Kann. 2011. Phytoplankton and Nutrient Dynamics in Iron Gate and Copco Reservoirs 2005-2010. Prepared by Kier Associates and Aquatic Ecosystem Sciences for the Klamath Basin Tribal Water Quality Work Group.

Comment 69 - Algae

Page 3.4-12: "As described above for phytoplankton (i.e., blue-green algae), full and successful implementation of Oregon and California TMDLs would decrease nutrients in the Klamath River and would result in decreased spatial extent, temporal duration, and/or biomass of phytoplankton mats."

Since this passage occurs in the section about periphyton, this sentence should end with "...periphyton mats.", not "...phytoplankton mats."

Page 3.4-12: "Increases in nutrient availability may also cause a shift in periphyton community composition from that dominated by nitrogen-fixing periphyton species to that dominated by non-nitrogen fixers."

Comment 70 - Algae

← Comment 70 cont.

Where is the evidence that would support this conclusion? In order for this to be true (increasing non-nitrogen fixers), climate change would have to increase N more than it increased P (and what are the mechanisms that would cause such a change?). If evidence is not presented, this sentence should be deleted.

Comment 71 - Algae ←

Page 3.4-14: *"Moreover, dam removal would allow the substantial groundwater resources within this area of analysis to cool water temperatures during the summer months (Hamilton et al. 2010). This would further reduce the suitability of conditions for blue-green algae growth and mitigate for the effects of climate change."*

Are the "substantial groundwater resource" referred to here the springs below J.C. Boyle Dam? These springs are incorporated into the water quality models developed for the PacifiCorp relicensing and TMDL, and are discussed in Section 3.2 of the EIS. Those modeling results indicate that under the Proposed Action, it is the termination of hydropower peaking (not groundwater inflow) that will reduce daily water temperature fluctuations and maximum daily water temperatures in the J.C. Boyle Peaking reach, but that daily mean temperatures will remain very similar (i.e. see Page 3.2-77).

The models do predict summer cooling under the Proposed Action at Copco Dam and Iron Gate Dam, but these temperature effects are due to elimination of the reservoirs' thermal mass, not groundwater inflow. Certainly the springs below J.C. Boyle Dam are currently (and will continue into the future) have important effects on Klamath River water temperature, but the Proposed Action will not have much, if any, effect on those springs. Thus, it is probably not accurate to say that the "groundwater resource" will result in additional cooling of the river under the Proposed Action. Furthermore, the temperature issue is probably not worth even mentioning here because its effect on phytoplankton is so minor relative to the overwhelming effect of the change from stagnant to free-flowing conditions. Therefore, the suggested revision is to delete the two sentences.

Page 3.4-17: These sentences requires some revision: *"Despite the overall increases in absolute nutrient concentrations anticipated under the Proposed Action (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), the relatively greater increases in Total Nitrogen (TN) may not result in significant biostimulatory effects on periphyton growth. Existing data indicate that the Klamath River is generally N-limited (TN:Total Phosphorus (TP) <10), with some periods of co-limitation by N and P (see also Section 3.2.3.4 and Appendix C, Section C.3.2.1)."*

It is very important here to mention the minor increase in phosphorus because that is the driver of the predicted lack of substantial biostimulatory response. As currently worded, the emphasis is on the fact that TN will increase more than TP, which is actually less important than the fact that TP will only increase a

Comment 72 cont.

small amount. Also, TN:TP ratios in the Klamath River do not indicate N-limitation, they indicate *the potential* for N limitation. Therefore, the suggested revision is:

"Despite the overall increases in absolute nutrient concentrations anticipated under the Proposed Action (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), the large increase in Total Nitrogen (TN) may not result in significant biostimulatory effects on periphyton growth because it will be accompanied by only a relatively minor increase in Total Phosphorus (TP). Existing data regarding TN:TP ratios suggest the potential for the Klamath River to be generally N-limited (TN: TP) <10), with some periods of co-limitation by N and P (see also Section 3.2.3.4 and Appendix C, Section C.3.2.1)."

Comment 73 - Algae

Page 3.4-17: These sentences require some revision: *"In addition, N-fixing species dominate the periphyton communities in the lower reaches of the Klamath River where inorganic nitrogen concentrations are low (Asarian et al. 2010). Since these species can fix their own nitrogen from the atmosphere, increases in TN due to dam removal may not significantly increase their biomass, particularly if overall TN increases are less than those predicted by existing models due to implementation of TMDLs and general nutrient reductions in the Klamath Basin."*

The first sentence should be revised to clarify that it refers to existing conditions (change "N-fixing species dominate" to "N-fixing species currently dominate"). The second sentence should mention the very small increase in TP, and be rephrased to avoid saying "their biomass" because species composition could shift with increased TN. Therefore, the suggested revision is to revise the second sentence to read:

"Since these species can fix their own nitrogen from the atmosphere, increases in TN due to dam removal may not significantly increase periphyton biomass in these reaches because it will be accompanied by only a relatively minor increase in TP. In addition, overall TN increases could be less than those predicted by existing models due to implementation of TMDLs and general nutrient reductions in the Klamath Basin."

Comment 74 - Algae

Page 3.4-18: The second sentence here requires some revision: *"As discussed for the lower Klamath River downstream of Iron Gate Dam, periphyton growth under the Proposed Action could be affected by increased nutrient availability following dam removal. However, since the long-term increase in nutrients in the Klamath Estuary would be a less-than-significant impact due to the implementation of TMDLs and KBRA (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), it is likely that increases in periphyton growth would also be less than significant."*

## ← Comment 74 cont.

It is important to note here that the Klamath estuary is a long distance downstream of Iron Gate Dam, and that much dilution and nutrient retention occurs between two locations.

Therefore, the suggested revision is to replace the second sentence with: "However, since the long-term increase in nutrients in the Klamath Estuary would be relatively small due to the effects of tributary dilution and nutrient retention in the 190 miles between Iron Gate Dam and the Estuary (Asarian et al. 2010), and would be a less-than-significant impact due to the implementation of TMDLs and KBRA (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), it is likely that increases in periphyton growth would also be less than significant."

## Appendix C Water Quality Supporting Technical Information

## Comment 75 - Water Quality

Page C-29: The sentence "*Only minor increases in ammonia (0.05–0.1 mg/L) have been observed to occur in Copco 1 and Iron Gate Reservoirs, most often during October and November (Kann and Asarian 2005, 2007).*" could be mis-interpreted to be about ammonia inside the reservoirs, whereas it is actually intended to be about the river stations above and below the reservoirs. Therefore, it should be revised to "*Only minor increases in ammonia (0.05–0.1 mg/L) have been observed to occur between above Copco 1 and below Iron Gate Reservoirs, most often during October and November (Kann and Asarian 2005, 2007).*"

## Comment 76 - Water Quality

Page C-31: This sentence requires correction: "*Ratios of TN to TP (TN:TP) measured in the Klamath River suggest that the system is generally N-limited with some periods of co-limitation by N and P.*"

TN:TP ratios in the Klamath River do not indicate *N-limitation*, they indicate the *potential for N limitation*. The following common-sense analogy is a helpful illustration of this idea: if one person is in a room where there are 500,000 hot dogs and 50,000 buns, which food resource is limiting growth of that person, hot dogs or buns? (neither). Therefore, the suggested revision is "*Ratios of TN to TP (TN:TP) measured in the Klamath River suggest the potential for the system to be generally N-limited with some periods of co-limitation by N and P.*"

Page C-57: Statement regarding 2009 microcystin being below 1 ug/L in free-flowing river sites is incorrect for the section below IG to Klamath-- there were numerous exceedances of both 1 ug/L and the 8 ug/L public health level. In fact this is noted on the next page C-58:

*"Additional public health advisories were issued in 2009 and 2010 in Copco 1 and Iron Gate Reservoirs, as well as downstream locations in the Klamath River (including locations on the Yurok Reservation), for microcystin levels in ambient and/or freshwater mussel tissue (Kann et al. 2010a, Kann et al. 2010b, Fetcho 2010)."*

## ← Comment 77 - Water Quality

Comment 77 cont.

See page. C-60 also.

Comment 78 - Water Quality

Page C-58: *"the majority of exceedances occurred in the reservoirs"* Although true, the wording minimizes the fact that microcystin and *Microcystis* levels have consistently exceeded public health advisory levels for riverine sites downstream of the reservoirs as well (Kann and Courm 2007; 2009; Kann et al. 2010).

Page C-61: Again the statement regarding 2009 microcystin being below 1 ug/L in free-flowing river sites is incorrect for the section below IG to Klamath . This is not consistent with the data. From P C-62 on following page:

*"As described for the Klamath River from Iron Gate Dam to the Salmon River (Section C.6.2.1), there have been numerous exceedances of public health guidelines in the Klamath River from the Salmon River confluence to the Klamath Estuary, particularly in 2010. Public health advisories were issued in 2009 and 2010 in this reach (including locations on the Yurok Reservation) for elevated microcystin levels in ambient and/or freshwater mussel tissue samples (Kann et al. 2010a, Kann et al. 2010b, Fetcho 2010). In addition, substantial bioaccumulation (exceeding public health guidelines) of microcystin in freshwater mussels has been shown in this reach (Kann 2008, Kann et al. 2010b)."*

The statement above regarding exceedances in the reservoir vs. the river along with the citations to Watercourse 2011 regarding 2009 levels are misleading in that they imply that public health levels are rarely exceeded for the river below Iron Gate. This is clearly not the case.

Comment 79 - Water Quality

Appendix D Water Quality Environmental Effects Determination Methodology Supplemental Information

Comment 80 - Water Quality

Page D-6: Footnote 4 under Table D-2 describes the hydrology used in the TMDL water quality model. Mention should be added that hydropower peaking in the J.C. Boyle Peaking Reach was not included in the TOD2RN, TCD2RN, and T1BSR scenarios (please first verify that with TetraTech to confirm it is correct).

#### NEW WATER QUALITY REFERENCES CITED

Note: if a document we cited above in our comments is already included in the reference lists in the DEIS/DEIR, it is generally not repeated here. In some cases however we include a reference here even though it may exist already in the DEIS/DEIR (to save ourselves the time of looking through all the various reference lists in the DEIS/DEIR).

Asarian, E. and J. Kann. 2011. Phytoplankton and Nutrient Dynamics in Iron Gate and Copco Reservoirs 2005-2010. Prepared by Kier Associates and Aquatic Ecosystem Sciences for the Klamath Basin Tribal Water Quality Work Group.

Biggs, B.J.F. 2000. New Zealand Periphyton Guideline: Detection, Monitoring, and Managing Enrichment of Streams. Prepared for Ministry of Environment. NIWA, Christchurch. Accessed online 11/4/2008 at:  
<http://www.mfe.govt.nz/publications/water/nz-periphyton-guide-jun00.pdf>

PacifiCorp. 2004. Final License Application for the Klamath River Hydroelectric Project (FLA). Filed with the Federal Energy Regulatory Commission on February 25, 2004. PacifiCorp, Portland, OR. 7000 p.

Power, M.E., Parker, M.S., Dietrich, W.E., 2008. Seasonal reassembly of a river food web: floods, droughts, and impacts of fish. *Ecological Monographs* 78, 263–282.

Comment 81 - Hydrology

3. **Hydrology and Aquatic Resource Comments on EIS/EIR for Facilities Removal:**

Page 2-16 and 2-19: Exceedance graph is inaccurately described. Sorting by exceedance across timesteps yields an inaccurate picture of flows. It is extremely inaccurate to say that linking together independently sorted 10% exceedance flows across timesteps represents a "wet" year, or in fact any year that was modeled (this is less of a problem for drier year flows because they have less variation in magnitude and timing). In fact, because the highest flows of the year often vary in time of occurrence, the higher exceedance flows often over represent the time duration of high flows. The exceedance flows are derived independently for each timestep, therefore it is incorrect to link them together in a line graph. Change title of graph to: "10, 50 and 90% exceedances of modeled flows for proposed action." This error could have far-reaching consequence in analysis of modeled sediment loads, etc.

Comment 82 - Hydrology

Page 2-19: the flows that were analyzed as part of the Proposed Action are NOT according to E-5 of the KBRA. The flows for the proposed action are found in Chapter 6 of the Hydrology and Sediment Technical Report. Even in this report, there is no place where the projected flows are put in a form conducive to analysis (i.e. a table with flows in cfs at Iron Gate Dam for all the years and timesteps of the modeling that was performed). Figure 6-14 has the flows presented graphically, a table containing the data that went into this graph would be most helpful. This would facilitate a comparison between historic flows, flows in E-5 of the KBRA, etc.

Comment 83 - Hydrology

Page 2.19: Footnote 2:

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

Statement on flows above is far too restrictive. In addition to minimum flows, other flows may change in the future (management regime may change).

Comment 84 - Fish

Page 3.3-20 and 21: Please add NMFS eulachon status report (Status Review Update for Eulachon in Washington, Oregon, and California Prepared by the Eulachon Biological Review Team 20 January 2010) as documentation of eulachon information. Provide Belchik/Larson Eulachon paper for documentation.

Larson, Z., Belchik, M. (1998). A preliminary status review of eulachon and Pacific lamprey in the Klamath River Basin. Yurok Tribal Fisheries Program Technical Report. 13pp.

← Comment 85 - Fish

Page 3.3-21: Green sturgeon discussion:

1. The geographic boundary between southern DPS green sturgeon (ESA listed), and Northern DPS sturgeon needs to be clearly stated and the fact that the Klamath River is within the geographic range of the northern DPS needs to be clearly stated.
2. The Yurok Tribe has not tagged southern DPS green sturgeon in the Klamath River and the assertion that this is the case in paragraph 3 is false. The Yurok Tribe has tagged green sturgeon in the Klamath river, however; all of which are assumed to be northern dps sturgeon. This assumption is supported by the following evidence (see <http://www.yuroktribe.org/departments/fisheries/reportsandpublications.htm>);
  - a. No sturgeon tagged by the Yurok Tribe have ever been detected in the range of southern DPS sturgeon (primarily San Francisco Bay) despite the presence of numerous receivers that would have detected Klamath River tagged fish if they had ventured there;
  - b. No sturgeon tagged in the Sacramento/San Joaquin and/or San Francisco Bay region have ever been detected in the Klamath River.
  - c. Southern DPS sturgeon have been detected immediately offshore of the Klamath River, but have not been detected in the Klamath River estuary or mainstem despite the presence of functioning acoustic receivers in the Klamath River estuary.

Based on available scientific evidence, the Yurok Tribal Fisheries Program strongly concludes that it is exceedingly unlikely, but not impossible, that any southern DPS green sturgeon are present in the Klamath River at any time. Please change the document accordingly.

Page 3.3-48: Improper use of exceedance tables in evaluating suspended sediment risks has caused an overstatement of risk in high sediment release years and understating of low risk years. If the exceedances for given timesteps are evaluated independently (i.e. each timestep has its exceedance independently calculated), then it is improper to join the exceedances together to evaluate a "high" or "low" sediment (or flow) situation. In particular, this improper use of exceedances will significantly overestimate time durations over a given sediment threshold, especially if the timing of peak sediment discharge varies. The EIS/EIR is very unclear how these curves were derived, and this must be clarified.

← Comment 86 - Fish

Comment 86 cont. →

In addition, a “best case” scenario should be added if a “worst case” scenario is evaluated. This will allow for a proper risk-management decision. It is not proper to be “conservative” toward one outcome or another, but the document and analysis should simply present a range of possibilities and their likelihoods according to the best available information.

A remedy for this error might be to determine for each year in the period of record (for the sediment model output) the duration of SSI over a given threshold. From those durations, you could then calculate a 10% exceedance for time spent over that threshold. For example: calculate the number of days for each and every year in the modeled period of record that the river at point X spends over 1000 ppm. Sort the points high to low, and from there, select the 10%, 50%, 80%, time durations over the threshold. Repeat process for other thresholds of interest or relevant to sediment exposure model for fisheries.

The Yurok Tribe raised this point in the administrative draft, but it appears that no corrective action has been taken with regards to this point.

Comment 87 - Fish ↙

Page 3.3-57: One of the effects of raised temperatures during the fall migration is a shift in run timing. A comparison of the peak of fall Chinook salmon entry timing into the Klamath River estuary from the 1930’s until today (Yurok Tribal harvest data) shows that the run currently peaks about 3 weeks later than it used to, which coincides nearly exactly with the phase shift of high temperatures due to the presence of the reservoirs. Because the fish now spawn later, they also hatch later, which leads to later outmigration and rearing. The fish now outmigrate during a time of rapidly rising water temperatures, which combined with high spawning densities, overly stable geomorphology from the presence of the dams and steady-state flow management. This creates the “perfect storm” for disease conditions on the Klamath River. It is very likely that the fall temperature increase leads to a “domino effect” situation which exacerbates an already serious disease condition on the Klamath.

Comment 88 - Fish ↙

3.3-58: The data set regarding disease is not long enough to conclude that it has reached a steady-state, as is implied in the analysis of no action (*Based on this scenario, mortality associated with C. shasta and P. minibicornis would be expected to remain similar to existing conditions.*) An equally likely (or possibly more likely) hypothesis is that the disease situation has not yet stabilized, and given the right meteorological conditions, could get much worse in the future under the no action alternative.

Comment 89 - Fish ↙

3.3-63: “The effect of the No Action/No Project Alternative would be no change from existing conditions for fall-run Chinook salmon in the short and long term.” The decline of Klamath River salmon has been occurring for some time now. The statement on Page 63 implies that the EIS/EIR team has reached the conclusion

← Comment 89 cont.

that the decline of salmon on the Klamath, and the hydroelectric project's contribution to that decline has halted, and reached equilibrium that will persist into the future. In fact, there are indications that the decline of Klamath River salmon has not yet stabilized. For example fisheries closures due to weak salmon stocks did not take place until the early 2000's, and the prevalence of C. shasta and other diseases has only been quantitatively documented since 2004. Thus we strongly disagree with the conclusion that no action will result in mere continuance of depressed salmon populations on the Klamath, and instead think there is evidence that no action will result in accumulating risk to existing stocks of salmon in the Klamath Basin.

Comment 90 - Fish

3.3-65: (last paragraph) Recommend not using the term "pulse flow" which has a different meaning when used in relationship to water management on the Klamath River. Recommend using the wording: "Under historical, unregulated conditions, a period of higher flows occurred during the spring in the Klamath River and in its tributaries (NRC 2004)."

Comment 91 - Fish

3.3-76: graph must also present "best case" scenario for sediment concentrations expected to result from dam removal. It is unclear how the "worst case" scenario was calculated. Text references the sediment evaluation report, but it is so important that a brief description of the methods used is appropriate. The use of exceedances that are independently sorted for different timesteps and then linked together is entirely inappropriate for a concentration-duration analysis, and this must be changed.

Comment 92 - Fish

3.3-76: it is very unclear how the "worst case and most likely" sediment scenarios were used, and cannot tell from description. If they were done by taking independently sorted sediment level exceedances for the different timesteps and stringing them together (as is implied by the caption), the analysis is deeply flawed, and must be redone. One alternative might be to determine, for each year in the historic record, how long the suspended sediment levels exceeded a certain threshold level, and then rank that, and use that to describe best and worst case scenarios. Use of exceedances will lead to significant and incorrect estimates of time durations over a given sediment concentration level.

Comment 93 -  
Hydrology/Flooding

Page 3.6-4: The discussion of flood risk under the "no action" alternative needs to be expanded. Any reservoir upstream of a community presents a certain amount of risk of catastrophic failure. In the case of Iron Gate Dam, the dam sustained heavy damage in the 1964 flood, and after the 1997 flood, additional protective measures were required of PacifiCorp from FERC. Specifically, 7 feet were added to the top of the dam as additional protection against overtopping. The emergency drain has never been fully opened and tested for fear that driftwood would keep the gate open and drain the reservoir.

← Comment 93 cont.

The flood risk presented to downstream communities from the impoundment of tens of thousands of acre-ft of water is never clearly communicated, and in order to fully analyze the difference between no action and action, the flood risk inherent to the no-action alternative must be described.

## 4. Aquatic Resources; Diseases and Parasites

Comment 94 - Fish

3.3-36 *"Fish diseases, specifically the myxozoan parasites Ceratomyxa shasta (C. shasta) and Parvicapsula minibicornis, periodically result in substantial mortality for Klamath River salmonids, (though steelhead are generally resistant to C. shasta)."*

Substantial mortality occurs every year that has been monitored (> 20% annually; True et al. 2010). Suggest changing "periodically" to "regularly". Also change at 3.3-49. In addition, all native salmonids in the KRB are resistant to *C. shasta*, and this is an important fact because it shows how grossly out-of-balance the myxozoan diseases have become in that it is overwhelming the immune systems of co-evolved, resistant fishes. Steelhead are therefore "more resistant" but it is misleading to just say they are resistant because it implies the other species are not. Change throughout the document.

Comment 95 - Fish

3.3-36 *"Ich and columnaris occur episodically, occasionally resulting in substantial mortality (e.g., the 2002 fish kill of juvenile and adult Chinook salmon). The effects of Ich and columnaris are generally not as harmful as the myxozoan parasites, although impacts on juvenile salmonids and other species have not been well studied."*

Ich occurs episodically but columnaris occurs regularly (annually), and the mention of a juvenile fish kill in 2002 associated with Ich and columnaris is in error. Suggest changing to: "Ich and columnaris occasionally result in substantial mortality (e.g., the 2002 fish kill of adult Chinook salmon). The effects of Ich and columnaris are generally not as harmful on a population level as the myxozoan parasites, although impacts on juvenile salmonids and other species have not been well studied."

Comment 96 - Fish

3.3-36 *"Actinospore abundance, a primary determinant of infectious dose, is controlled by the number of infected polychaetes and the prevalence and severity of infection within their population."*

For factual accuracy suggest changing to: "Actinospore abundance, a primary determinant of infectious dose, is controlled by the number of polychaetes and the prevalence and severity of infection within their population."

3.3-49: Need to add sediment (bedload composition and stability) and plankton (high quality food abundance) to the list of variables that affect the abundance of *P. minibicornis* and *C. Shasta* (via the effects on polychaete abundance).

Comment 97 - Fish

← Comment 98 - Fish

3.3-58: *"The ongoing presence of the dams under the No Action/No Project Alternative would continue to contribute to the stable, warm habitat conditions that are favorable for polychaetes and for C. shasta and P. minibicornis. The hatchery would continue to operate and discharge its nutrient-rich effluent to the river. Salmon would continue to concentrate below the Iron Gate Dam, where the polychaete hosts are abundant, facilitating the cross infection between the fish and the polychaetes. Based on this scenario, mortality associated with C. shasta and P. minibicornis would be expected to remain similar to existing conditions. If temperatures warm over time with climate change, these infection rates could increase. The No Action/No Project Alternative would result in continued substantial deleterious effects on salmon in terms of fish disease."* (emphasis added)

What is the basis of data or evidence to suggest that disease has reached equilibrium and won't continue to get worse under the No Action/No Project alternative even without global warming?

This assertion is contrary to the apparent trend based on disease indicators since 2005, although, it is too short of time frame to draw firm conclusions. However, there is a logical argument to be made that myxozoan disease will continue to get worse on average overtime under current conditions due to a positive feedback loop.

The positive feedback loop is created by elevated numbers of polychaetes producing a hyper-abundance of actinospores that in turn heavily infects returning adults subsequently producing high numbers of myxospores conveniently concentrated at the top of the area of high polychaete abundance and so the cycle repeats resulting in increasing polychaete infection levels and actinospore abundance over time. Of course there will be annual variation and stochastic events but the overall trend predicted over a 50 year horizon is alarming given current disease levels even absent anticipated future global warming.

Overall we suggest that it is likely that the frequency and severity of years with high disease related mortality will increase over the next fifty years under current conditions due to global warming AND the constraints of having the dams and hatcheries still in place along with limited availability of water to create artificial scouring flows of sufficient frequency, duration, and magnitude.

We suggest adding the following change in wording:

*"Based on this scenario, mortality associated with C. shasta and P. minibicornis would be expected to worsen substantially or remain similar to existing conditions."*

← Comment 99 - Fish

Comment 100 - Fish

3.3-62: *“Under the No Action/No Project Alternative, ongoing hatchery operations would continue to mitigate for habitat lost due to construction of the dam by releasing millions of juvenile and yearling Chinook salmon annually. These fish may compete with the progeny of naturally spawned fish for food and other limited resources, such as thermal refugia, or can increase disease infection rates through crowding. In addition, some adult fish may stray and spawn with wild fish, which can reduce genetic and phenotypic diversity and reproductive success within the wild population (McLean et al. 2003, Araki et al. 2007, Araki et al. 2009, all as cited in Hamilton et al. 2011).*

Suggest changing the sentenced underline above to the following to account for the impacts of hatchery production on myxozoan disease dynamics:

*“These fish may compete with the progeny of naturally spawned fish for food and other limited resources, such as thermal refugia, or can increase disease infection rates through crowding and concentrated release of myxospores on top of the area of highest polychaete densities.”*

3.3-63: Need to include continued disease mortality of juvenile spring Chinook salmon under No Action/No Project Alternative.

Comment 101 -Fish

3.3-88: *“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).”*

We recommend adding “increased planktonic food sources from project reservoirs” to the above list. Increased planktonic food resources for polychaetes from project reservoirs has been identified by several *C. shasta* collaborative management team members as a probable contributing factor to the hyper-infectious zone below Iron Gate Dam partly due to the stimulating effect of high quality food resources on polychaete abundance.

It is important to note that this issue of planktonic food resources is a separate issue than the effect of nutrient levels on riverine derived food resources. Polychaetes are able to eat a wide variety of food sources from suspended and benthic detritus and micro-organisms, but lipid rich diatoms are an especially valuable food source (Bartholomew and Foott 2010). Polychaetes also eat blue-green algae such as *Microcystis aeruginosa* but the digestibility is unknown and potentially low. Both diatoms and microcystis proliferate in the project reservoirs. The Proposed Action would remove project reservoirs that contribute to this rich food resource, except from continued releases from UKL/Keno Dam, which would shift the planktonic food resource zone upstream

Comment 101 cont.

where it would not overlap with a major fish hatchery and an area of concentrated myxospore and actinospore production.

The spatial convergence of dams, hatcheries, plankton from reservoirs, and high myxozoan infectivity has been noted in other rivers such as the Cowlitz (which does not have nutrient problems).

**5. Detailed Plan: Dam Removal Costs and Methods**

**Detailed Plan: Dam Removal Costs and Methods**

Generalized Comments:

Comment 102 - Costs

There are significant opportunities to reduce the costs associated with Dam Removal. There are many large contingencies budgeted for, and as more information becomes available, it is likely that these costs should go down. The estimates in 2020 dollars are also very sensitive to the estimate of inflation (assumed to be 3%/year), and a sensitivity analysis for this assumption would add clarity.

The add-on cost for mitigation is extremely high for a project of this type, and the reason for this was never made clear. We believe that the mitigation cost should be brought in line with other similar projects (such as Condit, Elwha, etc), which would provide for a more accurate and lower cost estimate.

Comment 103 - Proposed Project/Action

The following specific comments were prepared by Dennis Gathard, P.E. under contract to the Yurok Tribe. Unless otherwise noted, they apply to the Detailed Plan for Dam Removal, which forms the basis for many of the conclusions in the EIS/EIR.

**Detailed Plan for Dam Removal – Klamath River Dams, Klamath Hydroelectric Project, FERC License No. 2082, Oregon - California**

Page 32 Last para. This paragraph suggests that removal limits are shown in Attachment A. Could not find removal limits on Attachment A.

Page 45, 56 1st para Low level sediment releases immediately after Jan 1 2020 may involve high concentrations of dens sediment. Impacts on generating equipment should be considered in the analysis of the ability to operate Copco 2 for four months. Sediment concentrations experienced at the Condit Dam breach would probably stop operation of downstream equipment.

## ← Comment 103 cont.

Page 45	2nd para	Could not completely understand the strategy for drawdown of the reservoir. Some type of illustration of water levels for the average year inserted in this location would help. That could be coupled with TSS assessments. It appears that the approach would lower the Reservoir Water Surface using the modified tunnel at a rate of 1.1 foot per day. This approach extends the period of high TSS into the spring. A faster approach using rapid notching as the primary means to lower the reservoir would allow the reservoir and TSS effects to reach the bottom faster.
Page 45	2nd para (cont'd)	Rapid notching while ignoring the tunnel all together would save the cost of tunnel construction. This would reduce the estimated cost by about \$3 million (\$960,000 + crane mob construction cost x multipliers)
Page 46, 53, Fig 4.2-1		What is the purpose of the tunnel gate? It is expensive for a one time use. If the rate of lowering with the tunnel wide open does not exceed 3 feet per day then there is no use for the tunnel gate. If the gate only is used to moderate the rate when a notch is cut, why not let the water level fall below the notch before the notch is cut to reduce the overall rate. Why not construct notches quickly down to a low elevation without the requirement to remove 100% of the adjacent concrete?
Page 48		Could Copco 2 power production continue after removal of Copco 1? Would any additional generation add to the \$200 m PacifiCorp contribution?
Page 61 on		Cannot find a discussion of the upstream cofferdam in the Iron Gate material. Is the assumption that the cofferdam from dam construction still in place? The cost estimate includes \$1.4 million for removal in the wet at \$70 per cy while dam removal is much cheaper at around \$13 per cy. Could the cofferdam be eroded considering the very small relative volume of material? The over all project cost savings would be \$3 million considering the multiplier effects.
Page 125	8.2.2	Why are modifications to upstream fish screens part of this project?
Page 134		The use of 45% for partial removal seems arbitrary and distorts the cost estimate without clear justification for the amount.

← Comment 103 cont.

Existing Feature Layout Features (Attachment A)

1. Iron Gate Dam has no elevations, features, or useable details. This makes comparing narrative and schedules to drawings impossible. Please provide clear drawings for evaluation.

Schedule (Attachment C)

Line 13      Open Tunnel in September? Just a test or stays open not indicated.  
Start of drawdown not indicated until Jan 2, 2020

Line 16      At Iron Gate, can the tailwater cofferdam be constructed in January  
flows? Would it not be better to do this construction during the low  
flows in October? This should be possible without project shut down.

Cost Estimates (Attachment D)

1. Could find no consideration of salvage costs for metals such as copper. Concrete, in aggregate starved California, could also have value if crushed. Also no advantage applied for salvage of roller gates for tunnels.
2. The cost for concrete demolition varies between dams from #215 to \$315 per cy. Logically the larger removal quantity would actually be less expensive than smaller quantities. However, the large volume of removal at Copco 1 is near the most expensive at \$300. As discussed below, the method for computing the overall cost for the project is directly proportional the cost of activities such as concrete demolition. *Means* costs for this activity is similar to the \$215 per cy cost. \$300 appears too high. Can this be supported?
3. Seeding loads seem excessive. If seeding is too heavy seeds die from over seeding. Seeding levels are 100 times those used for crop production. For instance, rye seeding is 100 lbs per acre. Proposed levels are 10,000 lbs per acre. *Means* seeding costs including mulch for aerial seeding is about \$2,500 per acre. Cost estimates include costs up to \$7,500 per acre.
4. The presentation of cost in tables 9-\* do not explain that contingencies contained in the costs, which are the 2<sup>nd</sup> highest cost in the estimate, would be significantly lower if reservoir restoration cost are reduced.
5. Non contract costs, at 65%, need to be better supported. This is the single biggest cost item.
6. Multiplying each cost based on a percentage by the previous cost based on percentage of the actual construction cost results in amplifying the cost of each

← Comment 103 cont.

activity. So overall, the Total Construction Cost are 300% of the cost of actual construction activities. Therefore, each dollar for activity costs results in \$3 of total construction cost. More logically, the actual cost of mitigation, mobilization, etc. should be used in both complete and partial removal. This has likely inaccurately inflated the cost estimate for dam removal.

7. The cost of roller gate installation at Iron Gate dam is significant. Was a determination made that roller gate construction at the mouth in the dry would not be feasible? The gate would not be required to be a perfect seal. Approximate flow control would be acceptable and construction would be much cheaper.
8. The cost of mitigation for Iron Gate for the partial removal should not be more expensive than for the complete removal but is shown that way so that the partial removal has no significant cost advantage.

**6. Broadly Applicable Comments by YTEP**

Comment 104 - Envr. Justice

Environmental Analysis and No Action Alternative

In general, the environmental analysis in the EIS/EIR is deficient for all areas regarding the direct, indirect, and cumulative impacts of the No Action alternative. While the current conditions serve as a baseline for analyzing impacts for the other proposed alternatives, there is an inherently flawed assumption throughout the document that a No Action alternative would mean that current conditions would remain unchanged in the future.

For example: a No Action alternative would result in exacerbating and increasing the adverse impacts of the current condition in the following areas: Water Quality, Aquatic Resources, Climate Change, Tribal Trust, Cultural and Historic Resources, Socioeconomics and Environmental Justice. A No Action alternative would:

1. further compound and exacerbate: degraded water quality, environmental conditions favorable to Harmful Algal Blooms (HABs):
2. cause declines of anadromous fish species due to loss and degradation of habitat, increasing vulnerability to Climate Change impacts on water temperatures, flows:
3. cause loss of ecosystem resiliency required to adapt to Climate Change,
4. continue impacts to cultural resources:
5. continue impacts to traditional use areas,
6. continue impacts to Traditional Cultural Properties (TCPs), continued adverse impacts to
7. continue impacts to Tribal Trust Resources (specifically water, fish and TCPs) and

Comment 104 cont.

8. continue impacts to tribal member continued and future access to and uses of these resources,
9. continued adverse economic disparities and impacts for tribal communities and the Yurok Tribe's fishery, and the
10. continued and increasing adverse and disproportionate impacts of dam operations on Indian Tribes.

While the document adequately identifies most environmental impacts associated with the other proposed alternatives, the analysis of the No Action alternative and the known and potential outcomes between the proposed Action and other Alternatives is lacking throughout the document. The Environmental Consequences sections should be prepared in a manner that clearly identifies the differences in outcomes between alternatives to inform decision-makers of those differences before selecting a final alternative. Most significantly, the lack of accurate analysis of known and predicted (modeled) outcomes in the No Action alternative leads to a false impression (and even states throughout the document) that a No Action alternative would result only in the continuation of current conditions. A No Action alternative would most certainly result in a continual degradation of the Klamath River ecosystem, the fishery, and increase in the adverse impacts on Yurok Tribal culture, subsistence, economics, and Trust Resources.

It is important to note that no analysis of environmental impacts from the existing operations was ever conducted prior to the construction of the dams, or until the dam relicensing process was initiated in 2002. As a result, current conditions are the result of the long term, cumulative impacts of those dams and dam operations over time. Those conditions have deteriorated over time and there is no reason to believe they will not continue to deteriorate over time if left uncorrected and unmitigated. In fact, scientific models developed for this environmental review process clearly suggest that environmental conditions, and associated environmental impacts, will continue, increase and compound in scale, scope and distribution if the No Action alternative is selected. A thorough and robust analysis of all available information is needed to adequately forecast and project the long term and cumulative impacts of a No Action alternative on all resource areas covered in the document.

Comment 105 - NEPA/CEQA

In many sections, the analysis of proposed alternatives is inaccurately framed with the use of the word "could" instead of "would" (Sections 3.12 pp 40-42, 3.10 pp 19-20, 3.16 pp 24-37). In most cases, the use of the term "could" is misleading because it is used to suggest an outcome *might* occur when available data and information indicate those outcomes *will* occur under a specific alternative. For example: a No Action alternative would have an adverse impact on Klamath River water quality, aquatic resources, Yurok Tribal Trust Resources/Assets, Yurok Cultural Resources and Traditional Cultural Properties

Comment 105 cont.

(TCPs), and Yurok communities and economies. These adverse impacts are real, documented, and unequivocal. The use of language (could instead of would) throughout the analysis sections document implies or suggests that these adverse outcomes might not really occur. Similarly, the positive benefits of the proposed Action (full dam removal and implementation of the Klamath Agreements) on these resources is cast into doubt by the use of this language, particularly for areas where the benefits of the proposed action are measurable and well-documented in the studies conducted for this NEPA process. Better wording is needed to accurately reflect the actual findings of the analysis. If an outcome is likely, or unlikely, then it needs to be noted. If the impacts are known and well documented, then the term "would" needs to replace "could". If the outcomes are speculative, then use of the word "could" or "may" might be justified but as written, the entire document confuses the reader by presenting all alternatives analysis in the ambiguous term of "could" suggesting it might happen, or might not. As a decisional document, this is entirely inadequate and needs to be corrected throughout with the use of more appropriate terminology that captures and reflects the actual likelihood of a specific outcome.

Water Quality: Comment 106 - Water Quality

Current water quality conditions within the Klamath Basin are a result of the long-term management of the watershed. Water quality throughout the Klamath River watershed has deteriorated as a result of current operations and would continue to deteriorate if the No Action alternative were selected. Increased water temperatures would lead to increased adverse environmental and public health impacts such as HABs, degraded fish habitat, and increased vulnerability to Climate Change throughout the watershed. Adequate analysis of the long-term and adverse impacts of the No Action alternative on water quality, water temperatures, water quantity, flow regimes, and water-related pathogens is needed in the EIS/EIR. It cannot be assumed that a No Action alternative would result in the continuation of existing environmental conditions. In fact all scientific evidence from available WQ, fish production and regional Climate Change models indicate that Klamath River water quality will continue to decline if a No Action alternative is selected.

Aquatic Resources: Comment 107 - Fish

The adverse impacts of the dams and operations cannot be adequately analyzed without evaluating how these impacts have increased and compounded over time. The loss of fish habitat and access to habitat for migration, spawning and rearing of anadromous species has had a long-term and adverse impact on population and distribution of species, in addition to their overall viability and existence throughout the entire watershed. The No Action alternative must consider how continued operations without mitigations would impact the long

← Comment 107 cont.

term survival, viability, populations and distribution of all aquatic resources, particularly salmonids and those already on the Threatened or Endangered (T&E) species list. At what point do specific species or genetic populations simply become extinct, or eligible for listing as T & E species, as a result of the No Action alternative? These questions must be adequately analyzed in the EIS/EIR.

Climate Change 3.10: ← Comment 108 - GHGs

While much of the analysis in the EIS/EIR relevant to Climate Change is focused on GHG emissions, it is important that the EIS/EIR also conduct a robust analysis of the impacts of the No Action alternative on the overall resiliency of the entire watershed to respond to the predicted impacts of Climate Change, specifically related to water quality, flows and temperatures. This analysis is entirely lacking in the EIS/EIR. The ability for the Klamath River and surrounding ecosystem to successfully respond to the adverse impacts of Climate Change (ie: changes in hydrology, timing of flows, changes in precipitation and snow pack, increases in water temperature and water-borne pathogens) will be entirely dependent on protecting its overall ecological resiliency and protecting cold water sources and cold water refugia to ensure that adequate water temperatures and flows are maintained. There are many future Climate Change impacts that cannot be mitigated or prevented. This requires that ecosystems and the Klamath River watershed be managed in a way that minimizes and prevents adverse impacts on resources that are vulnerable to Climate Change impacts. A No Action alternative would result in the entire system being more vulnerable to adverse impacts as a result of Climate Change and global warming. These impacts need to be identified and adequately covered in this section of the EIS/EIR for the No Action alternative.

Comment 109 - GHGs

←  
A comprehensive Vulnerability Assessment should have been conducted for this section of the EIS/EIR with a focus on Climate Change impacts and protecting resiliency of the entire ecosystem to respond successfully to those impacts. While existing environmental regulations may require the Green House Gas (GSG) emissions analysis presented in the EIS/EIR, the analysis of Climate Change impacts on the Klamath watershed as a result of the proposed Action and consideration of its alternatives must also be considered and evaluated. The ability of the entire Klamath River watershed and its dependent ecosystems to respond successfully to climate change impacts is dependent on a restored and free-flowing river and the protection and restoration of cold water sources and refugia throughout the basin.

Tribal Trust 3.12: ← Comment 110 - ITAs

The Federal government has a legal and moral obligation to protect the Tribal Trust resources of federally recognized Indian Tribes for current and future

Comment 110 cont.

generations. The Tribal Trust section of the EIS/EIR describes different Trust Resources/Assets for each tribe and treats each Tribe individually. What is lacking in this section is an adequate assessment of the long-term and adverse impacts of the No Action alternative on these Tribes and their Trust Resources/Assets.

Comment 111 - ITAs

For the Yurok Tribe, water and fish are clearly recognized as Tribal Trust Resources/Assets. The impact of the No Action alternative on Tribal access to both water and fish, the exercise of tribal rights related to water and fish, and to numerous and irreplaceable Yurok cultural resources and TCPs would be severe and un-mitigatable. A No Action alternative would not result in the status quo, but rather a continued decline in tribal culture, lifeways, social and economic integrity and tribal sovereignty. Testimony provided by numerous Yurok tribal members and officials have stated that continued operations and a No Action Alternative would be devastating to Yurok cultural, spiritual, physical and economic survival. This fact must be adequately expressed within the EIS/EIR.

Comment 112 - ITAs

The potential impacts on Tribal Trust Resources/Assets for each alternative analyzed in the EIS/EIR must include the adverse effects on Tribal members' access to and use of these resources/assets in the effects analysis. For the No Action Alternative the statement (3.12 p 40) that "Continued impoundment of water *could* affect Tribal Trust Resources" must be changed to the "Continued impoundment of water *would* affect Tribal Trust Resources". This is an undeniable and well-documented fact. To suggest that it might or might not occur as a result of a No Action alternative being selected, is an egregious error and disregards volumes of evidence (historical, ethnographic, and contemporary) filed, provided or referenced in documents submitted in the FERC relicensing process (Sloan 2003, Yurok Scoping comments 2005 and 2006, FERC DEIS comments 2007, FERC EIS 2007) by the Yurok Tribe. Further, the continued use of this misleading language does not accurately capture the information provided and findings made in the reports prepared for this NEPA process (Sloan 2011, DOI 2011).

Cultural and Historic Resources 3.13:

Comment 113 - Cultural Resources

The Yurok Tribe has identified numerous Traditional Cultural Properties (TCPs) and Yurok cultural resources and cultural use areas throughout the Area of Potential Effect (APE) that have been adversely impacted as result of the construction and past/current operations of the dams in the Klamath Hydroelectric Project. None of these adverse impacts were identified, considered or mitigated when the dams were constructed or over the years of their continued operations. To-date a thorough review, as required by the National Historic Preservation Act (NHPA), has been conducted for the Yurok Reservation and surrounding Yurok Ancestral Territory. Consultation with the Yurok Tribal

Comment 113 cont.

Comment 114 - Cultural Resources

Heritage Preservation Office (THPO) has been inadequate and late in the process, yet Concurrence on a final Determination of Effect and any subsequent mitigations of an Adverse Effect is required from the from the Yurok THPO (Mr. Robert McConnell) in order to complete NHPA compliance for this process.

A No Action alternative would result in continued, increased, and cumulative adverse impacts to Yurok cultural resources, particularly to Yurok TCPs within the APE. For cultural resources in particular, it is critical that any analysis recognize that current conditions are adverse impacts (direct, indirect and cumulative) and to-date have gone unaddressed and unmitigated. A No Action alternative must be considered an Adverse Effect under the National Historic Preservation Act (NHPA) even if the existing operations were built before NHPA was enacted and Section 106 compliance became a requirement for all federal undertakings and actions subject to NEPA. Adequate analysis of the impacts of a No Action alternative on Yurok cultural resources is needed in this section and current conditions cannot be assumed to have no adverse effect on these irreplaceable resources.

Comment 115 - Cultural Resources

In general, it is important to note that while the lowering of the water levels within the reservoirs will likely result in the exposure or archeological sites and burial sites, the current approach to cultural resources management is to encourage *in situ* protection (ie: protection in place) as opposed to archeological data recovery and analysis as mitigation of an adverse effect. Techniques such as cap and fill to protect these resources, in place, should be explored and considered in the NHPA compliance process.

Comment 116 - Cultural Resources

The impact on Traditional Cultural Properties (TCPs), cultural use areas and culturally significant resources other than archeological or burial sites, needs to be better analyzed in this entire section. The Yurok Tribe has numerous gathering places and fishing places that have suffered adverse effects as a result of the past construction and operations of the dams, and those adverse effects continue as a result of current operations. NHPA and NEPA do not simply require the analysis of impacts on archeological resources, but all culturally significant resources important to Yurok lifeways and culture. In this regards, this entire section is deficient, as it is overly focused on archeological resources without considering other resources also protected and requiring analysis under NHPA and NEPA.

The 2007 study by renowned NHPA expert, Dr. Thomas King, determined that the entire Klamath River was a potentially eligible TCP as the "Klamath Riverscape" (King 2004). This study was conducted for the FERC relicensing NEPA process and has been provided to the governmental and consulting staff involved in preparing this section of the document and in substantial comments prepared and submitted on the Cooperating Agency draft issued in 2011, yet it

Comment 116 cont. ↘

has again been disregarded in this public draft of the EIS. It is imperative that the King (2004) report and its findings be included in this analysis of impacts to Cultural and Historic Resources. Further, key sources, such as T.T. Waterman's Yurok Geography (1920) must be utilized in the sections specific to the Yurok Tribe, in addition to information provided (Sloan 2003, King 2004, Sloan 2011) and information provided through consultation with the Yurok THPO specific to Yurok TCPs and impacts on those TCPs resulting from the No Action and other alternatives analyzed in this EIS/EIR. There are significant Yurok Cultural Resources within the Area of Potential Effect (APE) evaluated under NHPA for this process yet, these resources and potential impacts resulting from any of the alternatives, remains unexamined in the EIS/EIR. Rather, the entire section does not deal with the full scope of potential impacts on numerous eligible/potentially historic properties, including TCPs, within the APE but instead focuses only on those within the lands surrounding the reservoirs. This is wholly inadequate for NHPA compliance purposes and must be corrected to include the entire APE and all eligible types of historic properties, not simply archeological and burial sites.

Socioeconomics 3.15

Comment 117 - Economics ↘

This section of the EIS/EIR is fairly robust when identifying and analyzing the economic impacts of all other alternatives but the No Action alternative. The socio-economic consequences of the No Action alternative must include analysis of the adverse impacts to communities, local economies, fishing industries (tribal and non-tribal) and employment resulting for a continued decline in the Klamath fishery and throughout the region. For the Yurok Tribe, many tribal households rely on the economic benefit from participating in the commercial fishery and also rely on the subsistence fishery as a means for supplementing their family food supply, particularly in tough economic times. The collapse and decline of the Klamath fishery has had disproportionate adverse impacts on Yurok tribal households and as a result, on the Yurok Tribe. A No Action alternative would result in an increased loss of economic benefit from the Klamath River fishery for tribal households. As the environmental conditions within the watershed continue to decline, so will the economic opportunities that the Yurok fishery provides to tribal members in terms of food sources used for subsistence and those harvested for commercial purposes and individual economic benefit.

Comment 118 -  
Envr. Justice

↙

Further, this section fails to adequately identify and analyze the very disproportionate and adverse impacts on the Yurok Tribe if a No Action alternative were selected. Yurok culture and society revolve around the Klamath River. The ecological health of the River and its resources has direct physical, spiritual, and psychological impacts on Yurok Tribal members and their sense of well-being and identity. This fact cannot be overstated. A No Action alternative must thoroughly examine the unique Yurok relationship and dependence on the Klamath River and a healthy Klamath River ecosystem with adequate water and

← Comment 118 cont.

aquatic resources to not only meet the needs of current Yurok but also adequate resources to meet the needs of all future generations of Yurok, as required by the federal government's Trust Responsibility.

This section focuses too much on the economic impacts and does not adequately analyze the social impacts of the proposed alternatives, particularly on Indian Tribes and those like the Yurok tribe with a recognized fishing right.

Environmental Justice 3.16

← Comment 119 - Environmental Justice

The statement in Section 3.16.4.2 on the Effects Determination for the No Action alternative must be changed to: "Continued impoundment of water at the reservoir and decline in fisheries would disproportionately and adversely affect tribal people". It is entirely inadequate to frame this issue of environmental justice and the Klamath Hydroelectric Project as having anything but an absolute, adverse and disproportionate impact on Indian Tribes, specifically on the Yurok Tribe. The EIS/EIR appears to evade the Environmental Justice issues resulting from a No Action alternative (and the existence and operations of the dams) by attempting to frame these impacts as possible rather than actual. The use of the term "could" instead of "would" recurs throughout the analysis portions of this section of the EIS/EIR and is entirely misleading. These are absolute and likely outcomes, not simply possible ones and erroneously suggest or imply that a No Action alternative may not be an Environmental Justice problem, when it clearly would be.

The Yurok Tribe and other Tribes have provided extensive evidence and testimony (FERC EIS and DEIS Comments filed by the Yurok Tribe 2007) to support their assertion that the dams, their construction and operations (and any alternative other than full dam removal and implementation of the Klamath Agreements) have been, and continue to be, serious Environmental Justice issues requiring adequate analysis, consideration and response by the federal government and its agencies.

The EJ issues resulting from a No Action alternative are extreme and unequivocal. There is no "maybe" about it. The dams and the environmental, cultural and socioeconomic impacts resulting from their construction and operation expose a long history of environmental in-justices resulting from past management decisions. The only way to resolve these EJ impacts and issues is to select full dam removal and implementation of the Klamath Agreements. A No Action alternative would result in ongoing and compounded Environmental Justice issues for Indian Tribes, particularly for the Yurok Tribe, that can not be resolved or mitigated. At its core, the entire problem under consideration for this proposed Action is an Environmental Justice issue. Tribes have provided an excess of historical and cultural evidence along with extensive testimony to

Comment 119 cont.

support the assertion that the only way to address and resolve these Environmental Justice issues and impacts on tribal people, communities, cultures, economies and lifeways is full dam removal and implementation of the Klamath Agreements.

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_LT_1230_098-2	Master Response TTA-3 Federal Trust Responsibilities and Fisheries.  Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.	No
IT_LT_1230_098-3	The National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) require full disclosure of short-term and long-term adverse environmental effects; therefore the EIS/EIR discloses these effects based on the best available information and science. Mitigation measures are provided for all significant environmental effects, as required by CEQA and NEPA. The Lead Agencies have also described beneficial effects, where applicable. The Secretary will use the whole of the administrative record when making a decision, including the tradeoff's between positive and negative benefits.	No
IT_LT_1230_098-4	Under the Alternative 1 as described in the Draft EIS/EIR Section 2.4.2, PacifiCorp would need to obtain a long-term operating license from FERC to replace the existing annual license. PacifiCorp would proceed with relicensing with FERC to obtain the required long-term operating license. Until that unknown time, PacifiCorp would continue to operate under an annual license. The No Action/No Project Alternative, as described, is the most reasonable assumption of future conditions. Among the action alternatives, Alternative 4: Passage at Four Dams, as described in Final EIS 2.4.5, describes a scenario where KHSA terminates and the requirements for fish passage as set forward by the prior FERC relicensing proceedings are implemented.	No
IT_LT_1230_098-5	Master Response TTA-3 Federal Trust Responsibilities and Fisheries.  Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.	No
IT_LT_1230_098-6	Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.	No
IT_LT_1230_098-7	The statement about the northern border of the Hoopa Valley Reservation including about a quarter mile reach of the Klamath River called Saints Rest Bar several miles upriver from Weitchpec, California is a statement of fact.  The assertion that no Hoopa Valley Tribal members reside on or near the Klamath River in this portion of the Hoopa Valley Reservation, and that no fishing takes place by Hoopa Valley Tribal members at that location is an opinion that has not substantiated with evidence from the comment author.	No

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-8	<p>The quote from Sherman does refer to the Trinity River. The quote will be removed to improve the clarity of the EIS/EIR.</p> <p>The effects described in 3.12-28 are related to the Proposed Action of facilities removal on the Klamath River. As the comment author points out these 'are real, and are significant' effects of the Proposed Action. Though these effects maybe indirect and outside the area targeted for restoration under the KBRA (Section 2.2.12), CFR 1508.8 requires that indirect environmental consequences of an alternative be analyzed.</p>	Yes
IT_LT_1230_098-9	<p>Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.</p> <p>The comment author is correct to point out that the Resighini Rancheria was not left out of the Hoopa Yurok Settlement. The following language has been added to EIS/EIR Section 3.12.3.4 Resighini Rancheria Cultural Practices after the last sentence of the second paragraph:</p> <p>Under the Hoopa-Yurok Settlement Act of 1988, 25 U.S.C. §§ 1300i, et seq., (The Settlement Act) the extended strip of land along the Klamath River was cleaved from the original Hoopa Valley Reservation and designated the Yurok reservation. Section §1300i- 1(e) then vested in the Yurok Tribe the authority to govern the Yurok Reservation and to administer the unallotted trust land and assets – including the fisheries – of the Yurok Reservation.</p> <p>Pursuant to The Settlement Act, members of the Resighini Rancheria with Yurok heritage were given an opportunity to join the Yurok Tribe. The Settlement Act also provided qualified Indians of the original Hoopa Valley Reservation, which included allottees or their descendants, the opportunity to elect membership in the Yurok Tribe. 25 U.S.C. 1300i-5(c)(1). An Indian who chose not to affiliate with the Yurok Tribe (or the Hoopa Valley Tribe) received a lump sum payment, but lost any “interest or right whatsoever in the ... resources within or appertaining to... the Yurok Reservation.” 25 U.S.C. 1300i-5(d)(3).</p> <p>The Settlement Act also provided an opportunity for the Resighini Rancheria (along with others) to merge its lands and membership with the Yurok Reservation if a majority of the Rancheria's adult members voted in favor of such merger. 25 U.S.C. sec. 1300i-10(b). The Resighini Rancheria members did not exercise this option, the Rancheria remains a separate sovereign tribal government, and the Tribe and its lands were not extinguished through merger with the Yurok Reservation as would have occurred had its members exercised the merger option under The</p>	Yes

Comment Code	Comment Response	Change in EIS/EIR
	Settlement Act. Fishing, water, or other rights associated with the Resighini Rancheria have not been conclusively determined. [Solicitor's Opinion M-36979 October 4, 1993]	
IT_LT_1230_098-10	Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.	No
IT_LT_1230_098-11	Text no longer exists due to other comments received on the Draft EIS/EIR.	No
IT_LT_1230_098-12	Table ES-6 has been deleted due to other comments received on the Draft EIS/EIR.	No
IT_LT_1230_098-13	Text has been revised to clarify major issues. The sentence now reads, "Upper Klamath Lake has become more enriched with nutrients, leading to pH and dissolved oxygen problems that are stressful to aquatic biota and nuisance blooms of blue-green algae that produce toxins (primarily microcystin).	Yes
IT_LT_1230_098-14	Text on the designated page has been revised to Keno Reach and Keno Impoundment (including Lake Ewauna).	Yes
IT_LT_1230_098-15	Text revised for clarification. Sentence now reads, "The four dams create a "thermal lag" in both the spring and the fall. This means that the river warms more slowly in the spring and cools more slowly in the fall than it would without the dams. The result of these thermal effects is a delay in timing of runs for the migration of fall Chinook salmon."	Yes
IT_LT_1230_098-16	A footnote has been added in Section 3.2.2.4.4 to define assimilative capacity. The portion of the sentence "and water quality would also be improved by nutrient assimilation in this reach (Hamilton et al. 2011)" has been deleted.	Yes
IT_LT_1230_098-17	Change has been made.	Yes
IT_LT_1230_098-18	Change has been made.	Yes
IT_LT_1230_098-19	Change made with slight revisions: "Some cyanobacteria species produce cyanotoxins (e.g., cyclic peptide toxins such as microcystin that act on the liver, alkaloid toxins such as anatoxin-a and saxitoxin that act on the nervous system). Cyanotoxins can cause irritation, sickness, or in extreme cases, death to exposed organisms, including humans (World Health Organization [WHO] 1999). Species capable of producing microcystin include M. aeruginosa, while species in the genus Anabaena can produce anatoxin-a and saxitoxin.	Yes

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-20	<p>Sentence edited as follows: "Additional microcystin data collection in Upper Klamath Lake is ongoing, including studies of possible effects of algal toxins on native suckers (Vanderkooi et al. 2010, see Section 3.3, Aquatic Resources for more detail)."</p> <p>Section 3.3 has also been edited to clarify that the cited work is preliminary or reconnaissance in nature, It was also noted in the text that the definitive laboratory studies that could verify that the indicated exposure route could result in the lesions observed have not yet been done.</p>	Yes
IT_LT_1230_098-21	<p>Text revised to read, " In the T1BSR, TOD2RN, and TCD2RN scenarios (but not T4BSRN), Keno Dam is replaced by the historical natural Keno Reef, such that the Keno Reach is still partially impounded even though the reef's elevation is two feet lower than the current full pool elevation of Keno Impoundment/Lake Ewauna (Tetra Tech 2009, Kirk et al. 2010)."</p>	Yes
IT_LT_1230_098-22	<p>Change made with slight revisions, "Continued impoundment of water at the Four Facilities could result in long-term interception and retention of total nitrogen (TN) and total phosphorus (TP) in the Hydroelectric Reach on an annual basis but release of TP and, to a lesser degree, TN from reservoir sediments on a seasonal basis."</p>	Yes
IT_LT_1230_098-23	<p>The incorrect reference to seasonal release (export) of TN (as ammonium) has been removed from the italicized issue statement and the analysis text.</p>	Yes
IT_LT_1230_098-24	<p>The sentence has been revised to read as follows: "In the Hydroelectric Reach, the seasonal variability in dissolved oxygen concentrations in J.C. Boyle Reservoir is highly influenced by the high oxygen demand of water flowing downstream from the upstream Keno Impoundment." Related sentences in Section 3.2.3.5 and Appendix C have also been revised, and citations from Raymond 2009 and 2010 have been added. A figure of dissolved oxygen profiles in J.C. Boyle Reservoir (from Raymond 2009) has been added to Appendix C to complement the dissolved oxygen profiles of Copco 1 and Iron Gate Reservoir already presented.</p>	Yes
IT_LT_1230_098-25	<p>Change has been made with minor revisions as follows: "Continued impoundment of water at the Four Facilities could result in long-term seasonal decreases in dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam, such that levels do not meet California North Coast Basin Plan water quality objectives and adversely affect beneficial uses.</p>	Yes

Comment Code	Comment Response	Change in EIS/EIR
	Under existing conditions, dissolved oxygen in the Klamath River exhibits seasonal low levels immediately downstream of Iron Gate Reservoir with frequent violations of the California water quality objective (expressed as percent saturation, see Table 3.2-5) during late summer/early fall (July–September) (see Section 3.2.3.5).”	
IT_LT_1230_098-26	Comment noted. While the available pH data and model results are challenging to interpret, they represent the best available information upon which to base the pH analysis. While this comment is focused on the pH analysis conducted for the No Action/No Project Alternative (p. 3.2-67), further clarifications made to the pH discussion for the Proposed Action (p. 3.2-115 to 3.2-117 in the Draft EIS/EIR) are relevant to this comment. The referenced text has been revised.	Yes
IT_LT_1230_098-27	Change has been made with minor revisions: “This would require decades to achieve and it is highly dependent on nutrient improvements in Upper Klamath Lake, Link River, and the Keno Impoundment (including Lake Ewauna).”	Yes
IT_LT_1230_098-28	Accepted with minor revisions: “Under existing conditions, chlorophyll-a concentrations during summer through fall in the Klamath River downstream of Iron Gate Dam can be greater than those in the river directly upstream of Copco 1 Reservoir due to in reservoir algal blooms that are transported into the lower river (see Appendix C, Section C.4.1.4 and Figure C-28).”	Yes
IT_LT_1230_098-29	Change has been made.	Yes
IT_LT_1230_098-30	<ol style="list-style-type: none"> <li>1) The page referenced in the comment includes three citations of Asarian and Kann (2006a). As suggested in the comment, these citations have been changed to “data from electronic appendices of Asarian and Kann 2006a”. The references are not deleted entirely because the data are available in more than one source.</li> <li>2) and 3) The paragraph has been deleted. Figure 3.2-2 has been moved forward in the text to align with the issue statement regarding the J.C. Boyle bypass and peaking reaches.</li> </ol>	Yes
IT_LT_1230_098-31	The following sentence has been added: “Further, the Total Maximum Daily Load (TMDL) model predictions generally agree with empirical data regarding J.C. Boyle Reservoir; with its shallow depth and short residence time, this reservoir does not retain high amounts of nutrients (PacifiCorp 2006) (see Appendix C for more detail) and its removal would not be expected to increase nutrient transport further downstream in the Hydroelectric Reach.”	Yes

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-32	Change has been made. Additionally, the following sentence has been added: "The magnitude of this potential over-prediction would be expected to increase with distance downstream (i.e., relatively lower over-prediction at Iron Gate Dam and the Upper Klamath Basin, but relatively higher over-prediction at sites in the lowest portion of the river such as Orleans), due to a longer distance of river within which denitrification and other nitrogen removal processes would operate."	Yes
IT_LT_1230_098-33	Change has been made with slight revisions: TMDL model results indicate that while resulting TP levels would meet the existing Hoopa Valley Tribe numeric water quality objective (0.035 mg/L TP) at the Hoopa reach (approximately RM 45 to 46) of the Klamath River, TN levels would continue to be in excess of the existing objective (0.2 mg/L TN) in some months (North Coast Regional Water Quality Control Board [NCRWQCB] 2010a). However, as noted previously, TN concentrations in the model may be over-predicted and therefore the Hoopa Valley Tribe objective may in fact be met.	Yes
IT_LT_1230_098-34	The premise of the comment seems generally fine, but the explanation is hard to understand. Further the suggested use of "due to the removal of the reservoir" is vague and not tied to anything else in the analysis discussion. Since there was already a paragraph later in the section discussing uncertainty in the TMDL predictions with respect to periphyton growth, this text has been moved forward and the paragraph in questions has been revised.	Yes
IT_LT_1230_098-35	The referenced paragraph has been clarified.	Yes
IT_LT_1230_098-36	Change has been made with minor revisions.	Yes
IT_LT_1230_098-37	The pH analysis for the Upper Klamath Basin has been revised to include additional detail regarding pH in the free-flowing reaches of the river that replace the reservoirs.	Yes
IT_LT_1230_098-38	The pH analysis for the Upper Klamath Basin has been revised to include additional detail regarding pH in the free-flowing reaches of the river that replace the reservoirs.	Yes
IT_LT_1230_098-39	This sentence has been deleted because it is not consistent with clarifications made to Draft EIS/EIR Section 3.4.4.3 regarding the lack of transport of large noxious algal blooms and high concentrations of microcystin from Upper Klamath Lake into the Hydroelectric Reach.	Yes
IT_LT_1230_098-40	We have reviewed Deas (2008) for discussion of nitrification potential in the river reach between Keno Dam and J.C. Boyle Reservoir and revised the Draft EIS/EIR for the Proposed Action	Yes

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-41	and Alternative 3 to discuss the idea that decommissioning the East and West Side Facilities could result in slight decreases in ammonia levels in the Keno Impoundment/Lake Ewauna. With respect to dissolved oxygen, while concentrations could occur in the Link River due to the decommissioning, it may not translate into increased dissolved oxygen concentrations in the Keno Impoundment/Lake Ewauna itself since river turbulence would also break up algal cells and cause increased biological oxygen demand in the slow moving waters of the impoundment. This discussion has also been added to the Final EIS/EIR.	Yes
IT_LT_1230_098-42	The statement has been corrected to reflect the analysis for the Proposed Action, as follows: slight summertime increases in pH and daily pH fluctuations would occur at the Oregon-California State line and upstream and downstream reaches that are currently riverine, and these increases would be less than significant. In the free-flowing reaches of the Hydroelectric Reach that replace Copco 1 and Iron Gate Reservoirs the decrease in high summertime daily pH fluctuations would be beneficial. The summertime increases in pH in Lower Klamath River from Iron Gate Dam to the confluence with the Scott River would be less than significant.	Yes
IT_LT_1230_098-43	We have reviewed Deas (2008) for discussion of nitrification potential in the river reach between Keno Dam and J.C. Boyle Reservoir and revised the Draft EIS/EIR for the Proposed Action and Alternative 3 to discuss the idea that decommissioning the East and West Side Facilities could result in slight decreases in ammonia levels in the Keno Impoundment/Lake Ewauna. With respect to dissolved oxygen, while concentrations could occur in the Link River due to the decommissioning, it may not translate into increased dissolved oxygen concentrations in the Keno Impoundment/Lake Ewauna itself since river turbulence would also break up algal cells and cause increased biological oxygen demand in the slow moving waters of the impoundment. This discussion has also been added to the Final EIS/EIR.	Yes
	To provide additional clarity, the text in this section has been revised as follows. "Under the Fish Passage at Four Dams Alternative, the overall higher flow releases would result in more reservoir water entering the Bypass Reach and correspondingly warmer water temperatures during summer and early fall, and cooler temperatures in late fall and winter. These effects would be similar to those under the Proposed Action and would move this short reach away from support of core coldwater habitat during summer and early fall months; however, as with the Proposed Action, areas adjacent to the coldwater springs in the Bypass Reach would continue to serve as thermal refugia for aquatic species because the springs themselves would not be affected by	

Comment Code	Comment Response	Change in EIS/EIR
	the Fish Passage at Four Dam Alternative. Since J.C. Boyle Reservoir, with its large thermal mass, would remain in place, effects on diel temperature variation in the Bypass Reach under the Fish Passage at Four Dams Alternative would be similar to those described for the No Action/No Project Alternative (i.e., reduced diel temperature variation)."	
IT_LT_1230_098-44	The sentence has been revised to be more consistent with the analysis presented in the Proposed Action: "Similar to the Proposed Action, maximum water temperatures in the Peaking Reach would be slightly cooler and temperatures would be less artificially variable, also due to higher overall flows and the lower frequency of peaking operations at the J.C. Boyle Powerhouse."	Yes
	The following sentence has been deleted because it is not supported by the analyses presented under the No Action/No Project Alternative or the Proposed Action: "Further downstream, at the Oregon-California State line, water temperatures would likely be similar to those under the No Action/No Project Alternative since large temperature effects of the peaking operations do not extend this far downstream."	
IT_LT_1230_098-45	The sentence has been removed.	Yes
IT_LT_1230_098-46	Change made with minor revisions.	Yes
IT_LT_1230_098-47	The section has been revised to more accurately reflect projected water temperature alterations downstream of J.C. Boyle in the bypass and peaking reaches under the alternatives, based on this and other comments on the Draft EIS/EIR.	Yes
IT_LT_1230_098-48	Revised statement to be consistent with analysis for the Proposed Action, as follows: "Slight decreases in long-term maximum summer/fall water temperatures and less daily fluctuation in the J.C. Boyle peaking reach would be beneficial."	Yes
IT_LT_1230_098-49	Sentence has been deleted.	Yes
IT_LT_1230_098-50	Comment noted. The effects are analyzed separately since both processes occur in relation to the reservoirs and appropriate (but different) significance calls are presented for each effect. No change to text is needed.	No
IT_LT_1230_098-51	The incorrect reference to seasonal release (export) of TN has been removed from the italicized issue statement and the analysis text.	Yes

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-52	The summary statement has been revised to include potential effects on DO at specific locations.	Yes
IT_LT_1230_098-53	The Draft EIS/EIR is structured such that each analysis section begins with an italicized issue statement. The sentences in question have been revised as follows: “Continued impoundment of water at the Four Facilities could result in the continued release of seasonally low dissolved oxygen concentrations from Iron Gate Reservoir into the Klamath River, such that levels immediately downstream of the dam do not meet California North Coast Basin Plan water quality objectives and adversely affect beneficial uses. Under existing conditions, dissolved oxygen in the Klamath River exhibits seasonal low levels immediately downstream of Iron Gate Reservoir with frequent violations of the California water quality objective (expressed as percent saturation, see Table 3.2-5) during late summer/early fall (July–September) (see Section 3.2.3.5).”	Yes
IT_LT_1230_098-54	Row has been deleted from table.	Yes
IT_LT_1230_098-55	Change has been made in Table 3.2-14 and in Sections 3.2.4.3.2.6, 3.2.4.3.3, and 3.2.4.3.5.6. for consistency.	Yes
IT_LT_1230_098-56	Change has been made in Table 3.2-14 and in Sections 3.2.4.3.2.6, 3.2.4.3.3, and 3.2.4.3.5.6. for consistency.	Yes
IT_LT_1230_098-57	The analysis of decommissioning of the East and West Side Facilities has been revised based on available information.	Yes
IT_LT_1230_098-58	Change has been made.	Yes
IT_LT_1230_098-59	<p>The Vanderkooi et al. (2010) fact sheet has been reviewed and is a citable reference under U.S. Geological Survey guidelines. However, we agree that the findings are not conclusive at this point in time. Based on the results of this study, additional research has begun to confirm the relationship between the algal toxin and the lesions that have been observed. Therefore, we have changed the text in Section 3.3.3 of the EIS to read as follows:</p> <p>“In Upper Klamath Lake, a reconnaissance study was conducted to evaluate the presence, concentration, and dynamics of microcystin exposure by Lost River sucker (<i>Deltistes luxatus</i>) and shortnose sucker (<i>Chasmistes brevirostris</i>). The U.S. Geological Survey (USGS) collected water samples at multiple lake sites from July to October 2007 and June through September 2008 and found evidence of gastro-intestinal lesions in juvenile suckers sampled from around the lake, although organ damage also was absent from many fish, and most of the affected fish were</p>	Yes

Comment Code	Comment Response	Change in EIS/EIR
	<p>collected in the northern portion of the lake. The pathology of the lesions was consistent with exposure to microcystin, and evidence of a route of exposure was suggested by gut analysis showing that juvenile suckers had ingested chironomid larvae, which had in turn ingested <i>A. flos-aquae</i> and colonies of <i>M. aeruginosa</i>. The lesions were observed when liver necrosis was either present or absent suggesting that the gastro-intestinal tract was the first point of toxin contact. The authors hypothesized that the lesions were caused by algal toxins, and that the route of exposure to toxins was an oral route through the food chain, rather than exposure to dissolved toxins at the gills (VanderKooi et al. 2010). However, there were other possible explanations for the lesions, including the potential for an undetected viral infection. Conclusive pathology experiments demonstrating that exposure of juvenile suckers to algal toxins via the described oral routes can cause the types of lesions observed have not yet been done. The pathologies and evidence therefore are consistent with the hypothesis of exposure to algal toxins but do not constitute proof of a causal mechanism. Additional work to describe the observed pathologies is ongoing.”</p>	
IT_LT_1230_098-60	<p>The October 2010 data reported in Kann et al. (2011) has been included as part of expanded text in Final EIS/EIR Section 3.3.3.3 to further describe existing conditions regarding bioaccumulation of microcystin in fish and mussel tissue in the Klamath Basin.</p>	Yes
IT_LT_1230_098-61	<p>Change has been made.</p>	Yes
IT_LT_1230_098-62	<p>Added reference on p.3.4-6, in the Upper Klamath Basin Phytoplankton section.</p>	Yes
IT_LT_1230_098-63	<p>The comment reference is VanderKooi et al. 2010; and it was added to references list.</p>	Yes
IT_LT_1230_098-64	<p>Sentence changed to:</p> <p>The WHO guidelines for exposure to microcystin were exceeded in 2007–2008 in Upper Klamath Lake (VanderKooi et al. 2010). More frequent exceedance of algal toxin guidelines have occurred since 2007 in the middle and lower Klamath River (Chorus and Bartram 1999; Fetcho 2006, 2007, 2008; Kann 2008; Kann and Corum 2009), resulting in the Klamath River from Copco 1 Reservoir (RM 203.1) to Iron Gate Dam (RM 190.1) being listed as impaired for toxicity due to the presence of microcystin in the reservoirs (Section 3.2.2.3).</p>	Yes
IT_LT_1230_098-65	<p>The Raymond (2009) document cited in the Draft EIS/EIR entitled “Results of Cyanobacteria and Microcystin Monitoring in the Vicinity of the Klamath Hydroelectric Project: June 8, 2009” states</p>	Yes

Comment Code	Comment Response	Change in EIS/EIR
	<p>the following (see p. 2 and 3): “<i>Anabaena flos-aquae</i> was present at all sites sampled. At the concentrations present, <i>Anabaena spp.</i> could present a low to moderate risk of adverse health effects to individuals engaging in water contact recreation. The abundance of <i>Anabaena flos-aquae</i> at Mallard Cove in Copco reservoir and at the Jay Williams campground in Iron Gate reservoir exceeds the California health advisory guidelines.” However, the quotes referenced in the comment appear in Raymond (2009) “Phytoplankton Species and Abundance Observed During 2008 in the Vicinity of the Klamath Hydroelectric Project.”, which was not referenced in the Draft EIS/EIR. Since the latter Raymond (2009) is a synthesis of all 2008 results, it serves as a better overall source of information on <i>Anabaena spp.</i> occurrence in the Project reservoirs during 2008. That said, the sentence referred to in the comment has been deleted because it was out of place in this section – the detailed discussion of algal blooms in the Project reservoirs is presented in Draft EIS/EIR Section 3.4.3.1. Reference to the broader 2008 synthesis by Raymond (2009) has been added to Final EIS/EIR Section 3.4.3.4.1.</p> <p>In addition, a citation for Asarian and Kann (2011) has been added to the Final EIS/EIR. The reference to Mackie (2005) has been added to Final EIS/EIR Section 3.4.3.1.</p>	
IT_LT_1230_098-66	<p>Change made. Sentence now reads:</p> <p>The factors influencing periphyton abundance and community composition are complex and include a biotic factors such as nutrients, substrate, flow velocity, shading, light availability, and water temperature (Biggs 2000), as well as ecological factors such as macro invertebrate grazing that interact with a biotic factors (Power et al. 2008).</p>	Yes
IT_LT_1230_098-67	<p>A citation for Asarian and Kann (2011) has been added to the Final EIS/EIR.</p>	Yes
IT_LT_1230_098-68	<p>This paragraph has been revised to indicate that <i>Aphanizomenon flos-aquae</i> and <i>Microcystis aeruginosa</i> are the dominant blue-green algal species found in the reservoirs. A citation for Asarian and Kann (2011) has been added to the Final EIS/EIR.</p> <p>Sentence now reads:</p> <p>Large algae blooms occur again in the reservoirs in mid-summer to fall months, dominated by <i>Aphanizomenon flos-aquae</i> and <i>Microcystis aeruginosa</i> (Asarian and Kann 2011; Kann 2006; FERC 2007; Raymond 2008, 2009, 2010).</p>	Yes
IT_LT_1230_098-69	<p>Change has been made.</p>	Yes

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-70	The following sentences have been deleted from Draft EIS/EIR, p.3.4-12: "Increases in nutrient availability under climate change may also cause a shift in periphyton community composition from that dominated by nitrogen-fixing periphyton species to that dominated by non-nitrogen fixers. It remains uncertain whether this change in community composition would result in a change in periphyton biomass."	Yes
IT_LT_1230_098-71	The two sentences have been deleted.	Yes
IT_LT_1230_098-72	Change has been made.	Yes
IT_LT_1230_098-73	Suggested changes accepted with minor edits.  Sentence now reads:  In addition, N-fixing species currently dominate the periphyton communities in the lower reaches of the Klamath River where inorganic nitrogen concentrations are low (Asarian et al. 2010). Since these species can fix their own nitrogen from the atmosphere, increases in TN due to dam removal may alter the composition of the periphyton community but it may not significantly increase algal biomass in these reaches because it will be accompanied by only relatively minor increases in TP. In addition, overall TN and TP increases could be less than those predicted by existing models due to implementation of TMDL and general nutrient reductions in the Klamath Basin.	Yes
IT_LT_1230_098-74	The statement "However, since the long-term increase in nutrients in the Klamath Estuary would be a less-than-significant impact due to the implementation of TMDL and KBRA (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), it is likely that increases in periphyton growth would also be less than significant" is not consistent with the analysis conducted in Section 3.2.4.3.2.3. This sentence has been revised to be consistent with the water quality analysis, as follows: "However, the long-term increase in nutrients in the Klamath Estuary would be relatively small due to the effects of tributary dilution and nutrient retention in the 190 miles between Iron Gate Dam and the Estuary (Asarian et al. 2010). In addition, N-fixing species dominate the periphyton communities in the lower reaches of the Klamath River where inorganic nitrogen concentrations are low and these species can fix their own nitrogen from the atmosphere (Asarian et al. 2010). Thus, increases in TN due to dam removal are not likely to significantly increase periphyton growth in the Klamath Estuary (see also Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin)."	Yes
IT_LT_1230_098-75	Change has been made.	Yes

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-76	Change has been made.	Yes
IT_LT_1230_098-77	The referenced sentence has been deleted because it focuses on concentrations downstream of the Hydroelectric Reach, which is covered in Appendix C, Section C.6.2. The text has been revised as follows: "Microcystin measured during May–December 2009 exhibited extremely high concentrations (1,000–73,000 micrograms per liter (µg/L)) during algal blooms occurring in July, August, and September in Copco 1 Reservoir in Mallard Cove and Copco Cove, and in Iron Gate Reservoir at Jay Williams (Watercourse Engineering 2011)."	Yes
IT_LT_1230_098-78	<p>The text on p. C-58 is not intended to minimize the downstream river exceedances of guidelines for <i>M. aeruginosa</i> and microcystin toxin, but it is important to note, especially in the context that the river is seeded by large blooms from the reservoirs. Text in Appendix C, Section C.6.2 and Section 3.4.3.5.1 discuss the importance of the river exceedances.</p> <p>The following additional text has been added to p. C-58: "Results from 2010 agree with the 2005–2008 data (Kann and Bowater 2012). Concentrations of microcystin toxin in Iron Gate and Copco 1 Reservoirs are typically 1 to 3 orders of magnitude greater relative to the lower Klamath River (Raymond 2008, Kann et al. 2010, Kann and Bowman 2012). Overall, the available data indicate that while river exceedances do occur, they are far less in number than exceedances in Copco 1 and Iron Gate Reservoirs (Figure C-32; see also Raymond 2008, Kann et al. 2010, Kann and Bowman 2012)."</p>	Yes
IT_LT_1230_098-79	<p>The referenced text in Appendix C, Section C.6.2.2 indicates the correct information from Watercourse Engineering Inc. (2011): "During 2009, mean microcystin concentrations from Orleans (RM 57) to Klamath River at Klamath (RM 6.0) were less than 1 µg/L, or well below the California State Water Resources Control Board (SWRCB)/Office of Environmental Health and Hazard Assessment (OEHHA) public health threshold of 8 µg/L (Watercourse Engineering, Inc. 2011). Individual microcystin measurements generally remained less than 1 µg/L as well, with the exception of a sample collected in late-September at Orleans (RM 59.1) for which the concentration was just over 6 µg/L (Watercourse Engineering, Inc. 2011)." No change to this text is needed.</p> <p>However, to clarify that there have been individual exceedances following text has been added to Appendix C, Section C.6.2.1 "During 2009, mean microcystin concentrations immediately downstream of Iron Gate Dam (RM 189.7) were 2 ug/L, with mean values decreasing to less than 1 ug/L at sites further downstream to approximately Orleans (RM 57) (Watercourse Engineering, Inc.</p>	Yes

Comment Code	Comment Response	Change in EIS/EIR
	2011). However, two measurements exceeded 8 ug/L at stations located at RM 156 and 128.5 (Watercourse Engineering, Inc. 2011).”	
IT_LT_1230_098-80	Change has been made.	Yes
IT_LT_1230_098-81	To reduce confusion, the legends and captions of these figures have been changed to indicate that they are representing dry, average, and wet conditions rather than dry, average, and wet years.	Yes
IT_LT_1230_098-82	As discussed in the referenced Hydrology Report (Reclamation 2012d), the Proposed Action flows are based on the KBRA and include Appendix E-5 stipulations. While the Hydrology Report does not contain all data, it contains multiple summaries of the data in different formats in the document’s appendices. Appendix F includes exceedence flows that can be compared to other conditions. Daily flow results at each modeled node are extremely lengthy to include in the document, but are available on request.	No
IT_LT_1230_098-83	The Lead Agencies are uncertain of how a change in management regime could affect future minimum flows; therefore, this change was not made in the document.	No
IT_LT_1230_098-84	The EIR has been revised to include a more detailed discussion of eulachon, and includes citations of both references.	Yes
IT_LT_1230_098-85	The EIS/EIR has been revised to reflect information as follows: “The Southern Green Sturgeon DPS is listed as threatened under the Federal Endangered Species Act (ESA) (National Oceanic and Atmospheric Association [NOAA Fisheries Service] 2006). Juvenile and adult Southern Green Sturgeon enter many estuaries along the West Coast during the summer months to forage, but their use of the Klamath River estuary has not been documented. No sturgeon tagged by the Yurok Tribe within the Klamath River have ever been detected in the range of Southern Green Sturgeon Distinct Population Segment (DPS) (primarily San Francisco Bay) despite the presence of numerous receivers that would have detected Klamath River tagged fish if they had ventured there. No Southern Green Sturgeon tagged in the Sacramento/San Joaquin and/or San Francisco Bay region have ever been detected in the Klamath River. Southern Green Sturgeon have been detected immediately offshore of the Klamath River, but have not been detected in the Klamath River estuary or mainstem despite the presence of functioning acoustic receivers in the Klamath River estuary. Overall, it appears unlikely that sturgeon from the Southern Green Sturgeon DPS currently occur within the Klamath River.”	Yes

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-86	<p>As described in the Draft EIS/EIR Section 3.3.4.1 (P. 3.3-47 and 3.3-48), the effects to aquatic organisms due to the increase in suspended sediment concentrations were computed as suggested by the comment author: For each simulation year in the period of record, the duration of suspended sediment concentrations over a given threshold was calculated. From those durations, we then calculated a 50% and 10% exceedance for the time spent over that threshold. Although the EIR/EIR is clear on this point, additional explanation has been added.</p> <p>We did not compute the exceedances by using the concentrations for a particular day from all the simulations. We agree that this would have been an improper application of exceedance percentages.</p> <p>We did not analyze a best case scenario because it did not seem to be relevant to the analysis of potential impacts to sensitive species.</p>	No
IT_LT_1230_098-87	<p>Master Response GEN-1 Comment Included as Part of the Record.</p> <p>Additional text has been added to Section 3.3, Aquatics Resources, describing the phase shift and its anticipated affect on salmon development.</p>	Yes
IT_LT_1230_098-88	<p>Alternative 1, Key Ecological Attributes, Fish Disease and Parasites Section (Section 3.3.4.3.1.1.5 of the Final EIS/EIR) has been revised as follows: Salmon would continue to concentrate downstream of Iron Gate Dam, where the polychaete hosts are abundant, facilitating the cross infection between the fish and the polychaetes. Based on this scenario, mortality associated with <i>C. shasta</i> and <i>P. minibicornis</i> would be expected to worsen or remain similar to existing conditions.</p>	Yes
IT_LT_1230_098-89	<p>The EIS/EIR acknowledges that Chinook salmon populations have experienced severe declines from historic levels. Anadromous fish in the Klamath Basin are nearly all in decline (Draft EIS/EIR Section 3.3.3.1, Table 3.3-1, p. 3.3-4).</p> <p>No change from existing conditions means that a fish population would likely continue to decline if its current condition is one of decline. Under the No Action/No Project Alternative, Essential Fish Habitat (EFH) for Chinook and coho salmon would be expected to remain similar to its current condition. Access to habitat would be limited to current levels; water quality would improve through TMDL implementation, but would be offset by warming expected as a result of climate change. The amount of suitable habitat in currently accessible tributaries would likely be reduced by climate change.</p>	No

Comment Code	Comment Response	Change in EIS/EIR
	<p>Conditions under the No Action/No Project Alternative would continue to contribute to elevated concentrations of disease parasites and would provide the conditions required for the cross infection of fish and polychaetes. These interacting factors could decrease the viability of Chinook and coho salmon populations in the future. The effects of the No Action alternative on Spring and Fall Chinook Salmon were described in detail in EIS/EIR Section 3.3.4.3, p. 3.3-61 to 3.3-64.</p> <p>Master Response AQU-6B Expert Panel Coho, Steelhead and Chinook.</p> <p>Master Response AQU-7 Expert Panel Uncertainty and Likelihood of Success.</p> <p>Master Response AQU-30 BRT Current Status of Chinook Fisheries.</p> <p>Additional text has been added to Section 3.3.3 of the EIS/EIR summarizing the findings of Williams et al. 2011.</p>	
IT_LT_1230_098-90	Section 3.3 Aquatic Resources has been revised consistent with the request by the comment author.	Yes
IT_LT_1230_098-91	<p>As described in the Draft EIS/EIR Section 3.3.4.1 (p. 3.3-47 and 3.3-48), the EIS/EIR does not analyze a best case scenario because it did not seem to be relevant to the analysis of potential impacts to sensitive species. Methods for the analysis are summarized in the Draft EIS/EIR Section 3.3.4.1 (p. 3.3-47 and 3.3-48), and in full detail in the attached technical Appendix E.</p> <p>As described in the Draft EIS/EIR Section 3.3.4.1 (p. 3.3-47 and 3.3-48), the effects to aquatic organisms due to the increase in suspended sediment concentrations were computed as suggested by the comment author : For each simulation year in the period of record, the duration of suspended sediment concentrations over a given threshold was calculated. From those durations, we then calculated a 50% and 10% exceedance for the time spent over that threshold. Although the EIR/EIR is clear on this point, additional explanation has been added. We did not compute the exceedances by using the concentrations for a particular day from all the simulations. We agree that this would have been an improper application of exceedance percentages.</p>	No
IT_LT_1230_098-92	<p>Methods for the analysis are summarized in the Draft EIS/EIR Section 3.3.4.1 (p. 3.3-47 and 3.3-48), and in full detail in the attached technical Appendix E.</p> <p>As described in the Draft EIS/EIR Section 3.3.4.1 (p. 3.3-47 and</p>	No

Comment Code	Comment Response	Change in EIS/EIR
	<p>3.3-48), the effects to aquatic organisms due to the increase in suspended sediment concentrations were computed as suggested by the comment author: For each simulation year in the period of record, the duration of suspended sediment concentrations over a given threshold was calculated. From those durations, we then calculated a 50% and 10% exceedance for the time spent over that threshold. Although the EIR/EIR is clear on this point, additional explanation has been added. We did not compute the exceedances by using the concentrations for a particular day from all the simulations. We agree that this would have been an improper application of exceedance percentages.</p>	
IT_LT_1230_098-93	<p>An impact statement has been added under the No Action/No Project Alternative to analyze flood risk associated with dam failure. The analysis finds that the risk may or may not increase as the facilities age (maintenance may improve facilities), but PacifiCorp's inspection procedures (described on p. 3.6-19) would reduce the likelihood of dam failure. These impacts would be less than significant.</p> <p>P. 3.6-32 discusses the Proposed Action's reduced flood risk associated with dam failure.</p>	Yes
IT_LT_1230_098-94	<p>Within the Klamath River system, steelhead trout are resistant to C. Shasta, a disease causing pathogen that adversely affects juvenile Chinook salmon (Administrative Law Judge, Finding of Fact 2B-18, p 22 of 87).</p>	No
IT_LT_1230_098-95	<p>Suggested edit was incorporated into EIS/EIR with the alteration of..."2002 fish kill of juvenile and adult" to "...2002 fish kill of primarily adult." text was checked for other uses- but none were found.</p>	Yes
IT_LT_1230_098-96	<p>The EIS/EIS has been revised to address the comment.</p>	Yes
IT_LT_1230_098-97	<p>Suggested edits have been added to the Section 3.3.</p>	Yes
IT_LT_1230_098-98	<p>The Final EIS/EIR was revised to read "Based on this scenario, mortality associated with C. shasta and P. minibicornis would be expected to worsen or remain similar to existing conditions."</p>	Yes
IT_LT_1230_098-99	<p>The proposed edit has been made in the EIS/EIR</p>	Yes
IT_LT_1230_098-100	<p>EIS/EIS has been revised to consider continued disease mortality of juvenile spring Chinook salmon under No Action/No Project Alternative.</p>	Yes

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-101	<p>Agree with comment, and EIS/EIR has been revised to reflect the additional factor of, "increased planktonic food sources from project reservoirs."</p> <p>The sentence now reads, "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; increased planktonic food sources from Project reservoirs; and water temperatures greater than 15°C (Bartholomew and Foott 2010)."</p> <p>The following was also added, "The removal of the Four Facilities would be likely to reduce habitat quality for the polychaete host by reducing reservoir habitat, reducing planktonic food sources, and restoring seasonal flow patterns and sediment dynamics that reduce the stability of the host's favored habitats."</p> <p>Master Response WQ 6 Periphyton Growth and Fish Disease.</p>	Yes
IT_LT_1230_098-102	<p>The cost estimates for dam removal reflect reasonable assumptions for contingencies and for escalation rates based on similar projects for which Reclamation has experience, and on economic conditions, but include allowances for uncertainties associated with these estimates. A Monte Carlo analysis has been performed and the sensitivities of all assumptions have been identified. The allowance for mitigation measures is based on preliminary estimates prepared for the individual mitigation measures identified in the Draft EIS/EIR. A range of total construction costs based on the Monte Carlo analysis has been prepared to help portray these uncertainties.</p>	No
IT_LT_1230_098-103	<p>The Lead Agencies considered these comments as they relate to the Detailed Plan.</p>	No
IT_LT_1230_098-104	<p>The Draft EIS/EIR includes analysis of the No Action/No Project Alternative in great detail. This information is contained in the "Effects Determinations" sections of each resource area. A summary related to the issues raised in the comment includes:</p> <ul style="list-style-type: none"> <li>• Water quality impacts are analyzed on p. 3.2-47 through 3.2-76. The No Action/No Project Alternative would not have the adverse impacts described in the comment because other actions would continue to move forward. The TMDLs would continue, resulting in water quality improvements. The No Action/No Project Alternative would result in impacts that would be generally less than significant or beneficial compared to existing conditions.</li> <li>• Aquatic resource impacts are analyzed on p. 3.3-53 through 3.3-75. Generally, implementation of the TMDLs would improve temperatures and other restoration</li> </ul>	No

Comment Code	Comment Response	Change in EIS/EIR
	<p>activities would improve conditions for some fish in the basin. Other fish would experience no change.</p> <ul style="list-style-type: none"> <li>• Climate change impacts to hydrology were inconclusive (see “Reclamation (2012d). “Hydrology, Hydraulics and Sediment Transport Studies for the Secretary’s Determination on Klamath River Dam Removal and Basin Restoration,” Technical Report No. SRH-2011-02. Prepared for Mid-Pacific Region, Bureau of Reclamation, Technical Service Center, Denver, CO. Available on <a href="http://www.klamathrestoration.gov">www.klamathrestoration.gov</a>.)</li> <li>• For cultural resources, traditional use areas, and Traditional Cultural Properties (TCPs), the adverse impacts have already occurred. These impacts would continue, but they would result in no change from existing conditions (see p. 3.13-28).</li> <li>• Similarly, impacts to Tribal Trust Resources and tribal members have already occurred. These impacts would continue under the No Action/No Project alternative but they would not change from existing conditions (see p. 3.12-25).</li> <li>• Continued adverse economic conditions from the Yurok Tribe’s fishery are described on p. 3.15-47. These conditions are already adverse and the No Action/No Project would represent no change from existing conditions.</li> <li>• Environmental Justice effects are described on p. 3.16-24 to 3.16-25. The tribes remain disproportionately affected.</li> </ul>	
IT_LT_1230_098-105	Master Response N/CP-5 Use of "Would" and "Could."	No
IT_LT_1230_098-106	<p>The No Action/No Project Alternative includes the following multiple reasonably foreseeable actions associated with water quality during the period of analysis (Public Draft EIS/EIR Section 3.2.4.1 (p. 3.2-35):</p> <ul style="list-style-type: none"> <li>• Ongoing restoration activities in the Klamath Basin (see Section 2.4.2).</li> <li>• Implementation of TMDLs for Oregon and California (see Section 3.2.2.4)</li> <li>• NOAA Fisheries Service 2010 Biological Opinion mandatory flows (see Section 2.3.1).</li> <li>• CDFG Code Section 5937 instream flow mandate for tributaries to the mainstem Klamath River</li> <li>• Climate change (see Section 3.10.3.1).</li> </ul> <p>Therefore, under the No Action/No Project Alternative, elements of ongoing restoration projects, TMDLs, and programs mandating stream flows that would affect future water quality are identified for</p>	No

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_098-107	<p>a specific reach and/or water quality parameter and included as part of the analysis narrative in a qualitative or, if possible, a quantitative manner.” Further TMDL implementation is discussed throughout the No Action/No Project Alternative analysis.</p> <p>Master Response WQ-4 C, D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>The impact of the dams and other past actions over time is generally captured in the description of the baseline condition (Draft EIS/EIR p. ES-41) and the descriptions of the No Action / No Project Alternative that appear throughout the document.</p> <p>The purpose of the NEPA and CEQA environmental review process is to disclose to decision makers and the public the significant environmental effects of a Proposed Action or project (40 CFR Section 1502.1). While NEPA requires a discussion of the potential impacts of the Proposed Action to the subject species, neither NEPA nor CEQA require an analysis of the point at which specific species or genetic populations become extinct or eligible for listing as T &amp; E species under the No Action Alternative. Therefore, it is beyond the scope of this EIS/EIR to complete the analysis requested.</p> <p>Master Response AQU-33 ESA Compliance.</p> <p>Master Response AQU-30 BRT Current Status of Chinook fisheries.</p>	No
IT_LT_1230_098-108	<p>P. 3.10-18 and 3.10-19 of the Draft EIS/EIR discuss the effects of climate change on the No Action/No Project Alternative. As discussed in this section, “[t]he baseline temperatures on the mainstem of the Klamath River are stressful for fish, and fish rely on small areas of refugia (typically near tributary inflow. Therefore climate change is likely to reduce or possibly eliminate these refugia, making the temperature in the mainstem of the river unsuitable for fish rearing and movement during critical times of the year.” The section continues to state that “free-flowing rivers, in general, respond better to changes in climate conditions due to the ability to adjust to and absorb disturbances through flow adjustments that buffer against impacts.”</p> <p>Section 3.10.3 of the Draft EIS/EIR provides a summary of projected changes in climate change in the Pacific Northwest and the Klamath Basin, including increased temperature, increased number of extreme heat days, annual precipitation, changes to seasonal precipitation, increase in heavy precipitation, reduced snowpack, groundwater hydrology, vegetation changes, and annual stream flow effects. While this discussion is related to</p>	No

Comment Code	Comment Response	Change in EIS/EIR
	existing conditions, it is expected that these types of changes could continue in the future under the No Action/No Project Alternative.	
IT_LT_1230_098-109	Although a standalone Vulnerability Assessment was not conducted to assess climate change-related impacts, the Draft EIS/EIR includes an analysis of the effects of climate change on each of the alternatives (see p. 3.10-18, 3.10-21, 3.10-33, 3.10-36, and 3.10-40). These sections present summaries of larger reports and studies, they disclose the expected effects that could occur from climate change, as well as the way in which each alternative would affect climate change. The importance of a free-flowing river that contains refugia throughout the basin is discussed.	No
IT_LT_1230_098-110	Master Response TTA-2 Clarification of the Tribal Trust No Action.	Yes
IT_LT_1230_098-111	Master Response TTA-2 Clarification of the Tribal Trust No Action.	Yes
IT_LT_1230_098-112	Master Response TTA-5 Presentation of Effects.	No
IT_LT_1230_098-113	Consultations were initiated on October 19, 2010, with the Yurok Tribe and are continuing throughout the National Environmental Policy Act (NEPA) process. Information provided by the Yurok THPO was incorporated into Section 3.13, Cultural and Historic Resources, of the EIS/EIR. Concurrence with consulting parties is not required when an agency elects to use the NEPA process and documentation to meet its compliance with Section 106 of the NHPA. See 36 C.F.R. § 800.8(c)(2). The U.S. Department of Interior (DOI) is utilizing the integration process permitted under 36 C.F.R. § 800.8(c), and has meet the criteria required by the regulations.	Yes
IT_LT_1230_098-114	The Lead Agencies acknowledge that Yurok TCPs may be adversely affected under the No Action Alternative. However under this alternative, compliance with Section 106 of NHPA would apply to Federal actions not related to removal of the dams or the proposed affirmative alternatives.	Yes
T_LT_1230_098-115	The Lead Agencies acknowledge these techniques should be explored and considered in the NHPA process, should there be an Affirmative Determination. Capping was added to Section 3.13, Cultural and Historic Resources, as a protective measure. Mitigation Measures in Section 3.13 identify additional NHPA consultations and cultural resources management plans for the affirmative alternatives.	Yes
IT_LT_1230_098-116	In Section 3.13, Cultural and Historic Resources, of the Draft EIS/EIR, Cultural Landscapes and Traditional Cultural Properties are specifically defined and the "riverscape" is discussed.	Yes

Comment Code	Comment Response	Change in EIS/EIR
	<p>Information obtained from the Yurok Tribal Historical Preservation Officers (THPO) regarding important cultural resources was added to Section 3.13. Mitigation measures address different cultural resources types, including Mitigation Measure CHR-2 for cultural resources, Mitigation Measure CHR-3 for TCPs and cultural landscapes, and Mitigation Measure CHR-4 for human remains. DOI consulted with Yurok's THPO under NHPA Section 106 to identify sites of religious and cultural significance to the Yurok Tribe and to identify concerns regarding effects and potential resolutions to any adverse effects to those sites.</p>	
IT_LT_1230_098-117	<p>Section 3.15.4.2 of the Draft EIS/EIR indicates that fishery conditions faced by Indian Tribes in the Klamath Basin would remain at current levels under the No-Action/No Project Alternative. Abundance levels of some Klamath Basin Chinook populations are low, particularly relative to historical levels, but have shown little change in recent decades and are currently not at major risk of extinction.</p> <p>Master Response AQU-30 BRT Current Status of Chinook Fisheries.</p>	No
IT_LT_1230_098-118	<p>The tribal effects described in Section 3.15 (Socioeconomics) are narrowly focused on fishing and related practices. Sections 3.12 (Tribal Trust) and 3.13 (Cultural and Historic Resources) provide more comprehensive consideration of tribal effects as they relate to aquatic resources (not just fish), tribal trust obligations, and effects of the No Action and Action alternatives on the rivers cape, cultural resources, and cultural and social practices. Section 3.16 (Environmental Justice) addresses the issue of disproportionate effects.</p>	No
IT_LT_1230_098-119	<p>In the Environmental Consequences sections of Chapter 3 for each resource category, each discrete component of analysis includes three distinct parts: an italicized statement which provides the focus of the analysis, the analysis, and then a concluding statement that describes findings and may indicate whether the identified impacts are considered significant. The introduction and conclusion statements are paired. For example the section of interest of the comment author includes an introduction statement "Continued impoundment of water at the reservoir and decline in fisheries could disproportionately affect tribal people" and a concluding statement "Therefore, in the long term, tribes in the area of analysis would continue to be disproportionately affected, and their situation would remain an environmental concern under this alternative."</p> <p>The statement on p. 3.16-25 quoted by the comment author includes the word 'could' because this italicized introductory</p>	No

**Comment Code**

**Comment Response**

**Change in  
EIS/EIR**

sentence sets the bounds for the detailed analysis of the No Action/No Project Alternative on the tribal people. The paired statement to this introductory statement uses 'would' to definitively describe the conclusions drawn in that analysis.

IT\_WI\_1114\_081

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From: [tori.na.case@klamathtribes.com](mailto:tori.na.case@klamathtribes.com)[SMTP: TORI.NA.CASE@KLAMATHTRIBES.COM]  
Sent: Monday, November 14, 2011 12:43:38 PM  
To: BOR-SHA-KFO-KlamathSD; [werner@wri.nkl.edog.com](mailto:werner@wri.nkl.edog.com)  
Subject: Web Inquiry: comments  
Auto forwarded by a Rule

Name: Torina Case  
Organization: Klamath Tribes

Subject: comments

Comment 1 - Approves of Dam Removal



Body: i just want to express my opinion of why the Klamath Basin Agreement needs to be adopted. I have lived in this basin all of my life. Grew up in Sprague River and now live along the Sprague River closer to Chiloquin. I used to swim in the Sprague River as a child and as i got older i began to notice the River was not as clean as it was when i was younger, I quit swimming in it and my kids don't get to swim in it either. I want everyone in the basin to have clean water to use, drink and swim in. this agreement allows for not only the return of Salmon to the Klamath Basin it also allows for clean water projects to begin from the top of the basin to where the dams are. unhealthy water makes for unhealthy people. Some people just don't realize the need for these projects to occur. This agreement does all of that and more.

**Comment Author** Case, Torina  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** November 14, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_WI_1114_081-1	Master Response GEN-1 Comment Included as Part of Record.	No

IT\_MC\_1025\_041

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 25, 2011

PUBLIC TESTIMONY  
ORLEANS, CALIFORNIA

MS. CHICHIZULA: Hello. My name is Regina Chichizola, R-e-g-i-n-a C-h-i-c-h-i- again z-o-l-a.

I have been involved in this Klamath Dam removal processing commenting for the whole time it's been going on since 2004, I think it was, and I've been on the river since about '96. In that time, I've been involved in, probably, about 20 to 45 EIS/EIR processes, and I have written extensive comments on most of them. And I have also seen how much downhill the river has gone in that time, like everyone has said. I don't need to repeat that.

But I have been on the reservoirs before, when they stunk of death so bad that grown men, really tough cops and -- started crying because of how bad they stunk. And these are Native people -- these were Native people, who wanted to be fishing in the river, and, instead, they're standing there trying to not puke while they're trying to see what it's like in the reservoirs.

I have also spent extensive time looking at water quality damage in the Upper Basin, in the farms and the agricultural areas. And I know that in an EIS process that you can have an option, an alternative, where it can be tweaked somewhat in the end. I do

Comment 1 - Approves of Dam Removal

support Alternative 2, but there are parts of the Klamath Basin Restoration Agreement that I think are problem-some. Like Chook-Chook said, why would the Hupa Tribe not be involved just because they don't agree in the restoration process after the dams come down?

Comment 2 - ITAs

Comment 3 - Water Rights

Along with that, I would like to say that I

don't think it's okay for the Upper Basin farmers to have a set amount of water as part of this process. I have seen what goes on in the Upper Basin, and flood irrigation is rampant. And massive chemical use and cows in the river are also rampant. And I believe, as part of this process, some of those things should be dealt with.

Comment 4 - NEPA

I know that -- I'm not sure if it's still the

case, but with the Klamath Basin Restoration Agreement, you used to have the ability to overlook water pollution in Oregon and also endangered species issues. And I really don't believe -- there's a lot of scientific controversy around the Klamath Basin Restoration Agreement. And while I think that it was done in good faith by people who are really trying to get along,

scientific controversy is a big deal in an EIS process.

And I believe that that scientific controversy needs to  
be hashed out a little more, perhaps.

Comment 5 -  
KBRA

So, what I would like to see, and I know,

obviously, this isn't a perfect world where I'm going to  
get what I want, is support for Alternative 2, full dam  
removal, which I fully support. However, I do think that  
the Klamath Basin Restoration Agreement can be somewhat  
of a poison pill within that, and so, I would hate to see  
that the Klamath Basin Restoration Agreement make it so  
the Klamath dams don't come down because there's going to  
be ten years of litigation after this is over.

And as someone who is often involved in  
litigation, I see that as something that might happen.  
And so, if it's at all possible to try to deal with some  
of those issues and try to make sure that the  
Upper Basin's pollution issues are not able to be ignored  
as part of this process.

And when there is bad water years, the water  
is -- the fish is the priority, it would be nice to see,  
because I know this year we had a lot of salmon in the  
river, and if it wasn't a high water year, we would be  
seeing a fish kill this year. And I would hate to see  
that happen after the dams come down.

I'll turn in comments. Thank you.

**Comment Author** Chichizola, Regina  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 25, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1025_041-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1025_041-2	Master Response TTA-7 Tribal Involvement in Future Discussions of Water Management.	No
IT_MC_1025_041-3	Master Response GEN-1 Comment Included as Part of Record.	No
IT_MC_1025_041-4	<p>Section 1502.12 of the Council on Environmental Quality's (CEQ) regulations for implementing NEPA and Section 15123(b)(2) of CEQA Guidelines state that the Summary of an EIS or an EIR must include areas of controversy (including those raised by the public and agencies). This Controversies and Issues section can be found in the Draft EIS/EIR on p. ES-46 of the Executive Summary (ES). The section presents a table (Table ES-7) that lists the issues of controversy, and where they are addressed in the Draft EIS/EIR. One of the issues in the table is "KBRA effects" and how some have questioned that it may not produce enough social or economic benefits. This issue is addressed in the Socioeconomics chapter of the Draft EIS/EIR (Section 3.15.4.3). Section 1506.6(c)(1) states that one of the reasons Lead Agencies should consider holding public meetings is if there is controversy concerning the Proposed Action. The Lead Agencies held six public meetings on the Draft EIS/EIR to allow the public and other interested parties to voice their concerns. Section 15151 of the CEQA Guidelines states that "Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."</p> <p>The Lead Agencies have attempted to use the best scientific knowledge and data available, and have noted in the EIS/EIR whenever there are disagreements among experts on specific topics.</p>	No
IT_MC_1025_041-5	<p>Implementation of KBRA actions would not occur unless Klamath dams were removed because many of its provisions, in particular those related to diversion limitations and associated flows in the lower Klamath and lake levels in Upper Klamath lake, are predicated on the ecological benefits of removing Klamath dams.</p> <p>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. Trap and haul has been proposed to transport migrating adult fish upstream of the Keno Impoundment</p>	No

**Comment Author** Chichizola, Regina  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 25, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>when certain adverse water conditions exist. 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 Basin Resulting from KHSA, KBRA, and TMDL and National Park Service (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>Potential effects of the proposed KBRA programs on fish and wildlife are discussed Sections 3.3 and 3.5. The KBRA strives to balance the uses of water for irrigation with the needs of fish and wildlife. In addition, the KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with ESA or the California Endangered Species Act (CESA). Project level actions and decisions will continue to be made in compliance with existing laws and regulations.</p>	

IT\_FX\_1221\_091



# The Klamath Tribes

## Culture & Heritage Department



### Facsimile Transmittal Sheet

To: Elizabeth Vasquez From: Perry Chocktoot Jr

Company/Department: Bureau of Reclamation Date: 12-21-11

Fax Number: 1-916-978-5055 Total # of pages including cover 3

Telephone Number: (541) 783-2219 extension Fax #: (541) 783-2095

Regarding: Klamath Dam Removal

Urgent  Please Review  Please Reply  For Your Records

Comments or Instructions

P.O. Box 436 Chiloquin, OR 97624  
...sp'keec'a = Thank You...

12/21/2011 12:58 5417832095

CULTURE&amp;HERITAGE

PAGE 02/03



12-19-2011

## The Klamath Tribes Culture & Heritage Department

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

Re: Klamath Dam Removal EIS

The Klamath Tribes' Culture and Heritage Department submit the following comments on the Klamath facilities Removal Environmental Impact Statement/ Environmental Impact Report ( EIS/EIR ) that evaluates the removal of the four Pacific Corp dams on the Klamath River as contemplated in the Klamath Hydroelectric Settlement Agreement ( KHSA ).

### Comment 1 - Cultural Resources

- Cultural resource surveys are needed on areas that will be exposed on both sides of the Klamath River once dams are breached and the water levels drop. These surveys need to be conducted as soon as possible when the dams are removed as the entire area is subject to looting of culturally significant materials.
- To protect against looting of cultural sites along the Klamath River, the tribes request that during the cultural resource surveying process a collection of the artifacts be inventoried and curated in the Klamath Tribes curation facility.

### Comment 2 - Water Quality

- The Tribes Culture and Heritage Department has not seen any information that would address the loss of marine nutrients in the waters due to the absence of the anadromous fish for over 90 years. We are very interested in this issue as it relates to the health of the Klamath River and all of the upper basin aquatic resources.

### Comment 3 - Recreation

- Recreation activities need to be assessed as they impact cultural sites within the Klamath River Canyon. When exposed the dewatered cultural sites may be significantly impacted by additional recreational activities.

- Upon facility removal there is a possibility of exposing human burials. There needs to be a plan to assure proper handling of burial remains and objects in accordance with the Native American Graves Protection Act.

- The entire Klamath River Canyon is eligible for listing as a Traditional Cultural Property under the National Historical Preservation Act and needs to be evaluated.

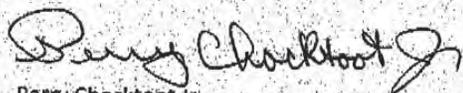
### Comment 5 - Cultural Resources

### Comment 4 - Cultural Resources

501 Chiloquin Blvd. - P.O. Box 436 - Chiloquin, Oregon 97624  
(541) 783-2219 - Fax (541) 783-2029

The Culture and Heritage Department looks forward to future consultation on all issues that have the possibility of impacting cultural resources within the Tribes' aboriginal territories.

Sincerely,



Perry Chocktoot Jr

Director of Culture and Heritage Department

P.O. Box 436

Chiloquin OR, 97624

(541) 783-2219 x 178

**Comment Author** Chocktoot, Perry Jr.  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 12, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_FX_1221_091-1	EIS/EIR Section 3.13, Cultural and Historic Resources, addresses potential impacts to Indian Tribes prehistoric, ethnographic, and ceremonial sites. Mitigation Measures CHR-2, CHR-3, and CHR-4 address these concerns, including the need for additional surveys for identification of surface and submerged resources. Cultural resources management plans would be drafted and implemented in consultations with the Advisory Council on Historic Preservation, the California and Oregon State Historic Preservation Officers, Indian tribes, and other consulting parties. Artifacts would be curated at a facility that meets Federal standards at 36 C.F.R. Part 79.	No
IT_FX_1221_091-2	It was not considered feasible to do an accurate analysis of the loss of marine nutrients upstream of the dams within the scope of the EIS/EIR. As discussed in Hamilton et al. (2011), while dam removal may increase supply of marine derived nutrients provided by the carcasses, eggs, and young of anadromous fish, increasing the supply of nutrients could adversely affect water quality conditions which currently are subject to elevated nutrient loads in the upper basin (Federal Energy Regulatory Commission 2007, as cited in Hamilton et al. [2011]). At the same time, salmon smolts have been identified as important exporters of nutrients, in particular phosphorous (P), from freshwater ecosystems (Scheuerell et al. 2005, as cited in Hamilton et al. [2011]).	No
IT_FX_1221_091-3	EIS/EIR Section 3.13, Cultural Resources, states that impacts could occur to cultural sites as a result of the recreation activities and drawdown of reservoirs. Section 3.13 acknowledges that the affirmative alternatives have the potential to adversely affect historic properties and addresses this in Mitigation Measures CHR-1, CHR-2, CHR-3, and CHR-4. Additional consultations in accordance with the measures identified in CHR-1, CHR-2, CHR-3, and CHR-4, with Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officer(s) (SHPO), Indian Tribes, and other interested parties under NHPA Section 106 will lead to a Programmatic Agreement that sets forth stipulations on how to consult to resolve potential adverse effects associated with a definite plan on how to implement the action alternative selected in the EIS.	No
IT_FX_1221_091-4	EIS/EIR Section 3.13, Cultural and Historic Resources, addresses possible mitigation measures for Alternatives 2, 3, 4, and 5. The Native American Graves Protection and Repatriation Act (NAGPRA) would apply to federal lands and federally recognized Indian lands while Oregon and California State laws would apply in each state. Specific measures would be developed through continued NHPA Section 106 consultations, as applicable, based on the selected alternative.	No

**Comment Author** Chocktoot, Perry Jr.  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 12, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_FX_1221_091-5	EIS/EIR Section 3.13, Cultural and Historic Resources, discusses Traditional Cultural Properties. Mitigation Measure CHR-3 is specific to Traditional Cultural Properties, including evaluation of such properties as historic properties through NHPA Section 106 consultations, as applicable.	No

IT\_MC\_1020\_022

PUBLIC HEARING ON THE KLAMATH DAM  
REMOVAL DRAFT EIS/EIR  
---o0o---  
YREKA, CALIFORNIA  
THURSDAY, OCTOBER 20, 2011

MS. FORENCE CONRAD: Hello, I'm Florence,

F-l-o-r-e-n-c-e, Conrad, C-o-n-r-a-d, member of the Karuk  
Tribe.

Comment 1 - Water Quality

I don't have any scientific data, but I can say

that I have lived above the Itchy Pitchy Falls for the  
last 50 years.

I'm a life-long resident of Siskiyou County.

I've lived here all my life, except for the two years that

I was away in the Army. And I came back here, and this is  
where I made my livelihood, raised my family with my  
husband.

And we have watched the Klamath River decline.

It has -- we used to spend the entire day at the river,  
just packing sandwiches and going to the river and  
swimming all day.

We can't do that any more because anything past  
the middle of June the river isn't very good.

So that's all I had to say. I just wanted to,  
like I said, no scientific data, just living.

THE FACILITATOR: Thank you.

**Comment Author** Conrad, Florence  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_022-1	<p>As described in the Draft EIS/EIR Section 3.2.2.3 (p. 3.2-13 to 3.2-14), water quality in the Klamath River is impaired for several water quality parameters and does not fully support designated beneficial uses, including recreational contact (e.g., swimming) during summer months.</p> <p>Master Response WQ-4 B, C, and D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p>	No

IT\_LT\_1031\_074

Comment 1 - Approves of Dam  
Removal

My name is Norma Cummings. I am an enrolled member of the Klamath Tribes. Thank you for this opportunity to weigh in on such an important issue. I whole heartedly support removing these dams and implementing the Restoration Agreement. For too long Tribes and Project Irrigators have fought over water in this basin. Finally we have an opportunity to settle the dispute. Many of the voices that oppose this agreement don't have their water, their culture, or their fishery at stake. Those who do - the Klamath Tribes and Klamath Project Irrigators - have reached a compromise. It's time take out the dams and balance water use in the Basin so all our communities can survive.

Norma Cummings  
2241 Green springs Dr #66  
Klamath Falls OR 97601  
normajeana1@hotmail.com

**Comment Author** Cummings, Norma  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 31, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1031_074-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

IT\_MC\_1019\_008

**PUBLIC HEARING ON THE KLAMATH DAM**

---o0o---  
CHILOQUIN, OREGON  
OCTOBER 19, 2011  
---o0o---

MS. NORMA CUMMINGS: Hello, my name is Norma Cummings, C-u-m-m-i-n-g-s. I'm an enrolled member of the Klamath Tribes. Thank you for the opportunity to weigh in on such an important issue.

Comment 1 - Approves Dam Removal

I wholeheartedly support removing these dams and implementing the restoration agreement. For too long, tribes and Project irrigators have fought over water in this basin. Finally, we have an opportunity to settle this dispute.

Many of the voices that oppose this agreement don't have their water, their culture, or their fishery at stake. Those who do, the Klamath Tribes and Klamath Project irrigators, have reached a compromise. It is time we take out the dams and balance water use in the basin so all of the communities can survive.

Thank you.

**Comment Author** Cummings, Norma  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1019_008-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

IT\_MC\_1018\_005

**Klamath Falls Hearing - 10-18-2011**

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STATEMENT PROVIDED BEFORE PUBLIC HEARING  
(Directly to Court Reporter)

MS. TAYLOR DAVID: Taylor David, D-a-v-i-d.

(Statement in Native language.)

Greetings and good evening. It is good to see you all here in (Native language), Klamath Falls, homeland of the Klamath, Modoc and Yahooskin Paiute people. My name is Lamina Wac-Thunder Horse. My Christian name is Taylor (Tupper) David.

I am an enrolled member of the Klamath Tribes, born and raised here in the Sprague River Valley and Klamath County. My family was avid ranchers and rodeo people. We are horsemen. I left to attend college, and returned to work for my tribe as the public relations manager. I've been in this position for the past 18 years.

There are main reasons that you should consider making your final determination.

Comment 1 - ITAs

You must always take into consideration the trust responsibility to the tribes with regards to our Treaty Rights of 1864. In the words of two great men and leaders, Mr. Walter Echo Hawk and Supreme Court Justice Hugo Black, who said, "The tribal way of life and Treaty

of 1864 is protected by the Supreme Law of the Land,"  
which is simple but true. Great nations, like great men,  
should keep their word.

Take into consideration the unbelievable hours of  
time and hard work that has already been done by the  
entities that support the KBRA and KHSa. Realize that act  
alone is a miracle in itself. These agreements should

Comment 2 - Approval of Dam Removal

move forward along with the full or partial removal of the  
four dams on the Lower Klamath River.

Comment 3 - Economics

I hope over this last year you've done your  
research, since last I spoke at one of these meetings, in  
regards to the economic success of Klamath Basin because  
before when the tribes and the natural resources were  
healthy, the Basin was healthy.

Comment 4 - ITAs

Finally, I would ask that you take a look at this  
from a spiritual standpoint as our people and God knows  
all things come full circle. We believe this is true for  
the salmon and steelhead. We hope that you recognize this  
as an opportunity of a lifetime to set precedence for our  
nation, maybe even the world.

Our generation has been chosen to make changes that  
will benefit our ecosystem so we can ensure the success of  
generations to come so everyone has a better future, not  
just us tribal people but everyone.

Our ancestors said it best: (Native language),

which simply means we help each other, we will all live  
good.

Thank you, and have a good evening.

**Comment Author** David, Taylor  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 18, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1018_005-1	<p>The United States acknowledges the treaty-protected fishing rights of The Klamath Tribes, and believes the KBRA and KHSa provide the best opportunity to restore the Klamath Basin and its fishery.</p> <p>Information on The Klamath Tribes' Treaty Rights is contained in Section 3.12.3.1.</p> <p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries,</p> <p>AQU-5 Will Benefit All Salmonids,</p> <p>AQU-26 Increased Abundance for Harvest and Tribes.</p>	No
IT_MC_1018_005-2	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose of Dam Removal.	No
IT_MC_1018_005-3	<p>Section 3.15 of the Draft EIS/EIR evaluates economic effects of the Proposed Action and alternatives. The section is primarily based on multiple economic studies posted 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> under Economic Studies and Information. Economic effects were evaluated relative to:</p> <ul style="list-style-type: none"> <li>• Dam decommissioning, O&amp;M, mitigation</li> <li>• Commercial fishing</li> <li>• Reservoir recreation</li> <li>• Ocean sport fishing</li> <li>• In-river sport fishing</li> <li>• Whitewater recreation</li> <li>• Tribal economies</li> <li>• KBRA Fisheries, Water Resources and Tribal Programs</li> <li>• Irrigated agriculture related to KBRA actions</li> <li>• Refuge recreation related to KBRA actions</li> <li>• Local government revenues, including property and sales taxes</li> <li>• Property values</li> <li>• Utility rates</li> </ul>	No
IT_MC_1018_005-4	Master Response GEN-1 Comment Included as Part of the Record.	No

**PUBLIC HEARING ON THE KLAMATH DAM**

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CHILOQUIN, OREGON

OCTOBER 19, 2011

---o0o---

MS. TAYLOR DAVID: Taylor Tucker David, D-a-v-i-d.

(Native language) Once again, that is hello and good evening. It is good to see you here (Native language.)

As I spoke last night about other things I trust like responsibility and the ecosystem and about the economical impacts, of the tribe being healthy, once the tribe is healthy, the natural resources being healthy.

I won't mention that again tonight.

One thing I do and will say, as a member of this community, I live here in Chiloquin, graduate here of Chiloquin high school. I know that what we need is our fish to be healthy. We are told as native people that if the fish die we will die.

Comment 1 - ITAs

And that is something that's not just science, that's tribal law and that's spiritual law. So that doesn't just mean the tribal people and what we are doing here, it is for everyone in this community.

Last night in the hallway we was told by one individual that all us Indians should just be put on a

train and shipped back to Oklahoma. A few years ago that might have really upset me. But now I know we're still progressing. We have good common sense, we're smart people. We are all starting to work together on the KBRA and KHSA.

Comment 2 - Approves Dam Removal

We all support dam removal. And so what I have to say about that is they could put me on the train again like they did my ancestors, the Modocs after the Modoc War.

But in 1907 my great great grandfather came home, and I will still come home, just like I believe the dam removal will bring the salmon home.

Thank you.

**Comment Author** David, Taylor  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1019_010-1	Information on the effects of loss of fish in The Klamath Tribes' diet is contained in Section 3.12.3.1.	No
IT_MC_1019_010-2	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

IT\_WI\_1021\_014

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From: taylor.david@klamathtribes.com [SMTP: TAYLOR.DAVIDD@KLAMATHTRIBES.COM]  
Sent: Friday, October 21, 2011 8:28:15 PM  
To: BOR-SHA-KFO-KlamathSD; werner@wrinkledog.com  
Subject: Web Inquiry: EIS/EIR Comments  
Auto forwarded by a Rule

Name: Taylor David  
Organization: Klamath Tribes

Subject: EIS/EIR Comments

Comment 1 - Approves Dam Removal

Body: I support full dam removal within these documents or partial at a minimum. I also support the KBRA and KHSA to be moved thru legislation so we can uphold the Trust Responsibility to the Klamath Tribes and the Treaty of 1864, which should be upheld by the Constitution of the United States of America -The Supreme Law of the Land.

Comment 2 - ITAs

**Comment Author** David, Taylor  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 21, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_WI_1021_014-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_WI_1021_014-2	The United States acknowledges the treaty-protected fishing rights of The Klamath Tribes, and believes the KBRA and KHSAs provide the best opportunity to restore the Klamath Basin and its fishery.  Information on The Klamath Tribes' Treaty Rights is contained in Section 3.12.3.1.  Master Response TTA-3 Federal Trust Responsibilities and Fisheries.  Master Response AQU-5 Will Benefit All Salmonids.  Master Response AQU-26 Increased Abundance for Harvest and Tribes.	Yes

IT\_LT\_1029\_027

# SHASTA INDIAN NATION



October 23, 2011

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

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

Ms. Vasquez and Mr. Leppig:

**Subject:** Klamath Facilities Removal Environmental Impact Statement  
California State Clearinghouse: 2010062060

The Shasta Indian Nation is an Indian Tribe located in Siskiyou County, California. The following comments are in response to the Environmental Impact Statement that evaluates potential impacts that would occur if four dams and related facilities on the Klamath River were removed.

← Comment 1 - Cultural Resources

§3.12.3.2 of the Environmental Impact Statement (EIS) / Environmental Impact Report (EIR) describes the Quartz Valley Indian Reservation (QVIR) and states the QVIR represents people of Shasta Indian ancestry. This statement is incorrect. The Shasta Indian Nation has an elected governing body that is comprised of Shasta Tribal members, none of whom live within the boundaries of the QVIR. Each Tribe is distinctly different and members are not dually enrolled.

Comment 2 -  
Cultural Resources

The Shasta have lived along the Shasta, Scott, Salmon, and Klamath Rivers since time immemorial. In order for Copco 1 to be built, Kitty Ward, a full-blooded Shasta Indian was tricked into leaving her home so her land could be taken.

**50 Years on the Klamath. Author: John C. Boyle**

"Kitty Ward, a full-blood Indian, lived in a tall log cabin which she and her white husband Tim built for a home. It was beautifully located on the lower end of the proposed reservoir beside flowing springs ample to irrigate some of the lands.

The cabin was below the flow line so when time to fill the reservoir came, Kitty was told it was necessary for her to move. She certainly knew how to put the white man in his place. Between

Comment 2 cont. - Cultural Resources

sobs and tears, she refused again and again to leave her home saying "I no move, let water come, I die here." Tim had been dead for several years, but Andy Marlow, as a ranch foreman and keeper of her wampum cooperated in getting Kitty to visit in Hornbrook, a visit from which she never returned."

Kitty Ward is one example of a Shasta Indian losing their land for the purpose of developing hydroelectric power on the Klamath River. History provides numerous accounts of Shasta families that were relocated to distant reservations and isolated from their culture to facilitate building the dam facilities. Many current members of the Shasta Indian Nation have family members that were part of the relocation and taking of land. My family lived in a Kammatwa village on the Klamath River west of present day Beswick, California prior to the development of Copco. Construction of the Klamath River dams caused the destruction of entire Shasta villages. Thus, the sites at Copco 1 & 2 and Iron Gate have special significance to the Shasta Indian Nation. It is worth noting that the Shasta were not included in the development of the Klamath Basin Restoration Agreement (KBRA) and have not participated in discussions since the termination of the 2005 Federal Energy Regulatory Commission (FERC) relicensing process.

Comment 3 - KBRA

The National Historic Preservation Act (NHPA) Section 106 provides "an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR Section 800.5(a)(1))."

Pursuant to the California Environmental Quality Act (CEQA), a substantial adverse change in the significance of an archaeological resource or an historical resource is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired, as defined in PRC Section 21083.2 and CCR 15064.5.

§3.13.3.3 - Daniels (2003) identified 47 ethnographic sites (e.g., habitation, hunting, fishing, gathering, and spiritual/ceremonial sites) along the Klamath River and at least 5 village sites submerged by the formation of Copco 1 Reservoir that have cultural value to the Shasta. Theodoratus et al. (1990) also identified 24 sites along the Klamath River between J.C. Boyle Dam and Scott River that have "cultural value" to Shasta. Additionally, the Bureau of Land Management (BLM) has previously identified **a culturally significant area along the Upper Klamath River for a proposed National Register District.**

*"Reservoir drawdown associated with the Proposed Action could affect/impact archaeological and historic sites, TCPs, and cultural landscapes that are eligible for inclusion on the National Register and/or California Register and possibly Indian human remains."*

The draft EIS/EIR recognizes the existence of ethnographic records that identify Shasta village sites, including burials, located along the previous riverbanks prior to dam construction; and Shasta sites that are submerged in the reservoirs that likely include human remains.

Comment 4- Cultural Resources

Comment 4 cont. -  
Cultural Resources

Additionally, numerous **Shasta** sites along and near the Klamath River downstream from the dams may be exposed or damaged from temporary increase in flows during reservoir drawdowns.

Dam removal and reservoir drawdown would result in a reduction of water levels in the existing reservoirs; temporarily increase flows along the Klamath River; and expand the limits of the 100 year floodplain. The EIS/EIR discloses that increased flows along the Klamath River could "undercut, erode, or flood sites along or near the banks of the river, affecting elements of the potentially significant cultural landscape". **"However, sites associated with it could be adversely affected through erosion, exposure, and vandalism."** It would be an egregious injustice to the Shasta people and cause irreversible harm to the Shasta Indian Nation if dam removal occurred and the Tribe was denied the ability to preserve and protect sensitive sites.

The Shasta Indian Nation previously provided a confidential list with locations of village sites located along the Klamath River from the Oregon border to present day Seiad Creek. Our historical existence along the Klamath, Shasta, Scott and Salmon Rivers is well documented along with the many Shasta villages around Jenny, Shovel, Fall, Yreka, and Butte Creeks. To suggest this area holds the same cultural significance to other Tribes, tribal group, or government entity is inaccurate and offensive. Our ceremonies occurred at ceremonial sites and in villages like the Ah-wi'-mah on the Klamath River at the mouth of the Shasta River and Ko-watch'-ah-hah' on the Klamath River at the mouth of the Scott River. There is no other Tribe or group that has legitimate claim to these areas from a cultural or historical perspective.

The influx of trappers from Hudson Bay began the demise of the Shasta culture. It seems the agreements (KHSA and KBRA) that were developed to purportedly restore fish habitat and populations are a step further in that direction.

**Alternative 1 – No Action/No Project Alternative**

Multiple Shasta Village sites, including burial, remain submerged at Copco 1 & 2, Iron Gate and JC Boyle. The No Action /No Project Alternative would not have an immediate impact to the historic value of the submerged sites. If the water level drops and the village sites are exposed, and burials, there is no mechanism in place for the Shasta to protect or preserve the historic properties and there would likely be incidents of looting and vandalism. In fact, the KBRA requires PacifiCorp to transfer the land containing Shasta sites to the States of Oregon and California respectively. If the sites remain submerged this would not occur. Additionally, Alternative 1 would prevent the implementation of the KBRA and cause the FERC relicensing process to resume. FERC relicensing means the dams stay in place and historic properties are not exposed causing no further impact.

Alternative 1 – No Action / No Project is the preferred option.

**Alternative 2 – Full Facilities Removal of Four Dams (Proposed Action)**

The implementation of the KBRA along with removal of the four dams would call for elimination of the hatcheries on the Klamath River which would affect our tribal fishery and impede the ability of Shasta people to practice our native culture. Lower water levels in the reservoirs, increased water flow in the Klamath River would result in exposed village and burial sites of the Shasta. The KBRA does not provide the ability for the Tribe to protect, preserve, or restore the sites. It is well documented in Siskiyou

Comment 4 cont. -Cultural Resources

County that Shasta sites located on government and private land have been desecrated and artifacts stolen. The removal of four dams and implementation of the KBRA would cause irreversible harm to the Shasta Indian Nation's cultural and historical resources.

For Alternative 2 to be feasible the land containing village and burial sites that are currently submerged would need to be transferred to the Shasta Indian Nation and cultural resource management agreements with the Tribe would need to be in place.

Alternative 2 would negatively impact Shasta cultural and historic resources and therefore is not recommended.

**Alternative 3 – Partial Facilities Removal of Four Dams**

The partial removal of four dams creates the same concerns and issues as full removal in relation to the Shasta Indian Nations village and burial sites. As stated above, lower water levels in the reservoirs and increased water flow in the Klamath River will result in exposed village and burial sites. Again, this would cause the implementation of the KBRA which does not provide any mechanism for the Shasta Indian Nation to protect cultural and historic resources.

Alternative 3 would negatively impact Shasta cultural and historic resources and therefore is not recommended.

**Alternative 4 – Fish Passage at Four Dams**

The construction of fish passage facilities at each of the four dams would cause the FERC relicensing process to resume and the hydropower generating facilities to remain in place. This would cause no impact to the submerged sites and is therefore considered a desirable option from a historic preservation perspective. The Shasta Indian Nation prefers the sites to remain submerged indefinitely rather than have them exposed, robbed, and exploited.

Alternative 4 is the preferred Action after the No Action Alternative because it will not impact pre-historic sites or burial sites to become exposed.

**Alternative 5 – Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate**

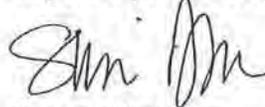
This Alternative requires the removal of two dams that will result in lower water levels and will have the negative impact described in Alternative 2 & 3 analysis.

Alternative 5 is not recommended because of the negative impact to cultural and historic resources.

The Shasta Indian Nation is opposed to any action that causes the implementation of the KBRA. We disagree with the provision that allows the establishment of an interim fishing right between Iron Gate and Interstate 5; and we do not support neighboring Tribes developing or operating fish hatcheries on the Klamath tributaries. The Shasta and Scott Rivers are traditional Shasta areas and have village, ceremonial, and burial sites that would most likely experience negative impact if the KBRA is implemented as it currently exists.

Comment 5 - Disapproves of Dam Removal

Respectfully Submitted,



Sami Jo Difuntorum  
Culture and Historic Preservation

**Comment Author** Difuntorum, Sami Jo  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** October 29, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1029_027-1	The Quartz Valley Community does have members that are of Shasta Indian Ancestry. Therefore the statement that the Quartz Valley Community represents people of Shasta Indian decent is correct. Nowhere is it alleged that the Quartz Valley Community represents all people of Shasta Indian Ancestry.	No
IT_LT_1029_027-2	Master Response CUL-1 Shasta Nation Participation.	No
IT_LT_1029_027-3	Federal executive orders require government-to-government consultation with federally recognized tribes on decisions that could affect tribes and those consultations will continue, including with tribes that are not parties to the KBRA.	No
IT_LT_1029_027-4	<p>Master Response CUL-1 Shasta Nation Participation.</p> <p>Mitigation Measures CHR-2, CHR-3, and CHR-4 address consultations under NHPA Section 106 and agreements and plans for treatments of burial grounds should Alternatives 2, 3, or 5 be selected.</p> <p>Master Response HYDG-1 Flood Protection.</p> <p>Master Response WQ-1 Sediment Deposits Behind the Dams and Potential Contaminants.</p> <p>As described in Chapter 3.6 of the EIS/EIR and the Detailed Plan, the reservoir drawdown plans are intended to minimize flood risks from catastrophic dam failure or a natural hydrologic event. The Dam Removal Entity (DRE) would control reservoir drawdown to maintain flows that would not cause dam embankment overtopping. Additionally, drawing down the reservoirs would increase the available storage in J.C. Boyle, Copco 1, and Iron Gate Reservoirs. Thus, if a high water year event occurred during drawdown, the DRE would be able to retain high flows during initial reservoir drawdown using the newly available storage capacity and continue drawdown after the flood risk ended. There are two different time periods during reservoir drawdown and dam removal, which could result in flood risks:</p> <p><b>Initial reservoir drawdown.</b> Flood risks stem from an overly rapid drawdown rate, resulting in embankment instability. Instability occurs as the soil strength of the embankment decreases from rapidly increasing pore pressure during drawdown, which creates failure or slumping of the exposed dam face. Bureau of Reclamation (Reclamation) (2012b) describes the controlled releases that would commence at the beginning of January 2020 in order to drain the reservoirs safely. The drawdown rate for J.C. Boyle Reservoir would be 1 foot per day and the drawdown</p>	No

**Comment Author** Difuntorum, Sami Jo  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** October 29, 2011

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Comment Code	Comment Response	Change in EIS/EIR
	<p>rate for Iron Gate Reservoir would be 3 feet per day (subject to confirmation by a more detailed slope stability analysis conducted for the Definite Plan).</p> <p>To address this risk, sufficient reservoir storage space would have to be maintained at all times between the excavated embankment surface and the reservoir to prevent embankment overtopping and potential failure.</p> <p>The amount of reservoir storage would be dictated by the amount of flood protection that is desired during the removal operation. The frequency of floods for the period of embankment excavation has been developed to help assess this risk.</p> <p><b>Dam excavation.</b> As the embankment is removed, reservoir storage is decreased. Flood risks during this period stem from the possibility of flows from a large flood event exceeding the available water bypass capacity and overtopping the lowered dam embankment, or at the point during excavation when the embankment is removed below the level of the spillway, thus making the spillway unavailable during this period of time. To address this risk, Reclamation (2012b) would not permit any excavation of the embankment section at Iron Gate Dam until June 1, 2020, and would require excavation to be complete by September 15, 2020. The drawdown plans do not permit any excavation of the embankment section at J.C. Boyle Dam until after July 1, 2020, and require completion by September 30, 2020. The timing of dam excavation and removal has been designed to occur when river flow is at its lowest point. During this period, outlet structures for the reservoirs would have sufficient capacity to pass river flows. The 100-year frequency flood hydrograph for July could be routed through the reservoirs and available outlets and spillways. At J.C. Boyle Dam, an upstream cofferdam would be provided for flood protection for flows through the excavated left abutment up to about 3,500 cubic feet per second (cfs). At Iron Gate Dam, a minimum flood release capacity of about 7,700 cfs would be maintained in June, 7,000 cfs would be maintained in July, and 3,000 cfs would be maintained in August and September, before final breach of an upstream cofferdam. Each of these capacities would be able to accommodate a flood event having a minimum return period of 100 years for that time of year, based on historical streamflow records.</p>	
IT_LT_1029_027-5	<p>Under the KBRA Section 34.1, a petition for the Klamath Tribes' Interim Fishing Site is intended to be filed within 3 months of the Effective Date. The interim fishing site would provide that Chinook salmon fishing in this reach of the river would be open to the Klamath Tribes each salmon season immediately after the</p>	No

**Comment Author**           Difuntorum, Sami Jo  
**Agency/Assoc.**           Shasta Indian Nation  
**Submittal Date**           October 29, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>hatchery at Iron Gate Dam achieves egg take goals. The Klamath Tribes negotiated this section to allow the tribe to start harvesting fish for ceremonial purposes immediately following approval of the Agreement and prior to dam removal and the start of restoration activities.</p> <p>EIS/EIR Section 3.12.3.1 describes the positive effects dam removal and establishment of an interim fishing site between Iron Gate dam and the I-5 Bridge and implementation of the KBRA will have on the Klamath Tribes and the fishery.</p> <p>The development of fish hatcheries on the Shasta and Scott Rivers is not a component of the KBRA and is not analyzed in this EIS/EIR.</p>	

IT\_EM\_1109\_078

**From:** sami difuntorum [mailto:samijodif@yahoo.com]  
**Sent:** Saturday, October 29, 2011 7:47 PM  
**To:** Perry, Laureen (Laurie) M; Howison Russ  
**Cc:** Joaquin Esquivel; Josh Reinder; Hemstreet Tim; Derek Harley; [director@dfg.ca.gov](mailto:director@dfg.ca.gov); Echohawk, Larry; Nickels, Adam M; Bill Edwards; Brian Daniels; Dan Wessel; John Harte; Symons, Katrina L; Noah Walker; william Speer  
**Subject:** Re: Klamath Dam Removal Study

Comment 1 - Cultural Resources

Laureen,

While noting that the partial dam removal alternative provides limited mitigation for the Shasta villages sites that are submerged, I do not believe and of the alternatives except installing Fish Ladders and the No Action Option can adequately protect the burial or ceremonial sites.

My comments are written from the perspective of protecting Shasta burial, archaeological and village sites. Unfortunately, several provisions of the KBRA have the ability to adversely impact ceremonial sites in addition to the negative impact that would occur solely by removing the dams. They are related actions - implementation of the KBRA and dam removal.

Thanks,  
Sami Jo Difuntorum

**From:** "Perry, Laureen (Laurie) M" <[LPerry@usbr.gov](mailto:LPerry@usbr.gov)>  
**To:** "samijodif@yahoo.com" <[samijodif@yahoo.com](mailto:samijodif@yahoo.com)>  
**Sent:** Friday, October 28, 2011 1:43 PM  
**Subject:** Klamath Dam Removal Study

Sami,

We haven't spoken since March 2011, so I want to touch base with you and check if you have the entire draft Environmental Impact Statement to review the project, alternatives, and cultural resources discussions. Please provide your comments as identified with the EIS or you may provide comments to me. Let me know if you need additional information.

Laureen

Laureen Perry, MA, RPA  
Regional Archaeologist (MP-153)  
Mid-Pacific Regional Office  
2800 Cottage Way  
Sacramento, CA 95825  
916-978-5028  
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916-978-5055 (fax)

**Comment Author** Difuntorum, Sami Jo  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** October 09, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_EM_1109_078-1	EIS/EIR Section 3.13, Cultural and Historic Resources, addresses potential impacts and mitigation for all activities associated with dam removal to submerged village sites. The KBRA is analyzed as a connected action in this EIS/EIR.	No



**RESIGHINI RANCHERIA**

P.O. Box 529 • Klamath, CA 95548  
Tel (707) 482-2431 • Fax (707) 482-3425

December 27, 2011

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

Re: Final Comments on the Klamath Hydroelectric Project Facilities Removal Draft  
Environmental Impact Statement (DEIS) and Draft Environmental Impact Report (DEIR)

Dear Ms. Vasquez:

We would like to thank you and Secretary of Interior Salazar for the opportunity for the Resighini Rancheria to comment on the *Klamath Hydroelectric Project Facilities Removal Draft Environmental Impact Statement (DEIS) and Draft Environmental Impact Report (DEIR)* and our comments are attached. We appreciated the chance to previously comment on the same document during the cooperators' draft review and note that this version better characterizes who we are and what our interests in the Klamath River are. Unfortunately, the government has not made changes in response to many other comments we filed that satisfactorily meet our concerns and we find the DEIS/DEIR remains fatally flawed.

Comment 1 - NEPA/CEQA

Comment 2 - NEPA/CEQA

Because an affirmative Secretarial Decision will implement not just the Hydropower Settlement Agreement (KHSAs) that removes dams, but also the Klamath Basin Restoration Agreement (KBRA) that allocates water and changes tribal trust obligations, the DEIS/DEIR needs to analyze cumulative effects from this "connected action." It ignores many well defined actions of the KBRA and is, therefore, deficient with regard to compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The DEIS/DEIR also fails to comply with use of "best available science" as required by CEQA because it ignores recommendations regarding Klamath River restoration offered by the National Research Council Klamath River endangered fishes report and the Chinook and Coho salmon-Steelhead Expert Panels convened to assess the KBRA. Failure to develop Alternatives for restoration to the KBRA or to provide recommendations for mitigation as repeatedly requested by the Resighini Rancheria are also a major NEPA and CEQA deficiencies, respectively.

The Resighini Rancheria was excluded from Klamath Settlement talks that lead to the KBRA and yet our tribal rights would be trampled by an affirmative Secretarial Decision in conjunction

Comment 4 - Envr. Justice

Comment 3 - Alternatives



Comment 4 cont.

with authorizing legislation. We are saddened by the continued abuse of environmental justice and social justice policies, laws and regulations as exemplified by the process surrounding the Secretarial Decision on Klamath dam removal and implementation of the KHSA and the KBRA. We are particularly disappointed in the Federal Government's willingness to change the trust obligation to Indian Tribes (KBRA 15.3.9) and its seeming eagerness to destroy tribal sovereignty for the sake of special hydroelectric and agricultural interests

Comment 5 - KBRA

The foundation of the KBRA, which would be implemented by the Secretary's Decision, is built around the Klamath Project water users demand that they be able to farm in the Tule Lake and Lower Klamath National Wildlife Refuge Lease Lands for the duration of the agreement, which is until the year 2062. This would lead to an ecologically unsound and economically infeasible outcome where huge taxpayer subsidies would allow farming of marginal land in the high desert in the face of climate change for the next 50 years.

Comment 6 - ITAs

Claims within the DEIS/DEIR that the Resighini Rancheria will benefit economically from KBRA and KHSA implementation are baseless. Party Tribes will receive program funds, but not the Resighini Rancheria or other non-Party Tribes. Section 3.12 of the DEIS/DEIR asserts that we will be eligible for KBRA funding "upon becoming a party" but fails to mention that the Resighini Rancheria would be required to enact claim waivers and take other acts inconsistent with its trust resources in order to obtain those "benefits."

Comment 7 - Alternatives

The community of the lower Klamath River, including the Resighini Rancheria, will suffer from continuing water pollution, fish diseases that decimate our life blood - the salmon, and toxic algae from KHP reservoirs until at least 2020 under the KBRA/KHSA. Likelihood of river and salmon restoration after 2020 with KBRA implementation are extremely low. Therefore, the preferred Alternative 2 will not lead to our economic recovery, and in fact we fear it may lead to our demise along with the salmon.

The Resighini Rancheria favors speedy dam removal but strongly opposes implementation of the KBRA that takes away our tribal rights and is ecologically insufficient. Had the government retained Alternative 8, full facilities removal without the KBRA, we would have favored it. Instead we support the No Action Alternative, because we believe the KBRA will do more harm than good. We see a return to the Federal Energy Regulatory Commission relicensing process as a preferable approach to getting Klamath Hydroelectric Project (KHP) dams removed.

Sincerely,



Rick Dowd  
Resighini Rancheria Tribal Council Chairman

**Resighini Rancheria Comments on the Klamath Hydroelectric Project  
Facilities Removal Draft Environmental Impact Statement (DEIS) and Draft  
Environmental Impact Report (DEIR)**



**Resighini Rancheria**  
P.O. Box 529  
Klamath, CA 95548

December 2011

## **Table of Contents**

<b>Summary of Resighini Rancheria Input in DEIS/DEIR Process</b>	<b>1</b>
<b>Purpose and Needs Statement Flawed</b>	<b>1-2</b>
<b>Alternative Development Misleading and Inadequate</b>	<b>2-5</b>
<b>Tribal Rights, the DEIS/DEIR and KBRA Implementation</b>	<b>6-7</b>
<b>Analysis of Cumulative Watershed Effects in DEIS/DEIR Deficient</b>	<b>8-10</b>
<b>KBRA Conflicts with Endangered Species Act</b>	<b>11-20</b>
<b>Impediments to Clean Water Act Posed by KBRA</b>	<b>21-22</b>
<b>DEIS/DEIR Misrepresents Economic Benefits</b>	<b>22-23</b>
<b>Conclusion</b>	<b>23-24</b>
<b>References</b>	<b>25-30</b>

## Summary of Resighini Rancheria Input in DEIS/DEIR Process

The Klamath Hydroelectric Project Facilities Removal Draft Environmental Impact Statement (DEIS) and Draft Environmental Impact Report (DEIR) would be much different in content and approach, if the government would have taken recommendations from the Resighini Rancheria comments submitted on various processes related to the DEIS/DEIR and KHSA/KBRA since December 2010. Because the DEIS/DEIR does not reflect this input and it appears that it was ignored, we hereby incorporate by reference all documents filed:

- *Comments on the KBRA Coho Salmon and Steelhead Expert Panel Draft Report for the Resighini Rancheria* (Higgins 2011)
- *Comments on the Klamath Basin Restoration Agreement Draft Drought Plan* (Resighini Rancheria 2011a)
- *Comments on the KBRA Chinook Expert Panel Draft Report* (Resighini Rancheria 2011b)
- *Request for Reinitiation of 401 Certification Process Related to the Application for the Relicensing of the Klamath Hydroelectric Project (P-2082)* (Resighini Rancheria 2011c)
- *Comments on the Biological Aspects of the Draft KHSA/KBRA Cultural Resources Report* (Resighini Rancheria 2011d).

These documents are not attached or appended because they are all posted to the Resighini Rancheria website ([www.KlamathER.org](http://www.KlamathER.org)) and links from the reference section at the end of these comments are provided for convenience of those revising the DEIS/DEIR.

### Purpose and Needs Statement Flawed

Comment 8 - NEPA/CEQA

The purpose and need statement is a critical part of the environmental review process because it helps to set the overall direction of an EIS/EIR, identify the range of reasonable alternatives, and focus the scope of analysis. The way the DEIS/DEIR frames the purpose and need is unreasonably narrow and limits consideration of restoration alternatives.

The stated “purpose” in the DEIS/DEIR for the National Environmental Policy Act (NEPA) is “to achieve a free flowing river condition and full volitional fish passage as well as other goals expressed in the KHSA and KBRA” while the “need” in the DEIS/DEIR is “to advance restoration of the salmonid fisheries in the Klamath Basin consistent with the KHSA and the connected KBRA.” Tying re-establishment of free flowing river conditions and volitional fish passage (KHSA implementation) with KBRA implementation unnecessarily and unlawfully restricts options.

The KBRA is described as a “connected action” in the DEIS/DEIR because of severability clauses in the KHSA, but most of the actions involved in its implementation actually have nothing to do with dam removal. An EIS is supposed to “briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action” (CEQ 1502.13). In this case, the KBRA is the only restoration option offered and cumulative effects of known component actions are ignored in the DEIS/DEIR.

← Comment 8 cont.

The California Environmental Quality Act (CEQA) project objectives in the DEIS/DEIR (ES-17) related to “purpose and need” include “To be consistent with the goals and objectives of KHSA and KBRA.” Once again options for restoration are restricted by these objectives to only the KBRA, which fails CEQA sufficiency. Other CEQA objectives (ES-17) include the following:

- “Establish reliable water and power supplies, which sustain agricultural uses and communities and National Wildlife Refuges (NWR).
- Improve long-term water quality conditions consistent with designated beneficial uses.

The establishment of “reliable water and power supplies” in accordance with KBRA provisions has potential profound and substantial environmental impacts that conflict with the objective of improving water quality conditions. CEQA (21100 c3) itself has specific requirements for: “Mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy” with which the DEIS/DEIR fails to comply. To meet CEQA requirements, the KBRA strategy of subsidizing agricultural pumping power costs should be contrasted with an ecological restoration alternative that relies on gravity for water delivery and filtration and remedies the ecological breakdown that the KBRA will exacerbate.

**Alternative Development Misleading and Inadequate** ← Comment 9 - Alternatives

The “heart of the environmental impact statement” is the alternatives analysis (40 C.F.R. § 1502.14), but the KBRA is the sole restoration alternative offered by the DEIS/DEIR. NEPA (Sec. 102 [42 USC § 4332 E]) says the government needs to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” There is certainly a major conflict over flow levels and nutrient pollution in the Klamath River Basin and how large the footprint of agriculture can be and still be compatible with ecological restoration. In response to Resighini Rancheria requests in the cooperator’s draft of the DEIS/DEIR for development of alternatives, the government wrote “This EIS/EIR considers the KBRA as a connected action and does not analyze alternatives to the KBRA.”

Request for Needed Ecological Restoration Alternative Rejected: The Resighini Rancheria has been requesting that the government develop an ecological restoration (SER 2004) alternative since signing an MOU with the Department of Interior (DOI) to participate in providing input and review of environmental documents related to the Secretary’s Decision. The answer we received from Dennis Lynch, the Project Manager, in government to government meetings was that the KBRA was the only alternative that could be considered because it was agreed to in the Klamath Settlement and inseverable from dam removal and the KHSA. This is in conflict with the requirement that “reasonable alternatives not within the jurisdiction” to implement also be analyzed (40 C.F.R. § 1502.14 c). The rational alternative of shrinking water demand and abating nutrient pollution at its source must be explored as NEPA and CEQA requirements and added to the final EIS/EIR.

← Comment 9 cont.

By avoiding evaluation of an ecological alternative, the DEIS/DEIR departs from the use of “best available science” as required by CEQA. The proper course for the DEIS/DEIR would have been to adopt an alternative similar to the Everglades restoration program (SERES 2011):

“Science should be directed at recommending actions that will restore the quantity, timing and distribution of clean freshwater to restore the ecosystem, recover threatened and endangered species, and protect natural resources.”

The DEIS/DEIR doesn’t acknowledge scientific expert recommendations from the National Research Council (2004) that Lower Klamath Lake be restored and expanded. The Coho Salmon-Steelhead Expert Panel (Dunne et al. 2011), convened to review the KBRA, also stressed refilling the lake to restore the natural flow regime of the Klamath River.

The Resighini Rancheria prepared a list of questions for a December 20, 2010 government to government meeting related to ecological restoration, which are attached to these comments as Appendix A. The government refused to answer the majority of questions because the actions we asked to be analyzed would not conform to the KBRA. Many of the questions were related to the nutrient and water budget of the Upper Klamath Basin and how various large scale restoration actions might affect them. For example:

- Why wasn’t refilling Lower Klamath Lake considered for water storage as recommended by NRC (2004)?
- What would a re-filled Lower Klamath Lake water storage capacity be, including wetland storage? In the footprint of federally owned lands? If Lower Klamath Lake were re-expanded to its original footprint?
- Marshes in the Lower Klamath National Wildlife Refuge have very substantial nutrient stripping capacity (Lytle 2000, Mayer 2005); what quantity of nutrients would be absorbed by a restoring Lower Klamath Lake? In the footprint of federally owned lands? If Lower Klamath Lake were re-expanded to its original footprint?

The DEIS/DEIR avoidance of preparation of an ecological alternative that would take different steps to restore the Klamath River represents the government’s retreat from its duty to stimulate informed discussion and to provide suitable information on alternatives to decision makers.

No Action Alternative Improperly Described: The DEIS/DEIR mischaracterizes the No Action Alternative as keeping the dams operating in perpetuity, when a return to the Federal Energy Regulatory Commission (FERC) relicensing process is likely to lead to dam removal. The final FERC (2007) EIS on dam removal acknowledged severe problems with Klamath River health and KHP operation that set the stage for decommissioning. The Resighini Rancheria (2011c) and the Hoopa Valley Tribe (2011) both feel that fish passage requirements imposed by NMFS (2006) would likely render the Project uneconomic and force its abandonment and decommissioning. Administrative Law Judge Parlen McKenna (2006) upheld NMFS authority and PacifiCorp (2008) estimates that fish passage at all KHP dams would cost \$267 million, which is far more than project revenue justifies. This will likely throw the project into the “uneconomic” category. PacifiCorp’s Vice President Dean Brockbank (2010) explained PacifiCorp’s options: “The applicant may accept the uneconomic license, decommission and remove the facility, or pursue litigation and challenge the mandatory conditions.”

← Comment 10 - Alternatives

← Comment 10 cont.

An equally important factor in the FERC process is that it also requires issuance of Clean Water Act 401 Certification from the State of Oregon and the California State Water Resources Control Board (SWRCB). The SWRCB is unlikely to issue a 401 Certification because water quality problems related to Klamath Hydroelectric Project (KHP) operation cannot be remedied without dam removal (Resighini Rancheria 2004, 2011b, 2011c).

Brockbank (2010) acknowledged that the reason the company sought to enter Settlement negotiations was because:

“Throughout these negotiations, the federal government and the states of Oregon and California have expressed a strong policy preference that PacifiCorp’s dams on the Klamath River be removed.”

In sum, there is virtually no chance that PacifiCorp will receive a FERC license for continued KHP operation, if the KHSA and KBRA are terminated because of lack of authorizing legislation and funding. The final EIS/EIR should properly characterize the No Action alternative as required by CEQA (15126.6 e 2), including not only baseline conditions but “what would be reasonably expected to occur in the foreseeable future if the project were not approved.”

← Comment 11 - Alternatives

Preferred Alternative 2: The government’s preferred alternative is for the lower four KHP dams to be removed and for Keno Reservoir to remain, but with ownership and operation transferred to the U.S. Bureau of Reclamation (BOR). Unfortunately dam removal under the KHSA also triggers KBRA implementation. The Resighini Rancheria finds the KBRA’s defined restoration actions to be ecologically insufficient and also object to changes it would bring about regarding government trust responsibilities, if it is enacted (see Tribal Rights). Therefore, the Resighini Rancheria rejects preferred Alternative 2.

← Comment 12 - Alternatives

Alternative 8: The Resighini Rancheria would have endorsed Alternative 8, had it been retained because it would remove dams and implement the KHSA but without the KBRA. The reason for it being dropped from consideration is captured below:

“Alternative 8 will not be carried forward for more detailed analysis in the EIS/EIR because it does not meet the purpose and need under NEPA or the project objectives under CEQA and would not avoid or lessen significant environmental effects of the Proposed Action. The impacts from dam removal would be the same as the Proposed Action, but the restoration elements of the KBRA would not provide benefits to help offset these environmental effects.”

This statement does not provide justification for dismissing Alternative 8, but rather just falls back on the overly restricted purpose and needs statement. In the main, dam removal will be a positive action with temporary sediment impacts that are well described and analyzed in the DEIS/DEIR. The restoration measures specified within the KBRA are for the most part not related to mitigating dam removal impacts. The Resighini Rancheria argues that KBRA actions in aggregate will likely do more harm than good, given its water allocation, power cost subsidy for Klamath Project irrigators and continued farming in Tule Lake and Lower Klamath National Wildlife Refuges.

← Comment 13 - Alternatives

Alternative 13 Federal Take Over Alternative: The Resighini Rancheria request that the DEIS/DEIR be revised to reinstate Alternative 13, where the government would assume ownership of the KHP with powers granted under Section 14 of the Federal Power Act (16 U.S.C. § 807) and/or supplemental Congressional authorization. This would achieve volitional fish passage, improved water quality, and a free-flowing river without the harmful consequences and expense of the KBRA. The DEIS/DEIR in Table 2.2 states the following reasons for rejection of consideration of this alternative:

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

Implementation of dam removal without the flow and land use allocations of the KBRA has a much different set of impacts and arguments for rejection of Federal Takeover are weak. The time frame of dam removal through a Federal takeover could be much more expeditious than the KHSA’s 2020 schedule. Given the level of toxic algae and nutrient pollution problems associated with the KHP operation, and unacceptably high disease rates in the lower Klamath River, speedier dam removal is warranted (Resighini Rancheria 2011c). The model for a Federal Takeover is the Elwha River dam removal that is proceeding in Washington State, where there is no change in any water rights or shifts in government tribal trust responsibilities associated with decommissioning.

← Comment 14 - Alternatives

Alternative Requirements for Record of Decision Also Unmet: The Code of Federal Regulations (CFR §46.450) states requirements for development of an environmentally preferable alternative to support a Record of Decision:

“The environmentally preferable alternative is the alternative required by 40 CFR 1505.2(b) to be identified in a record of decision (ROD), that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative.

The DEIS/DEIR position that the KBRA is the only alternative for restoration that can be considered also puts it clearly in conflict with this statute, which means that the ROD issued for an affirmative Secretarial Decision could also be subject to legal challenge.

Comment 15 - ITAs

**Tribal Rights, the DEIS/DEIR and KBRA Implementation**

The DEIS/DEIR improved its language describing the Resighini Rancheria, its people and its customs. It is still deficient, however, with regard to full disclosure of how tribal trust and treaty responsibilities of the government would change with an affirmative Secretarial Decision on dam removal, appropriate authorizing legislation and the implementation of the KBRA. Benefits claimed for the Resighini Rancheria because of KBRA implementation lack basis, but this issue will be more fully discussed in the Economics section below.

Comment 16 - ITAs

Resighini Rancheria Water and Fishing Rights: The Resighini Rancheria appreciates the improvement in text in the public release DEIS/DEIR from previous drafts that mischaracterized the Tribe and its way of life. However, the DEIS/DEIR continues to state that “Any fishing and concomitant water rights associated with the Resighini Rancheria have not yet been determined.” The Resighini Rancheria Reservation borders Klamath River and its waters sometimes submerge large areas of the Reservation; therefore, the Tribe automatically possesses riparian water rights under California water law for domestic consumption or agricultural use on adjoining lands (SWRCB 2011). The Resighini Rancheria currently draws its domestic water from groundwater wells and has no active agricultural irrigation at present, but that does not diminish their right:

“A riparian water right is a right to use the natural flow of water on riparian land. Riparian land is land that touches a lake, river, stream, or creek.”

“Riparian rights are not lost by non-use. A person who has a riparian right, but is not currently using water, has a ‘dormant’ riparian right. He or she can begin using water under that dormant right at any time. If the new riparian use results in a junior water right holder not having enough water, the junior water right holder must decrease his or her diversion and use of water until the senior water right holder has enough water to meet his or her reasonable needs. Riparian right holders on a stream course all have the same priority. If there is not enough water available for competing riparian users, they must share the available supply according to their needs. Generally in this situation, water used for interior domestic purposes, such as drinking, cooking and bathing, has the highest priority” - SWRCB (2011).

As the Resighini Rancheria has repeatedly expressed in government to government meetings, members have fishing rights both on-Reservation and off that have never been relinquished and that cannot be extinguished.

Comment 17 - ITAs

Klamath Basin Tribal Rights: There Klamath Basin Tribes individually and collectively benefit from treaty rights and trust responsibilities that the government is bound to uphold and the Resighini Rancheria is concerned about changes triggered by the KBRA. The current legal precedent for prioritization of water allocation by the U.S. Bureau of Reclamation (BOR) to the Klamath Irrigation Project or the Klamath River is based on the Southwest Regional Solicitor of Department of Interior (DOI 1995):

“Reclamation is obligated to ensure that Project operations not interfere with the Tribes’ senior water rights. This is dictated by the doctrine of prior appropriation as well as Reclamation’s trust responsibility to protect tribal trust resources.

Comment 17 cont.

With respect to the Tribes' fishing rights, Reclamation must, pursuant to its trust responsibility and consistent with its other legal obligations, prevent activities under its control that would adversely affect those rights, even though those activities take place off-reservation."

Resighini Rancheria Tribal Council members are extremely concerned about language that could change this precedent in the KBRA (15.3.9) that is not fully disclosed or discussed in the DEIS/DEIR:

"The United States, acting in its capacity as trustee for the Federally-recognized tribes of the Klamath Basin, hereby provides interim Assurances as stated in Section 15.3.8.B, and conditional *permanent* Assurances that it will not assert: (i) tribal water or fishing right theories or tribal trust theories in a manner, or (ii) tribal water or trust rights, whatever they may be, in a manner that will interfere with the diversion, use or reuse of water for the Klamath Reclamation Project that is not precluded by the limitation on diversions of water as provided in Appendix E-1 in any administrative context or proceeding, or judicial proceeding, or otherwise."

An affirmative Secretarial Decision in combination with authorizing legislation would trigger KBRA implementation and would; therefore, change water delivery priority from Tribes to Klamath Project irrigators. The Solicitor's opinion withstood legal challenge in the *Klamath Water Users Protective Association v. Patterson* decision. The U.S. Ninth Circuit Court of Appeals (9th Cir. 1999, 204 F.3d 1206) rejected the Klamath Basin Water Users appeal of practices that allocated water to endangered fishes to the benefit of Tribes as a priority over deliveries to the Klamath Irrigation Project: "Similar to its duties under the Endangered Species Act (ESA), the United States, as a trustee for the Tribes, has a responsibility to protect their rights and resources."

The DEIS/DEIR (ES-2) states "Under the KHSA and KBRA (Agreements) the United States will be a party to the KBRA at the time of a Secretarial Determination under the KHSA, and obligated to implement the KBRA according to its terms." The Resighini Rancheria interprets this language as switching DOI and U.S. Government priorities from protecting fisheries and Indian trust resources to water delivery to Klamath Project irrigators (Schlosser 2010) and we strongly object to this change. DEIS/DEIR Table ES-5 entitled "Summary of Adverse Environmental Effects Relative to NEPA" does not identify any issues related to KBRA implementation and tribal rights. Instead the table has a footnote stating that: "Effects relative to tribal trust resources are not displayed in this table given that no new adverse effects were identified relative to the alternatives analyzed in this EIS/EIR." This is clearly obfuscation.

The DEIS/DEIR also ignores the fact the Resighini Rancheria would be excluded as non-Parties from participating on fisheries restoration, water quality or other Klamath Basin Coordinating Council (KBCC) committees for the 50 year life of the KBRA (Appendix D1). The Resighini Rancheria has actively participated in government processes regarding Klamath River dam removal and Clean Water Act enforcement since 2004 and has knowledge and staff capacity that should qualify it for participation in the KBCC. This discrimination eliminating participation by legitimate stakeholders in trust resource management oversight is likely illegal under the Federal Advisory Committee Act.

Comment 18 - KBRA

**Analysis of Cumulative Watershed Effects in DEIS/DEIR Deficient**

Chapter 4 of the DEIS/DEIR entitled Cumulative Effects frames the issue appropriately:

“Cumulative effects are an important part of the environmental analysis because they allow decision makers to look not only at the impacts of an individual proposed project, but the overall impacts on a specific resource, ecosystem, or human community over time from several different projects.”

In response to Resighini Rancheria cumulative effects related comments in the cooperators draft the government responded:

“The KBRA is currently programmatic in nature and is being analyzed programmatic as a connected action to the issue of whether or not to remove the Four Facilities.”

The DEIS/DEIR calls the KBRA a “connected action” but also states that that its concrete actions and impacts are yet to be determined, which is untrue. The known KBRA actions that should have been analyzed with regard to cumulative effects are:

- Klamath Project water allocation that will “range for the March to October period from 330,000 to 385,000 acre feet, which would at some time increase to 340,000 to 385,000 acre-feet” (KBRA 15.1.1Bi),
- River flows that are lower than any historic precedent in the October through February period and with projected drought flows of less than 60% of levels (Appendix E-5) that triggered the September 2002 adult salmon fish kill, and
- Continued farming in the Tule Lake and Lower Klamath National Wildlife Refuge (NWR) Lease Lands that blocks needed lake and marsh restoration that would increase water storage and nutrient absorption.

The statute governing NEPA that define “connected actions” invoked by the DEIS/DEIR also state that such “cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.” Deferring analysis of KBRA implementation is piecemealing under NEPA, which is illegal. Furthermore, legislative authorization of the KBRA will make actions within it sanctioned by law and; therefore, likely not subject to future environmental review.

The DEIS/DEIR Table ES-4 entitled *Summary of Significant and Unavoidable Impacts* lists the KBRA in three places, but only analyzes things like impacts to artifacts by project construction and potential negative water supply impacts to the agricultural economy of the Upper Klamath Basin. The effects of KBRA flows and water allocation are examined only as a constraint to agricultural interests and not with regard to how they effect water pollution or restoration potential. The DEIS/DEIR in Table ES-5 (Summary of Adverse Environmental Effects Relative to NEPA) lists other KBRA related issues, such as increased pumping costs and potential for job losses related to implementation, but again shows bias towards impacts to the farm economy. The KBRA (Appendix C-2) has over \$150 million for power subsidies including an On-Project Plan and connection to the Bonneville Power Administration grid, but a DEIS/DEIR Table E-5

Comment 18 cont.

footnote states that: "Many factors affect setting customer electricity rates, including regulatory approval; therefore, it is difficult to assess how rates may change, if at all." Since a major thrust of the KBRA is to keep power rates artificially low and there are substantial lines items in the project budget (Appendix C-2), this latter statement seems purposefully misleading.

Comment 19 -  
NEPA/CEQA

The DEIS/DEIR Table 4-2 entitled "Cumulative Effects Area of Analysis by Resource" defines the cumulative effects area of analysis by resource (emphasis added):

- Water Quality: Rivers, streams and reservoirs within the upper and lower Klamath Basins including Wood, Williamson and Sprague Rivers; Upper Klamath Lake; the Klamath River to the Klamath River Estuary; and the Klamath River watershed.
- Aquatic Resources: Surface waters within the Klamath Basin affected by dam removal activities *excluding the Lost River watershed, Tule Lake basin, and Trinity River*. The Klamath River to the Pacific Ocean.
- Algae: Surface waters within the Klamath Basin affected by dam removal activities *excluding the Lost River watershed, Tule Lake basin, and Trinity River*. The Klamath River to the Pacific Ocean.
- Flood Hydrology: The Klamath River watershed starting at J.C. Boyle reservoir and continuing downstream from the deconstruction area of the four dams to the Pacific Ocean.
- Groundwater: Supply wells adjacent to J.C. Boyle, Copcol, Copco 2, and Iron Gate reservoirs.

The entire California area of the Klamath Project (Figure 1) is left out of analysis, including lower Lost River, Tule Lake and Lower Klamath Lake. Klamath Irrigation Project development has caused acute nutrient pollution in Lost River and Tule Lake Basin and the polluted tail waters are now exported to Keno Reservoir through the Lost River Canal and the notoriously polluted Straits Drain. The extremely high nutrients coming into the Keno Reservoir from Upper Klamath Lake and Klamath Project tail water qualify as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA). Without abatement of nutrients at their source within the Klamath Irrigation Project, Keno reservoir problems will not be solved and downstream nutrient pollution impacts will continue or worsen (Dunne et al. 2011, Goodman et al. 2011). Since the KBRA specifies farming in the Lease Lands for the next 50 years and impedes UKL recovery (see below), these are not just part of environmental baseline conditions but also Project impacts that need analysis.

The transfer of Keno Reservoir called for in the KHSA (7.5) also needs cumulative effects analysis under this DEIS/DEIR. The KHSA (7.5.4) states that the BOR will continue manage Keno Reservoir and surrounding lands similar to operation since 1968. The dredging practices and disconnection of flood plains and marshes in Keno Reservoir have contributed to its ecological dysfunction that includes weeks to months of anoxia. Changes in operation and land use adjacent to the reservoir are needed for ecological recovery, to abate lower Klamath River water pollution and to restore salmon. The Chinook Expert Panel (Goodman et al. 2011) concluded that unless Keno Reservoir water quality problems are remedied that successful reintroduction of salmon to the Upper Klamath Basin was unlikely, even if dams were removed. Deferring discussion in the DEIS/DEIR of this "connected action" is once again illegal piecemealing under NEPA.

Comment 20 - Keno  
Transfer

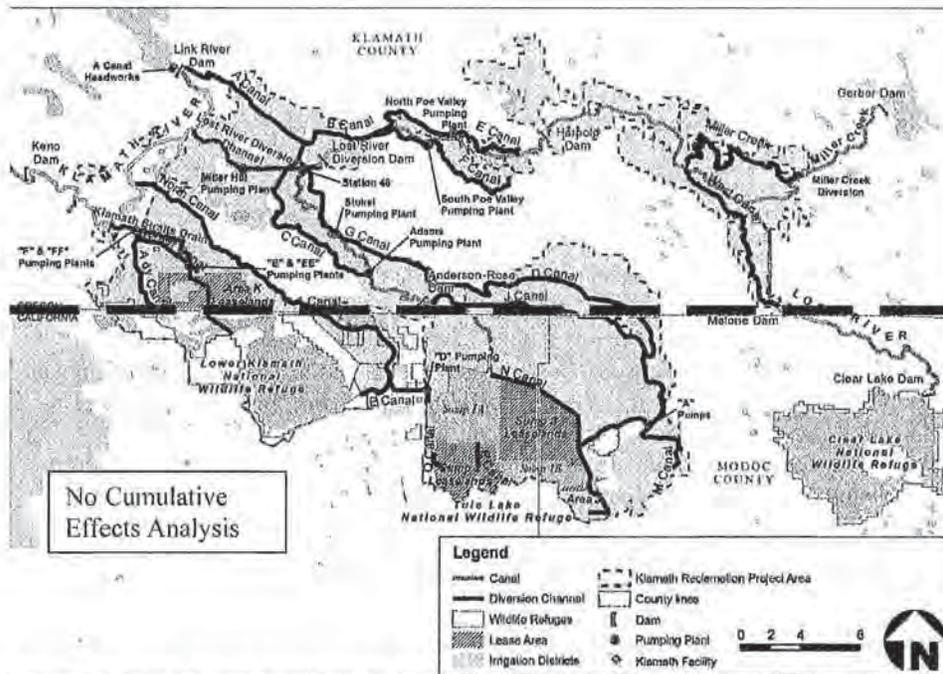


Figure 1. Klamath Project map from DEIS/DEIR Figure 1.4 has the State Line highlighted (red line) and annotation showing that there will be no cumulative effects analysis in California. Lease Lands (grey) that will continue to be farmed under the KBRA are in both California and Oregon.

Comment 21 - Groundwater

The Resighini Rancheria (2011b) has expressed concerns regarding groundwater depletion in comments on the *KBRA Drought Plan* (Sheets 2011) and in the cooperators draft of the DEIS/DEIR. In response to cooperators' draft comments the government replied:

"As noted in the revised KBRA sections, the KBRA includes programs to benefit groundwater resources by protecting them from over exploitation (through provisions prohibiting adverse impacts to groundwater, where none currently exist)."

The KBRA (15.2.4.A.i) specifically mentions protecting springs that are directly connected to the Klamath River, but not those in the Lost River. The On-Project Water Plan is likely to continue to draw on groundwater sources in the lower Lost River in California and yet DEIS/DEIR cumulative effects analysis does not cover this area.

Groundwater levels have already dropped significantly (USGS 2005) and the lowered water table has likely reduced surface flows in the Lower Lost River (Gannett et al. 2007). Therefore, cumulative effects of water use under the KBRA and connected action of On-Project Plan need NEPA and CEQA analysis with regard to impacts on ESA and CESA listed sucker species in the lower Lost River but also on potential for increased concentrations of nutrients in agricultural return water through the Straits Drain. The *KBRA Drought Plan* (1.1) (Sheets 2011) also clearly states that the KBRA does not control water management in the Lost River basin.

Comment 23 - Fish

### KBRA Conflicts with Endangered Species Act

Comment 22 - Fish

The KBRA (22.5) states that "By entering into this Agreement, NMFS and U.S. Fish and Wildlife Service (USFWS) are not prejudging the outcome of any process under the ESA and NMFS and USFWS implementing regulations, and NMFS 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 a number of places." However, there is also language that binds the agencies to uphold the KBRA and many statutes and provisions that restrict conservation options for NMFS and USFWS and diminish the prospects for endangered fish recovery.

Lost River and Shortnose Suckers: According to the National Research Council (NRC 2004) the USFWS has failed to take appropriate actions to recover the Lost River sucker (Figure 2) and the shortnose sucker (Figure 3) that are listed as endangered under ESA (USFWS 1988). These species occupy just a fraction of their former range (Figure 4) and the only populations that seem somewhat healthy are in Clear Lake Reservoir in the upper Lost River Basin. USFWS has never published final Critical Habitat for these species due to political pressure that would include Tule Lake and Lower Klamath Lake within National Wildlife Refuges. The KBRA allows farming in the NWR Lease Lands and; therefore, prevents re-establishment of suckers in Lower Klamath Lake, lower Lost River and Tule Lake. Keno Reservoir was once a connected wetland with Lower Klamath Lake and restoration of suckers there will be constrained under the KHSA (see Alternatives section). In order to function as a hedge against extinction, NRC (2004) recommended: "Reestablishment of spawning and recruitment capability for endangered suckers in Tule Lake and Lower Klamath Lake, even if the attempts require alterations in water management." Population status for Figure 4 is based on Delineas et al. (1996), Shively et al. (2000), Perkins et al. (2000), NRC (2004), and USFWS (2008).



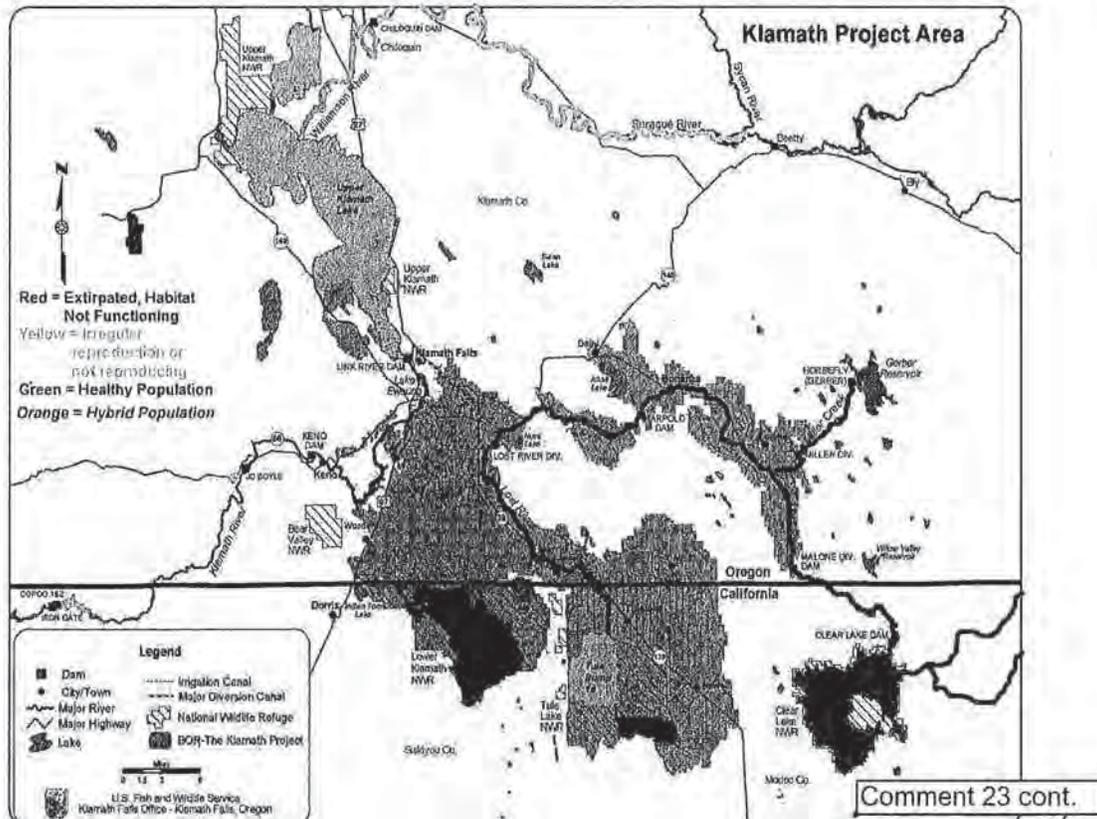
Figure 1. Lost River sucker adult.



Figure 2. Shortnose sucker adult.

The KBRA relies heavily on Upper Klamath Lake (UKL) populations for sucker recovery, which is problematic given population status and water quality problems there. Perkins et al. (2000) expressed concerns about UKL sucker populations:

"In 1984 and 1985, the spawning populations of both species were dominated by large, old individuals, with little indication of recent adult recruitment. In the next 13 years, only one strong year class (1991) recruited into the spawning populations of both species. This year class temporarily boosted population numbers, but annual fish kills from 1995 to 1997 eliminated most adults of both species. Associated with poor water quality



**Figure 4.** This map shows the status of Lost River and shortnose sucker populations in the Upper Klamath Basin. The only healthy population is in Clear Lake and the population in Tule Lake may be lost to sedimentation.

caused by the proliferation and decay of blue-green algae *Aphanizomenon flos-aquae*, these fish kills raise concern that alterations to the lake ecosystem over the past several decades have increased the magnitude and frequency of poor water quality. As a result, mortality rates of all life stages may have increased, thereby disrupting the species' life history pattern and potentially decreasing long-term population viability."

The Expert Panel on Native Fish (Buchanan et al. 2011) convened for KBRA review and assessment stated that: "Unless a recruitment event occurs soon, these populations could become extinct in the near future given their current annual mortality rates." Population recruitment for both the Lost River and shortnose sucker populations in UKL has continues to be problematic (Janney et al. 2008). The algae blooms that choke the surface of the lake (Figure 5) can cause dissolved oxygen to fluctuate from super-saturated during blooms to zero (Figure 6) when the algae dies, which in turn causes massive fish kills.

Janney et al. (2008) found that average survival for Lost River suckers was 15-17 old in recent years, when the typical age in 1986 was 19-30 years old and the maximum known age of the species is 57 years old (Buchanan et al. 2010). The shortnose sucker within UKL had an even

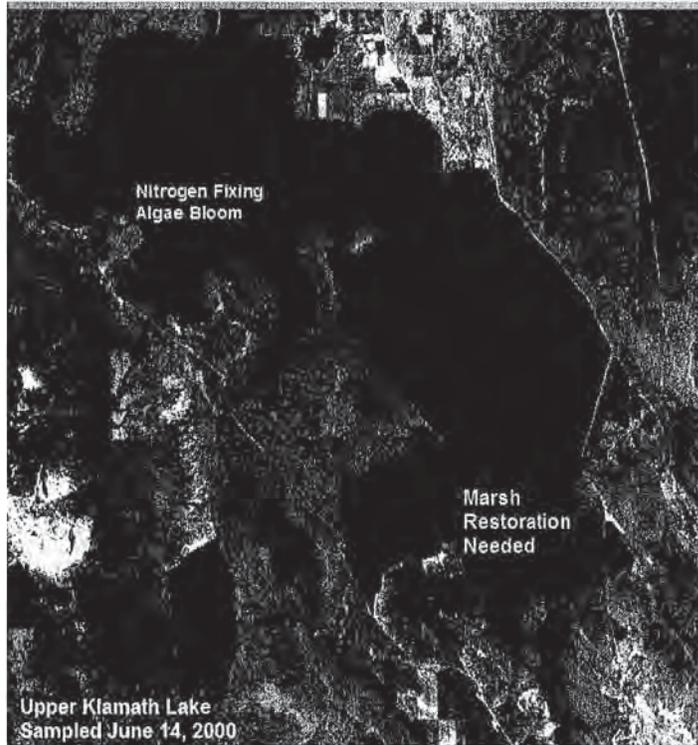


Figure 4. UKL has profuse algae blooms dominated by the nitrogen fixing species *Aphanizomenon flos-aquae*. Examples of marsh areas that should be restored for ecological function and algicidal properties are highlighted (red arrows). Adapted from figure in ODEQ (2010).

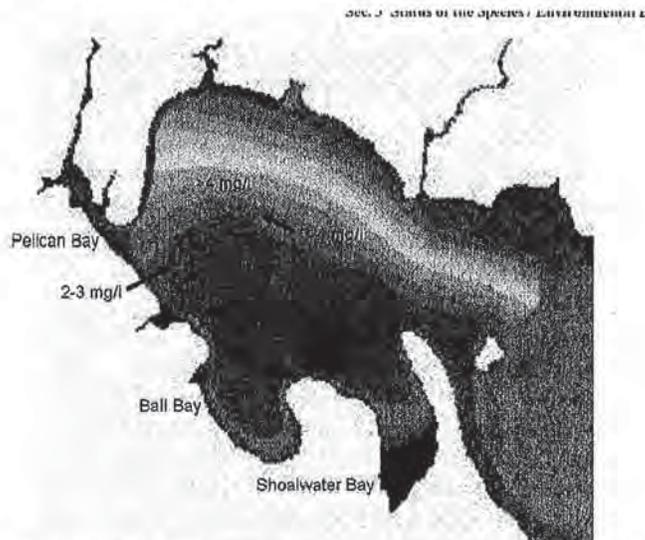


Figure 5. Map of dissolved oxygen in northern UKL from Figure 3-21 of the USFWS (2008) B.O. for Klamath Project operations. Insufficient actions under the KBRA to restore marshes surrounding UKL mean that dissolved oxygen problems (red/orange) will continue with damaging results to sucker recovery.

← Comment 23 cont.

shorter life expectancy of 8.6-10.6 years old (Janney et al. 2008) when their maximum age under optimal conditions is over 30 years (Buchanan et al. 2010). Janney et al. (2008) also noted that shortnose sucker recruitment was failing in some years even when there were no adult fish kills. Thus, the UKL Lost River and shortnose sucker populations are not secure, which argues strongly for expanding the number of viable populations as a buffer for extinction (NRC 2004).

In addition, the KBRA actually impedes water quality and sucker recovery in UKL because of its emphasis on additional water storage to help meet guaranteed allocations of water for the Klamath Project. The Wetland Research Consortium (WRC 2009) found that UKL marshes create conditions that can stifle blue-green algae (BGA). Getting a marsh perimeter around UKL is needed because there is no other way to control nitrogen fixation that causes the outflow of UKL to be 3.5 times higher in N than incoming waters (PacifiCorp 2004).

Although marsh restoration has been occurring, it has been subverted from its original purpose of restoring marsh function. Former marsh land acquired for restoration had subsided and would have needed to be filled and graded for ecosystem function and algicidal benefits. Instead dikes were pulled and the flooded area used for additional water storage. Blue-green algae thrive in this deep water instead of being suppressed. The failure to suppress blue-green algae in UKL has major implications for prospects of clean up in Keno Reservoir because the suspended load is a major driver of anoxia (ODEQ 2010, Sullivan et al. 2009, 2010) (see CWA section).

Comment 24 - NEPA/CEQA

The DEIS/DEIR (Table 4-2) cumulative effects analysis does not cover Lost River and shortnose sucker habitat in California and they are both listed under the California Endangered Species Act (CESA). The KBRA (24.2.2) states that:

“Within sixty days of concurrence by the Governor of California with an affirmative Determination by the Secretary under Section 3.3 of the Hydroelectric Settlement, CDFG will provide the draft legislation to the Parties regarding a limited authorization to take incidentally Lost River suckers, shortnose sucker, golden eagles, southern bald eagles, greater sandhill cranes, or American peregrine falcon contingent upon the fulfillment of certain conditions, if such authorization is necessary for implementation of the Agreement.”

This shows intense pressure on the California Department of Fish and Game (CDFG) to grant “take” permits for listed sucker species when there are no actions to recover them in the KBRA in their Upper Klamath Basin habitats within California, only impediments. Since federal ESA has failed to protect the suckers (NRC 2004).

Comment 25 - Fish

The DEIS/DEIR (2-51) notes that the KBRA allocation for National Wildlife Refuges includes “refilling of the Tule Lake NWR sumps after intentional draining.” Although suckers are not present in Tule Sump B, there is a remnant population of about 1,000 adults both species of endangered suckers in Tule Sump A (USFWS 2008). Therefore, the effects of such water allocation should be analyzed in the DEIS/DEIR. The government refused such a request by the Resighini Rancheria in the cooperator’s draft review: “The KBRA only identifies the types of uses that the Refuge Allocation of water may be used for. A decision to drain the sump would likely require a Section 7 consultation on water management.”

Comment 26 - Fish

Endangered Pacific Salmon Species Recovery Unlikely Under KBRA: Two aspects of the KBRA would likely to confound Pacific salmon species recovery; 1) flows that are too low in drought years and 2) failure to abate nutrient pollution. The clear conflict between the KBRA and the NMFS (2010) B.O. flows will likely result in compromising flows for fish, similar the history of consultation in 2002 as documented by former NMFS employee Mike Kelly (2004), whose retirement letter is attached as Appendix B.

Comment 27 - Hydrology

The Resighini Rancheria (2011c) commented extensively on the draft *KBRA Drought Plan* (Sheets 2011), expressing concerns for the lack of defined minimum flows for salmon. The finalized *KBRA Drought Plan* (2011), published in July 2011, needs to be analyzed in the DEIS/DEIR in concert with the KBRA. The former offers no guaranteed low flows for fish and the latter recommends flows (Appendix E-5) that are in conflict with those recommended by NMFS (2008) in their Biological Opinion (B.O.) for coho salmon and Klamath Project operations. This is a cumulative effect of the "connected action" of the KBRA and requires NEPA and CEQA assessment. Avoidance of this issue is piecemealing. In response to a similar Resighini Rancheria request in the cooperator's draft round the government responded:

"The Drought Plan is not completed and cannot be analyzed at this time. Such analysis would be beyond the scope of this EIS/EIR. When a decision needs to be made on the Drought Plan, decision makers will need to comply with applicable laws and regulations including NEPA, CEQA, ESA and CESA. This EIS/EIR does include KBRA modeled flows in the analysis."

**Table 1. WRMS flow simulations at Iron Gate Dam for years similar to 1992 and 1994 under KBRA flow allocations. R32 = primary run. R33 = with additional storage. R34 = with additional storage and climate change. Yellow indicates lower than September 2002 fish kill flows (758 cfs).**

Period	R32_1992	R32_1994	R33_1992	R33_1995	R34_1992	R34_1994
Jan	854	959	819	1106	846	1106
Feb	809	928	800	1025	809	1025
Mar_1_15	1022	1239	800	996	800	996
Mar16_31	1021	1151	800	860	826	924
Apr_1_15	1063	1184	800	824	786	847
Apr_16_31	1022	1125	800	821	767	813
May_1_15	807	924	800	813	701	798
May_16_31	843	1069	800	812	668	823
Jun_1_15	698	913	800	811	581	773
Jun16_30	646	873	800	809	610	753
Jul_1_15	509	629	700	706	515	607
July15_30	524	574	700	705	537	561
August	442	485	800	804	533	548
Sept	512	577	800	808	519	552
Oct	549	582	800	811	800	811
Nov	647	690	829	800	829	800
Dec	774	762	914	800	914	800

← Comment 27 cont.

The *KBRA Drought Plan* (Sheets 2011) promises to “provide sufficient quantities of water to meet the biologically essential river flows and lake elevations in periods of Drought or Extreme Drought” but a close examination of the Plan finds no specific reference to amounts of releases for salmon during critical periods at locations like Iron Gate Dam. Thus, one can only surmise that KBRA flow levels from Appendix E-5 model outputs from WRMS and KLAMSIM based on inflow into Upper Klamath Lake similar to historic water years (1961-2000) show the range of projected minimum flows. Flow levels in the driest years would be much lower than the 758 cfs flow at the time of the of the September 2002 fish kill (<758 cfs in yellow)(CDFG 2004, Guillen 2003). Different model runs are R32, which is the baseline KBRA model before dam removal (interim), R33 is post-dam removal and R34 is post dam removal but factoring in climate change. R32 and R34 have projected flows as low as 442 cfs and 515 cfs, respectively, for a year similar to 1992. Figure 6 shows the same flow model results as a chart.

The DEIS/DEIR does show very low water supply projected by KBRA model flows in its Figure 3.8-5 that is adapted here as Figure 7. The projected annual volume of water in acre feet (AF) delivered to the Klamath Project and that allocated to the lower Klamath River is projected for the 50 year life of the KBRA. Areas highlighted with dashed orange lines in Figure 7 show where there are critical shortfalls in KBRA flows during droughts. It is in periods of prolonged drought that span several years, when water will be allocated to agriculture and not fisheries that are likely to cause a major ecological breakdown in the lower Klamath River, including widespread fish disease epidemics and fish kills (see below). Flows under the KBRA will be less than those called for under the Klamath Project operations NMFS (2010) Biological Opinion (B.O.) for coho salmon and Hardy et al. (2006). Figure 8 shows Klamath River flows at Iron Gate Dam for the 90% exceedance (very dry) water year with the KBRA WRMS R32 model run, the NMFS (2010) Biological Opinion (B.O.) flows and minimums recommended in the Hardy et al. (2006) Phase II study (Hoopa Tribe Fisheries Department 2011).

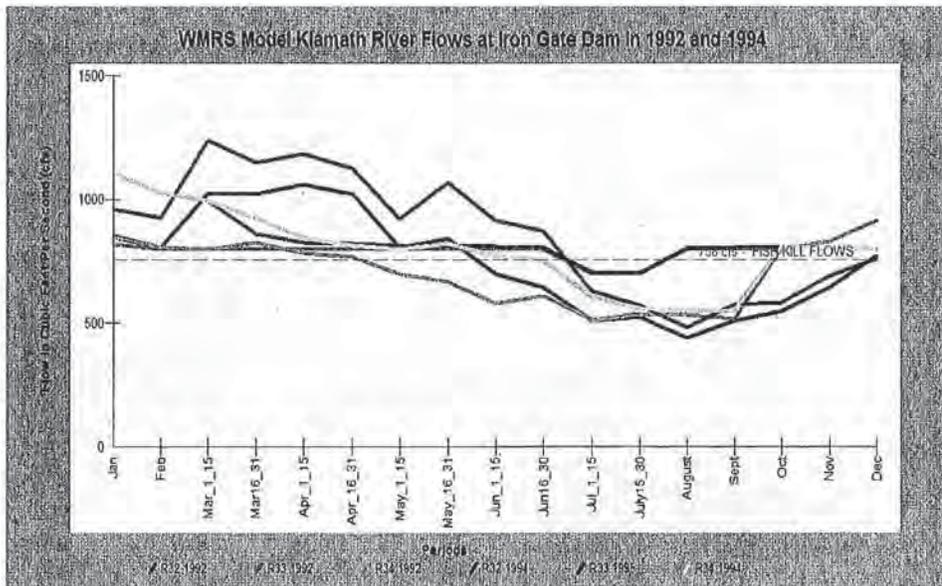


Figure 6. WRMS model run for Iron Gate Dam in years of Extreme Drought, with similar Upper Klamath Lake in-flow to 1992 and 1994. Data from KBRA (E-5, Tables 2, 4, 6).

Annual flows under the No Action/No Project Alternative and Proposed Action

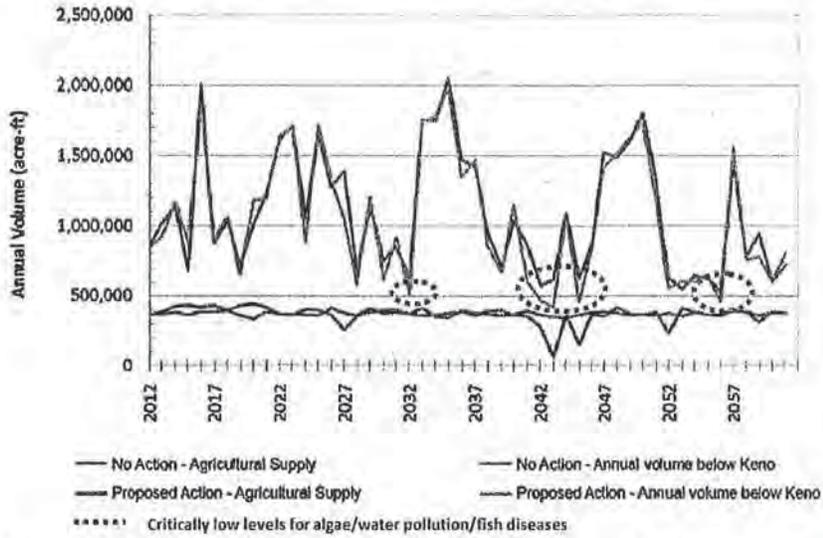


Figure 7. KBRA WRMS model outputs showing projected annual volume in acre feet (AF) of water delivered to the Klamath Project and to the lower Klamath River. DEIS/DEIR Figure 3.8-5.

Iron Gate Dam Flows at 90% Exceedence: KBRA, Coho 2010 Bi-Op & Hardy et al. Phase II

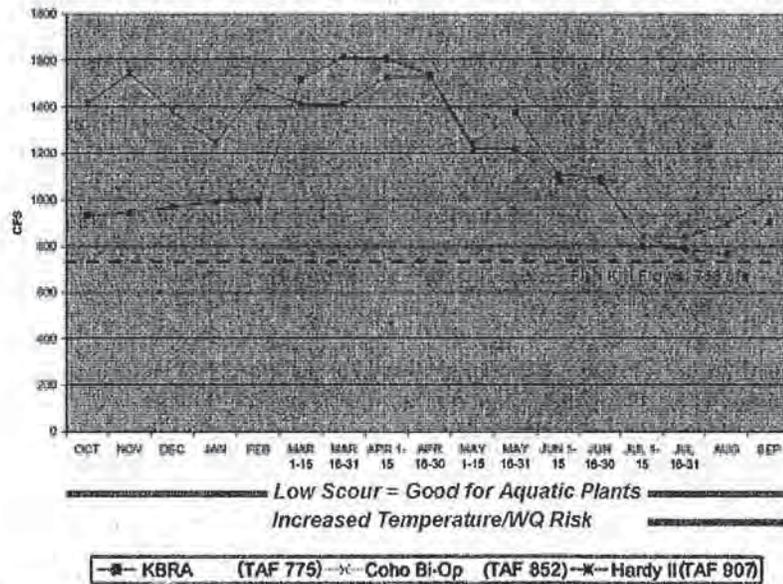


Figure 8. Flows at Iron Gate Dam in a 90% exceedence flow year comparing the KBRA WMRS R32 model flows, NMFS (2010) BO flow levels and Hardy et al. (2006) Phase II. Data from the Hoopa Fisheries Department. Reference is USGS Iron Gate September 2002 fish kill flow release.

← Comment 28 - Water Quality

Annotations in Figure 8 show periods when very low flow conditions will foster increased algae growth and trigger more adverse water quality. Algae build up has the potential to be most injurious during prolonged droughts when there is insufficient water for flushing flow releases in spring. Lower Klamath River algae blooms not only cause directly stressful conditions due to elevated pH and dissolved ammonia and depressed dissolved oxygen (D.O.) (Hoopa TEPA 2008), they also provide habitat for the intermediate host of deadly fish diseases (Stocking and Bartholomew 2004, Stocking and Bartholomew 2007).

Goodman et al. (2011) call attention to persistent problems of prolonged anoxia in Keno Reservoir (Figure 9) that they believe will not be alleviated under the KBRA. Figure 10 shows schematically where water quality limitations would block salmon migration, even the lower four KHP dams were removed. Diking off of wetlands and farming up to the margin of the reservoir has disrupted river processes that could otherwise assist with nutrient processing and reduction, similar to the findings of Bernot and Dodds (2005). Dredging of the reservoir to increase water storage capacity circa 1968 likely contributed to a decreased ability for ecological function and an increased propensity for anoxia. Continuing this land use and pattern of operation of Keno Reservoir under the KHSR (7.5.4, 7.5.5) will prevent improved ecosystem function by riparian marshes that could otherwise assist with clean up of nutrient pollution, similar to the findings of Lytle (2000) and Mayer (2005). As noted above, the failure to analyze the transfer of Keno Reservoir to the BOR and its operation for the 50 year life of the KHSR/KBRA is a critical shortcoming of the DEIS/DEIR.

In addition to the suspended load from Upper Klamath Lake, ODEQ (2010) also found the waste load from the Straits Drain to be a major driver of anoxia in Keno Reservoir. Waste water from the Klamath Straits Drain in August 2002 constituted 52% of out flows from the reservoir (Figure 11), which is similar to NRC (2004) findings. Agricultural discharges from the Lost River through the Lost River Diversion (LRD) canal are known to occur in winter (Deas and Vaughn 2006); however, ODEQ (2010) also found substantial nutrient contributions from that source in summer and fall of 2000 and 2008. ODEQ (2010) model runs of D.O. depletion in Keno Reservoir show that the contributions from the LRD in September and October 2008 that appears to prolong the period of lethal conditions for salmonids there by several weeks. This is further conclusive proof of the connection between the Lost River, Tule Lake and Lower Klamath Lake and water quality in Keno Reservoir that needs analysis in the cumulative effects section of the DEIS/DEIR.

Highly polluted water from Keno Reservoir released to the lower Klamath River may be somewhat improved by river denitrification processes in the free flowing river section after dam removal and will also be improved dilution from springs in the reach currently inundated by KHP reservoirs (Asarian et al. 2010). However, dam removal also will speed the travel of nutrients from Keno Reservoir and the levels of nitrogen after dam removal at the present location of Iron Gate Dam will increase by 45-58% in July-September (Asarian et al. 2010).

The DEIS/DEIR (3.2.4.1.3) cites Asarian et al. (2010) and acknowledges the increase in nitrogen after dam removal, but fails to analyze the potential cumulative effects of continuing high pollution rates from the Klamath Project under the KBRA on water quality and fish health.

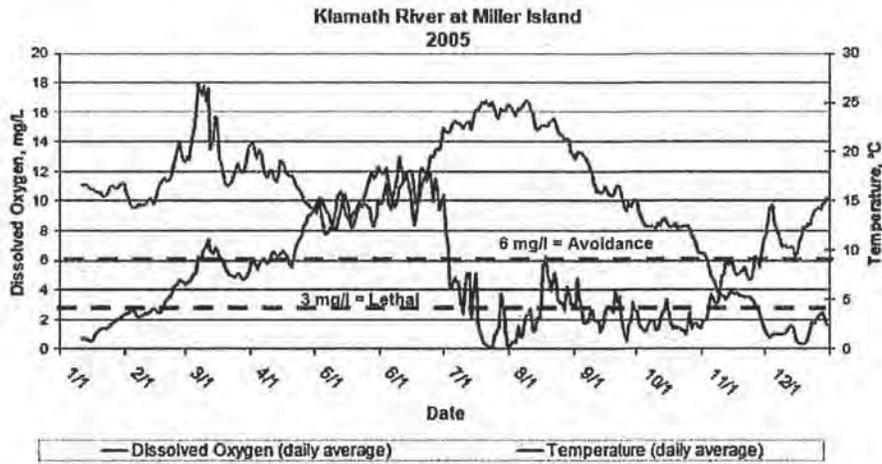


Figure 9. This chart shows fluctuations of water temperature and dissolved oxygen in Keno Reservoir in 2005 with lethal levels extending from July through October. Taken from Goodman et al. 2011 where it appears as Figure 4. Threshold reference annotations added based on WDOE (2002).

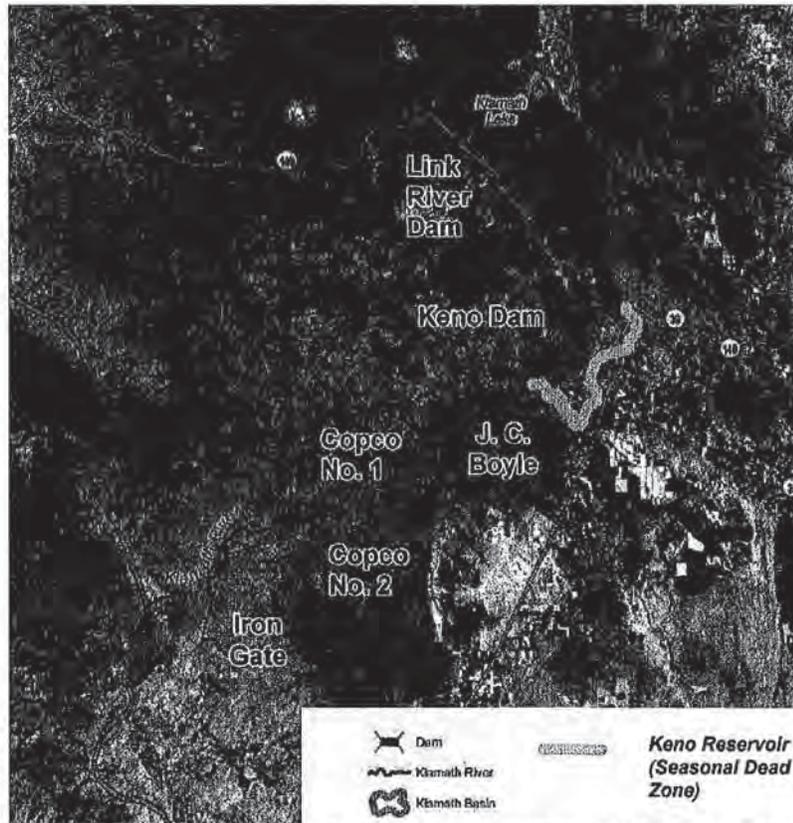


Figure 8. Keno Reservoir is highlighted in yellow because water quality there is likely to remain too poor to allow Chinook salmon passage, even if KHP dams are removed. Map adapted from Goodman et al. (2011).

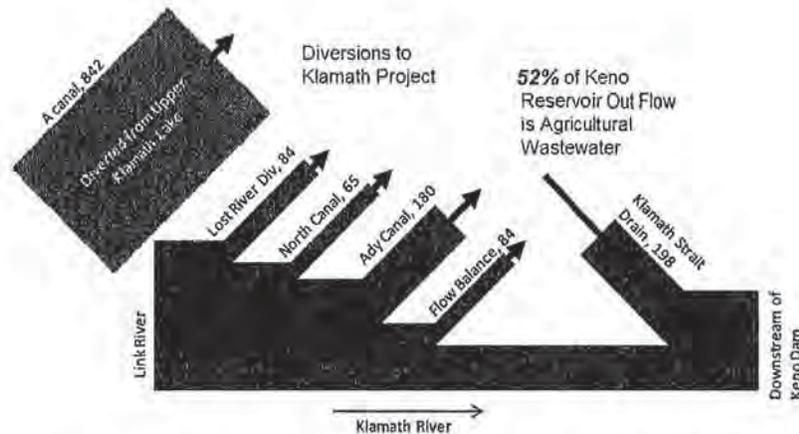


Figure 9. Average daily flow in August 2002 into the Klamath Project and Keno Reservoir. From ODEQ (2010) where it appears as Figure 2-21.

Comment 28 cont.

Two myxozoan disease organisms, *Ceratomyxa shasta* and *Parvicapsula minibicornis*, are endemic to the Klamath River and the Pacific salmon species have co-evolved with them and have developed substantial resistance. However, nutrient enrichment from the Upper Klamath Basin and from within Iron Gate Reservoir sets up conditions that cause extraordinarily high production of disease organisms that can overwhelm otherwise healthy fish (Nichols and Foott 2005).

The green algae species *Cladophora* is recognized as an indicator of nutrient pollution and there are areas below Iron Gate Dam where this species is dominant (Stocking et al. 2006). A polychaete worm, *Manayunkia speciosa*, which thrives in *Cladophora* beds also serves as an intermediate host for the deadly diseases. Fall Chinook spawning is concentrated below Iron Gate Dam and adults carry myxospores that cause a vicious cycle as *M. speciosa* captures them and then releases actinospores when Chinook juveniles are migrating downstream (Stocking et al. 2006, Bartholomew 2008).

Without abatement of nutrients at their source in the Upper Klamath Basin, both Goodman et al. (2010) and FERC (2007) predict that fish disease nodes will persist after dam removal, but will relocate to low gradient stream reaches restored by dam removal. *Cladophora* would tend to become established and these same areas would have concentrated Chinook salmon spawning.

“Continued high nutrient levels in the Klamath River that create ideal colonization conditions for *Cladophora*, at sites with favored flow and substrate conditions, would enable the host polychaete to become reestablished, and *C. shasta* and *P. minibicornis* would likely continue to pose a serious threat to downstream salmon for the foreseeable future” (FERC 2007).

## Impediments to Clean Water Act Posed by the KBRA

Comment 29 - Water Quality

The KBRA (2.1) states directly that it will not infringe upon the Clean Water Act (CWA):

“In the implementation of this Agreement, Public Agency Parties shall comply with all applicable legal authorities, including Authorizing Legislation, National Environmental Policy Act, Endangered Species Act, Clean Water Act, and other Applicable Law.”

However, there is conflict of meeting CWA standards and Total Maximum Daily Load (TMDL) implementation due to provisions of the KBRA that block effective enforcement or enactment of either. The DEIS/DEIR ignores these problems and invokes the TMDL process, which is part of the CWA, as a major force for clean up and abatement of water pollution. When pressed by the Resighini Rancheria in cooperator’s draft review to more fully explore KBRA and TMDL implementation conflicts, the government responded in a contradictory fashion:

- “The TMDLs and KBRA are both included as programs that strive to decrease nutrient loading in the Upper Klamath Basin”, and
- “The effectiveness of the TMDLs is outside the scope of this project; it is under the state and EPA jurisdiction.”

This shows that there is no scientific basis for DEIS/DEIR assertions that TMDLs will work in helping abate water pollution. The conflicts of the KBRA and implementation of TMDLs by geographic area are described below.

Upper Klamath Lake: The section above on endangered sucker recovery in UKL details how KBRA water supply objectives are in conflict with abatement of nuisance blue-green algae blooms. Ecosystem function of marshes surrounding UKL is needed in order to attain the ecosystem service they provide, which is suppression of blue-green algae. As long as UKL remains hypereutrophic, it will continue to overload the Keno Reservoir with dire consequences for water quality there and in the lower Klamath River.

Keno Reservoir: As noted above in relations to salmon recovery, Keno Reservoir will continue to be overloaded with nutrients both from UKL and from the Klamath Project through the LRD canal and the Klamath Straits Drain. The Lost River and Tule Lake were originally a sink and did not discharge into the Klamath River; therefore, the high level of nutrients contributed by them today help push the river past the tipping point where ecosystem processes are insufficient for the river to clean itself. Goodman et al. (2010) point out that Upper Klamath Chinook salmon recovery will not likely be successful because of insufficient actions in the KBRA to clean up Keno reservoir pollution. This is a clear example of the COLD water fish beneficial use under the CWA not being attained. The KHSRA is also in conflict with restoring ecological function in the Keno Reservoir reach, which is counter to achieving TMDL and CWA objectives.

Lower Lost River: As noted above, the KBRA provisions that continue Lease Land farming on Tule Lake NWR and Lower Klamath NWR and support continued full use of the 200,000 acre Klamath Project through power subsidy essentially block TMDL implementation. This land use does not allow reduction of nutrient contributions and water demand and blocks strategic restoration of marshes and lakes needed for water storage and filtration. Therefore, the nutrient

## ← Comment 29 cont.

load exported to the Keno Reservoir is likely to remain extremely high and confound recovery there and downstream. As also noted above, Lost River and shortnose suckers will not be restored in areas covered by the *Lower Lost River TMDL* (EPA 2008), which includes Lower Klamath Lake and Tule Lake. The last populations in Tule Sump A are also potentially threatened by draining and refilling planned as part of the KBRA. Since Lost River and shortnose suckers are beneficial uses under the CWA and they will not be restored, it follows that the KBRA blocks the Lower Lost River TMDL and CWA implementation.

Lower Klamath River: The NCRWQCB (2010) action plan for clean up of the lower Klamath and Lost River is clearly in conflict with the KBRA. Dam removal will help ecosystem function of the Klamath River in the restored KHP reach, including elimination of toxic algae. However, the huge excess of nutrients from Keno Reservoir will continue to overwhelm the river's capacity for assimilation causing major algae blooms downstream. As noted above, this has consequences for fish diseases as well as exceedance of water quality standards.

In the DEIS/DEIR (p 3.2-103) acknowledges that water quality will continue to be impaired and will fail to meet water quality standards set by the Hoopa Valley Tribe (Hoopa TEPA 2008):

“TMDL model results indicate that while resulting TP levels would meet the existing Hoopa Valley Tribe numeric water quality objective (0.035 mg/L TP) at the Hoopa reach (≈RM 45–46) of the Klamath River, TN levels would continue to be in excess of the existing objective (0.2 mg/L TN) (NCRWQCB 2010a).”

The DEIS/DEIR only touches on the issue of increased nutrients after dam removal and adopts the hypotheses of Asarian et al. (2010) that additional N may only change the point in the lower Klamath River where N dependent and N fixing periphyton dominate the river. However, since current nutrient levels at Iron Gate Dam are causing problems with nuisance algae blooms and water quality that is highly stressful or lethal to salmonids, there is no reason to believe that similar problems will not continue when the nutrient that would otherwise be limiting to plant growth is increased by 50% after dam removal.

The greatest problems with water quality will likely manifest in years of low flow and low snow pack similar to 1997, when the mainstem Klamath River below Orleans had lethal levels of D.O. (Halstead 1997). Lower Klamath River recovery also requires that flows and ecosystem function of the Shasta and Scott rivers be restored, but conditions there have not improved since adoption of those TMDLs (QVIR 2008a, 2008b).

**DEIS/DEIR Misrepresents Economic Benefits**

## Comment 30 - Economics

The DEIS/DEIR makes the following claims regarding economic benefits:

“Implementation of the Proposed Action, including the KHSA and KBRA, would, in the long-term benefit the water, aquatic, and terrestrial resources issues related to trust resources and rights identified by the Resighini Rancheria (Table 3.12-5).” (3.12-46)

Comment 30 cont.

“County and tribal programs include economic development programs for local governments and tribes, regulatory assurances that adverse impacts on communities would be minimized, and tribal fisheries and natural-resource conservation management programs.” (ES-24)

The Resighini Rancheria (2011d) feel that the KBRA will not recover the Klamath River’s health, but instead will degrade it. This translates into a very poor economic outcome for all Indian people of the lower Klamath River that will have profound negative effects into the future. In fact all tribal benefits will be derived by the Yurok and Karuk Tribes and the Klamath Tribes of Oregon that are signatories of the KBRA and KHSA and; therefore, “Parties” in the deal. The Resighini Rancheria believes that the receipt of monetary resources by these Tribes has clouded their vision with regard to the deficiencies of the KBRA and its ability to restore ecosystem function of the Klamath River.

**Conclusion**

Comment 31 - NEPA/CEQA

The DEIS/DEIR fatal flaws are rooted in a purpose and needs statement that restricts restoration option to KBRA implementation. This prevents consideration or adoption of more cost-effective alternatives that would better solve the Klamath River’s serious water quality, water supply and fisheries issues and that are required by NEPA and CEQA. The DEIS/DEIR’s failure to analyze the cumulative effects of the KBRA and honestly assess conflicts with ESA and CWA is another example of egregious departure from NEPA and CEQA requirements.

Comment 32 - Water Quality

An ecosystem based approach to resolving Klamath River water quality impairment is in keeping with current best-science principles:

“Management of the freshwater habitat of Pacific salmon should focus on natural processes and variability rather than attempt to maintain or engineer a desired set of conditions through time” (Bisson et al. 2009).

The U.S. Environmental Protection Agency (2000) also recommends this approach:

“Restoration strives for the greatest progress toward ecological integrity achievable within the current limits of the watershed, by using designs that favor the natural processes and communities that have sustained native ecosystems through time.”

Specific steps that need to be taken are:

- Re-establishment of a marsh perimeter around Upper Klamath Lake.
- Restore the riparian marsh in the Keno Reservoir and in the lower Lost River.
- Expand Tule Lake and make the lower Lost River suitable for suckers.
- Refill Lower Klamath Lake to increase water storage and restore the natural hydrograph and to add nutrient buffering capacity.
- Restore flows in Shasta and Scott River.

Comment 33 - ITAs

The DEIS/DEIR misrepresents the shift in tribal trust responsibilities of the government, particularly the BOR, that will shift the priority of water delivery to Klamath Irrigation Project

← Comment 33 cont.

water users. The document also masks the injustice associated with the exclusion of the Resighini Rancheria from Klamath Settlement talks and in future participation on the KBCC or any of its sub-committees.

The Resighini Rancheria feel that the massive DEIS/DEIR does an adequate job of characterizing the risks and benefits of KHP dam removal and; therefore, could be of value for PacifiCorp or the federal government for environmental justification when decommissioning occurs after return to the FERC relicensing process.

## References

Brockbank, D.S. 2011. Testimony regarding benefits of the Klamath Hydropower Settlement Agreement for PacifiCorp rate payers versus the Federal Energy Regulatory Commission relicensing process. Dean S. Brockbank, Vice President and General Counsel of PacifiCorp Energy, Portland, OR. 25 p.

[http://www.psc.state.ut.us/utilities/electric/10docs/10035124/70688Direct Testimony of Dean Brockbank.doc](http://www.psc.state.ut.us/utilities/electric/10docs/10035124/70688Direct%20Testimony%20of%20Dean%20Brockbank.doc)

Asarian, E. J. Kann, and W. Walker. 2010. River Nutrient Loading and Retention Dynamics in Free-Flowing Reaches, 2005-2008. Final Technical Report to the Yurok Tribe Environmental Program, Klamath, CA. 59pp + appendices.  
[www.klamathwaterquality.com/documents/asarian\\_et\\_al\\_2010\\_klam\\_nutr\\_dynamics\\_final\\_report\\_revised.pdf](http://www.klamathwaterquality.com/documents/asarian_et_al_2010_klam_nutr_dynamics_final_report_revised.pdf)

Bernot, M. J. and W. K. Dodds. 2005. Nitrogen retention, removal, and saturation in lotic ecosystems. *Ecosystems* 8:442-453. Available online at:  
<<http://www.biol.vt.edu/faculty/webster/linx/linx2pdfs/bernot%20and%20dodds%20ecosystems%202005.pdf>> Accessed 01 March 2007.

Bisson, P. A., J. B. Dunham, and G. H. Reeves. 2009. Freshwater ecosystems and resilience of Pacific salmon: habitat management based on natural variability. *Ecology and Society* 14(1): 45. [online] URL: <http://www.ecologyandsociety.org/vol14/iss1/art45/>

Buchanan, D., M. Buettner, T. Dunne and G. Ruggerone. 2010. Scientific Assessment of Two Dam Removal Alternatives on Resident Fish. Expert Panel Report for KBRA. Produced by Atkins Co., Portland, OR. 194 p.

California Department of Fish and Game. 2004. September 2002 Klamath River Fish-Kill; Final Analysis of Contributing Factors and Impacts. Northern California-North Coast Region, The Resources Agency, State of California. 173pp.

Deas, M.L. and J. Vaughn. 2007. Characterization of Organic Matter Fate and Transport in the Klamath River below Link Dam to Assess Treatment/Reduction Potential. Prepared for the U.S. Bureau of Reclamation, Klamath Falls, OR. 167. p.  
[http://www.klamathwaterquality.com/documents/ DEAS\\_Keno%20Wetlands%20Project%20Report%209-30-06a.pdf](http://www.klamathwaterquality.com/documents/DEAS_Keno%20Wetlands%20Project%20Report%209-30-06a.pdf)

Department of Interior. 1995. Memorandum of Regional Solicitor, Pacific Southwest Region to Regional Director, Bureau of Reclamation Mid-Pacific Region Re Certain Legal Rights and Obligations Related to the U.S. Bureau of Reclamation, Klamath Project (July 25, 1995).

Dileanis, P. D., S. E. Schwarzback, and J. Bennett. 1996. Detailed study of water quality, bottom sediment, and biota associated with irrigation drainage in the Klamath Basin, California and Oregon, 1990-92. U.S. Geological Survey, Water-Resources Investigations Report 95-4232. Sacramento, CA. 77 pp. [http://www.krisweb.com/biblio/klamath\\_usgs\\_dileanisetal\\_1996.pdf](http://www.krisweb.com/biblio/klamath_usgs_dileanisetal_1996.pdf)

Dunne, T., G. Ruggerone, D. Goodman, K. Rose, W. Kimmerer and J. Ebersole. 2011. Klamath River Expert Panel Final Report: Scientific Assessment of Two Dam Removal Alternatives on Coho Salmon and Steelhead. Published April 25, 2011. Funded by U.S. Fish and Wildlife Service but produced with assistance from Atkins Company, San Diego, CA. 380 p.

Federal Energy Regulatory Commission (FERC). 2007. Final Environmental Impact Report for the Klamath Hydroelectric Project, FERC License 2082-027, Operated by PacifiCorp. FERC, Washington D.C.

Gannett, M.W., Lite, K.E. Jr., La Marche, J.L., Fisher, B.J., and Polette, D.J. 2007. Ground-water hydrology of the upper Klamath Basin, Oregon and California. U.S. Geological Survey Scientific Investigations Report 2007-5050, 84 p.

Goodman, D., M. Harvey, R. Hughes, W. Kimmerer, K. Rose, and G. Ruggerone. 2011. DRAFT REPORT: Scientific Assessment of Two Dam Removal Alternatives on Chinook Salmon. Funded by U.S. Fish and Wildlife Service but produced with assistance from Atkins Company, San Diego, CA. 172 p.

Guillen, G. 2003. Klamath River fish die-off, September 2002: Report on estimate of mortality. Report number AFWO-01-03 . U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office. Arcata, CA. 35 pp.

Halstead, B. G. 1997. Memorandum to Bruce Gwynne of the California North Coast Regional Water Quality Control Board concerning water quality in the Klamath River. Unpublished letter of 23 September 1997. US Fish and Wildlife Service. Coastal California Fish and Wildlife Office. Arcata, CA. 14 pp

Hardy, T.B., R.C. Addley and E. Saraeva. 2006. Evaluation of Instream Flow Needs in the Lower Klamath River, Phase II, Final. Prepared for: U.S. Department of the Interior, Bureau of Reclamation, Klamath Falls, OR by the Institute for Natural Systems Engineering, Utah Water Research Laboratory, USU, Logan, UT.

Higgins, P.T. 2011. Comments on the KBRA Coho Salmon and Steelhead Expert Panel Draft Report for the Resighini Rancheria. Patrick Higgins, Consulting Fisheries Biologist, Arcata, CA. 14 p.

Hoopa Valley Tribe Environmental Protection Agency (HVTEPA). 2008. Water Quality Control Plan Hoopa Valley Indian Reservation. Approved September 11, 2002, Amendments Approved February 14, 2008. Hoopa Tribal EPA. Hoopa, CA. 285 p.

Hoopa Valley Tribe. 2011. Comments of Hoopa Valley Tribe on DEIS/DEIR for Klamath Facilities Removal. Letter from Chairman Leonard Masten to Elizabeth Vasquez, U.S. BOR. Filed on November 18, 2011. Hoopa Valley Tribe, Hoopa, CA. 61 p.

Kelly, M. 2004. My Resignation. Letter to NOAA and NOAA Fisheries Leadership of May 18, 2004. 3 p.

Lytle, M. 2000. Water Quality Data Review and Wetland Size Estimate for the Treatment of Wastewaters from the Klamath Straits Drain. Draft Technical Memorandum. July 28, 2000. United States Bureau of Reclamation, Klamath Project Office, Klamath Falls, OR. 15 p.

McKenna, P.L. 2006. Appeal of National Marine Fisheries Service and Department of Interior requirement for fish passage facilities by PacifiCorp. Judgment by Administrative Law Judge Hon. Parlin McKenna. Docket # NMFS 2006-01. Decision rendered 9/29/06. 74 p.

National Marine Fisheries Service (NMFS). 2006. Comments, Recommended Terms and Conditions, and Preliminary Prescriptions for the Klamath Hydroelectric Project, FERC Project # 2082. Letter to Magalie Salas, FERC Secretary, from Rodney McGinnis, NMFS SW Regional Director. March 24, 2006. NMFS, Long Beach, CA. 161 p.

National Marine Fisheries Service (NMFS). 2010. Operation of the Klamath Project between 2010 and 2018. File Number 151422SWR2008AR00148. March 15, 2010. NMFS SW Region, Arcata, CA. 236 p.

National Research Council (NRC). 2004. Endangered and threatened fishes in the Klamath River basin: causes of decline and strategies for recovery. Committee on endangered and threatened fishes in the Klamath River Basin, Board of Environmental Toxicology, Division on Earth and Life Studies, Washington D.C. 424 pp.

National Research Council (NRC). 2008. Hydrology, Ecology, and Fishes of the Klamath River Basin. National Academy Press, Washington D.C. 272 p.

Nichols, K. and J.S. Foott. 2005. Health Monitoring of Juvenile Klamath River Chinook Salmon, FY 2004 Investigational Report. USFWS California-Nevada Fish Health Center, Red Bluff, CA.

North Coast Regional Water Quality Control Board (NCRWQCB). 2010. Action Plan for the Klamath River TMDLs Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin Impairments in the Klamath River in California and Lost River Implementation Plan. NCRWQCB, Santa Rosa, CA

Oregon Department of environmental Quality (ODEQ). 2010. Upper Klamath and Lost River Subbasins Total Maximum Daily Load (TMDL) and Water Quality Management Plan. ODEQ, Portland, OR. 231 p.

PacifiCorp. 2004. Final License Agreement for the Klamath River Hydroelectric Project, FERC #2082. PacifiCorp, Portland, OR.

PacifiCorp. 2008. Alternative to the Joint USFWS and NMFS Preliminary Fishways Prescriptions. PacifiCorp, Portland, OR. 124 p.

Perkins, D., J. Kann, and G.G. Scoppettone. 2000. The role of poor water quality and fish kills in the decline of endangered Lost River and shortnose suckers in Upper Klamath Lake. U.S. Geological Survey, Biological Resources Division Report Submitted to U.S. Bureau of Reclamation, Klamath Falls Project Office, Klamath Falls, OR, 97603 -- Contract 4-AA-29-12160.

Quartz Valley Indian Community. 2008a. Comments on Draft Shasta River Basin Agricultural Coho Salmon Incidental Take Permit. Submitted to CDFG, Region 1 by QVIR. ITP filed with CDFG. 13 p.

[http://www.klamathwaterquality.com/documents/2009/Shasta\\_Watershed-Wide%20Permitting%20Program\\_DEIR\\_QVIR.12.09.08.pdf](http://www.klamathwaterquality.com/documents/2009/Shasta_Watershed-Wide%20Permitting%20Program_DEIR_QVIR.12.09.08.pdf)

Quartz Valley Indian Community. 2008b. Comments on Draft Scott River Basin Agricultural Coho Salmon Incidental Take Permit. Submitted to CDFG, Region 1 by QVIR. ITP filed with CDFG. 29 p. [http://www.klamathwaterquality.com/documents/2009/Scott\\_Watershed-Wide%20Permitting%20Program\\_DEIR\\_QVIR.12.09.08.pdf](http://www.klamathwaterquality.com/documents/2009/Scott_Watershed-Wide%20Permitting%20Program_DEIR_QVIR.12.09.08.pdf)

Resighini Rancheria. 2004. Memo re: Total Maximum Daily Load (TMDL) analysis for, and the proposed de-listing of the Upper Lost River from California's 303(d) list. From Chairman Frank Dowd to Catherine Kuhlman, NCRWQCB Executive Director. Resighini Rancheria, Klamath, CA. 9 p.

[www.klamathwaterquality.com/documents/Resighini\\_Upper%20Lost%20Comments.pdf](http://www.klamathwaterquality.com/documents/Resighini_Upper%20Lost%20Comments.pdf)

Resighini Rancheria. 2011a. Comments on the Klamath Basin Restoration Agreement Draft Drought Plan. Submitted April 15, 2011. Resighini Rancheria, Klamath, CA. 22 p.

[http://www.klamather.org/Documents/Resighini\\_Drought\\_Plan\\_Comments\\_04\\_07\\_11\\_SENT.pdf](http://www.klamather.org/Documents/Resighini_Drought_Plan_Comments_04_07_11_SENT.pdf)

Resighini Rancheria. 2011b. Comments on the KBRA Chinook Expert Panel Draft Report. Submitted May 10, 2011. Resighini Rancheria, Klamath, CA. 8 p.

[http://www.klamather.org/Documents/Resighini\\_Chinook\\_Expert\\_Panel\\_Draft\\_Comments\\_May\\_11\\_2011\\_Final\\_Sent.pdf](http://www.klamather.org/Documents/Resighini_Chinook_Expert_Panel_Draft_Comments_May_11_2011_Final_Sent.pdf)

Resighini Rancheria. 2011c. Request for Reinitiation of 401 Certification Process Related to the Application for the Relicensing of the Klamath Hydroelectric Project (P-2082). Letter from RR Tribal Council Chair Rick Dowd to Jeanine Townsend, State Water Resources Control Board. 5 p.

[http://www.klamather.org/Documents/Resighini\\_SWRCB\\_401\\_Letter\\_05\\_17\\_11a.pdf](http://www.klamather.org/Documents/Resighini_SWRCB_401_Letter_05_17_11a.pdf)

Resighini Rancheria. 2011d. Comments on the Biological Aspects of the Draft KHSA/KBRA Cultural Resources Report. Submitted May 25, 2011. Letter from RR Tribal Council Chair Rick Dowd to Dale Morris of BIA. 8 p.

Schlosser, T. P. 2011. Dewatering Trust Responsibilities: The New Klamath River Hydroelectric and Restoration Agreements. Washington Journal of Environmental Law & Policy. 36 p.

Scoppettone, G.G., S. Shea, and M.E. Buettner. 1995. Information on Population Dynamics and Life History of Shortnose Suckers (*Chasmistes brevirostris*) and Lost River Suckers (*Deltistes luxatus*) in Tule and Clear Lakes. National Biological Service, Reno Field Station, Reno, NV.

SERES. 2011. Review of Everglades Science, Tools and Needs Related to Key Science Management Questions. Funded by U.S. National Park Service. Synthesis of Everglades Research and Ecosystem Services Team, Everglades Foundation, Tallahassee, FL. 339 p.

Sheets, E. 2011. Klamath Basin Restoration Agreement Drought Plan. Final released on July 11, 2011. Performed by Ed Sheets Consulting, Portland, OR. 38 p.

Shively, R.S., A.E. Kohler, B.J. Peck, M.A. Coen, and B.S. Hayes. 2000. Water quality, benthic macroinvertebrate, and fish community monitoring in the Lost River sub-basin, Oregon and California, 1999. Report of sampling activities in the Lost River sub-basin conducted by the U.S. Geological Survey, Biological Resources Division, Klamath Falls, OR. 96 p.

Society for Ecological Restoration (SER). 2004. The SER International Primer on Ecological Restoration. Society for Ecological Restoration International Science & Policy Working Group. SER, Tuscon, AZ. [http://www.ser.org/content/ecological\\_restoration\\_primer.asp](http://www.ser.org/content/ecological_restoration_primer.asp)

State Water Resources Control Board (SWRCB). 2011. Frequently Asked Questions About Water Rights. SWRCB Water Rights Division, Sacramento, CA. [http://www.waterboards.ca.gov/waterrights/board\\_info/faqs.shtml#toc178761088](http://www.waterboards.ca.gov/waterrights/board_info/faqs.shtml#toc178761088)

Stocking, R.W. and J.L. Bartholomew. 2004. Assessing links between water quality, river health and Ceratomyxosis of salmonids in the Klamath River system. Department of Microbiology, Oregon State University, Corvallis, OR. 5 p. (81 Kb)

Stocking, R. W., R. A. Holt, J. S. Foott and J. L. Bartholomew, 2006. Spatial and temporal occurrence of the salmonid parasite *Ceratomyxa shasta* (Myxozoa) in the Oregon-California Klamath River Basin. *Journal of Aquatic Animal Health*. 18: 194-202.

Stocking, R.W. and J.L. Bartholomew. 2007. Distribution and Habitat Characteristics of *Manayunkia speciosa* and Infection Prevalence with the Parasite *Ceratomyxa Shasta* in the Klamath River, Oregon-California. *Journal of Parasitology* 93(1), 2007, pp. 78-88.

U.S. Bureau of Reclamation (U.S. BOR). 2005. Natural Flow of the Upper Klamath River. U.S. BOR, Klamath Falls, OR. 115 p. Available online at: [http://www.usbr.gov/mp/kbao/docs/undepleted\\_klam\\_fnl\\_rpt.pdf](http://www.usbr.gov/mp/kbao/docs/undepleted_klam_fnl_rpt.pdf)

Sullivan, A.B., Deas, M.L., Asbill, J., Kirshtein, J.D., Butler, K., and Vaughn, J., 2009, Klamath River water quality data from Link River Dam to Keno Dam, Oregon, 2008: U.S. Geological Survey Open File Report 2009-1105, 25 p.

Sullivan, A.B., D.M. Snyder, S.A. Rounds. 2010. Controls on biochemical oxygen demand in the upper Klamath River, Oregon. *Chemical Geology* 269:12-21.

U.S. Environmental Protection Agency (U.S. EPA). 2000. Principles for the Ecological Restoration of Aquatic Resources. EPA841-F-00-003. Office of Water (4501F), United States Environmental Protection Agency, Washington, DC. 4 pp.

U. S. Fish and Wildlife Service (USFWS). 1988. Endangered and threatened wildlife and plants; determination of endangered status for the shortnose sucker and Lost River sucker. Federal Register 53: 27,130–27,134.

U.S. Fish and Wildlife Service (USFWS). 2008. Formal Consultation on the Bureau of Reclamation's Proposed Klamath Project Operations from 2008-2018. USFWS Klamath Basin Office, Yreka, CA. 233 p.

U.S. Geological Survey (USGS). 2005. Assessment of the Klamath Project Pilot Water Bank: A Review from a Hydrologic Perspective. Prepared under contract to the U.S. Bureau of Reclamation, Klamath falls, OR. By the USGS Oregon Water Science Center in Portland, OR. 98 p.

U.S. Ninth Circuit Court of Appeals. 1999. Klamath Water Users Protective Association v. Patterson (U.S. BOR). U.S. Ninth Circuit Court of Appeals (204 F.3d 1206).

Wetland Research Consortium (WRC). 2009. Final Report: Use of Aquatic and Terrestrial Plant Decomposition Products for the Control of Aphanizomenon flos-aque at Upper Klamath Lake, Oregon. Prepared for: U. S. Fish and Wildlife Service Klamath Basin Ecosystem Restoration Office, Klamath Falls, OR. 75 p.

## APPENDIX A

**Resighini Rancheria Questions for the U.S. Bureau of Reclamation Re:  
Klamath Basin Restoration Agreement (KBRA) and Klamath Basin Hydropower  
Agreement (KHSa) Environmental Impacts**  
December 15, 2010

\*\* BOR agrees to address on Monday 12/20

\* Scientific or technical questions that could be addressed

1. \*\* How much effort are the U.S. BOR and other agencies putting in to evaluating changes caused by all alternatives as far down as the estuary, where the Resighini Rancheria is located? (Resighini Rancheria 2005)
2. \*\* How will flow alteration under the KBRA/KHSA change flood frequency, duration and damage on the Resighini Rancheria (i.e. accelerated of bank erosion, lowland flooding, standing water)?
3. \*\* The Resighini Rancheria pumps water from the aquifer in the gravel bar of the lower Klamath River for its domestic water supply; will the change in flow regime under the KBRA/KHSA in any way change groundwater recharge on the Reservation?
4. \*\* How much sediment will be released from upstream of the four dams that are to be removed and what will the effects of sediment be on the Klamath River?
  - For salmon spawning near the current site of the Klamath Hydroelectric Project (KHP)?
  - For sturgeon spawning in the Middle Klamath River?
  - For candlefish in the lower Klamath River and at the Resighini Rancheria?
  - How long can these effects be expected to last?
  - If sediment impacts are greater than expected, who will be responsible for clean up?
5. \*\* How many toxic substances are there in the KHP reservoirs and in what quantity?
  - What will the concentration of these substances be in the lower Klamath River and could they affect beneficial uses such as Resighini drinking water?
6. What are the options being evaluated for additional 100K AF of water storage within and around Upper Klamath Lake (UKL) and the 30K AF inflow augmentation?
  - Won't storing additional water change flows in a way that further departs from historic norms and cause other problems for locally adapted fish species?
  - Who will get to use the water stored in these new impoundments?
7. \*\* Is there a Drought Plan in place that you could explain or just the possibility that one will be adopted?

8. \*\* What will low flow conditions be like on the Resighini Rancheria during extreme drought under the KBRA/KHSA with regard to water quality? Will they be sufficient to provide for domestic use and healthy salmonid habitat?
9. \*\* Isn't it the case that minimum flows for agriculture during droughts under the KBRA are quantitatively defined but that minimum flows for fish are not? If fisheries restoration is one of the objectives of the Agreements, how can that be attained without minimum flow requirements necessary for fish survival?
10. \*\* Dr. Thomas Hardy's definitive study (Hardy and Addley 2001) of Klamath River flows recommended that they never drop below 1000 cfs at Iron Gate Dam, but flows were only 700 cfs when the September 2002 adult salmon fish kill occurred; what assurances are there in the KBRA that low flows that caused the prior fish kill will not be allowed again? If there are no such assurances, why not?
11. \*\* Resighini Rancheria members are extremely concerned about the recurrence of the fish kill that was caused by low flows and crowding of fish in warm water in the lower Klamath River (CDFG 2003, Guillen 2003); could flows under the KBRA/KHSA fall below 1000 cfs?
  - If so, how can such low flows be allowed when they were clearly linked to the worst biological disaster the Klamath River has ever experienced?
12. Initiatives by the State of Oregon and federal agencies in the Upper Klamath Basin above Upper Klamath Lake (Sprague/Sycan) to encourage water conservation have been met with hostility and failed (UKBWG 2006, 2007); how will the KBRA win cooperation for water storage and to increase water supply to Upper Klamath Lake?
13. Why wasn't refilling Lower Klamath Lake considered for water storage as recommended by NRC (2004)?
  - \* What is LKL's water storage capacity, including wetland storage?
    - In the footprint of federally owned lands?
    - If LKL were re-expanded to its original footprint?
  - \* How would it affect the region's water budget if Lease Lands and other agricultural lands in the LKL basin were retired?
14. \* Lower Klamath Lake filled during the winter and reduced Klamath River flood peaks historically (Abney 1964 as cited in NRC 2004); why isn't restoring this natural flood control mechanism being considered?
  - What flood control benefits would refilling LKL have for downstream riparian land owners, such as the Resighini Rancheria?
  - What flood control benefits would refilling LKL have in Siskiyou County nearer to the current location of Iron Gate Dam?

15. \* The Keno Reservoir currently becomes anoxic for weeks at a time during late summer as a result of major nutrient pollution problems (Deas and Vaughn 2007); what is the quantity of nutrients pumped from the Lost River to the Klamath River during winter periods and how does it affect water quality in the impoundment?
16. \* Marshes in the Lower Klamath Lake National Wildlife Refuge have very substantial nutrient stripping capacity (Mayer 2005); what quantity of nutrients would be absorbed by a restoring Lower Klamath Lake (LKL)?
  - In the footprint of federally owned lands?
  - If LKL were re-expanded to its original footprint?
17. \* The Keno reach of the Klamath River before alteration was bordered by a marsh system that spanned the entire valley width (U.S. BOR 2005 as cited in Higgins 2010); what would the water storage and water purification benefits be of restoring these wetlands in the Keno Reservoir reach?
18. The Lost River Basin and Tule Lake are in a sink so pollutants tend to persist and recirculate in the environment; will the KBRA allow the Klamath River to continue to be the dumping ground for Lost River pollution?
  - a. What specific steps are called for under the KBRA to clean up the Lost River and LKL basins?
19. \* Nutrient pollution to the Klamath River from the Klamath Straits Drain is long recognized problem and often agricultural drain-water from Tule Sump is routed there directly in summer with no filtration by marshes (Yurok 2007); how would longer residence time for Tule Sump water in an expanded Lower Klamath Lake change summer nutrient loading in the Keno Reservoir?
20. Wouldn't it make better sense to stop Lost River winter pumping into Keno Reservoir and instead shunt the water into a re-expanded Lower Klamath Lake bed, thus solving both the water pollution problem and increasing water storage? Will the BOR give consideration and study to this alternative?
21. \* How would the nutrient budget of the Upper Klamath and the Keno Reservoir reach change if LKL were refilled and nutrient pollution from agricultural activities in that basin were discontinued?
  - If the riparian wetlands of the Keno Reservoir reach were restored?
  - If the Lost River riparian zone was restored and Tule Lake expanded?
    - In the footprint of current federal ownership?
    - To the original size of Tule Lake?
22. \* What about nutrient spiraling downstream of Keno Reservoir even after dam removal, won't that cause similar water quality problems (low D.O., high pH, elevated dissolved ammonia) for Pacific salmon except at different locations? (Asarian, E. and J. Kann. 2006, Resighini 2006, Higgins 2010).

23. \* Won't continuing water pollution and nutrient spiraling downstream of Keno reservoir provide ideal habitat for fish disease organisms and their hosts and cause negative effects on Pacific salmon species, similar to the findings of Bartholomew (2008) and Foott et al. (2007), except at different locations?
24. \* The nitrogen fixing blue-green algae Aphanizomenon flos-aquae became pervasive in Upper Klamath Lake following filling and diking off of marsh lands after WW II that increased nutrient loading and changed water chemistry; how can A. flos aquae be prevented from perpetually causing nutrient pollution in the Lost River Basin and Klamath Hydroelectric Project Reservoirs without marsh restoration? (ASR/WRC 2005, Milligan et al. 2009) Resighini Rancheria believes this issue must be addressed if fishery restoration is really one of the KBRA/KHSA objectives.
25. The KBRA states that the Total Maximum Daily Load (TMDL) process called for under the Clean Water Act will not be impeded, but it protects agriculture operations on Lease Lands on the Tule Lake and Lower Klamath Lake Wildlife Refuges that need to be restored to abate water pollution (Yurok 2007); what assurances are there within the KBRA/KHSA that Upper Klamath water pollution problems will be abated?
- \* Where is the focused water quality monitoring plan within the KBRA/KHSA plan that will guide adaptive management?
  - \* What is the timeline (rates and dates) for the clean up of Keno Reservoir?
  - How do the KBRA/KHSA assure compliance with Klamath River TMDL's established by the State of California Water Resources Control Board.
26. Given that climate change will likely decrease precipitation in the Upper Klamath Basin, with the severe drought of 2001 being a harbinger, why wasn't reducing agricultural water demand through buy-out of farms or ranches on marginal lands within and outside the Klamath Project given more consideration as a solution? Resighini Rancheria and other down-river stakeholders, property owners, businesses, commercial fishermen, Indian tribes, environmentally concerned groups and individuals and local governments have given up a life style and livelihoods without any compensation whatsoever. Pacific salmon species can not survive under existing conditions brought about by the abuses of hydro-power, water extraction and agricultural interests. The communities and businesses that depend on the Klamath fishery and a healthy Klamath River have a greater investment in the Klamath Basin than do these other interests. Why do these Agreements continue to allow that abuse? How can the BOR and other federal agencies allow this inequity?
27. \* The Pacific decadal oscillation (PDO) cycle causes variability of ocean productivity in the California Current and wet and dry climate regimes in northwestern California and southern Oregon; since the change to poor ocean conditions and less rainfall will likely occur sometime between 2015 and 2025, wouldn't speedier dam removal

- increase the prospects for recovery of Chinook and coho salmon? (Mantua and Hare 2002, Collison et al. 2003). What are the estimates for the Klamath Chinook and Coho populations by 2020, the supposed date for commencement of dam removal?
28. The Resighini Rancheria residents have ancestral ties to fishing that go back thousands of years and want these opportunities preserved for future generations; what are the chances of Pacific salmon recovery and protection of Indian Treaty Rights in the Klamath Basin, if action to remove dams and abate water pollution is taken after the PDO switch versus before? (Collison et al. 2003)
  29. \* Clear Lake supports the only viable population of the Lost River suckers in the Lost River basin but this population might perish from anoxia, if the lake froze for an extended period (Perkins and Scopettone 1996, Resighini 2005); where are secure populations of this species in the Upper Klamath Basin that will be protected and restored under the KBRA/KHSA?
  30. Lost River and short-nose suckers have been listed under federal ESA since 1988 yet habitat for them in the lower Lost River itself and Tule Lake is unviable or marginal; how will the KBRA/KHSA improve conditions in the lower Lost River for these species? (USFWS 1993, Dileanis et al. 1996, Scopettone et al. 1995)
    - \* What provisions are there to guarantee sucker recovery and how will adaptive management be used to improve flows or lake levels, if populations are still declining under the KBRA/KHSA?
    - \* Are there specific targets for sucker species recovery in the KBRA and KHSA and rates and dates for recovery of various sub-populations (Clear Lake/Upper Lost, Lower Lost, Upper Klamath Lake)?
  31. The KBRA states that it will not interfere with the enforcement of the federal Endangered Species Act (ESA) but then specifies no minimum flow for coho salmon or other listed salmonids; since NMFS will become a cooperator under the KBRA won't their authority and ability to protect coho be compromised? Will NMFS cooperation be in violation of the ESA?
  32. The KBRA calls for subsidy of \$144 million dollars for power users on and off the Klamath Project for the first ten years of implementation, wouldn't it be more fiscally responsible and sustainable to reduce agricultural water demand? If not, why not?
  33. Pumping wetlands in the Tule Lake and LKL Lease Lands is only feasible with subsidized power costs and ironically the Tule Lake Wildlife Refuge will pay for wetland draining under the KBRA when these areas are needed to improve water quality and water supply; why isn't the retiring of these lands and cessation of pumping considered given the current national budget crisis and climate change? What are the long range impacts of continuing this pumping?
  34. Mayer (2005) shows that nutrient stripping of marshes in National Wildlife Refuges is significant and water quality problems are likely to be more severe in drought years

- and yet refuges get less water in dry years; isn't this strategy counter-productive to abatement of water pollution problems? What legitimate environmental or economic reasons support this practice?
35. If the Secretary of Interior determines that the removal of four KHP dams is not in the public interest, or that it will not advance restoration of salmonid fisheries of the Klamath Basin, what provisions of the KHSA and KBRA will still be binding? Does FERC relicensing commence anew?
36. What if there is a positive decision from the Secretary but there is no Authorizing Legislation?
- Are water allocations for Upper Basin farmers still guaranteed?
  - Will Tule Lake and LKL NWR Lease Land farming be allowed for 50 more years?
  - Will parties signing onto the KBRA agreement still have a duty to uphold it and thereby be unable to join legal challenges under ESA or the Clean water Act?
37. How will the KBRA/KHSA be implemented if there is both a positive Secretarial Decision and Authorizing Legislation, but no budget allocation?

## References

Abney, R. M. 1964. A Comparative Study of the Past and the Present Condition of Tule Lake. Bureau of Sport Fisheries and Wildlife Tule Lake NWR, Tule Lake, California. Provided historical information on Lost River Slough.

Aquatic Scientific Resources and the Wetland Research Consortium. 2005. Preliminary research on Aphanizomenon flos aquae at Upper Klamath Lake, Oregon: Investigations to Set Direction for Research of Factors with Potential for Influencing Aphanizomenon Growth at Upper Klamath Lake. Funded by the U.S. BOR Klamath Ecosystem Restoration Office. ASR and WSR, Portland, OR. 158 p.

Asarian, E. and J. Kann. 2006. Klamath River Nitrogen Loading and Retention Dynamics, 1996-2004. Kier Associates Final Technical Report to the Yurok Tribe Environmental Program, Klamath, California. 56pp + appendices.  
[http://www.klamathwaterquality.com/documents/Klamath\\_Nitrogen\\_Loading\\_Dynamics\\_1996\\_2004\\_Yurok\\_final\\_aug111.pdf](http://www.klamathwaterquality.com/documents/Klamath_Nitrogen_Loading_Dynamics_1996_2004_Yurok_final_aug111.pdf)

Bartholomew, J. 2008. *Ceratomyxa shasta* 2007 Study Summary. Prepared for Klamath River Fish Health Symposium. Funded by BOR and OR sea Grant. Department of Microbiology, OSU, Corvallis, OR. 13 p.  
[http://www.klamathwaterquality.com/documents/Bartholomew\\_2008.pdf](http://www.klamathwaterquality.com/documents/Bartholomew_2008.pdf)

California Department of Fish and Game (CDFG). 2003. September 2002 Klamath River Fish Kill: Preliminary analysis of contributing factors. CDFG Region 1, Redding, CA. 63 p.  
[http://www.krisweb.com/biblio/klamath\\_cdfg\\_ncncr\\_2003\\_kill.pdf](http://www.krisweb.com/biblio/klamath_cdfg_ncncr_2003_kill.pdf)

Collison, A., W. Emmingham, F. Everest, W. Hanneberg, R. Martston, D. Tarboton, R. Twiss. 2002. Final Report on Sediment Impairment and Effects on Beneficial Uses of the Elk River and Stitz, Bear, Jordan and Freshwater Creeks. Independent Science Review Panel performed analysis on retainer to the North Coast Regional water Quality Control Board, Santa Rosa, CA.  
[http://www.krisweb.com/biblio/hum\\_swrcb\\_collison\\_2003\\_phaseiiiisrp.pdf](http://www.krisweb.com/biblio/hum_swrcb_collison_2003_phaseiiiisrp.pdf)

Deas, M.L. and J. Vaughn. 2007. Characterization of Organic Matter Fate and Transport in the Klamath River below Link Dam to Assess Treatment/Reduction Potential. Prepared for the U.S. Bureau of Reclamation, Klamath Falls, OR. 167. p.  
[http://www.klamathwaterquality.com/documents/DEAS\\_Keno%20Wetlands%20Project%20Report%209-30-06a.pdf](http://www.klamathwaterquality.com/documents/DEAS_Keno%20Wetlands%20Project%20Report%209-30-06a.pdf)

Dileanis, P. D., S. E. Schwarzback, and J. Bennett. 1996. Detailed study of water quality, bottom sediment, and biota associated with irrigation drainage in the Klamath Basin, California and Oregon, 1990-92. U.S. Geological Survey, Water-Resources Investigations Report 95-4232. Sacramento, CA. 77 pp.  
[http://www.krisweb.com/biblio/klamath\\_usgs\\_dileanisetal\\_1996.pdf](http://www.krisweb.com/biblio/klamath_usgs_dileanisetal_1996.pdf)

Foott, J.S., R. Stone and K. True. 2007. Relationship between *Ceratomyxa shasta* and *Parvicapsula minibicornis* actinospore exposure in the Klamath River and infection in juvenile Chinook salmon. U.S. Fish and Wildlife Service, California-Nevada Fish Health Center, Anderson, CA.  
[http://www.fws.gov/arcata/fisheries/reports/technical/Relationship\\_between\\_Ceratomyxa\\_shasta\\_and\\_Parvicapsula\\_minibicornis\\_actinospore\\_exposure\\_in\\_the\\_Klamath\\_River\\_and\\_infection\\_in%20juvenile\\_Chinook\\_salmon.pdf](http://www.fws.gov/arcata/fisheries/reports/technical/Relationship_between_Ceratomyxa_shasta_and_Parvicapsula_minibicornis_actinospore_exposure_in_the_Klamath_River_and_infection_in%20juvenile_Chinook_salmon.pdf)

Guillen, G. 2003. Klamath River fish die-off, September 2002: Causative factors of mortality. Report number AFWO-F-02-03 . U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office. Arcata, CA. 128 pp. 128 p.  
[http://www.krisweb.com/biblio/klamath\\_usfws\\_guillen\\_2003\\_killcause.pdf](http://www.krisweb.com/biblio/klamath_usfws_guillen_2003_killcause.pdf)

Halstead, B. G. 1997. Memorandum to Bruce Gwynne of the California North Coast Regional Water Quality Control Board concerning water quality in the Klamath River. Unpublished letter of 23 September 1997. US Fish and Wildlife Service. Coastal California Fish and Wildlife Office. Arcata, CA. 14 pp.  
[http://www.krisweb.com/biblio/klamath\\_usfws\\_halstead\\_1997.pdf](http://www.krisweb.com/biblio/klamath_usfws_halstead_1997.pdf)

Hardy, T. B. and R. C. Addley. 2001. Evaluation of interim instream flow needs in the Klamath River: Phase II. Final Report. Prepared for the U.S. DOI, Utah Water Research Lab, USU, Logan, UT.

[http://www.krisweb.com/biblio/klamath\\_usdoi\\_hardy\\_2003\\_phase2draft.pdf](http://www.krisweb.com/biblio/klamath_usdoi_hardy_2003_phase2draft.pdf)

Higgins, P.T. 2010. KBRA/KHSA Hoopa Valley Tribe Comment Recommendations for Addition. Prepared for the Hoopa Tribal Fisheries Department by Patrick Higgins, Consulting Fisheries Biologist, Arcata, CA. 10 p.

Hoopa Valley Tribe Environmental Protection Agency (HVTEPA). 2008. Water Quality Control Plan Hoopa Valley Indian Reservation. Approved September 11, 2002, Amendments Approved February 14, 2008. Hoopa Tribal EPA. Hoopa, CA. 285 p.  
[http://www.klamathwaterquality.com/documents/Final\\_Hoopa\\_WQCP\\_20080311-5083%2818890575%29.pdf](http://www.klamathwaterquality.com/documents/Final_Hoopa_WQCP_20080311-5083%2818890575%29.pdf)

Karuk Tribe. 2006. Recommended Terms and Conditions: Klamath Hydroelectric Project, FERC License 2082-027, Operated by PacifiCorp. Submitted to FERC by the Karuk Tribe of California. Happy Camp, CA.  
[http://www.klamathwaterquality.com/documents/karuk\\_sd2\\_comments.pdf](http://www.klamathwaterquality.com/documents/karuk_sd2_comments.pdf)

Mantua, N.J. and S.R. Hare. 2002. The Pacific Decadal Oscillation Cycle. *Journal of Oceanography*, Vol. 58, pp. 35 to 44, 2002.  
<http://www.terrapub.co.jp/journals/JO/pdf/5801/58010035.pdf>

Mayer, T.D. 2005. Water Quality Impacts of Wetland Management in the Lower Klamath National Wildlife Refuge, Oregon and California, USA. *Wetlands* 25: 697-712.

Milligan, A.J., P. Hayes, S. Geiger, K. Haggard, and M. Kavanaugh. 2009. Use of aquatic and terrestrial decomposition products for the control of *Aphanizomenon flos aquae* at Upper Klamath Lake. Oregon State University Wetland Research Consortium. Corvallis, OR. 75 p.

National Research Council (NRC). 2004. Endangered and threatened fishes in the Klamath River basin: causes of decline and strategies for recovery. Committee on endangered and threatened fishes in the Klamath River Basin, Board of Environmental Toxicology, Division on Earth and Life Studies, Washington D.C. 424 pp.

Perkins, D. L. and G. G. Scoppettone. 1996. Spawning and migration of Lost River Sucker (*Deltistes luxatus*) and Shortnose Suckers (*Chasmistes brevirostris*) in the Clear Lake-drainage, Modoc County, California. National Biological Service, California Science Center. Reno, NV. 50 pp.  
[http://www.krisweb.com/biblio/klamath\\_nbs\\_perkinsetal\\_1996.pdf](http://www.krisweb.com/biblio/klamath_nbs_perkinsetal_1996.pdf)

Perkins, D., J. Kann, and G.G. Scoppettone. 2000. The role of poor water quality and fish kills in the decline of endangered Lost River and shortnose suckers in Upper Klamath Lake. U.S. Geological Survey, Biological Resources Division Report Submitted to U.S. Bureau of Reclamation, Klamath Falls Project Office, Klamath Falls, OR, 97603 -- Contract 4-AA-29-12160.

Quartz Valley Indian Community. 2007. Comments on Klamath River Nutrient, Dissolved Oxygen, and Temperature TMDL Implementation Plan Workplan Outline for CA (NCRWQCB, 2007). Quartz Valley Indian Community, Fort Jones, CA. 30 pp.  
[http://www.klamathwaterquality.com/documents/QVIC\\_Klamath%20TMDL%20Implementation%20Plan%20Comments\\_11.29.07.pdf](http://www.klamathwaterquality.com/documents/QVIC_Klamath%20TMDL%20Implementation%20Plan%20Comments_11.29.07.pdf)

Quartz Valley Indian Community. 2009. Re: Comments on Public Review Draft and Staff Report for the Klamath River Total Maximum Daily Loads (TMDLs) and Action Plan Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin Impairments in California. Submitted by Crystal Bowman. QVIR, Ft. Jones, CA. 39 p.  
[http://www.klamathwaterquality.com/documents/2009/qvir\\_klam\\_tmdl\\_2009\\_august.pdf](http://www.klamathwaterquality.com/documents/2009/qvir_klam_tmdl_2009_august.pdf)

Resighini Rancheria. 2005. Memo re: Follow-up Comments Regarding December 16, 2004 Government-to-Government Meeting with FERC Representatives – P2082-027. From Phil Smith, Dir. Resighini EPA to Magalie R. Salas, FERC. Resighini Rancheria, Klamath, CA.  
[http://www.klamathwaterquality.com/documents/\\_1\\_18\\_05\\_Resighini\\_FERC\\_APE\\_Letter.pdf](http://www.klamathwaterquality.com/documents/_1_18_05_Resighini_FERC_APE_Letter.pdf)

Resighini Rancheria. 2006b. Proposed Terms and Conditions for Klamath Hydroelectric Project, FERC License 2082-027, Operated by PacifiCorp. Submitted to FERC by the Resighini Rancheria, a Federally Recognized Tribe. Klamath, CA. 61 p.  
[http://www.klamathwaterquality.com/documents/sd2\\_resighini.pdf](http://www.klamathwaterquality.com/documents/sd2_resighini.pdf)

Scoppettone, G.G., S. Shea, and M.E. Buettner. 1995. Information on Population Dynamics and Life History of Shortnose Suckers (*Chasmistes brevirostris*) and Lost River Suckers (*Deltistes luxatus*) in Tule and Clear Lakes. National Biological Service, Reno Field Station, Reno, NV.

Shively, R.S., A.E. Kohler, B.J. Peck, M.A. Coen, and B.S. Hayes. 2000. Water quality, benthic macroinvertebrate, and fish community monitoring in the Lost River sub-basin, Oregon and California, 1999. Report of sampling activities in the Lost River sub-basin conducted by the U.S. Geological Survey, Biological Resources Division, Klamath Falls, OR. 96 p.  
<http://www.usbr.gov/mp/kbao/esa/Lostriverrpt.pdf>

Stocking, R. W. and Bartholomew, J. L. (In Press). Distribution and habitat characteristics of *Manayunkia speciosa* and infection prevalence with the parasite, *Ceratomyxa shasta*, in the Klamath River, OR-CA, USA. Submitted for publication in the Journal of Parasitology.

U.S. Fish and Wildlife Service (USFWS). 1993. Lost River (*Deltistes luxatus*) and Shortnose (*Chasmistes brevirostris*) Sucker recovery plan. Prepared by Kevin Stubbs and Rolland White, Portland, OR. 80 pp.  
[http://www.krisweb.com/biblio/klamath\\_usfws\\_stubbsetal\\_1993.pdf](http://www.krisweb.com/biblio/klamath_usfws_stubbsetal_1993.pdf)  
[http://www.krisweb.com/biblio/klamath\\_usfws\\_stubbsetal\\_1993.pdf](http://www.krisweb.com/biblio/klamath_usfws_stubbsetal_1993.pdf)

U.S. Geologic Survey. 2005. Assessment of the Klamath Project Pilot Water Bank: A Review from a Hydrologic Perspective. Performed under contract to U.S. BOR, Klamath Falls, OR by the USGS, Portland, OR. 98 p.  
[http://www.usbr.gov/mp/kbao/docs/Final\\_USGS\\_Assessment\\_of\\_Water\\_Bank.pdf](http://www.usbr.gov/mp/kbao/docs/Final_USGS_Assessment_of_Water_Bank.pdf)

Upper Klamath Basin Working Group (UKBWG). 2006. Meeting notes from November 30, 2006. USFS Region 6, Fremont and Winema National Forests, Klamath Falls, OR.  
<http://www.fs.fed.us/r6/frewin/projects/ukbwg/notes/06-11-30.shtml>

Upper Klamath Basin Working Group (UKBWG). 2007. Meeting notes from January 18, 2007. USFS Region 6, Fremont and Winema National Forests, Klamath Falls, OR.  
<http://www.fs.fed.us/r6/frewin/projects/ukbwg/notes/07-01-18.shtml>

Yurok Tribe 2007. Yurok Tribe comments on Lost River TMDL. Letter dated July 3, 2007, from Kevin McKernan of Yurok Tribe Environmental Program to Gail Louis of U.S. EPA. Yurok Tribe, Klamath, CA. 34 pp.

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**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1230_100-1	<p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p>	No
IT_LT_1230_100-2	<p>Master Response GEN-3 Best Available Information.</p> <p>Master Response AQU-21 NRC Dam Removal Help Coho.</p> <p>Master Response AQU-19 Chinook Expert Panel Proposed Action Better Than No Action.</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p>	No
IT_LT_1230_100-3	<p>The comment author suggests that the EIS/EIR should include restoration alternatives other than the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in:</p> <p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p> <p>Dam removal contemplated under the KHSA cannot be implemented without implementing the KBRA. Therefore, an alternative that would implement a restoration project other than the KBRA is not feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect it to yield the same benefits as full implementation of the KBRA.</p> <p>The comment also mentions "repeated requests" for recommendations for mitigation. The comment does not specify what mitigation has been requested, and appears to reference other communications with DOI. The Lead Agencies do not have a record of these requests, either in public scoping comments, comments made as a Cooperating Agency on the Administrative EIS/EIR, records of government-to-government meetings, or comments on the public Draft EIS/EIR.</p>	No
IT_LT_1230_100-4	<p>Inclusion in the Klamath Settlement Group required consent of all the parties then participating in that group. DOI is aware that a party exercised its right in the spring of 2007 and blocked the inclusion of the Resighini Rancheria in the Klamath Settlement negotiations. This action did not and does not preclude the Resighini Rancheria from meaningfully participating in the natural resources issues implicated by the KHSA and KBRA. As</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-5	<p>described in Master Response KHSA-1 Negotiation of KHSA and KBRA, parties outside the Klamath Settlement Group had opportunities to give input regarding development of the KBRA during 2007-2010. At present, any party willing to support the KHSA and KBRA as currently crafted may become a signatory to the agreement. If the KBRA is implemented, DOI would still have to consult on a government-to-government basis with all tribes that have an interest in fish and water in the Klamath Basin. So, there still would be tribal – Federal discussion regarding how water management and fish issues should be handled outside of the KBRA. For additional information on Tribal Involvement in Future Discussions of Water Management see Master Response TTA-7.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA describes in detail how the KBRA is consistent with upholding Federal trust responsibility.</p> <p>Also, to the extent that the Resighini Rancheria’s “exclusion” complaint concerns the Klamath Facilities Removal EIS/EIR process, such a complaint would be unfounded. The Resighini Rancheria has been afforded all of the opportunities for public input and comment available under NEPA, CEQA, and the relevant implementing regulations, including the opportunity to submit comments on the Draft EIS/EIR to which the Lead Agencies are now responding. DOI has held many public meetings in the basin as described in Master Response GEN-16 Public Involvement and has consulted multiple times with all the basin tribes, including the Resighini Rancheria. The Resighini Rancheria is a cooperating agency for the EIS. However, the Resighini Rancheria does not have an absolute right to participate in the development of the proposed action and alternatives that are the subject of analysis in this EIS/EIR since the proposed action concerns potential decisions that would be made by the lead Federal and State agencies.</p> <p>The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. The KBRA provides for an allocation of water to the refuges. Water required for lease land farming does not count against the Refuge Allocation (KBRA Section 15.1.2.D.i). See <a href="http://Klamathrestoration.gov">Klamathrestoration.gov</a> for a copy of the KBRA.</p> <p>Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR.</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1230_100-6	The description of the Resighini Rancheria in Section 3.12 does not include a subsection on KBRA. The discussion on KBRA benefits "upon becoming a party" is found in regard to the Hoopa Valley Tribe.	No
IT_LT_1230_100-7	The comment author is in favor of removing the dams but seems to oppose implementation of the KBRA because it allegedly delays removal of the dams, takes away the comment author's tribal rights, and is ecologically insufficient. These issues are addressed below.	No
	<p><b>Delays Removal of Dams</b></p> <p>Accelerating dam removal was analyzed in Alternative 13.</p> <p>Master Response ALT-3 Elimination of Alternative 13 - Federal Takeover of the Klamath Hydroelectric Project for Detailed Study.</p> <p>ALT-3 describes why Alternative 13 was not carried forward for further analysis in the EIS/EIR. The timeframe for dam removal under Alternative 13 would be generally the same as the timeframe under Alternatives 2 or 3. Implementation of the KBRA would not further delay the dams; rather, it is inextricably linked to the dam removal as described in:</p> <p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p> <p><b>Tribal Rights</b></p> <p>The comment author indicates that the KBRA would "take away our tribal rights," but does not specify in this comment which tribal rights are part of the discussion. Based on other comments, these concerns likely seem related to water rights and trust responsibilities related to fish harvest.</p> <p>Master Responses TTA-1 Federal Trust Responsibility and the KHSA.</p> <p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries.</p> <p><b>Ecologically Insufficient</b></p> <p>The comment author believes the KBRA to be ecologically insufficient. The EIS/EIR, however, includes technical analysis related to the target resources of the restoration effort, primarily fish. The analysis indicates that the actions included in</p>	

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-8	<p>Alternatives 2 and 3 would provide long-term benefits to aquatic resources (see Section 3.3 of the EIS/EIR).</p> <p>Master Response N/CP-16 Purpose and Need/Project Objectives.</p> <p>While it is possible that the two objectives identified by the comment author could conflict, the alternatives presented in this EIS/EIR were formulated to strike a balance between the two.</p> <p>This EIS/EIR considers the KBRA as a connected action and does not analyze alternatives to the KBRA (see Section 2.4.3.9). For purpose of CEQA, relevant parts of the KBRA analysis are programmatic. Many KBRA elements have not been specified to a degree where impacts could be analyzed. Future project-specific analysis may be required for various components of the KBRA.</p> <p>Master Response N/CP-22 How KBRA Was Analyzed.</p> <p>The Power for Water Management Program of the KBRA is not a “power subsidy”. The program includes three elements including an interim power program, a Federal power program, and a renewable power program. The interim power program is intended to provide power to eligible users at a power cost target that is at or below the average cost for similar drainage projects in the surrounding area. The Federal power program is intended to obtain an allocation of cost-effective power from the Bonneville Power Administration. The largest portion of the Power for Water Management Program is directed at increasing power efficiency and developing new renewable sources of power.</p> <p>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.</p>	No
IT_LT_1230_100-9	<p>The comment author suggests that the EIS/EIR should include restoration alternatives other than the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in:</p> <p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p> <p>Dam removal contemplated under the KHSA cannot be implemented without implementing the KBRA. Therefore, an alternative that would implement a restoration project other than</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
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the KBRA is not feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect it to yield the same benefits as full implementation of the KBRA.

If the Lead Agencies were considering alternatives to the KBRA, the restoration actions at Lower Klamath Lake would have some weaknesses. The purpose and need/project objectives are broader than purely restoration of fisheries. The objectives also include providing benefits to the entire Klamath community and having sustainable agriculture. Restoring water storage and wetlands at Lower Klamath Lake would remove a substantial amount of historic agricultural uses, which would conflict with these elements of the purpose and need/project objectives.

IT\_LT\_1230\_100-10

NEPA's Forty Most Asked Questions from CEQ include a discussion of the No Action Alternative. It describes what should be included for different types of projects, including projects involving Federal decisions on proposals for projects, which is relevant for this EIS/EIR. "No action' in such cases would mean the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward."

No

Under the Alternative 1 as described in the EIS/EIR Section 2.4.2, PacifiCorp would need to obtain a long-term operating license from the FERC to replace the existing annual license. PacifiCorp would resume relicensing proceedings with FERC to obtain the required long-term operating license. Until that unknown time, PacifiCorp would continue to operate under an annual license. The No Action/No Project Alternative, as described, is the most reasonable assumption of future conditions. Among the action alternatives, Alternative 4: Passage at Four Dams, as described in Final EIS 2.4.5, describes a scenario where KHSR terminates and the requirements for fish passage as set forward by the prior FERC relicensing proceedings are implemented.

The comment author also refers to CEQA's requirements for the No Project Alternative; however, the basis for comparison in CEQA is the environmental setting.

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1230_100-11	<p>The comment author describes two specific concerns about the KBRA:</p> <p>1. Ecologically insufficient: the comment author believes the KBRA to be ecologically insufficient. The EIS/EIR, however, includes technical analysis related to the target resources of the restoration effort, primarily fish. The analysis indicates that the actions included in Alternatives 2 and 3 would provide long-term benefits to aquatic resources (see Section 3.3 of the EIS/EIR).</p> <p>2. Government trust responsibilities: the comment author objects to the changes to government trust responsibilities, but does not specify in this comment which trust responsibilities are part of the discussion. Based on other comments, these concerns likely seem related to water rights and trust responsibilities related to fish harvest.</p> <p>Master Responses TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries.</p>	Yes
IT_LT_1230_100-12	Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.	No
IT_LT_1230_100-13	<p>Master Response ALT-3 Elimination of Alternative 13 - Federal Takeover of the Klamath Hydroelectric Project from Detailed Study.</p> <p>Master Response ALT-3 describes why Alternative 13 was not carried forward for further analysis in the EIS/EIR. The timeframe for dam removal under Alternative 13 would be generally the same as the timeframe under Alternatives 2 or 3. However, the interim measures included in the KHSAs provide would provide a benefit before dam removal that would not be realized with Alternative 13. Additionally, ESA-related requirements to protect fish would continue to be in effect until dam removal, and effects to ESA-listed species would trigger another consultation with the resource agencies.</p> <p>The cited text in the EIS/EIR has been edited to read "Alternative 13 will not move forward for more detailed analysis in the EIS/EIR because the environmental impacts of dam removal would be generally the same (and have generally the same timeframe) as the dam removal impacts under Alternative 2."</p> <p>Additionally, Alternative 13 would fail to resolve some of the long standing problems related to water supply in the Klamath Basin</p>	Yes

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-14	<p>(see Chapter 1). Also, Alternative 13 would fail to achieve many of the long-term environmental benefits related to implementing the KBRA, which include benefits to water quality, algae, flood hydrology, groundwater, recreation, and aquatic resources. (See EIS/EIR, Sections 3.2, 3.3, 3.4, 3.6, 3.7, 3.20.)</p> <p>Section 5.8 describes the environmentally preferable and environmentally superior alternatives under NEPA and CEQA, respectively. This section has been revised to more clearly describe the relationship between NEPA and CEQA regarding the environmentally preferable and environmentally superior alternatives.</p> <p>The comment author suggests that the EIS/EIR should include restoration alternatives other than the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in:</p> <p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p> <p>Dam removal contemplated under the KHSA cannot be implemented without implementing the KBRA. Therefore, an alternative that would implement a restoration project other than the KBRA is not feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect it to yield the same benefits as full implementation of the KBRA.</p>	Yes
IT_LT_1230_100-15	<p>The Resighini Rancheria does not have any Treaty Rights, therefore no Treaty Rights would be affected by an Affirmative Secretarial Determination on dam removal, authorizing legislation and implementation of the KBRA.</p> <p>The Federal government's Trust responsibility to the tribe would not be changed by an Affirmative Secretarial Determination on dam removal, authorizing legislation and implementation of the KBRA Section 3.12.</p>	No
IT_LT_1230_100-16	<p>Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.</p> <p>The Reserved Rights Doctrine:</p> <p>The reserved rights doctrine provides that when lands are set aside as Indian or other Federal reservations, sufficient water to fulfill the purposes of the reservation is reserved as well. Federal reserved water rights arise expressly or by implication from</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
T_LT_1230_100-17	<p>Federal treaties, statutes, and executive orders, and vest no later than the date the reservation was established. Unlike State appropriative rights, Federal reserved water rights are for present and future uses and may be exercised at any time and are not lost through non-use. While Federal reserved water rights may be quantified and administered by States in the context of comprehensive State water adjudication, they are otherwise governed by Federal, not State, law. No determination of the Secretary's views on the Rancheria's fishing and water rights has been made since the release of the EIS/EIR, and thus the Secretary's conclusion is still the same. See EIS/EIR Section 3.8.2.1 Federal Water Law for additional information.</p> <p>Master Response TTA-Federal Trust Responsibility and the KBRA.</p> <p>Master Response TTA-7 Tribal Involvement in Future Discussions of Water Management.</p>	No
IT_LT_1230_100-18	<p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. The KBRA provides for an allocation of water to the refuges. Water required for lease land farming does not count against the Refuge Allocation (KBRA Section 15.1.2.D.i). See <a href="http://Klamathrestoration.gov">Klamathrestoration.gov</a> for a copy of the KBRA. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR.</p> <p>The effects of available flows with implementation of the KBRA are included in the analyses throughout the EIS/EIR. For example, the potential effects of flows in the Klamath River and lake levels in Upper Klamath Lake on fish and wildlife are described in Section 3.3 and 3.5. Tables ES-4 and ES-5 is focused on adverse impacts, thus resource areas where impacts are not significant or where there may be beneficial effects would not be included in this table.</p> <p>With respect to the Power for Water Management Program within the KBRA, the baseline condition for analysis in this EIS/EIR includes the existing inexpensive power supplies from the Four Facilities. Even with No Action, power supplies are trending to market rates, so there would be little difference between alternatives. This EIS/EIR is analyzing whether or not to remove</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>the Four Facilities and alternative future scenarios for power rate structures would be speculative and beyond the scope of this analysis.</p>	
	<p>The Power for Water Management Program of the KBRA is not a “power subsidy”. The program includes three elements including an interim power program, a Federal power program, and a renewable power program. The interim power program is intended to provide power to eligible users at a power cost target that is at or below the average cost for similar drainage projects in the surrounding area. The EIS/EIR notes that there are many factors that affect electricity rates and thus it is difficult to assess how rates may change, if at all. Appendix C-2 indicates an estimated amount of \$7.6M for the interim power program. The Federal power program is intended to obtain an allocation of cost-effective power from the Bonneville Power Administration. Again, as the EIS/EIR notes, it is difficult to predict what future electricity rates would be and although a source may be cost-efficient that does not predict whether the rates would be higher or lower than existing rates. There is an estimated \$1M allocated for the Federal power program in Appendix C-2. The largest portion of the Power for Water Management Program is directed at increasing power efficiency and developing new renewable sources of power. While these actions may result in lower power rates, it is difficult to predict how rates may change, if at all. There is an estimated \$41M allocated in Appendix C-2 for the efficiency and renewable energy programs. The total allocated for the Power for Water Management program is closer to \$51M rather than the \$150M claimed in the comment.</p>	
IT_LT_1230_100-19	<p>Master Response WQ-4A, C and D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Master Response WQ-22 TMDLs and the No Action/No Project Alternative (and Alternative 4).</p> <p>Master Response WQ-43 Handling of Uncertainty in the Water Quality Analysis, Including TMDLs.</p> <p>The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. The KBRA provides for an allocation of water to the refuges. Water required for lease land farming does not count against the Refuge Allocation (KBRA Section 15.1.2.D.i). See <a href="http://klamathrestoration.gov">klamathrestoration.gov</a> for a copy of the KBRA. Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR.</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-20	<p>The proposed transfer of the Keno Facility is a connected action to Alternative 2 and Alternative 3 as described in EIS/EIR Chapter 2. Transfer of title to the Keno facility. Transfer of the Keno facility is addressed in an Agreement in Principle on the Transfer of Keno Dam (Reclamation and PacifiCorp 2012.) between the Department of the Interior and PacifiCorp. This Agreement in Principle lays the foundation for a binding agreement for transfer of the facility should the Secretary of the Interior Make an Affirmative Determination regarding removal of the Four Facilities. Provided the Secretary makes an Affirmative Determination, the actual transfer would take place when the Dam Removal Entity provides notice to the Parties (to the KHSA) and to the FERC that J.C. Boyle Facility Removal is ready to commence (KHSA, Section 7.5.2). The EIS/EIR contains an analysis which meets the requirements of NEPA and CEQA for a connected action as described by 40 CFR Part 1508.25 (a)1.</p> <p>According to KHSA the Keno Facility would be operated as it was historically which does not cause a change to the existing environment. Only lands occupied by and required for access to the Keno Facility itself would be included in the transfer. Lands adjacent to the reservoir would remain in private ownership and Reclamation has no authority over the management practices on privately owned lands.</p> <p>The States of California and Oregon have developed TMDL for the Klamath river in accordance with the Clean Water Act, and California Water Code Division 7, Chapter 4 Article 3 and Oregon Administrative Rules (OAR) Chapter 340, Division 42, respectively. Section 3.2 of the EIS/EIR, Water Quality, describes the TMDLs in detail. The TMDLs would remain in effect following the transfer of the Keno Facility. Although the transfer of ownership is not intended to improve water quality, the Fisheries Restoration Plan (FRP) of the KBRA specifies that it would include, but may not be limited to, water quality improvements, permanent protection of riparian vegetation, measures to prevent and control excessive sediment inputs, and remediation of fish passage problems, among others. The Phase I Plan of the FRP would address management and reduction of organic and nutrient loads in and above Keno Impoundment/Lake Ewauna and in the Klamath River downstream (KBRA Section 10.1.2).</p>	Yes
IT_LT_1230_100-21	<p>As described in Section 3.7.4.3 of the EIS/EIR, under Alternative 2, implementation of the Klamath Basin Restoration Agreement (KBRA) is expected to benefit groundwater in the long term by providing measures to monitor and protect groundwater where none currently exist. For example, if KBRA's Water Diversion Limitations program were in place during 2010, instead of receiving approximately 185,000 AF of water, irrigators would</p>	Yes

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
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have received 330,000 AF, an increase of approximately 145,000 AF. As a result, groundwater pumping would likely have been much less than what occurred in 2010. Also, contrary to the comment author's assumption, implementation of the On-Project Plan could include management, efficiency, or conservation measures; land acquisitions, additional storage, or agreements for Reclamation's Klamath Project irrigators to forebear the use of water from Upper Klamath Lake or the Klamath River. New production irrigation wells would not be allowed if an irrigator has a surface water forbearance or similar agreement under the On-Project Plan. Also, Oregon law concerning limits on groundwater pumping are to be applied in both the California and Oregon side of the Reclamation Klamath Project as part of the On-Project Plan. The KBRA also includes implementation of a work plan that involves evaluating and monitoring groundwater levels within the Upper Klamath Basin where none currently occurs, and analysis and reporting of such data to better inform the public agencies. Moreover, KBRA would also provide a new source of funding to remedy any adverse impacts that could arise from groundwater use. Given the aforementioned actions to reduce groundwater pumping, increase monitoring, and increase funding related to groundwater, the Lead Agencies expect the KBRA to slow, halt, or reverse the declining trend in groundwater levels over the past decade (i.e. since 2001) and serve to protect existing or future permitted land uses as well as surface water conditions and related resources.

Regarding the comment author's specific comments, it appears that they are alleging that implementation of the KBRA would result in further declines to groundwater levels, causing further reductions in Lower Lost River surface flows, and such flow reductions would have adverse effects on listed sucker species and water quality. First, the comment author fails to provide any evidence supporting any of its claims. With this response's text as background, it is understandable that the comment author has no evidence. As explained above, the amount of groundwater that would be pumped under the On-Project Plan has yet to be determined. Also, pumping effects on Lost River stream flows is unknown. (Gannet, 2007) Accordingly, one cannot begin to assess the potential effects on listed sucker species and water quality in the Lost River caused by groundwater pumping under the On-Project Plan. Moreover, as explained more fully above, preliminary modeling indicates that pumping 56,000 AF causes less than a 0.2% declines in groundwater discharge to the Lost River. Therefore, the Lead Agencies cannot analyze the cumulative effects of such water use as the comment author alleges.

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-22	<p>In order to clarify one potential misconception, under KBRA Section 1.1.2, Federal agencies, including the NOAA Fisheries Service and the U.S. Fish and Wildlife Service (USFWS), are not parties to the KBRA until enactment of legislation that authorizes and directs certain Federal agencies to become parties. This legislation has not been enacted; thus, NOAA Fisheries Service and USFWS are not yet parties to the KBRA.</p> <p>When such legislation is enacted and certain Federal agencies become parties to the KBRA, 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. In order to clarify a mistake in the comment author's quotation of this section, Section 22.5 of the KBRA provides, "By entering into this Agreement, National Marine Fisheries Service (NOAA Fisheries Service) and USFWS are not prejudging the outcome of any process under the ESA and NOAA Fisheries Service and USFWS implementing regulations, and NOAA Fisheries Service and USFWS expressly reserve the right to make determinations and take actions as necessary to meet the requirements of the ESA and implementing regulations." In addition, the KBRA specifically describes processes that are available and would be used by parties to comply with requirements under the ESA (see, for example, KBRA Sections 22.1 and 22.2).</p> <p>The comment author did not provide any examples of "statutes and provisions that restrict conservation options for NOAA Fisheries Service and USFWS and diminish the prospects for endangered species recovery." As described below, the Proposed Action, to include implementation of the KBRA, would provide numerous benefits to the fish populations in the Klamath Basin.</p> <p>Master Response AQU-21 NRC Dam Removal Help Coho.</p> <p>The National Research Council (NRC) also recommended a systematic evaluation of all dams and diversions in the Klamath Basin for their effects on anadromous fishes; those with strong adverse effects should be investigated further for modification or removal (NRC, 2004, p. 302). The EIS considers the impacts of, and alternatives for removal of hydroelectric dams on the Klamath as recommended by the NRC.</p> <p>In order to further understand the likely effects of dam removal, extensive surveys and reviews have been conducted as</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
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recommended by the NRC on salmon and steelhead in the Klamath Basin. Two Expert Panels were convened specifically to address these issues.

The Chinook Salmon Expert Panel (Goodman et al. 2011) assessment was that the Proposed Action [dam removal] appears to be a major step forward in conserving target fish populations compared with decades of vigorous disagreements, obvious fish passage barriers, and continued ecological degradation.

Master Response AQU-6A Expert Panel Coho, Steelhead and Chinook.

As described in Section 3.3.4.3 of the EIS, the Proposed Action, which includes implementation of the KBRA, would result in flows more favorable to all life stages of salmonids, and would provide suitable habitat for resident riverine species, anadromous fish and lamprey in hydroelectric reach from the upstream end of J. C. Boyle Reservoir to Iron Gate Dam. In the Lower Klamath River below Iron Gate Dam, over the long term, the Proposed Action would alter the hydrograph so that the duration, timing, and magnitude of flows would be more similar to the unregulated conditions under which the native fish community evolved (Hetrick et al. 2009). The Proposed Action would have a beneficial effect on EFH for Chinook and coho salmon in the long term. The fact that coho and Chinook salmon historically occupied the hydroelectric reach and the Lower Klamath is also evidence that restoring flows to mimic historic patterns would be sufficient for maintenance and recovery of fish populations.

As discussed in Section 3.3.4.3 of the Draft EIS/EIR under Alternatives 2 (p. 3.3-126) and 3, the KBRA is expected to provide benefits to sucker populations through: nutrient reduction, reconnecting former wetlands to Agency Lake, reconstructing quality rearing habitat for early life stages, and restoring spring shoreline spawning habitat among others. The KBRA speaks to the settlement of long-running disputes concerning the use of Klamath Basin water for irrigation, fish and wildlife. It also speaks to water quality improvements in the basin. Addressing the water-related issues within the basin is expected to benefit all species of resident fish, including suckers. The EIS/EIR concludes that based on improved habitat quality, the effect of the Proposed Action would be beneficial for Lost River and shortnose sucker populations in the Long Term (Draft EIS/EIR 3.3-127). The Resident Fish Expert Panel concluded that a "dams out plus KBRA" management scenario provides promise for preventing extinction of sucker species and for increasing overall population abundance and productivity (Buchanan et al. 2011).

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-23	<p>It is not the explicit objective of the KBRA to recover suckers, although suckers would benefit in many ways. There are other tools to address the challenges described in the comment. For example, the USFWS has released (October 2011) a draft revised Recovery Plan for the two endangered sucker species that identifies objectives and criteria for recovery which would inform and focus future recovery actions. Additionally, the USFWS has initiated designation of Critical Habitat for the Lost River sucker and shortnose sucker (76 FR 76337, December 07, 2011), which will be finalized by November 30, 2012.</p>	No
IT_LT_1230_100-24	<p>Lost River and shortnose suckers are listed as fully protected species under CDFG code; thus, any take of these species is prohibited. However, a component of the Proposed Action includes legislation to permit the take of some individuals during implementation. The KBRA Section 24.2.2, as cited, doesn't show "intense pressure" on CDFG to issue permits, it states that legislation will be drafted and presented to the parties, if necessary.</p> <p>The Cumulative Effects Section 4.4.2.1 does analyze the effects of reservoir removal associated with dam removal under the Proposed Action and finds that the action could alter habitat availability and affect lost river and shortnose suckers. Based on reduction in abundance within reservoirs, the effect of the Proposed Action would be significant for Lost River and shortnose sucker populations in the short term. Implementation of Mitigation Measure AR-6 could be implemented to reduce the impact to individuals within reservoirs by rescuing fish prior to reservoir drawdown. Based on small numbers of individuals affected after mitigation, the effect of the Proposed Action would be less-than-significant for Lost River and shortnose sucker populations in the short term after mitigation.</p> <p>As discussed in Section 3.3.4.3 of the EIS/EIR under Alternatives 2 (p. 3.3-126) and 3, The KBRA is expected to provide benefits to sucker populations through: nutrient reduction, reconnecting former wetlands to Agency Lake, reconstructing quality rearing habitat for early life stages, and restoring spring shoreline spawning habitat among others. The KBRA speaks to the settlement of long-running disputes concerning the use of Klamath Basin water for irrigation, fish and wildlife. It also speaks to water quality improvements in the basin. Addressing the water-related issues within the basin is expected to benefit all species of resident fish, including suckers. The EIS/EIR concludes that based on improved habitat quality, the effect of the Proposed Action would be beneficial for Lost River and shortnose sucker populations in the long term (EIS/EIR 3.3-127). The Resident Fish Expert Panel concluded that a dams out plus KBRA management</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-25	<p>scenario provides promise for preventing extinction of sucker species and for increasing overall population abundance and productivity (Buchanan et al. 2011).</p> <p>The comment presents no evidence of a potentially significant adverse environmental effect caused by refilling of the Tule Lake National Wildlife Refuge (NWR) sumps after intentional draining. Moreover, the Lead Agencies are not required to conduct every test or perform all research, study, and experimentation recommended by comment author s or address issues that are not significant to the action in question. (CEQA Guidelines, § 15204(b); NEPA Regulation 40 CFR 1500.1(b)).</p> <p>Should the Tule Lake NWR sumps be proposed for intentional draining the action agency would be required to consult with the USFWS under Section 7 of the ESA concerning the effects to listed sucker species.</p>	No
IT_LT_1230_100-26	<p>As described in Section 3.3.4.3 of the EIS, the Proposed Action, which includes implementation of the KBRA, would result in flows more favorable to all life stages of salmonids, and would provide suitable habitat for resident riverine species, anadromous fish and lamprey in hydroelectric reach from the upstream end of J. C. Boyle Reservoir to Iron Gate Dam. In the Lower Klamath River below Iron Gate Dam, over the long term, the Proposed Action would alter the hydrograph so that the duration, timing, and magnitude of flows would be more similar to the unregulated conditions under which the native fish community evolved (Hetrick et al. 2009).</p> <p>The Proposed Action would have a beneficial effect on EFH for Chinook and coho salmon in the long term. The fact that coho and Chinook salmon historically occupied the hydroelectric reach and the Lower Klamath is also evidence that restoring flows to mimic historic patterns would be sufficient for maintenance and recovery of fish populations.</p> <p>Minimum flows for fish are also expected to be a result of future Biological Opinions by NOAA Fisheries Service and USFWS, pursuant to Section 7, of the Federal Endangered Species Act. NOAA Fisheries Service issued a biological opinion to Reclamation requiring releases from Reclamation's Klamath Project to produce specified rates of flow for the Klamath River downstream from Iron Gate Dam, based on the habitat needs of coho salmon (NOAA Fisheries Service 2010, EIS/EIR Section 2.4.2, p. 2-17). Implementation of the NOAA Fisheries Service 2010 Biological Opinion mandatory flows are a reasonably foreseeable future action associated with Reclamation's Klamath Project (Draft EIS/EIR Section 3.2.4.1, p. 3.2-35). Target flow rates</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-27	<p>in the Klamath River downstream from Iron Gate Dam vary by month, and are dependent in part on the amount of water entering Upper Klamath Lake. Reclamation and PacifiCorp's are required to meet these flow requirements. PacifiCorp currently coordinates with Reclamation to meet ramp rates in the NOAA Fisheries Service biological opinion on Reclamation's Klamath Project (Draft EIS/EIR Section 2.4.2, p. 2-17).</p> <p>Master Response HYDG-2 Drought Plan.</p>	No
IT_LT_1230_100-28	<p>The Modeled KBRA Hydrology that is described in Reclamation (2012d) is the hydrology that is used in the analysis for the Proposed Action Alternative in the EIS/EIR and they are not identical to the KBRA hydrology found in Appendix E-5 of the KBRA. The text on p. 2-20 of the EIS/EIR had been corrected to read "Operation of Reclamation's Klamath Project and the related river flows, measured at the United States Geological Survey (USGS) gauge downstream from Iron Gate Dam, would be according to the hydrologic model outputs in Bureau of Reclamation (Reclamation) (2012d)."</p> <p>Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management.</p> <p>Concern #1: Annotations in Figure 8 show periods when very low flow conditions would foster increased algae growth and trigger more adverse water quality. Algae build up has the potential to be most injurious during prolonged droughts when there is insufficient water for flushing flow releases in spring.</p> <p>Response #1: We assume that the comment refers to periphyton growth downstream from Iron Gate Dam under low flow conditions. The EIS/EIR Section 3.4.4.3.2 analysis of the effects of increased nutrients on periphyton growth in the Klamath River downstream from Iron Gate Dam under the Proposed Action indicates the following: "Because of these many competing factors, some that may favor enhanced periphyton growth downstream from Iron Gate Dam (i.e., increased nutrients transport), and some that counteract this response (increased uptake of nutrients by periphyton in the Hydroelectric Reach, increased frequency and intensity of scouring events, decreasing nutrient concentrations due to TMDL implementation and KBRA nutrient reduction programs [see KBRA discussion below]), it is likely that increases in periphyton growth below Iron Gate Dam would be less than significant."</p> <p>Concern #2: Lower Klamath River algae blooms not only cause directly stressful conditions due to elevated pH and dissolved ammonia and depressed dissolved oxygen (D.O.) (Hoopa TEPA</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>2008), they also provide habitat for the intermediate host of deadly fish diseases (Stocking and Bartholomew 2004, Stocking and Bartholomew 2007).</p> <p>Response #2: Master Response WQ-4. Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Master Response AQU-27 Disease.</p> <p>Concern #3: Goodman et al. (2011) call attention to persistent problems of prolonged anoxia in Keno Impoundment/Lake Ewauna (Figure 9) that they believe would not be alleviated under the KBRA. Figure 10 shows schematically where water quality limitations would block salmon migration, even the lower four KHP dams were removed. Diking off of wetlands and farming up to the margin of the reservoir has disrupted river processes that could otherwise assist with nutrient processing and reduction, similar to the findings of Bernot and Dodds (2005). Dredging of the reservoir to increase water storage capacity circa 1968 likely contributed to a decreased ability for ecological function and an increased propensity for anoxia. Continuing this land use and pattern of operation of Keno Impoundment/Lake Ewauna under the KHSA (7.5.4, 7.5.5) would prevent improved ecosystem function by riparian marshes that could otherwise assist with cleanup of nutrient pollution, similar to the findings of Lytle (2000) and Mayer (2005).</p> <p>Response #3: Existing data and numeric models described in Draft EIS/EIR Section 3.2.4.3.2 (p. 3.2-76 to 3.2-125) indicate that dam removal would 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> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the only line of Evidence.</p> <p>Concern #4: As noted above, the failure to analyze the transfer of Keno Impoundment/Lake Ewauna to the BOR and its operation for the 50 year life of the KHSA/KBRA is a critical shortcoming of the EIS/EIR.</p> <p>Response #4: The States of CA and OR have developed TMDLs for the Klamath river in accordance with the Clean Water Act, and California Water Code Division 7, Chapter 4 Article 3 and OAR</p>	

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>chapter 340, Division 42, respectively. Section 3.2 of the EIS/EIR, Water Quality, describes the TMDLs in detail. The TMDLs would remain in effect following the transfer of ownership of Keno Dam. Although the transfer of ownership of Keno Dam is not intended to improve water quality, the FRP of the KBRA specifies that it would include, but may not be limited to, water quality improvements, permanent protection of riparian vegetation, measures to prevent and control excessive sediment inputs, and remediation of fish passage problems, among others. The Phase I Plan of the FRP will address management and reduction of organic and nutrient loads in and above Keno Impoundment/Lake Ewauna and in the Klamath River downstream (KBRA Section 10.1.2). Prior to the measures taking effect, and until they result in water quality in Keno Impoundment being adequate for fish, anadromous fish would be trapped below Keno dam and transported above Keno dam to avoid the area of impaired water quality. Trap and haul around Keno Impoundment is seen as a temporary solution, for a single fish stock (fall Chinook adults) and would only be done seasonally when water quality cannot meet certain criteria (U.S. Department of the Interior 2007; NOAA Fisheries Service 2007). These conditions occur during the period July-October. In some years it may not be necessary. In the long run, implementation of KBRA and TMDLs may eliminate the need for trap and haul around the Keno Impoundment, or sooner if engineering solutions to the low summer dissolved oxygen in the Keno Impoundment can be identified and implemented.</p> <p>Concern #5: In addition to the suspended load from Upper Klamath Lake, Oregon Department of Environmental Quality (ODEQ) (2010) also found the waste load from the Straits Drain to be a major driver of anoxia in Keno Impoundment/Lake Ewauna. Waste water from the Klamath Straits Drain in August 2002 constituted 52% of out flows from the reservoir (Figure 11), which is similar to NRC (2004) findings. Agricultural discharges from the Lost River through the Lost River Diversion (LRD) canal are known to occur in winter (Deas and Vaughn 2006); however, ODEQ (2010) also found substantial nutrient contributions from that source in summer and fall of 2000 and 2008. ODEQ (2010) model runs of D.O. depletion in Keno Impoundment/Lake Ewauna show that the contributions from the LRD in September and October 2008 that appears to prolong the period of lethal conditions for salmonids there by several weeks. This is further conclusive proof of the connection between the Lost River, Tule Lake and Lower Klamath Lake and water quality in Keno Impoundment/Lake Ewauna that needs analysis in the cumulative effects section of the EIS/EIR. Highly polluted water from Keno Impoundment/Lake Ewauna released to the lower Klamath River may be somewhat improved by river denitrification processes in the free flowing river section after dam removal and would also be</p>	

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>improved dilution from springs in the reach currently inundated by Klamath Hydroelectric Project (KHP) reservoirs (Asarian et al. 2010).</p> <p>Response #5: Master Response WQ-4 C, D. Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Concern #6: However, dam removal also would speed the travel of nutrients from Keno Impoundment/Lake Ewauna and the levels of nitrogen after dam removal at the present location of Iron Gate Dam would increase by 45-58% in July-September (Asarian et al. 2010). The EIS/EIR (3.2.4.1.3) cites Asarian et al. (2010) and acknowledges the increase in nitrogen after dam removal, but fails to analyze the potential cumulative effects of continuing high pollution rates from Reclamation's Klamath Project under the KBRA on water quality and fish health. Two myxozoan disease organisms, <i>Ceratomyxa shasta</i> and <i>Parvicapsula minibicornis</i>, are endemic to the Klamath River and the Pacific salmon species have co-evolved with them and have developed substantial resistance. However, nutrient enrichment from the Upper Klamath Basin and from within Iron Gate Reservoir sets up conditions that cause extraordinarily high production of disease organisms that can overwhelm otherwise healthy fish (Nichols and Foott 2005).</p> <p>Response #6: Master Response WQ-27. Nutrient Retention With Dams, Nutrient Release Without Dams, and Periphyton.</p> <p>Concern #7: The green algae species <i>Cladophora</i> is recognized as an indicator of nutrient pollution and there are areas below Iron Gate Dam where this species is dominant (Stocking et al. 2006). A polychaete worm, <i>Manayunkia speciosa</i>, which thrives in <i>Cladophora</i> beds also serves as an intermediate host for the deadly diseases. Fall Chinook spawning is concentrated below Iron Gate Dam and adults carry myxospores that cause a vicious cycle as <i>M. speciosa</i> captures them and then releases actinospores when Chinook juveniles are migrating downstream (Stocking et al. 2006, Bartholomew 2008). Without abatement of nutrients at their source in the Upper Klamath Basin, both Goodman et al. (2010) and FERC (2007) predict that fish disease nodes would persist after dam removal, but would relocate to low gradient stream reaches restored by dam removal. <i>Cladophora</i> would tend to become established and these same areas would have concentrated Chinook salmon spawning. "Continued high nutrient levels in the Klamath River that create ideal colonization conditions for <i>Cladophora</i>, at sites with favored flow and substrate conditions, would enable the host polychaete to become</p>	

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>reestablished, and C. Shasta and P. minibicornis would likely continue to pose a serious threat to downstream salmon for the foreseeable future" (FERC 2007).</p> <p>Response #7:</p> <p>Master Response AQU-27 Disease.</p>	
IT_LT_1230_100-29	<p>Concern #1: The KBRA (2.1) states directly that it will not infringe upon the Clean Water Act (CWA): "In the implementation of this Agreement, Public Agency Parties shall comply with all applicable legal authorities, including Authorizing Legislation, National Environmental Policy Act, Endangered Species Act, Clean Water Act, and other Applicable Law."</p> <p>However, there is conflict of meeting CWA standards and TMDL implementation due to provisions of the KBRA that block effective enforcement or enactment of either. The EIS/EIR ignores these problems and invokes the TMDL process, which is part of the CWA, as a major force for cleanup and abatement of water pollution. When pressed by the Resighini Rancheria in cooperator's draft review to more fully explore KBRA and TMDL implementation conflicts, the government responded in a contradictory fashion:</p> <ul style="list-style-type: none"> <li>• "The TMDLs and KBRA are both included as programs that strive to decrease nutrient loading in the Upper Klamath Basin", and</li> <li>• "The effectiveness of the TMDLs is outside the scope of Reclamation's Klamath Project; it is under the State and EPA jurisdiction."</li> </ul> <p>This shows that there is no scientific basis for EIS/EIR assertions that TMDLs would work in helping abate water pollution. The conflicts of the KBRA and implementation of TMDLs by geographic area are described below:</p> <p>Upper Klamath Lake: The section above on endangered sucker recovery in UKL details how KBRA water supply objectives are in conflict with abatement of nuisance blue-green algae blooms. Ecosystem function of marshes surrounding UKL is needed in order to attain the ecosystem service they provide, which is suppression of blue-green algae. As long as UKL remains hypereutrophic, it would continue to overload the Keno Impoundment/Lake Ewauna with dire consequences for water quality there and in the lower Klamath River.</p> <p>Keno Impoundment/Lake Ewauna: As noted above in relations to salmon recovery, Keno Impoundment/Lake Ewauna would</p>	No

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
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continue to be overloaded with nutrients both from UKL and from Reclamation's Klamath Project through the LRD canal and the Klamath Straits Drain. The Lost River and Tule Lake were originally a sink and did not discharge into the Klamath River; therefore, the high level of nutrients contributed by them today help push the river past the tipping point where ecosystem processes are insufficient for the river to clean itself. Goodman et al. (2010) point out that Upper Klamath Chinook salmon recovery would not likely be successful because of insufficient actions in the KBRA to clean up Keno Impoundment/Lake Ewauna pollution. This is a clear example of the COLD water fish beneficial use under the CWA not being attained. The KHSA is also in conflict with restoring ecological function in the Keno Impoundment/Lake Ewauna reach, which is counter to achieving TMDL and CWA objectives.

Lower Lost River: As noted above, the KBRA provisions that continue Lease Land farming on Tule Lake NWR and Lower Klamath NWR and support continued full use of the 200,000-acre Reclamation's Klamath Project through power subsidy essentially block TMDL implementation. This land use does not allow reduction of nutrient contributions and water demand and blocks strategic restoration of marshes and lakes needed for water storage and filtration. Therefore, the nutrient load exported to the Keno Impoundment/Lake Ewauna is likely to remain extremely high and confound recovery there and downstream. As also noted above, Lost River and shortnose suckers would not be restored in areas covered by the Lower Lost River TMDL (EPA 2008), which includes Lower Klamath Lake and Tule Lake. The last populations in Tule Sump A are also potentially threatened by draining and refilling planned as part of the KBRA. Since Lost River and shortnose suckers are beneficial uses under the CWA and they would not be restored, it follows that the KBRA blocks the Lower Lost River TMDL and CWA implementation.

Lower Klamath River: The NCRWQCB (2010) action plan for cleanup of the lower Klamath and Lost River is clearly in conflict with the KBRA. Dam removal would help ecosystem function of the Klamath River in the restored KHP reach, including elimination of toxic algae. However, the huge excess of nutrients from Keno Impoundment/Lake Ewauna would continue to overwhelm the river's capacity for assimilation causing major algae blooms downstream. As noted above, this has consequences for fish diseases as well as exceedance of water quality standards.

Response #1: 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

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_100-30	<p>those anticipated under the TMDLs. Trap and haul has been proposed to transport migrating adult fish upstream of the Keno Impoundment when certain adverse water conditions exist. 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>Concern #2: In the Draft EIS/EIR (p 3.2-103) acknowledges that water quality would continue to be impaired and would fail to meet water quality standards set by the Hoopa Valley Tribe (Hoopa TEPA 2008): "TMDL model results indicate that while resulting TP levels would meet the existing Hoopa Valley Tribe numeric water quality objective (0.035 mg/L TP) at the Hoopa reach (≈RM 45–46) of the Klamath River, TN levels would continue to be in excess of the existing objective (0.2 mg/L TN) (NCRWQCB 2010a)." The EIS/EIR only touches on the issue of increased nutrients after dam removal and adopts the hypotheses of Asarian et al. (2010) that additional nitrogen (N) may only change the point in the lower Klamath River where N dependent and N fixing periphyton dominate the river. However, since current nutrient levels at Iron Gate Dam are causing problems with nuisance algae blooms and water quality that is highly stressful or lethal to salmonids, there is no reason to believe that similar problems would not continue when the nutrient that would otherwise be limiting to plant growth is increased by 50% after dam removal. The greatest problems with water quality would likely manifest in years of low flow and low snow pack similar to 1997, when the mainstem Klamath River below Orleans had lethal levels of D.O. (Halstead 1997). Lower Klamath River recovery also requires that flows and ecosystem function of the Shasta and Scott rivers be restored, but conditions there have not improved since adoption of those TMDLs (QVIR 2008a, 2008b).</p> <p>Response #2:</p> <p>Master Response WQ-27 Nutrient Retention With Dams, Nutrient Release Without Dams, and Periphyton.</p>	No
	<p>KBRA and KHSA promote basin fisheries through the following actions: dam removal, Reclamation's Klamath Project diversion limitations, increase in the size of Klamath Lake, habitat restoration activities throughout the basin, continued ESA protections, a drought plan affecting the Reclamation's Klamath</p>	

**Comment Author** Dowd, Rick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>Project and the Upper Klamath Basin, water acquisitions (both permanent and during an interim period before the agreements are fully implemented), fish and water quality monitoring studies, and other actions to protect and restore the basin fishery. The Department has also committed to identify other potential mitigation tools, including additional releases from Trinity Reservoir, as necessary to protect Trinity River-based fishery resources as well (KBRA Section 2.2.12) Overall, restoration would be consistent with any trust obligation due all basin tribes, including those who currently oppose the KBRA and its authorizing legislation. Conversely, litigation or adjudication of these and other issues entails significant risks and costs, takes years if not decades to resolve, and ultimately does not provide the opportunity, both in programs and appropriations, that the KBRA and related activities would if enacted. In fact, the Oregon adjudication began in the mid-1970s and has yet to complete the first of three phases. Thus, this agreement offers enormous opportunities as well as certainty to the basin's interests.</p> <p>Section 3.15 specifies economic effects of Tribal Programs in the KBRA apply to the Karuk, Klamath, and Yurok Tribes. The Resighini Rancheria Fishery Socioeconomic Technical Report further describes economic effects to the Resighini Rancheria and is available at <a href="http://klamathrestortation.gov">klamathrestortation.gov</a>.</p> <p>Master Response TTA-5 Presentation of Effects.</p>	
IT_LT_1230_100-31	<p>Master Response N/CP-16 Purpose and Need/Project Objectives.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p> <p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action.</p>	No
IT_LT_1230_100-32	<p>Master Response WQ-19 Water Temperature Models and General Predictions.</p>	No
IT_LT_1230_100-33	<p>Tribal trust responsibilities are unchanged by the KBRA/ KHSA.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>Master Response TTA-7 Tribal Involvement in Future Discussions of Water Management.</p>	No

IT\_LT\_1122\_087

November 17, 2011

BUREAU OF RECLAMATION OFFICIAL FILE COPY RECEIVED		
NOV 22 2011		
CODE	ACTION	SURNAME & DATE
150	my	11/22

My name is Venola Dowd. I am a tribal member to Resighini Rancheria and a residence to Del Norte County in California and a of United States citizen. I am 84 years old.

← Comment 1 - Envr. Justice

My concern is with the negative impacts these agreements have on our tribal water and fishing rights claims. I believe that our exclusion is a violation of the federal trust responsibility and this process violates environmental justice laws and policies. Each federally recognized tribe in the Klamath Basin should be recognized sovereign authority to choose to accept these deals called agreement without forced provisions like the one in Section 15.3.9 of the KBRA. If the federal government accepts these agreements as they stand, Klamath River Senior water rights will be compromised and our future generation ancestral fishing practices will be in jeopardy. As a tribe, we do not have the funds to fight anyone that violates our sovereignty.

I do not oppose dam removal, I support giving the authority back to the Federal Energy Regulatory Commission where it belongs; back to a process that the people in power adopted to allow equally participation from beginning to the end. Follow the law! It will make the dams come out sooner.

I support the **NO ACTION ALTERNATIVE!**

← Comment 2 - FERC

*Venola Dowd*

← Comment 3 - Disapproves of Dam Removal

*646 Fresno Street  
Crescent City, Ca 95531*

SCANNED

Classification #	- 2600
Project	3137
Control No	11287095
Folder ID	1192105
Date Input & Initials	11-22-2011 [Signature]

**Comment Author** Dowd, Venola  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** November 22, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1122_087	<p>Inclusion in the Klamath Settlement Group required consent of all the parties then participating in that group. DOI is aware that a party exercised its right in the spring of 2007 and blocked the inclusion of the Resighini Rancheria in the Klamath Settlement Group talks. This action did not and does not preclude the Resighini Rancheria from meaningfully participating in the natural resources issues implicated by the KHSA and KBRA. As described in Master Response KHSA-1 Negotiation of KHSA and KBRA, parties outside the Klamath Settlement Group had opportunities to give input regarding development of the KBRA during 2007-2010. At present, any party willing to support the KHSA and KBRA as currently crafted may become a signatory to the agreement. If the KBRA is implemented, DOI will still have to consult on a Government-to-Government basis with all tribes that have an interest in fish and water in the Klamath Basin. So, there still will be tribal – federal discussion regarding how water management and fish issues should be handled outside of the KBRA. For additional information on Tribal Involvement in Future Discussions of Water Management see Master Response TTA-7.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA, describes in detail how the KBRA is consistent with upholding federal trust responsibility. The commenter’s assertion that implementation of the KBRA would compromise Klamath River senior water rights is unfounded, as further explained in Master Response TTA-1.</p> <p>Also, to the extent that the Resighini Rancheria’s “exclusion” complaint concerns the Klamath Facilities Removal EIS/EIR process, such a complaint would be unfounded. The Resighini Rancheria has been afforded all of the opportunities for public input and comment available under NEPA, CEQA, and the relevant implementing regulations, including the opportunity to submit comments on the Draft EIS/EIR to which the Lead Agencies are now responding. DOI has held many public meetings in the basin as described in Master Response GEN-16 Public Involvement and has consulted multiple times with all the basin tribes, including the Resighini Rancheria. The Resighini Rancheria is a cooperating agency for the EIS. However, the Resighini Rancheria does not have an absolute right to participate in the development of the proposed action and alternatives that are the subject of analysis in this EIS/EIR since the proposed action concerns potential decisions that would be made by the lead federal and state agencies.</p>	No
IT_LT_1122_087-2	Master Response FERC-1 FERC Process Status.	No
IT_LT_1122_087-3	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

IT\_MC\_1027\_055

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MR. DUNLAP: James Dunlap, J-a-m-e-s

D-u-n-l-a-p --

-- on behalf of yurokvoices.com.

First off, I commend the individual groups that came together to address this problem. And special thanks for the watchdogs that are watching those members that made this Agreement.

You know, as a Yurok, I have an innate distrust of the United States Government, its agencies and its members on behalf of the United States Government. They have never had our best interests at heart.

Comment 1 - Approves of Dam Removal

Comment 2 - Economics

A couple of things that -- you know, I do

believe the dams are coming out, and it's a good thing.

The jobs, that will be interesting to see how that plays

out, just who will get the jobs and how they will be

disbursed, whether they go into the organizations, they

go to the big companies, or they go to the individuals.

You know, that's my concern. And if there's a preference

in those jobs.

Comment 3 - Water Quality

The water quality standards and the safeguards,

the fertilizers that were spoke about just earlier, you

know, I have to have a certain amount of trust in this

whole process and in believing that, you know, all these safeguards will be in place. You know, my experience on the big events, the smaller things that add up sort of get overlooked. And, you know, I will trust and I will hope that they're not overlooked in these situations, in providing not only the removal but their perpetuation of a healthy river.

Comment 4 - ITAs

One of the things, you know, that I speak on for myself, and I think, I speak unofficially for a lot of Yurok members, that we're at odds with, and even in light of our Tribal Council endorsing the KBRA Agreement, and that's Section 15.3.6 A-1, the assertion -- or the waiving of our tribal water rights and our tribal fishing rights, in theory, or in any manner, the Appendix 1, a complete waiver and release of claims on behalf of the Yurok people.

I cannot believe that the Yurok people wish to waive our rights to our water, in theory or in manner. I do not believe we are endorsing any Agreement in which we have to give up our rights to the water or our rights to the fish, to have this river that is our life return to its natural state.

Thank you.

**Comment Author** Dunlap, James  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_055-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1027_055-2	The regional economic effects stated within Section 3.15, including job effects, are estimates. The estimated employment effects are modeled to occur in the identified economic regions and would be available to residents in the region. Estimated jobs include full time, part time, and temporary positions. Full realization of employment changes may not occur to the extent that businesses deal with changes in spending by adjusting the workload of existing employees or increasing their use of capital relative to labor. The purpose of the Draft EIS/EIR is to describe impacts, not to ensure preferential hiring.	No
IT_MC_1027_055-3	<p>As described in the Draft EIS/EIR Section 3.2.2.3 (p. 3.2-13 to 3.2-14), water quality in the Klamath River is impaired for several water quality parameters and does not fully support designated beneficial uses.</p> <p>As part of KBRA, continued agricultural use in the Reclamation's Klamath Project is part of the Purpose and Need Statement. The KBRA is a negotiated settlement and the Draft EIS/EIR does not analyze alternatives to the KBRA. Draft EIS/EIR Section 3.2.3.8 Inorganic and Organic Contaminants (p. 3.2-30 to 3.2-33) and Section (Appendix) C.7 (p. C-63 to C-72) present existing information on pesticides and herbicides in the Klamath Basin.</p> <p>The analyses conducted for the Draft EIS/EIR use the best available science and rely, in several cases, on peer reviewed studies undertaken as part of the Secretarial Determination process (e.g., sediment transport modeling, sediment contaminant analyses, short-term oxygen demand modeling, short-term fisheries impacts from suspended sediments). The peer reviewed reports can be downloaded from <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>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality Anticipated KHS/KBRA Improvements.</p>	No
IT_MC_1027_055-4	Master Response TTA-1 Federal Trust Responsibility and the KBRA.	No

Larry Dansmoor

IT\_LT\_1019\_070

Terry 10/28/11  
#2

← Comment 1 - Approves  
of Dam Removal

The dams cause or contribute to many problems for the river and its fisheries. A partial list includes:

- very large daily swings in flow due to peaking,
- diversion of essentially all of the flow out of the river at one of the dams,
- problems with blooms of toxic algae,
- homogenization of flow and thermal regimes,
- heating the river in the late summer and early fall well above natural temperatures to levels that delay fall Chinook runs and cause significant stress to those fish,
- preventing the movement of gravel and other sediments,
- blocking fish migrations,
- various water quality problems
- worsening fish disease conditions

Removing the dams is likely to eliminate or significantly improve these problems. Fewer opportunities for effectively addressing these problems exist if the dams remain in place.

An overall conclusion of the Chinook Expert Panel was that “The Proposed Action appears to be a major step forward in conserving target fish populations compared with decades of vigorous disagreements, obvious fish barriers, and continued ecological degradation.”

I asked the Panel to respond to a question: what did they think would happen to Chinook salmon if the dams were not removed? They answered: “There is much certainty that if the four dams are not removed, the Klamath Chinook salmon will continue to decline.”

One way or another, PacifiCorp rate-payers are going to pay for efforts to reduce or eliminate these impacts. The Public Utilities Commissions in both Oregon and California concluded that the KHSA protects the rate payers from far higher costs that will be incurred if the dams are relicensed.

I keep hearing these dams being described as “perfectly good hydroelectric dams”, and that it would be insane to remove them. In reality, it would be foolish to keep them in place, because these dams are extremely detrimental to the river, its fisheries, and the people who rely upon the fish and want a healthy river. Much of the severe conflict this basin has experienced in recent decades can be traced back to the problems associated with these dams. Other primary sources of ecosystem degradation and conflict have been addressed in the KBRA. The best way to achieve ecological, economic, and social prosperity here is to implement the KHSA and the KBRA, and remove the dams.

**Comment Author**      Dunsmoor, Larry  
**Agency/Assoc.**      The Klamath Tribes  
**Submittal Date**      October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1019_070-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

**Klamath Falls Hearing - 10-18-2011**

---00o---

STATEMENT PROVIDED BEFORE PUBLIC HEARING  
(Directly to Court Reporter)

MR. LARRY DUNSMOOR: My last name is Dunsmoor, D-u-n-s-m-o-o-r.

I am Larry Dunsmoor, water management liaison for  
the Klamath Tribes, and we will be submitting extensive  
written comments, so I will keep my comments very brief  
here.

Comment 1 - Approves of Dam Removal

But I will point out a few things. The dams in  
question do not provide clean power. They are very  
damaging to the river system.

For example, the dams, a 100 percent flow is  
diverted from the river. I don't think that's too good.

There are many impacts the system has on the river  
and on the fisheries. And by removing the dams we can  
completely eliminate some of those impacts and  
significantly improve others. There really is no viable  
alternative, I don't think.

I work for the Klamath Tribes. The Klamath Tribes  
lost their fishery, you know, over their protests. This  
is the best way to bring those fish back.

A lot of people have portrayed this as fish versus  
people. This is all about people, folks. This is about

people who care about fish, rely on fish. It is about commercial fishermen and tribes just as much as it is about agricultural folks.

Now let me point out that the folks that put these settlement agreements together worked extremely hard to balance the outcome. And in my strong opinion that balance was achieved. There is work yet to do. There will always be work to do.

Someone show me an alternative that's even remotely as effective as these agreements and we will all turn to that direction.

Thank you.

**Comment Author** Dunsmoor, Larry  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 18, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1018_002-1	Master Response GHG-1 Green Power.  Any new power sources constructed in either state will work towards meeting this goal, which will increase the amount of renewable energy used as compared to today's mix of power.  Master Response GHG-2 Rate Increase.  Master Response GHG-3 Replacement Power.	No

IT\_MC\_1019\_009

## PUBLIC HEARING ON THE KLAMATH DAM

---o0o---

CHILOQUIN, OREGON

OCTOBER 19, 2011

---o0o---

MR. LARRY DUNSMOOR: Good evening.

My name is Larry Dunsmoor, D-u-n-s-m-o-o-r. I work

with the Klamath Tribes. I've been working on the issues

associated with these dams for a few years.

Comment 1 - Approves of Dam Removal

So a partial list of the problems that we face with

these dams would include some of these things. The very

large daily swings in flow as a result of peaking

operations

One of the dams, Copco 2, essentially all of the

flow is diverted out of the river at certain times a year

There are problems with blooms of toxic algae in

the project reservoirs. The reservoirs have the effect of

homogenizing flow and thermal regimes of the downstream

and receiving waters.

The water is heated up in the late summer, early

fall, well above natural temperatures to levels that delay

fall Chinook runs and cause significant stress to those

fish.

The dams prevent the movement of gravel and other

sediments down the stream. They block fish migration.

There are various other water quality problems associated with these. They also worsen the conditions for fish diseases.

There's a pretty good list.

Removing the dams is likely to eliminate or significantly improve these problems. Fewer opportunities for effectively addressing these problems exist if the dams do remain in place.

As part of the process you folks have engaged in over the last few years, there were some expert panels, Chinook expert panel wrote the following overall conclusion, and this is a quote: Proposed action, that of dam removal, appears to be a major step forward in conserving target fish populations compared with decades of vigorous disagreements, obvious fish barriers and continued ecological degradation, end of quote

An interaction that we had with that expert panel, I asked them a question. It was this question: What do you think will happen to Chinook salmon if the dams are not removed? The answer I got: There is much certainty that if the four dams are not removed, the Klamath Chinook salmon will continue to decline.

On the point that Matt Walters spoke to, one way or another, PacifiCorp rate payers are going to pay for

efforts to reduce or eliminate the impacts associated with these dams. They will either do it as a result of the re-licensing process or they will do it as a result of the removal process.

The Public Utilities Commissions for both Oregon and California have taken a very careful look at the cost associated with these, with these alternatives. And their conclusions have been very firm, that the Klamath Hydroelectric Settlement Agreement and the associated dam removal protects the rate payers from higher costs that will be incurred if the dams are re-licensed.

And, finally, I keep hearing that these dams are perfectly good hydroelectric dams and that it would be insane to remove them. Well, I would offer an alternative conclusion. From a policy standpoint it would be utterly foolish to keep these dams in place because they are extremely detrimental to the river, detrimental to its fisheries, and most particularly detrimental to the people who rely on the fish and want a healthy river.

Much of the severe conflicts we have experienced in the Basin over the past few decades in particular can be associated with these dams. Other primary sources of ecosystem degradation and conflict have been addressed in KBRA, the sister agreement to the hydro agreement.

The best way to achieve ecological, economic and  
social prosperity here is to implement the KHSA and the  
KBRA, and remove the dams.

Thanks.

**Comment Author**           Dunsmoor, Larry  
**Agency/Assoc.**           The Klamath Tribes  
**Submittal Date**           October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1019_009-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1020\_030

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**  
KlamathSD@usbr.gov

**Website:**  
KlamathRestoration.gov

**Fax:**  
(916) 978-5055

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

**Name:** Jacquelyn Dyer

**Organization:** Hopi

**Title:**

**Address:** PO Box 153, Orleans, CA 95564

**Email:** jacquelyn-dyer@yahoo.com

**Comments:** Our ancestors taught us to be stewards of the land. They told us

to watch the water, and the animals and the earth to determine the health of our people and ways of life. A 60,000 salmon fish kill, toxic algae blooms, and water so toxic it cannot support native wildlife tells me that the Klamath River Dams create an unhealthy way of life. We are at a critical time where we must work to restore our natural surroundings so our children may be assured a healthy way of life. Real estate investments, as <sup>are</sup> all investments, risky. It is especially more risky when one buys property on a man made lake with a dam life of no more than 100 yrs. The few people benefiting from recreational pleasures should be reimbursed for their losses because the benefit of life is far greater than the cost of reimbursement. Undoing the Klamath is the only way to ensure life for us all. ~~in the future~~

Public Disclosure: It is not required that you submit personal information. If you decide to do so, please note that you can ask us in your comment to withhold your personal identifying information from public review.  
Comment 1 - Approves of Dam Removal

**Comment Author** Dyer, Jacquelyn  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_030-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

IT\_MC\_1026\_059

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 26, 2011  
PUBLIC TESTIMONY  
ARCATA, CALIFORNIA

MR. FLETCHER: I'm here. I don't know if I wanted to be the first speaker. But my name is Troy Fletcher, F-l-e-t-c-h-e-r, and I'm an executive director and a member of the Yurok Tribe.

I would like to make a few comments in support of the secretarial determination of the preferred alternative to the SEIS. The Yurok Tribe has participated on a political, a technical, and in a legal level in the issues associated with the Klamath Agreements that have led to this process.

We have also participated, well before that, in a whole host of environmental and other fisheries and water issues that have impacted the Yurok Tribe in a horrifically negative way. The fish kill that happened in 2002 happened on the Yurok Reservation. It happened during our fishery, and we stopped fishing because of that. Not because we met our quota but because the fish were all piled up and dead on the banks of the river, still in the river. The Yurok Tribe worked with and led efforts to assess the damage and what that meant in terms of population and things of that nature.

The Tribe is also dependent upon the fishery for

our cultural purposes. It's a way of life. It's who we are. Our

Reservation is located on the lower 44 miles of the Klamath River. We support the Klamath Agreements.

We participated in the Klamath Agreements.

It turns out that sometimes the States of Oregon and California don't agree. Sometimes the County of Humboldt and maybe even Siskiyou County does not agree.

It turns out sometimes the environmental groups don't agree with each other. It's not a surprise that sometimes tribes don't agree with each other. And you're probably going to hear some opposition from other tribes, besides the Yurok, to this effort we support. We think others may oppose. We do -- and that's okay, and it's reasonable that people disagree. And with these other tribes, we share a lot of things in common and we team up and we have things that we work jointly together on, and

we make a lot of progress in different areas.

Comment 1 - ITAs

On this particular issue, though, there is one thing lacking in the analysis, and that is, there wasn't a good description about what the tribal harvests actually are, and what they actually are in terms of Klamath River fish. We actually catch Klamath fish; the Yurok Tribe does. We depend upon these fish. We're allocated 80 percent of the fall Chinook fishery. We catch Klamath fish, and so, it's important, as you go through this, that that be captured, that that be

captured.

When people from other tribes, who may claim that this is an affront to the trust responsibility, we will say that trust responsibility, in many aspects, is dependent upon the technical need to fish, the technical needs, in terms of what water is necessary, what habitat is necessary to support those fish. And those technical needs are comprised in the Klamath Agreements but are based upon what happens, in many aspects, for juvenile production and other things, for fish we actually catch. That needs to be captured in the appropriate section of the Agreement.

Comment 2 - Approves of Dam Removal

We'll stand ready to work with Congress and others to make this a reality, and we want to see dams come out. We know others do. We want to work with people, even if they have opposing views. We'll continue to do that.

We want to thank you for your time and for the road show that you're embarking on. Thank you.

**Comment Author** Fletcher, Troy  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1026_059-1	Master Response TTA-3 Federal Trust Responsibilities and Fisheries.  Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.	No
IT_MC_1026_059-2	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose of Dam Removal.	No

IT\_LT\_1020\_029

Pat Fletcher (Lama)

Klamath Dam Removal Draft EIS/EIR Comments  
Shasta Indian Nation 10/20/2011 - yreka

Secretary of the Interior Ken Salazar,

Thank you for this opportunity to voice our  
Comments and concerns regarding the Klamath  
Dam Removal draft EIS/EIR.

← Comment 1 - Alternatives

We would like to start out our comments by  
stating that we endorse  
Alternative 4 - fish passage at 4 Dams and  
ask that a sensor fish study be conducted.  
We also ask for hatcheries to be placed on  
the Salmon and Scott Rivers to allow our  
people to once again be able to fish  
in our Native lands.

Comment 2 - Cultural Resources

In 1934 Quartz Valley Reservation was ~~established~~ <sup>established for Shasta and</sup> ~~for~~ <sup>upper Klamath</sup>  
In Section 3.12.3.2. <sup>rivers Shasta</sup>

Quartz Valley tribe, Quartz Valley tribe Histor  
they state and I quote "Most of the Quartz  
Valley Indian Reservation tribal members are  
descendants of people of Karuk ancestry,  
although a few tribal members are also of  
Shasta ancestry, therefore, their cultural  
traditions are similar to those described  
in the Karuk section of this report

①

The Quartz Valley Indian Reservation is a Federally recognized tribe representing people of "Upper Klamath (Karak) and Shasta ancestry." end quote.

First we would like to thank the QUR for finally acknowledging the fact that the vast majority of their membership is in fact of Karak descent. ~~the~~ the issue that we have with them is that they have falsely stated that the people of "Upper Klamath" are Karak, when in fact they are wholly Shasta. The Karak have never been identified as "Upper Klamath" that is the designation that belongs to the Shasta people living on the Klamath River. ~~Our~~ Our western boundary lies at Clear Creek on the Klamath River. This is according to George Gibbs, who traveled with the Treaty Commissioner Reddick McKee in 1851 and documented the journey in great detail in the "History of Siskiyou County" by Harry L. Wells. 1881 page 104 "McKees Indian treaties" He (McKee) next got all the Shastas together and assigned them for a Reservation the lower end of Scott Valley. This clearly shows that Treaty "R" was exclusively with the Shasta people,

(2)

← Comment 2 cont.

We the Shasta Indian Nation would like to publicly state that the QUR does not now, nor ever has, represented the "Shasta People". In the late 1950's and Early 1960's The Indian Claims Commission Docket #333 "The Shasta tribe" (led by Stanley Miller - Uncle to our former Chairman Larry Duke and also Great Uncle to our Secretary Ray Shelton) Sued the United States Government and was recognized as having a right to participate in the lawsuit. The Shasta aboriginal territory was documented, mapped, acknowledged and paid for during the ~~process~~ <sup>suit</sup>. This lawsuit was wholly and completely separate from the QUR which was then in the process of formation.

← Comment 3 - ITAs

in Section 3.12.3.3. Karuk ←  
Karuk ~~tribe~~ History

Fishing

The Klamath and Salmon River fishery and other resources supported the more than 100 ancestral Karuk villages ~~sites~~ along the Klamath and Salmon Rivers.

This is a fraudulent statement.

3) We are astounded that the Karuk tribe has the audacity to ~~commit perjury~~ <sup>make false statements</sup> in this process at the expense of the Shasta people for their own gain.

Comment 3 cont.

The Karok only went up the Salmon River less than 1 mile from the Klamath River

According to C. Hart Merriam in his "Konamehe Villages" from the C. Hart Merriam papers at U.C. Berkeley,

There are at least 17 documented Konamehe Village sites on the Salmon River.

1. Wa-ah-shoo-Kah-rah'-Kah was located at the mouth of Oak Bottom Creek, on the North side of the Salmon River. It was the lowest and most Northern Village of the tribe. Below this was Karok territory.

For the Karok tribe to imply that there were Karok Village sites above Oak Bottom is <sup>NOT TRUE</sup> outrageous.

Comment 4 - ITAs

3.12.31 The Klamath tribes. The Klamath tribes History. KBRA The KBRA has several programs that could result in impacts/effects to trust resources and other traditional resources used by the Klamath tribes. Specific KBRA programs potentially affecting trust resources and other traditional resources include

(4)

Comment 4 cont.

Klamath tribes ~~interim~~ <sup>temporary</sup> fishing site.

Establishment of the Klamath Tribes interim fishing site could result in impacts/effects to trust resources and other traditionally used resources. Actions associated with the Klamath Tribes interim fishing site include establishment of an interim fishing site for Klamath tribal members between Irongate Dam and Interstate 5. The improvement in Salmon fishery access generated by development of the Klamath Tribes interim fishing site would contribute to the positive effects of hydroelectric facility removal.

Establishment of the Klamath Tribes interim fishing site would generate beneficial effects to trust resources by providing tribal members with access to the Salmon fishery prior to hydroelectric facility removal.

## Comment 5 - Envr. Justice

We the Shasta people oppose implementation of the KBRA for this proposal to establish a Klamath tribes fishing site in Shasta aboriginal territory. The area in question is very sacred to the Shasta people and is also the site of the murder of Chief Bill on May 24<sup>th</sup> 1854.

This area is also home to documented Shasta Village sites and burial grounds.

We feel that this is a gross violation of our tribal sovereignty and a violation of our environmental justice.

## Comment 6 - Cultural Resource

### 3.13.2.2. Native American Graves Protection and Repatriation Act (NAGPRA)

Section 3 of NAGPRA applies to Indian Human remains and other cultural items found on federal lands and tribal lands, and addresses the treatment and disposition of those remains and items in consultation with relevant tribe(s).

Any Indian human remains or other cultural items found on federal land or tribal land affected by the proposed action and alternatives would be subject to the procedures under NAGPRA.

6

Comment 5 cont.

We request that the Siletz tribe receive the remains that have been found in the project area on our behalf and further request that the QUR be excluded from the NAGPRA process in this area as they have no cultural ties to the project site.

Identifying consulting parties pursuant to 36 CFR Section 800.3(f)

The public involvement process for NEPA has been extensive and sustained. It has included outreach and invitations to consult to other federal agencies, non governmental organizations, and the public. In addition DOI has separately notified the ACHP, California SHPO, Oregon SHPO, six federally recognized tribes, two Indian organizations and other interested parties.

CONSULT regarding the effects of the undertaking with tribes that may attach religious and cultural significance to affected historic properties. Tribal Consultation for Section 106 was initiated by letter dated 10-19-2010 - Tribal Consultation is ongoing

We request that our Contact info be updated

Shasta Indian Nation  
Ray Shelton - Secretary  
P.O. Box 528  
Etna, CA 96027

Thank you for the opportunity to  
submit a partial list of comments.  
A more detailed list will be submitted  
before the deadline.

8

**Comment Author** Fletcher, Pat  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1020_029-1	<p>Although the comment does not directly address the content and analysis of the EIS/EIR, a brief explanation of current salmonid monitoring activities is provided below in response the “sensor fish study” phrase provided in the comment as a courtesy.</p> <p>To ensure compliance with current production requirements, all fish released from IGD are counted. Annual hatchery reports are available from the Department of Fish and Game which document each year’s releases as well as adult returns. Additionally, all coho salmon and steelhead are marked prior to release. Due to the larger number of Chinook salmon produced and released; only a fraction (25%) is marked. As each fish returns to the hatchery, they are examined and records of hatchery produced and naturally produced fish by species, is collected.</p> <p>In addition to documenting achievement of hatchery production goals, marking hatchery fish is very important for other reasons. First, management of Chinook salmon and steelhead in the Klamath Basin is based on natural production, not hatchery production. As a federally and state listed threatened species, coho salmon recovery is also based on natural production. Being able to distinguish between the hatchery and natural production is crucial. Secondly, only hatchery produced steelhead (adipose fin clipped) are legally allowed to be harvested by sport anglers in order to allow unmarked, naturally produced fish to continue to spawn.</p> <p>Finally, the number of adult Chinook and coho salmon returning to spawn in areas outside the hatchery (e.g., Shasta River, Scott River, Bogus Creek, etc), is also determined. This information is combined with counting information from the hatchery and used to monitor the strength of fish populations, for fishery management purposes, and for coho salmon recovery.</p> <p>Master Response ALT-9 Hatcheries.</p> <p>The question as to whether hatcheries should be constructed on the Salmon and Scott Rivers is outside the scope of this analysis. However, anadromous salmonids currently have access to both the Salmon River and Scott River. Fishing opportunities on these two rivers are regulated by the California Fish and Game Commission and current regulations for the take of anadromous salmonids, excluding coho salmon, can be obtained from the California Department of Fish and Game web page at: <a href="http://dfg.ca.gov/">http://dfg.ca.gov/</a></p> <p>Your comment will be considered as part of the Secretarial Determination relative to the four dams on the Klamath River.</p>	No

**Comment Author** Fletcher, Pat  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** October 20, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1020_029-2	Geographically speaking, it is probably more appropriate to substitute Upper Klamath with Middle Klamath. This change has been made in the document.	Yes
IT_LT_1020_029-3	Section 3.12.3.3 Karuk History - states that "The Klamath and Salmon river fishery and other resources supported more than 100 ancestral Karuk villages along the Klamath and Salmon Rivers." It is not implied that Karuk villages were located above Oak Bottom Creek. The Shasta Nation states in their comment that the Karuk only went up the Salmon River less than 1 mile from the Klamath River. This supports our statement that the river fisheries and other resources of the Salmon and Klamath Rivers supported Karuk villages.	No
IT_LT_1020_029-4	See Section 13.12.3.1 for information on affects of the KBRA programs potentially affecting trust resources and other traditional resources include The Klamath Tribes' Interim fishing site.	No
IT_LT_1020_029-5	Village sites and burial grounds are discussed in Section 3.13, Cultural and Historic Resources. The Shasta Nation were included in NHPA Section 106 process as interested parties.  Master Response CUL-1 Shasta Nation Participation.	No
IT_LT_1020_029-6	Draft EIS/EIR Section 3.13.2.2 states: "Any Indian human remains or other cultural items found on federal land or tribal land affected by the Proposed Action and alternatives would be subject to the procedures under NAGPRA." The NAGPRA procedures will be followed as applicable. NAGPRA applies to sites on federal lands or federally recognized Indian lands, identified by federally recognized tribes. State laws will apply to burial sites on non-federal lands.	No

**PUBLIC HEARING ON THE KLAMATH DAM**

---o0o---  
CHILOQUIN, OREGON  
OCTOBER 19, 2011  
---o0o---

MR. ALLEN FOREMAN: I am Allen Foreman,  
F-o-r-e-m-a-n. I'm a tribal member and a U.S. citizen.  
I want to commend this panel for what they came up  
with, and I think it is a very important process that has  
been done. There is a few in the room here that was with  
myself when we started this process about 11 years ago. I  
want to commend them for continuing on through.

This KBRA agreement, although I hadn't been

Comment 1 - KBRA

involved in the last few years, had and still has  
something for all the parties that are involved. It is  
not a Democrat or a Republican process. It's a local  
solution to a local problem.

It's went through, went through a Republican  
presidency and now we are in a Democratic presidency, so  
it's a local solution that they support. And I want to  
commend Secretary Salazar for continuing this process.

The tribal fisheries went out in the 1920s as a

Comment 2 - ITAs

result of these dams going in. Now it's an opportunity to  
correct those wrongs that were done then.

And in the original agreement there were supposed  
to have been fish passage put in. That's in writing. And

they never have been put in, so this is a way to bring the salmon back to the area.

Comment 3 - Approves of Dam Removal

And then these dam site, I support Alternative 2.

The dams must come out.

There didn't seem to be a lot of fuss when they took the Chiloquin Dam out of here, and that was the start of the process of dam removal. We want to continue it all the way down to the ocean.

Comment 4 -KHSA

And for those who are opposed, I see signs around the community here that say, got the big X through it, "Stop Dam Removal." Where were they when all this began?

All the parties in the community were invited, all the participants and stakeholders were invited. There were 24, maybe 25 different representative groups involved.

And where were they? They should have been involved from the beginning.

As I mentioned, not everyone got everything they wanted, but there was something in it for all the parties that they could agree to. And it's the best agreement that we can come up with.

And there was no one left out of this agreement from day one. If they didn't participate then there is no reason for them to be squawking about why they aren't

involved in it now. It's too late.

And those -- this is a huge, tremendous solution that has been hammered through, through hours and hours and years and years of negotiated process. And we need to support it, and we need to make sure that it goes through and that it does work.

And I want to commend the governors of Oregon, California, and the Secretary for their participation and support of this.

I thank you all.

**Comment Author** Foreman, Allen  
**Agency/Assoc.**  
**Submittal Date** October 19, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1019_013-1	The Agreements were negotiated by many groups with diverse interests. Their intent is to resolve long-standing conflicts through compromise.	No
IT_MC_1019_013-2	Master Response GEN-1 Comment Included as Part of the Record.	No
IT_MC_1019_013-3	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1019_013-4	<p>Master Response GEN-2 Some People Approve of Dam Removal and Other Disapprove of Dam Removal.</p> <p>Master Response GEN-16 Public Involvement.</p> <p>Master Response KHSA-1 Negotiations of KHSA and KBRA.</p> <p>Given the support of the many of the pivotal stakeholders and representation of a wide range of interests, the agreements are ripe for consideration by the Department of Interior and analysis under NEPA and CEQA. Additionally the Agreements, KBRA and KHSA, both have provisions to add both amendments and signatories at any time (KHSA 8.7 and 9.3 and KBRA 7.2 and Part VIII 38.). So if those entities which have not yet signed the Agreements can find common ground with the Settlement Parties, provisions could be made to modify the Agreements.</p> <p>Public involvement is a key part of the environmental review process and provides numerous opportunities for public input. All written comments received on the Draft EIS/EIR, and all verbal comments received during the public meetings on the Draft EIS/EIR (within the specified comment period), by law, become part of the record and must be presented in the Final EIS/EIR. The Lead Agencies must respond to comments that raise significant environmental issues related to the Draft EIS/EIR.</p>	No

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MR. D. GENSAW: Iyee que. David Gensaw, Sr.,  
D-a-v-i-d G-e-n-s-a-w.

Since the arrival of the Europeans in the 1850's, our river flowed tremendously. It provided for us. It provided for the fish. But then came the gold rush, that they use their water cannons to tear up our village sites, our ceremonial sites, ravishing our lands, washing toxins, mercury, into our rivers, poisoning our fish.

Then there was the timber industry. This land here once had the largest timber in this world. And since that time, there's no more. The tributaries in our -- that ran into our rivers, that provided the cold water refugia for our fish and our people, they don't run into the rivers anymore. In the summertimes, the surface water is gone. It does provide some of that refugia that seeps into the ground and comes into the rivers that helps our fish.

The agriculture, you know, we're not -- ten years -- it's been ten years since the fish kill, and it's like ten days ago. We haven't heard anything like that that's passed down from our people, a fish kill of

that magnitude, because of the water that's taken from us, our people, our river, our fish.

Then we have climate change upon that. The dams, they affect the river. We once heard from our people that thousands of fish had come up the river. You could walk across the backs of them. Those are just stories that we've heard, but they are true stories.

In the '70s, they sent the federal marshals down the river, full riot gear, M-16's, to stop us from fishing. This is our way of life. This is our way of life. It affects our people, our ceremonies, our traditional ways of life. It is our lifeblood.

And what it's going to -- what is going to affect them, we have -- as Indian people, have gotten the blame for depleting our fish, but we are the ones that are stewards of this river, of this region, of this place.

Comment 1 -  
Approves Dam  
Removal

Those dams need to come out, all four of them.

We see the alternatives. We don't accept those

alternatives. All four of those dams need to come out,  
if our fish are to return. It's going to take that.

It's going to take those fish to be able to get up that  
river to the Basin, the Upper Basin, as they once did.

And we'll fight for that. And we'll continue to  
fight for that. It's our way of life. And we won't  
settle for any less. Thank you.

**Comment Author** Gensaw, David  
**Agency/Assoc.**  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_045-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

IT\_MC\_1027\_050

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MR. S. GENSAW: Iyee que. My name is Sammy Gensaw, and I come from the middle of the Requa. That's S-a-m-m-y G-e-n-s-a-w III.

And I am a part of the Klamath River Justice Coalition. I'm the vice president over at the Klamath River Early College of the Redwoods. But today I come here to represent the youth of the Reservation. Because --

In my 17 years, I have seen a lot, from the mouth of the river all the way up to headwaters at Chiloquin. And I have worked in the fields, so I know how hard it is. I have done a lot of things.

And this summer I have gotten the ability to teach my little brother how to row a canoe. A lot of you came in through that front. That canoe that you seen, that's -- I have a special bond with that canoe. It's something that I can help pass my culture and my traditions along. But we cannot do that without a thriving river to build upon. It is very important. It is a necessity.

And a lot of people around here depend on that

food. Something that people don't realize is we live in one of the 14 most poorest communities in California, and we're right up on the top of the list.

Also, we live in a food desert, which means there is nowhere around here that you can buy fresh produce, fresh meats. And a lot of people depend on that river to get salmon; and not only salmon but sturgeon and eels. And we can't candlefish no more. We depend on that every day more and more.

And that river depends on us to protect it. That's why we're here. We are not in this ecosystem; we're a part of it.

And everything that I have been taught, I have dedicated my life to becoming a good ancestor to pass that knowledge on, to make sure that everybody here has an opportunity to practice their culture, their beliefs, because that's who we are. That's what we are. And that's why we're here.

So, that's why I come here to this meeting tonight. I was going to bring some boys with me tonight, but, unfortunately, they couldn't make it, so I can show them, you know, "This is our home turf. You guys come down here and talk about something."

Comment 1- Approval of Dam Removal

This is a great day, and it's one step toward

something that will be a huge step in history. Once

these dams are removed, I believe our culture will

thrive. I believe that the fisheries will thrive. And I  
believe that there is a brighter tomorrow on the backside  
of those dams.

So, wohklew. Thank you. Thank you very much.

**Comment Author** Gensaw, Sammy  
**Agency/Assoc.**  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_050-1	Master Response GEN-1 Comment Included as Part of Record.	No

IT\_LT\_1230\_097



# The Klamath

Tribe  
Council

December 30, 2011

Ms. Elizabeth Vasquez  
Bureau of Reclamation  
2800 Cottage Way  
Sacramento, CA 95825  
email: KlamathSD@usbr.gov

Re: **Klamath Tribes' Comments to Klamath Facilities Removal Draft Environmental Impact Statement/Environmental Impact Report**

Dear Ms. Vasquez:

← Comment 1 - Approves of Dam Removal

The Klamath Facilities Removal Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS) confirms that the KBRA and KHSAs are good for the Klamath Tribes and for the Klamath Basin as a whole. The Draft EIS report and underlying studies clearly demonstrate that removal of four privately owned dams 1) will advance restoration of our sacred Klamath Basin salmonid fisheries and 2) is in the public interest and specifically in the interest of the Klamath Tribes.

The Klamath Tribes concur that the public should be thoroughly informed and the Secretary should study these issues in an open and transparent manner and base his decision on sound science, engineering, and environmental analyses. The Tribes believe that the process being followed here will achieve that goal. Without doubt the Klamath Agreements and specifically the KHSAs represent the best alternative to the status quo of continued conflict. The Tribes reject the status quo in favor of a lasting and durable solution to the on-going crisis in the Klamath Basin. Accordingly the Tribes strongly urge the Secretary to decide that removing these four facilities is the best decision for Klamath River fisheries and communities by selecting and implementing either Alternative 2 or Alternative 3. The Draft EIS makes quite clear that the No Action/No Project Alternative is not a viable option!

No coalition of so many diverse parties and local interests has ever proposed actual solutions to these local problems in such a comprehensive manner. Such consensus among formerly warring parties seemed impossible as the Klamath Tribes endured the loss of their salmon.

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Klamath Tribes Comments to Draft EIS  
Page 2

steelhead, and c'waam fisheries, in 2001 when Klamath Project farmers were denied irrigation water, in 2002 during the fish kill in the Klamath River, and during the commercial fishing closures starting in 2006. The Klamath Agreements represent an incredible achievement given that troubled history.

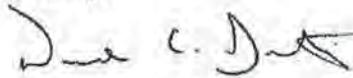
The Klamath Agreements put many decisions regarding ecosystem restoration back in the hands of those who live and work in the Basin without usurping the authority of State or local government. The States of California and Oregon, Indian tribes, counties, irrigators and conservation and fishing entities have worked tirelessly for many years to resolve their conflicts at the local level. They did so to stop wasteful litigation and to avoid imposition of a Washington, DC solution on local problems. The Klamath Agreements embrace local solutions to local problems using cooperation on issues like water security, irrigation power stability, and fisheries restoration and management.

The Agreements are a compromise by all parties. For the Klamath Tribes, after much analysis and deliberation, it is our considered opinion that the pros outweigh the cons and the Agreements create a win-win-win plan for the Tribes and the Klamath Basin.

Enclosed with this letter is the Klamath Tribes' Comment Table that provides specific comments to selected sections of the Draft EIS. In addition to the comments pertaining to Section 3.15 – Socioeconomics, the Tribes submit a report describing the economic impacts associated with the Tribes' reacquisition of the Mazama Forest as provided for under the KBRA. Entitled Economic Impact Analysis of the Proposed Forestry-Related Enterprises, this report quantifies the direct and indirect regional economic benefits of the enterprises proposed for development in association with the Mazama Forest acquisition. The accompanying Summary Handout succinctly presents the results of this analysis.

The Klamath Tribes appreciate the opportunity to provide comments on the Draft EIS Report and reiterate our support for Alternative 2 or Alternative 3. If you have any questions or need additional information please contact me or Larry Dunsmoor at the number listed. Without a doubt it will be a blessed day when the salmon and steelhead return to the waters of the Klamath Tribes and the c'waam populations are healthy once again.

Sincerely,

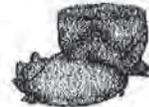


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Vice-Chairman Don Gentry  
Klamath Tribes

Enclosures: Klamath Tribes Comment Table  
Cardno ENTRIX Mazama Report

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Klamath Tribes

Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name	Comment
II. Historical and Cultural Context			Comment 3 - Fish	Klamath Tribes	Larry Dunsmoor	Steelhead are absent from the early sections describing the historical use of fish. Butler et al (2010); title: The Use of Archeological Fish Remains to Establish Pre-development Salmonid Biogeography in the Upper Klamath Basin) found that 93% of the 41 <i>Oncorhynchus mykiss</i> specimens excavated from archeological sites above Upper Klamath Lake were anadromous. At the least, steelhead should be mentioned everywhere that salmon are mentioned.
A.Z.B Chinook Expert Panel	26		Comment 4 - Fish	Klamath Tribes	Larry Dunsmoor	In response to comment number 190, the Panel wrote the following: "There is much certainty that if the four dams are not removed, the Klamath Chinook salmon will continue to decline." Such a clear statement from the Expert Panel deserves inclusion in this and other narratives describing the conclusions by the Panel.
2.1.1.1.1			Comment 4 - Fish	Klamath Tribes	Larry Dunsmoor	Steelhead should be included more explicitly in this section. Butler et al (2010); title: The Use of Archeological Fish Remains to Establish Pre-development Salmonid Biogeography in the Upper Klamath Basin) found that 93% of the 41 <i>Oncorhynchus mykiss</i> specimens excavated from archeological sites above Upper Klamath Lake were anadromous.
2.1.1.3			Comment 5 - Alternatives	Klamath Tribes	Larry Dunsmoor	Lane and Lane (1981 - pgs 150-157) describe the promises made regarding the construction of fish passage facilities at Copco 1 Dam, and the subsequent failure by COPCO to live up to those promises. Some treatment of this topic should be included in this section.
2.1.1.3	16	1	Comment 6 - Fish	Klamath Tribes	Larry Dunsmoor	The first sentence begins by saying that "salmon" passage was blocked by Copco 1 Dam. All anadromous fish were blocked, not just salmon. Butler et al (2010); title: The Use of Archeological Fish Remains to Establish Pre-development Salmonid Biogeography in the Upper Klamath Basin) found that 93% of the 41 <i>Oncorhynchus mykiss</i> specimens excavated from archeological sites above Upper Klamath Lake were anadromous. Steelhead were a significant presence in the Upper Basin, and the inordinate focus on salmon alone diminishes the relative importance of steelhead. Here, and in most other locations where salmon are mentioned alone, either the phrase "salmon and steelhead" or "anadromous salmonids" should be used.
	19	1	Comment 7 - ITAs	NARF for Klamath Tribes	Dave Gover	The Termination discussion is admirably frank in its description of the impacts of replacing land with money. One facet that is missing, though, is the role of unscrupulous practices among non-Indians that relieved many tribal members or portions of their money. The Tribes suggest adding a sentence on p. 19 after the indented quotation, as follows:  "In addition, some non-Indian merchants, lawyers, and businesspeople took advantage of the situation to engage in unscrupulous practices that hastened the transfer of this wealth away from tribal members."
2.1.2.1	22	1st full paragraph	Comment 8 - Fish	Klamath Tribes	Larry Dunsmoor	The list of subsistence species in the first sentence should be reworded as: "... Chinook salmon (and possibly other species like coho salmon); anadromous (steelhead) and resident forms of redband rainbow trout; Lost River (c'waam), shortnose (koptu), Klamath largescale, and Klamath smallscale suckers; several chub species; Klamath speckled dace; several sculpin species; bull trout; and Pacific lamprey."  Also, the second sentence should read "...but salmon and steelhead stopped running...". This error, combined with the way steelhead was included in the list in the prior sentence, makes me wonder if the author was thinking that steelhead were not anadromous.

Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name	Comment
2.1.2.1	22	2nd full paragraph		Klamath Tribes	Larry Dunsmoor	<b>Comment 9 - Fish</b> In the first sentence, strike the phrase "...employment in canneries..." In second sentence, reword as "...resident redband rainbow trout...". Redbands are a form of rainbow trout.
2.1.2.1.1	22	2		Klamath Tribes	Larry Dunsmoor	<b>Comment 10 - Fish</b> FYI, mullet is a local name for suckers.
3.1.1.1	49	3rd paragraph, 5th line		Klamath Tribes	Larry Dunsmoor	<b>Comment 11 - Fish</b> No cutthroat in the Upper Klamath Basin. <b>Comment 12 - KBRA</b>
3.1.2	57	bullets		Klamath Tribes	Larry Dunsmoor	Other elements of the KBRA should be included here. The Klamath Tribes will certainly be very active in planning and implementing many actions, especially in regard to KBRA Part III Fisheries Program. Klamath Tribes and ODFW are the co-leads in drafting (KBRA Section 11.2.1.A) and implementing (KBRA Section 11.2.1.C) Chinook reintroduction in Oregon. Klamath Tribes are among the Fish Managers, who will develop the Phase I and Phase II Fisheries Restoration Plans (KBRA Section 10). Klamath Tribes will be priority recipients of funding for Fisheries Program implementation (KBRA Section 32.3).
						<b>Comment 13 - Fish</b>
	58	3rd paragraph, 5th line	Table 3.1-3	Klamath Tribes	Larry Dunsmoor	Active reintroduction programs for Chinook are specified in KBRA section 11.3.1.A. Such a program will influence the likelihood of success, and also provide significant avenues for tribal participation in working to restore these runs.
3.1.2.1.1	59	2nd paragraph, lines 2-4		Klamath Tribes	Larry Dunsmoor	Bull trout will not move up the Klamath River to re-occupy UB habitats. Bull trout are present now only in the upper reaches of the Upper Klamath watershed. This species will benefit from the extensive river restoration work planned under the KBRA. Headwater populations that are presently isolated will have a greater opportunity to be reconnected, because improved habitats would allow migratory life stages to resume genetic interchange. Other benefits would also be important.
						<b>Comment 14 - Fish</b>
3.1.2.5.1	66	2nd paragraph		Klamath Tribes	Larry Dunsmoor	Bull trout are listed as threatened, not endangered. <b>Comment 15 - Fish</b> Reference to canneries are over-stated. Canneries existed for a very short time early in the 20th century. Recommendation deletion.
Attachment 7	7-11		Table 2	Klamath Tribes	Larry Dunsmoor	<b>Comment 16 - Fish</b> In response to comment number 190, the Panel wrote the following: "There is much certainty that if the four dams are not removed, the Klamath Chinook salmon will continue to decline." This clear statement from the Expert Panel deserves inclusion in Table 2 for both spring and fall Chinook. It should also be included in the narratives following the Table.
3.8.2.2	3			NARF for Klamath Tribes	Dave Gover	Page 3.8-3 § California - last paragraph change word "contained" to "codified" as follows: "California's water law is contained codified in the California Code of Regulations, Title 23."
3.8.2.2	3			NARF for Klamath Tribes	Dave Gover	Page 3.8-3 § Klamath Basin Adjudication - A "time immemorial" water right is not a federally reserved right per se but one that originates under aboriginal title and subsequently recognized by federal law.
3.8.2.2	3			NARF for Klamath Tribes	Dave Gover	Page 3.8-3 § Klamath Basin Adjudication - Need to explain how the US v Adair proceedings affected the KBA. (i.e. Adair serving as the impetus for commencing the adjudication.)
						<b>Comment 17 - Water Rights/Supply</b>
						<b>Comment 18 - Water Rights/Supply</b>
						<b>Comment 19 - Water Rights/Supply</b>

INTERNAL WORKING DOCUMENT - NOT FOR DISTRIBUTION

Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name	Comment
3.8.2.2	3			NARF for Klamath Tribes	Dave Gover	Page 3.8-3 § Klamath Basin Adjudication - Explain how 43 U.S.C. 666, commonly known as the McCarran Amendment, applies to the KBA by waiving the sovereign immunity of the United States where there is a suit designed to establish the rights to a river or other source of water, or the administration of such rights, and the United States appears to own or be in the process of acquiring rights to any such water including the rights of Indian Tribes because of the US serving as the Tribes' trustee. The effect is to permit State courts to adjudicate Federal water rights claims in a State forum.
3.8.2.2	3			NARF for Klamath Tribes	Dave Gover	Page 3.8-3 § Klamath Basin Adjudication - Explain how 43 U.S.C. 666, commonly known as the McCarran Amendment, applies to the KBA by waiving the sovereign immunity of the United States where there is a suit designed to establish the rights to a river or other source of water, or the administration of such rights, and the United States appears to own or be in the process of acquiring rights to any such water including the rights of Indian Tribes because of the US serving as the Tribes' trustee. The effect is to permit State courts to adjudicate Federal water rights claims in a State forum.
<b>Comment 21 - Water Rights/Supply</b>						
3.8	4	last line on page		Klamath Tribes	Larry Dunsmoor	The statement here that there is a general decreasing trend in precipitation amounts is contradicted by content in the report titled: Hydrology, Hydraulics, and Sediment Transport Studies for the Secretary's Determination on Klamath River Dam Removal and Basin Restoration. The latter report states that "...total precipitation is quite variable...and does not show a consistent trend since the 1950s".
<b>Comment 22 - Water Rights/Supply</b>						
3.8.4.3				NARF for Klamath Tribes	Dave Gover	The Report equates a "no effect" conclusion with a "no change from present conditions" conclusion. A conclusion of "no change" is in reality a conclusion that significant negative effects will continue to occur. Propose adding text to the penultimate sentence of the second paragraph: "The No Action/No Project Alternative does not include any action to change water supplies from existing conditions, which will virtually guarantee continued crises rotaling among the user groups, with a high likelihood of additional species listings under the ESA, significant negative impacts on local and regional economies, and on socio-cultural structures."
<b>Comment 23 - KBRA</b>						
0	0-1	Paragraph 2 under Surface Water Hydrology		Klamath Tribes	Larry Dunsmoor	KBRA would institute a different management paradigm, one that is less prescriptive, and therefore more flexible and responsive, than the present rigid management under the existing BOs. Under the KBRA, more or less water could be retained in UKL at different times of year, or more or less water could be sent down the Klamath River, than what is specified in any single alternative management regime. It is for this reason that 3 different KLAMSIM model runs were presented in Appendix E-5 of the KBRA. It is quite important that the analyses in the EIS be viewed from this perspective. In this paragraph, KBRA operations are described as "potential", but this is insufficient description of one of the true strengths of the KBRA management paradigm, which is adaptability to real time conditions, quite a different approach than rigid management under the existing BO's. Readers will interpret the KBRA simulation provided in this report as "the hydrologic outcome" of the KBRA, despite that fact that the Parties made special effort to describe the hydrologic outcomes of the KBRA as a range of potential outcomes depending on different approaches to management. Unless, of course, narrative is added to clarify this issue.
Exec Sum	41			NARF for Klamath Tribes	Dave Gover	Second paragraph under the heading "Baseline" starts with "One result if these...conditions" and then lists several results. Needs to be made plural.
Exec Sum	42			NARF for Klamath Tribes	Dave Gover	In discussing alternatives 4 and 5 it doesn't refer to their failure to meet all objectives.

Comment 20 - Water Rights/Supply

Comment 25 - Alternatives

Comment 24 - General/Other

Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name	Comment
Exec Sum	43			NARF for Klamath Tribes	Dave Gover	In regard to alternatives 2 and 3, it refers to "Removing all Four Facilities". Shouldn't that say all four dams, since under 3 some facilities will be left in place? In the last paragraph under the heading "Alternatives 2 and 3" it refers to "This alternative". Shouldn't it be "These alternatives?"
Exec Sum	45-46		Comment 27 - Alternatives	NARF for Klamath Tribes	Dave Gover	Discusses that one alternative must be named in the Record of Decision (ROD) as the environmentally superior alternative. The direct statement is then made that CDFG has selected Alternative 3 (Partial Facilities Removal of Four Dams) as the environmentally superior alternative. Following this, there are more general statements to the effect that alternative 3 is the environmentally superior alternative. It is unclear if all of these statements are attributable to the CDFG or if DOI is joining in that opinion. This pattern is repeated in 5.6 at 5-106-107 which is presumably what is summarized in the Executive Summary. This issue is important, so the language should leave no doubt as to what both DOI and CDFG feel is the superior alternative.
3.12	1		Comment 28 - ITAs	NARF for Klamath Tribes	Dave Gover	States "Tribes of the Klamath Basin also have traditionally used resources they do not have the legally vested right to use/take." There should be a period after "resources" and the rest of the sentence should be deleted.
3.12	2		Comment 29 - ITAs	NARF for Klamath Tribes	Dave Gover	A later sentence refers to "Water quality" as essential to safeguard a fishery. It should also include "water quantity". The next sentence states that "Tribes of the Klamath Basin also have traditionally used resources they do not have the legally vested right to use/take." There should be a period after "resources" and the rest of the sentence should be deleted. The text seems to imply that the traditionally used resources are not trust resources. The Klamath Tribes do not agree.
3.12	3		Comment 30 - ITAs	NARF for Klamath Tribes	Dave Gover	The reference in the last two lines to "The Klamath, Modoc, and Yuroquois Tribes signed the treaty..." should just say "The Klamath Tribes signed the treaty..."
3.12	7		Comment 31 - ITAs	NARF for Klamath Tribes	Dave Gover	The paragraph starting with "In 1954" - in the third line, delete "effected by" and insert "and enacted". The first sentence of the last paragraph should read as follows: "Termination ended The Klamath Tribes status as a federally recognized Indian Tribe, dissolved the federal recognition of the tribal government, and nullified some federal fiduciary responsibilities to the tribal community." The second sentence should end with a period after "non-Indians", and the rest of the sentence should be deleted.
3.12	11		Comment 32 - ITAs	NARF for Klamath Tribes	Dave Gover	The second sentence of the last paragraph speaks of the rule of taking only what you need and concludes with "and this rule still guides the actions of many tribal members today." The word "many" should be deleted.
3.12	12		Comment 33 - ITAs	NARF for Klamath Tribes	Dave Gover	Refers to stewardship of resources in the first full paragraph and says "many" contemporary members perceive this as a right and responsibility. Delete "many". In the penultimate paragraph it refers to "lands ceded to the Klamath Tribes". Should this be lands ceded "by" the Tribes?  The italicized heading is much too weak saying that "Continued impoundment of water could affect tribal resources" This is much too weak. It definitely would continue having disastrous consequences.  The first two non-italicized sentences under Alternative 1 state that current Klamath River dam operations "have measurable consequences" on the Tribes' rights. This is too soft and should say instead "disastrous consequences".  See also Appendix A for proposed reline edits to the text.

Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name	Comment
3.12	13			NARF for Klamath Tribes	Dave Gover	<p>In the second full paragraph, it states that the dams adversely affect the trust resources and other traditionally used resources. This is too weak as the effect is disastrous. Under the heading for Alternative 2, it states that "Removal of the Four Facilities could affect tribal trust resources." It should state that it would have a "highly beneficial effect" on those resources. Also, it refers in the paragraph to a long-term beneficial impact. Beneficial impacts will actually be felt quite soon and would continue for the long term. Under the heading "KRBA" it states that some programs under that agreement "could result in impacts/effects" to trust and other resources. This is a very non committal statement - why not say will have highly beneficial impacts?</p> <p>All of the italicized headings should state the programs would have highly beneficial impacts. (note all references to traditionally-used resources).</p> <p>Generally, the discussion of the benefits of Alternatives 2 and three and the KBRA are understated. There should be strong statements about the fulfillment of the trust responsibilities and the meeting of the purpose and need/project objectives.</p>
3.12	14		Comment 35 - ITAs	NARF for Klamath Tribes	Dave Gover	
3.12	13-15		Comment 36 - ITAs	NARF for Klamath Tribes	Dave Gover	
			Comment 37 - Envr. Justice			<p>In the second paragraph under "Installation of Dams" it refers to tribes being "adversely affected". This is very weak and should incorporate the findings or conclusions of the many documents relied upon by the Klamath Tribes Sociocultural/Socioeconomics Effects Analysis Technical Report, which document devastating impacts resulting from construction and operation of the dams.</p>
3.16	10			Klamath Tribes	Larry Dunsmoor	<p>In addition, while the text mentions lack of consultation and political doubt, this anemic description of events fails to capture the true essence of what happened. COPCO wanted to build a dam (Copco I). They promised that they would build fishways in response to tribal concerns. When the dam was partially constructed, COPCO decided not to build fishways. The Agent for the Klamath Tribes lodged many protests over this course of events, making it clear to the company that they were knowingly destroying the Tribes' salmon and steelhead fisheries. In the end, neither company nor the United States acted to prevent the complete extirpation of the Klamath Tribes anadromous fisheries, despite the United States' treaty obligations to prevent loss of these fisheries. Much of this history is documented in Lane and Lane (1981), which is not even cited in this section, but is cited in the Sociocultural/Socioeconomics effects analysis report.</p>
3.16	11	40-42	Comment 38 - ITAs	Klamath Tribes	Larry Dunsmoor	<p>Development of the hydroelectric project proceeded, producing cheap power for the majority while the minority tribes endured the devastating cost of the hydro development. Such events are the very essence of environmental injustice, and they deserve a detailed accounting here. Rectifying this environmental injustice should be a central factor in the Secretary's decision regarding dam removal.</p>
3.16	10			NARF for Klamath Tribes	Dave Gover	<p>Delete the last sentence in this paragraph: "Furthermore, steelhead eat juvenile salmon...". This statement is indefensible and incorrect.</p> <p>FN 1 Definition of "subsistence level" is too limited. Subsistence fishing includes more than fishing for a major food source; can also include uses like bartering, exchanging or supplemental income. Accordingly the Tribes think the definition is unnecessary and request that the purported definition of "subsistence" as found in fn. 1 be deleted.</p>

Comment 39 - ITAs

INTERNAL WORKING DOCUMENT - NOT FOR DISTRIBUTION

Comment 42 - ITAs		Comment 40 - ITAs		Comment 45 - ITAs	
Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name
3.16.3.2	11			NARF for Klamath Tribes	Dave Gover
3.16	12, 15-16, 20		Comment 41 - Envr. Justice	NARF for Klamath Tribes	Dave Gover
3.16	20			NARF for Klamath Tribes	Dave Gover
3.16	22	15		Klamath Tribes	Larry Dunsmoor
3.16	22		Comment 43- ITAs	NARF for Klamath Tribes	Dave Gover
3.16.4.2	24		Comment 44 - ITAs	NARF for Klamath Tribes	Dave Gover
3.16.4.2	25	20-21		Klamath Tribes	Larry Dunsmoor
3.16	29-35		Comment 47 - Envr. Justice	NARF for Klamath Tribes	Dave Gover
3.16	32	20-38		Klamath Tribes	Larry Dunsmoor
3.3	22	11	Comment 49 - Fish	Klamath Tribes	Larry Dunsmoor
Comment 46 - ITAs		Comment 48 - Envr. Justice			

INTERNAL WORKING DOCUMENT - NOT FOR DISTRIBUTION

Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name	Comment
3.3	26	7		Klamath Tribes	Larry Dunsmoor	Change "...this flow is provided by..." to "this flow is added to..."
3.3	27	19		Klamath Tribes	Larry Dunsmoor	"...as refuge during the drawdown." What is the drawdown? No explanation or context is given, I have no idea to what this refers.
3.3	49	25-27		Klamath Tribes	Larry Dunsmoor	Thermal outcomes, and the related stress levels for anadromous fish, were thoroughly presented in the Appendices to Dunsmoor and Huntington (2006).
3.3	63	62		Klamath Tribes	Larry Dunsmoor	In response to comment number 190, the Chinook Expert Panel wrote the following: "There is much certainty that if the four dams are not removed, the Klamath Chinook salmon will continue to decline." Such a clear statement from the Expert Panel deserves inclusion in this section describing effects of No Action on Chinook.
3.3	70	36-38		Klamath Tribes	Larry Dunsmoor	Upper Klamath Lake was naturally eutrophic, it is now hypereutrophic. The difference is large, and important.
<p><b>Comment 53 - Fish</b></p> <p><b>Comment 55 - Fish</b></p> <p><b>Comment 56 - Fish</b></p>						
3.3	94-95	62		Klamath Tribes	Larry Dunsmoor	Throughout section 3.3, the fact that Copco II dam diverts virtually all water out of the river channel is largely (completely?) absent. For example, on pg 71 in the discussion regarding redband trout, this issue is not even mentioned. Fish passage and habitat connectivity are discussed, but the complete elimination of about 2 miles of river habitat is not mentioned. This is a glaring omission of a profoundly negative impact of the Hydro Project on the Klamath River and its biota. This section, and many others, should be re-visited and effects conclusions regarding the reach below Copco II should be added.
3.3	128	9-13		Klamath Tribes	Larry Dunsmoor	In the narrative regarding the Chinook Expert Panel at the bottom of pg 94 and the top of pg 95, it is important to add something regarding their response to comment number 190. In their response, the Chinook Expert Panel wrote the following: "There is much certainty that if the four dams are not removed, the Klamath Chinook salmon will continue to decline." Such a clear statement from the Expert Panel should be included here.
3.3	129	11-12		Klamath Tribes	Larry Dunsmoor	These sentences offer tepid support for the notion that steelhead once co-occurred with resident redbands in the upper basin, in the process injecting a note of uncertainty on the topic. It needs to be clearly and firmly stated that these fish did occur in the upper basin. Considering the ethnographic information, Butler et al. (2010), photographic evidence, Hamilton (2005), Lane and Lane (1981), and other sources leaves no alternative to reaching a different conclusion (I note that none of these sources are relied upon here). But an even more powerful argument emerges from simply considering the life history characteristics of steelhead - there is no plausible ecological reason why these fish would not have been present. Absent such, the topic of whether they were here is not particularly relevant.
3.3	142	32-34		Klamath Tribes	Larry Dunsmoor	Italicized sentence should be changed to the following: <i>Dam removal would restore connectivity among the lower basin, the Hydroelectric reach and its tributaries, and the upper basin, and would rehabilitate and increase availability of riverine habitat within the Hydroelectric Reach.</i>
3.3	143	31 and 34		Klamath Tribes	Larry Dunsmoor	This sentence is incorrect, in that it links groundwater pumping restrictions to 6% of the flow of the Klamath River above Copco Dam. Section 15.2.4.A.1 of the KBRA states: "For the purpose of this provision, Adverse Impact shall mean: a 6% reduction in the flow of any of the following springs." Following this statement is a long list of springs. It is not the mainstem flow in view here, it is a limitation on the extent to which flow of individual springs or spring complexes can be reduced.
<p><b>Comment 54 - Fish</b></p> <p><b>Comment 57 - Fish</b></p> <p><b>Comment 58 - Fish</b></p> <p><b>Comment 59 - Fish</b></p>						

Comment 62 - Water Quality

Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name	Comment
3.3	145	first paragraph		Klamath Tribes	Larry Dunsmoor	Throughout the first paragraph change "Klamath River Tribes" to "Klamath Tribes". The interim fishing site is specific to the Klamath Tribes.
3.2	48	14		Klamath Tribes	Larry Dunsmoor	The 83,770 acre feet capacity of the Agency Lake and Barnes Ranches Project is the potential volume, attainable only if a new dike is constructed on the north end to prevent flooding of neighboring land. As used now, the operational volumes are substantially less - contact BOR for the correct volume.
3.2	50-52			Klamath Tribes	Larry Dunsmoor	Thermal effects of existing conditions are addressed here only in terms of magnitude. However, variability is important as well, and it is not addressed at all. The reservoirs homogenize the thermal regime below the Hydro Reach - some of the consequences are addressed in Dunsmoor and Huntington (2006).
3.2				Klamath Tribes	Larry Dunsmoor	Throughout this section, for every alternative, the fact that virtually 100% of the river's flow is diverted at Copco II is not addressed. Each bolded conclusion of effects pertinent to the Hydroelectric Reach should explicitly address this issue. This is a profoundly negative impact of the Hydroelectric Project, and it must be carefully evaluated in this EIS.
4.3.1	14		Table 4-3	Klamath Tribes	Larry Dunsmoor	The tribal section omits the following plan: "Reintroduction of Anadromous Fish to the Upper Klamath Basin: an Evaluation and Conceptual Plan. This report was authored by Huntington and others in 2006, on behalf of the Klamath Tribes, the Yurok Tribes, and the Karuk Tribe, and was submitted to FERC as part of the Klamath Tribes recommendations under section 10(a) of the Federal Power Act."
4.3.1	16		Table 4-3	Klamath Tribes	Larry Dunsmoor	The States section omits the following plan: "Klamath Basin Anadromous Fish Reintroduction Plan. This plan amended the Klamath Basin Fish Management Plan, and was passed into law in 2008. I believe the citation is OAR 635-500-3890 through OAR 635-500-3910. OAR stands for Oregon Administrative Rules."
4.4.1	29		Table 4-5	Klamath Tribes	Larry Dunsmoor	Here and elsewhere the cumulative effects of alternatives on the dewatered reach below Copco II Dam must be explicitly addressed. It is not appropriate to omit one of the most egregious impacts of the Hydro Project.
4.4.1.1	40			Klamath Tribes	Larry Dunsmoor	It is true that facilities removal would cause the bypassed reach below JC Boyle Dam to become warmer. The only reason it is cold now is because the vast majority of the river's flow is diverted out of the river, creating a completely artificial, un-natural river reach. The rebands present exhibit poor growth, and would benefit from a more natural thermal regime (review the EP Act findings). Alternative-induced shifts in the thermal regime should be judged relative to a natural thermal regime. Increased temperatures in the bypassed reach resulting from dam removal should be viewed as beneficial, not detrimental, as it is a shift back towards the natural condition.
4.4.1.1	42	10-12		Klamath Tribes	Larry Dunsmoor	This sentence mentions that water temperatures are less variable below Iron Gate Dam. It fails to either cite or seriously engage Dunsmoor and Huntington (2006), which thoroughly quantifies and contrasts the thermal homogeneity of the existing condition compared to the thermal heterogeneity resulting from facilities removal. Throughout the EIS, thermal magnitude is focused on, and the importance of restoring natural patterns of thermal variability are given short shrift. As a result, the thermal benefits of dam removal are under-estimated. Increased spring-time temperatures below Iron Gate a) are more natural for the system; b) may contribute to faster growth of outmigrants; c) has significant life-history linkages to the decreased late-summer and fall temperatures that will allow earlier spawning under more optimal conditions, which in turn would lead to earlier emergence and likely earlier out-migration. It is too simplistic and likely wrong to conclude that increased spring-time temperatures resulting from dam removal are uniformly negative. They may turn out to be neutral or even beneficial.

Comment 69 - Water Quality

Section Number	Page Number	Line number	Figure or Table Number	Agency or Organization	Comment or Name	Comment
4.4.1.1	42	last paragraph		Klamath Tribes	Larry Dunsmoor	Here there is discussion about how the proposed action would affect water temperature between Copco I reservoir and Iron Gate reservoir; temperatures would increase in May and June but decrease in August and October. Much of the reach considered here is virtually dry (maybe has 15 cfs) because all of the water is diverted at Copco II. It makes no sense to discuss thermal changes in the manner done here when there is no water. For this reach, dam removal is uniformly beneficial, regardless of water temperature, because there will be water. This issue has not been addressed properly, here or elsewhere.

← Comment 70 - Water Quality



## **Economic Impacts of Proposed Forestry- Related Enterprises**

August, 2011

Prepared For  
Klamath Tribes

# Economic Impact Analysis of the Proposed Forestry-Related Enterprises

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August 2011

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## Table of Contents

<b>Executive Summary</b> .....	<b>1</b>
Methodology .....	1
Economic Impacts.....	2
<b>Chapter 1 Introduction</b> .....	<b>1-1</b>
1.1 Purpose and Scope of Analysis.....	1-1
1.2 Organization .....	1-1
<b>Chapter 2 Methodology and Data Sources</b> .....	<b>2-1</b>
2.1 Data.....	2-2
2.2 Develop Economic Impact Model .....	2-3
2.2.1 Overview of Economic Impact Analysis .....	2-3
2.2.2 IMPLAN Model.....	2-4
2.3 Estimate Direct and Total Economic Impacts .....	2-5
<b>Chapter 3 Economic Impact Estimates</b> .....	<b>3-1</b>
3.1 Summary of Economic Impacts.....	3-1
3.2 Biomass Power Plant .....	3-5
3.2.1 Giiwas Stand Alone Power Plant.....	3-5
3.2.2 Giiwas Cogeneration Plant .....	3-7
3.2.3 Gilchrist Cogeneration Plant.....	3-9
3.3 Forestry Organization .....	3-11
3.4 Wood Shavings Plant.....	3-13
3.5 Wood Chipping Plant.....	3-15
3.6 Mazama Tree Farm.....	3-17
 <b>Tables</b>	
Table ES-1 Estimated Total Economic Impacts (Direct, Indirect, and Induced) of Proposed Forestry – Related Enterprises: Klamath, Deschutes, and Jackson Counties.....	3
Table ES-2 Estimated Annual Multiplier Effects, Operations Phase .....	4
Table 2-1 Estimated Capital and Operations Expenditures by Proposed Enterprise (Millions \$) .....	2-2
Table 3-1 Estimated Total Economic Impacts (Direct, Indirect, and Induced) of Proposed Forestry – Related Enterprises: Klamath, Deschutes, and Jackson Counties.....	3-1
Table 3-2 Estimated Annual Multiplier Effects .....	3-4

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**Economic Impacts of Proposed Forestry Related Enterprises**


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Table 3-3	Summary of Giiwas Stand Alone Power Plant: Operations .....	3-6
Table 3-4	Summary of Stand Alone Giiwas Plant: Construction .....	3-7
Table 3-5	Summary of Giiwas Cogeneration Plant: Operations.....	3-8
Table 3-6	Summary of Giiwas Cogeneration Plant: Construction.....	3-9
Table 3-7	Summary of Gilchrist Cogeneration Plant: Operations .....	3-10
Table 3-8	Summary of Gilchrist Cogeneration Plant: Construction .....	3-11
Table 3-9	Summary of Forestry Organization: Annual Ongoing Operations .....	3-12
Table 3-10	Summary of Forestry Organization: Initial, One-Time Start-Up Impacts .....	3-13
Table 3-11	Summary of Wood Shavings Plant: Annual Ongoing Operations.....	3-14
Table 3-12	Summary of Wood Shavings Plant: Initial, One-Time Construction Impacts .....	3-15
Table 3-13	Summary of Wood Chipping Plant: Annual Ongoing Operations .....	3-16
Table 3-14	Summary of Wood Chipping Plant: Initial, One-Time Construction Impacts .....	3-17
Table 3-15	Summary of Mazama Tree Farm: Annual Ongoing Impacts.....	3-18
Table A-1	Detailed Estimates of Expenditures: Biomass Power Plant Facility Alternatives .....	2
Table A-2	Detailed Estimates of Expenditures: Forestry Organization.....	3
Table A-3	Detailed Estimates of Expenditures: Wood Shavings Plant .....	4
Table A-4	Detailed Estimates of Expenditures: Wood Chipping Plant .....	4

**Figures**

Figure ES-1	Estimated Direct, Indirect, and Induced Annual Employment Comparison by Enterprise. ....	4
Figure 3-1	Annual Employment by Sector by Enterprise. ....	3-2
Figure 3-2	Annual Value Added by Sector by Enterprise. ....	3-3
Figure 3-3	Estimated Direct, Indirect, and Induced Annual Employment Comparison by Enterprise. ....	3-4

## Executive Summary

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As part of their proposed water rights settlement, the Klamath Tribes (Tribes) have proposed developing or purchasing several forestry-related enterprises. These include the purchase of the Mazama Tree Farm and development of four new enterprises: a biomass power plant, a wood shavings plant, a wood chipping plant, and a forestry services organization. These enterprises would support and enhance the local economy by purchasing local forest products and expanding value-added activities that support jobs and income in the region.

The Beck Group, a consultant to the Tribes, has conducted a financial and technical feasibility analysis of these enterprises. This analysis included a detailed assessment of the required capital and annual expenditures, including expenditures for equipment, labor and materials, of each enterprise to estimate the return on investment. In addition to analyses of financial feasibility, the Tribes require an analysis of the economic impact of the proposed enterprises to the region. This analysis uses the findings from The Beck Group to estimate the direct and indirect regional economic benefits in terms of economic activity supported by the proposed enterprises.

The purpose of this analysis is to estimate the total economic activity generated and supported by the proposed enterprises in terms of increased local jobs and value added (which includes labor income, taxes paid, and profits). Together these proposed forestry and forestry-product processing activities would directly and indirectly increase economic activity throughout the local area. The report identifies the direct impacts of the enterprises and then estimates the indirect and induced effects at other local businesses.

The scope of the analysis is to estimate the impacts of the five forestry-related enterprises (Mazama tree farm, biomass power plant, wood shavings plant, wood chipping plant, and a forestry organization) proposed by the Tribes, including three alternatives for the proposed biomass power plant. Impacts are estimated for the short-term construction and capital investment stage of enterprise development as well as the long-term, annual operations stage. The geographic region analyzed includes Klamath County (where the facilities would be located) as well as neighboring Deschutes and Jackson Counties that have larger populations and towns that are anticipated to provide goods and services to the enterprises and their employees.

### Methodology

Total economic impacts differ during the short-term construction/enterprise development phase and the long-term operation phase, and are estimated separately. In contrast to short-term construction impacts, the operations impacts of each forestry-related enterprise would continue on an annual basis for the life of the enterprise. The types of economic impacts from the proposed enterprises that are estimated in this analysis are outlined below:

#### Construction

- On-Site Construction Jobs and Income (Direct)
- Supplier Jobs and Income (Indirect)

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### Economic Impacts of Proposed Forestry Related Enterprises

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- Retail/Service Jobs and Income (Induced Impact from increased spending of labor income)

#### Operation

- On-Site Jobs and Income (Direct Impact)
- Supplier Jobs and Income (Indirect Impact)
- Retail/Service Jobs and Income (Induced Impact from increased spending of labor income)

To estimate these economic impacts, Cardno ENTRIX conducted the following three-step analysis:

1. Gather Data on Enterprises: In this task, data from The Beck Group on the capital and operations expenditure by each enterprise was evaluated to identify the change in demand for labor and goods and services in the local economy due to each enterprise.
2. Develop Economic Impact Model: This analysis developed an economic model of Deschutes, Klamath, and Jackson Counties using IMPLAN software and data.
3. Estimate Total Economic Impacts: Data from the Beck Group on construction and operation expenditures for each enterprise was used to estimate the 'direct,' on-site jobs and value added. Once direct impacts were determined, the regional economic impact model of the three-county local economy was used to estimate the total jobs and income impact, including the ripple effects throughout other economic sectors as money is re-circulated in the economy.

### Economic Impacts

**Table ES-1** summarizes estimated total economic impacts (direct, indirect, and induced) for each individual enterprise for construction and operations phases, as well as the total impact of all enterprises developed simultaneously.<sup>1</sup> In total, assuming all enterprises are constructed, it is estimated that approximately 230 to 270 jobs in the region may be supported during the initial start-up and construction phase. During operations, we estimate that all enterprises would support 195 to 210 full and part-time jobs, and \$15.7 to \$16.7 million in value added. Over the next 20 years, spanning both the construction and operations phases in all five projects, the total value added (including income, taxes, benefits) that the enterprises would support in the region is estimated at \$245.3 to \$263.2 million, depending on which biomass power plant is constructed.

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<sup>1</sup> Total economic impacts of each individual enterprise were estimated assuming that no other enterprises were developed. However, the estimated total economic impact of all enterprises (presented in the bottom row of Table ES-1) assumes that all enterprises are developed simultaneously. As one enterprise, the forestry organization, would provide inputs (an indirect impact) to the other enterprises, the sum of the total effects of all four enterprises presented in Table ES-1 is smaller than the sum of each individual enterprise (i.e. some of the indirect effects of the biomass power plant, wood shavings plant, and wood chipping plant are already included in the forestry organization effects).

**Economic Impacts of Proposed Forestry Related Enterprises**

**Table ES-1 Estimated Total Economic Impacts (Direct, Indirect, and Induced) of Proposed Forestry – Related Enterprises: Klamath, Deschutes, and Jackson Counties**

Enterprise	Construction Phase: One-Time		Operations Phase: Annual, Ongoing		Present Value: 2011-2030
	Employment	Value Added (Millions \$)	Employment	Value Added (Millions \$)	Value Added (Millions \$)
<b>Power Plant</b>					
<i>Stand Alone</i>	200	\$10.0	110	\$10.2	\$161.2
<i>Giiwas Cogen</i>	230	\$11.5	110	\$10.5	\$167.8
<i>Gilchrist Cogen</i>	240	\$12.1	130	\$11.4	\$181.3
Forestry Organization	10	\$0.8	30	\$2.6	\$40.2
Wood Shavings Plant	20	\$0.9	20	\$1.2	\$18.6
Wood Chipping Plant	Insignificant	\$0.1	40	\$4.1	\$61.5
Mazama Tree Farm	N/A	N/A	20	\$0.8	\$12.3
<b>Total (5 Enterprises)</b>	230 – 270	\$11.9 - \$13.9	195-210	\$15.7 - \$16.7	\$245.3 - \$263.2

Note: The "Total" range is due to the different impacts estimated for the three variations of the power plant. Additionally, the "Total" does not sum. The forestry organization captures a portion of the "indirect" effects of the other enterprises, so summing all enterprises would result in double-counting of some effects.

In each of its three proposed alternatives, the biomass power plant supports the largest portion of the employment and value added for both the construction and the operations phases. In the construction phase, approximately 200 to 240 full and part-time jobs and \$10.0 million to \$12.1 million in value added may be supported in the 3-county region to provide labor and materials to construct the power plant. During operations, the power plant is expected to support approximately 10 to 15 employees at the plant, and an additional 90 to 120 in other sectors through purchase of biomass fuel, ongoing repair and maintenance services, truck transportation, and other supplies. Total value added that would be annually supported at the power plant is estimated at \$10.2 to \$11.4 million annually.

The other three new enterprises, the forestry organization, the wood shavings plant, and the wood chipping plant have a similar magnitude of economic impacts. Each supports approximately 0 to 20 jobs and \$0.1 to \$0.9 million in value added in the initial construction phase, and between 20 to 40 jobs and \$1.2 million to \$4.1 million in value added during the operations phase. The Mazama Tree farm, which is a purchase of an existing enterprise by the Tribes, is expected to result in slightly less additional employment and income of just under 20 jobs and approximately \$0.8 in income annually (note that this is employment and income *in excess* of current levels estimated to be supported at the tree farm).

Much of the total economic impact show in **Table ES-1** is due to the multiplier effect of money spent by the proposed enterprises re-circulating in the local economy. **Figure ES-1** and **Table ES-2** highlight the magnitude of the employment multiplier effect of each enterprise. The multiplier is equivalent to the ratio of total economic impact to direct economic impact. For example, the Gilchrist Cogeneration plant would directly employ an estimated 15 people at the facility, but would support an additional 110 people at other business, resulting in a total employment of approximately 125. This equates to a multiplier of 8.4; for every job at the Gilchrist Cogeneration facility, there are an estimated 8.4 total jobs created, or 7.4 *additional* jobs created at other local businesses (5.1 indirect jobs and 2.3 induced jobs). This high

### Economic Impacts of Proposed Forestry Related Enterprises

multiplier indicates the extent that the biomass facility relies on goods and services provided by the local economy, in particular wood fuel, trucking, maintenance, permitting, and utilities. The other biomass power plant alternatives have similarly high multipliers, while the wood chipping plant has an even higher multiplier at 14.9 (due to relatively few employees at the facility but a significant number of jobs being created in the forestry sector to supply the raw wood product material to the facility). The other enterprises have lower multipliers ranging from 1.3 for the Mazama Tree Farm to 2.2 for the wood shavings plant.

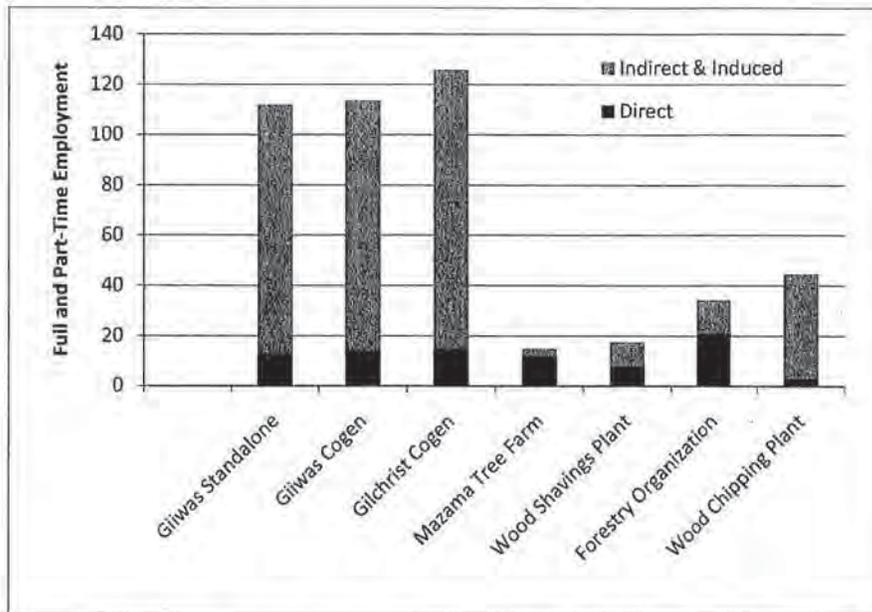


Figure ES-1 Estimated Direct, Indirect, and Induced Annual Employment Comparison by Enterprise.

Table ES-2 Estimated Annual Multiplier Effects, Operations Phase

Proposed Enterprise	Direct Employment Multiplier (A)	Indirect Employment Multiplier (B)	Induced Employment Multiplier (C)	Total Employment Multiplier (A+B+C)
Biomass Power Plant				
Giiwas Stand alone	1.0	5.2	2.4	8.6
Giiwas Cogen	1.0	4.8	2.3	8.1
Gilchrist Cogen	1.0	5.1	2.3	8.4
Forestry Organization	1.0	0.0	0.6	1.6
Wood Shavings Plant	1.0	0.7	0.5	2.2
Wood Chipping Plant	1.0	9.9	3.9	14.9
Mazama Tree Farm	1.0	0.0	0.5	1.3

As indicated in Table ES-2, developing the proposed enterprises will not only directly support employment and income at the facilities, but will also support jobs and income at a myriad of

**Economic Impacts of Proposed Forestry Related Enterprises**

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other local businesses, including businesses in the construction, transportation, retail, trade, services, utilities, and forestry sectors.

## Chapter 1

# Introduction

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As part of their proposed water rights settlement, the Klamath Tribes (Tribes) have proposed developing or purchasing several forestry-related enterprises. These include the purchase of the Mazama Tree Farm and development of four new enterprises: a biomass power plant, a wood shavings plant, a wood chipping plant, and a forestry services organization. These enterprises would support and enhance the local economy by purchasing local forest products and expanding value-added activities that support jobs and income in the region.

The Beck Group, a consultant to the Tribes, has conducted a financial and technical feasibility analysis of these enterprises. This analysis included a detailed assessment of the required capital and annual expenditures, including expenditures for equipment, labor and materials, of each enterprise to estimate the return on investment. In addition to analyses of financial feasibility, the Tribes require an analysis of the economic impact of the proposed enterprises to the region. This analysis uses the findings from The Beck Group to estimate the direct and indirect regional economic benefits in terms of economic activity supported by the proposed enterprises.

### 1.1 Purpose and Scope of Analysis

The purpose of this analysis is to estimate the total economic activity generated and supported by the proposed enterprises in terms of increased local jobs and value added (which includes income, taxes paid, and profits). Together these proposed forestry and forestry-product processing activities would directly and indirectly increase economic activity throughout the local area. The purpose of the report is to identify the direct impacts of the enterprises and then to estimate the indirect and induced effects at other local businesses. These indirect and induced benefits result from increased production at the proposed enterprises rippling through the local economy, increasing demand for production inputs from other local businesses and increasing income which is then re-spent in the local economy.

The scope of the analysis is to estimate the impacts of the five forestry-related enterprises (Mazama tree farm, biomass power plant, wood shavings plant, wood chipping plant, and a forestry organization) proposed by the Tribes, including three alternatives for the proposed biomass power plant. Impacts are estimated for the short-term construction and capital investment stage of enterprise development as well as the long-term, annual operations stage.

The geographic region analyzed includes Klamath County (where the facilities would be located) as well as neighboring Deschutes and Jackson Counties that have larger populations and towns that are anticipated to provide goods and services to the enterprises and their employees.

### 1.2 Organization

This report contains two additional chapters and an Appendix. Chapter 2 provides an overview of the methodology and data sources used in the analysis. Chapter 3 presents economic impact estimates. Appendix A provides additional detail on the data for each enterprise used in the analysis.

## Chapter 2

# **Methodology and Data Sources**

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The proposed forestry-related enterprises would result in construction and operation of energy production and manufacturing plants, development of a forestry organization, and enhanced management of a tree farm. These enterprises would directly support employment and income in the construction, manufacturing, and timber industries in Klamath, Deschutes, and Jackson Counties. In addition to these direct impacts, total impacts would include indirect and induced impacts as directly affected industries (and their employees) re-spend money in the local economy in the wholesale, retail, service, and other sectors. To the extent that this money is re-spent at local businesses, the money will circulate in the economy and stimulate additional local economic activity known as the multiplier effect.

Total economic impacts differ during the short-term construction/enterprise development phase and the long-term operation phase, and are estimated separately. In contrast to short-term construction impacts, the operations impacts of each forestry-related enterprise would continue on an annual basis for the life of the enterprise.

The types of economic impacts from the proposed enterprises that are estimated in this analysis are outlined below:

### **Construction**

- On-Site Construction Jobs and Income (Direct)
- Supplier Jobs and Income (Indirect)
- Retail/Service Jobs and Income (Induced Impact from increased spending of labor income)

### **Operation**

- On-Site Jobs and Income (Direct Impact)
- Supplier Jobs and Income (Indirect Impact)
- Retail/Service Jobs and Income (Induced Impact from increased spending of labor income)

To estimate these economic, Cardno ENTRIX conducted a three-step analysis. An overview of the methodology and data used is provided below, and then is discussed in more detail in the remainder of the chapter.

4. Gather Data on Enterprises: In this task, data from The Beck Group on the capital and operations expenditure by each enterprise was evaluated to identify the change in demand for labor and goods and services in the local economy due to each enterprise.
5. Develop Economic Impact Model: This analysis developed an economic model of Deschutes, Klamath, and Jackson Counties using IMPLAN software and data.

### Economic Impacts of Proposed Forestry Related Enterprises

6. **Estimate Total Economic Impacts:** Data from the Beck Group on construction and operation expenditures for each enterprise was used to estimate the 'direct,' on-site jobs and value added. Once direct impacts were determined, the regional economic impact model of the three-county local economy was used to estimate the total jobs and income impact, including the ripple effects throughout other economic sectors as money is re-circulated in the economy.

## 2.1 Data

The Beck Group provided Cardno ENTRIX with data on the four new enterprises being considered by the Tribes: biomass power production, forestry organization, wood shavings plant, and wood chipping plant. The Beck Group provided information on three proposed variations of the biomass power production plant: Giiwas stand alone plant, Giiwas cogeneration plant, and Gilchrist cogeneration plant. Information on the increased labor and income associated with operation of the Mazama Tree Farm due to Tribal ownership (in excess of economic activity currently supported by existing ownership) was gathered from the Klamath Tribes. It is expected that increased economic activity at the Mazama Tree Farm would be primarily associated with increased labor associated with restoration and more active forestry management, and would result in little additional demand for other goods and services from the local area. **Table 2-1** summarizes the capital investment and annual expenditures for each proposed enterprise. Note that this analysis *did not include value added from profits* of the proposed enterprises as it was not available for all enterprises. Value added from a positive financial return on investment would increase the direct value added and would also increase the multiplier effect of the proposed enterprises.

**Table 2-1 Estimated Capital and Operations Expenditures by Proposed Enterprise (Millions \$)**

Enterprise	Expenditure Type	Construction / Capital Investment (\$)	Annual Operation and Maintenance (\$/Year)
Giiwas Alone Biomass Plant	Enterprise Direct Labor Income	N/A	\$1.2
	Purchase of Goods and Services	\$51.2	\$9.4
Giiwas Cogeneration Biomass Plant	Enterprise Direct Labor Income	N/A	\$1.3
	Purchase of Goods and Services	\$61.8	\$9.5
Gilchrist Cogeneration Biomass Plant	Enterprise Direct Labor Income	N/A	\$1.2
	Purchase of Goods and Services	\$62.4	\$12.1
Forestry Organization	Enterprise Direct Labor Income	N/A	\$1.8
	Purchase of Goods and Services	\$4.2	\$1.1
Wood Shavings Plant	Enterprise Direct Labor Income	N/A	\$0.3
	Purchase of Goods and Services	\$3.3	\$1.2
Wood Chipping Plant	Enterprise Direct Labor Income	N/A	\$0.2
	Purchase of Goods and Services	\$1.7	\$5.2
Mazama Tree Farm	Enterprise Direct Labor Income	N/A	\$0.7
	Purchase of Goods and Services	N/A	N/A

Source: Personal communication with The Beck Group and representatives of the Klamath Tribes.

## Economic Impacts of Proposed Forestry Related Enterprises

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### **2.2 Develop Economic Impact Model**

Following a brief overview of the economic impact analysis, this section describes the specific models used to estimate economic impacts of the proposed forestry-related enterprises.

#### **2.2.1 Overview of Economic Impact Analysis**

To understand how an economy is affected by a business or industry, such as biomass power production, it is necessary to understand how different sectors or industries in the economy are linked to each other. For example, in the biomass power production sector, the power plant buys wood fuel from the forestry industry, which in turn then buys forestry equipment from equipment dealers, which in turn purchases from a range of other industries, resulting in indirect impacts. Employees of each of these industries then spend their income on goods and services in a variety of other sectors, resulting in induced impacts.<sup>2</sup>

Typically, most economic sectors need to make purchases of goods and materials from outside of the local economy. Purchases made from outside the study area are called “imports.” Money spent on imports is said to be a “leakage” from the local economy, and is expected to be large for the initial start-up phase of the proposed enterprises as much of the required capital equipment will be manufactured outside of the study area (though there will be impacts in the retail sector as much of the equipment will likely be purchased from local equipment dealers). Likewise, businesses typically do not sell all of their production to businesses in the local area, but sell some or all of their production to businesses outside the local area. Products sold outside the local area are “exports,” and money received for exports brings “new” money into the area and increases the size of the local economy through a multiplier effect.

The size of the multiplier effect, or the extent to which “new” money generated by exports from the forestry-related enterprises is able to expand the local economy is greatly dependent on how much of the money is spent and re-spent in the local economy. A proportion of money received by the industry is spent to procure local supplies from linked industries, and then these local suppliers re-spend that money. To the extent that there are plenty of other local businesses on which the local suppliers can depend, less of this money leaves the local economy to buy imports. If there are few local businesses from which needed purchases can be made, much of the money will leave, or “leak” from, the local economy, and the multiplier effect will be smaller. In other words, the size of the multiplier effect depends on how local businesses are linked together and how much leakage there is to outside areas for imports. (However, leakages from the local level represent economic activity generated in these outside areas providing the imported goods and services). If the economy has numerous sectors that are linked, multipliers will be higher than if there are few linkages between sectors.

Households are linked to all economic sectors as they provide the required labor and management. In turn, changes that affect the incomes of the household sector typically have

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<sup>2</sup> Direct effects are effects on the sector with the initial change in economic output, which in this case is the manufacturing sector. Indirect effects are changes in industries that provide inputs to sectors with increased economic output. Induced effects are changes in industries that provide goods and services to employees in directly and indirectly affected industries (i.e. changes due to increased household income and associated spending).

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### Economic Impacts of Proposed Forestry Related Enterprises

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more significant impacts on a local economy compared to a change in the sales of other sectors. This is because households typically spend most of their income locally, in both retail and service industries. For this analysis, household spending is an important driver of impact as employees in directly and indirectly affected sectors spend their increased income.

This study utilizes an economic model known as IMPLAN to develop this understanding of the local economy, including the sectors that exist in a local area, the links between them, and the level of economic activity. This remainder of this section describes this IMPLAN model and the approach used to measure the total impacts of the proposed forestry-related enterprises in the local three-county economy.

#### **2.2.2 IMPLAN Model**

The regional economic impacts were estimated using IMPLAN (Impact Analysis for Planning), a commonly used economic input-output (I-O) model. I-O models are constructed based on the concept that all industries within an economy are linked together; the output of one industry becomes the input of another industry until all final goods and services are produced. I-O models can be used both to analyze the structure of a regional economy and to estimate the total economic impact of projects or policies. For this analysis, an economic model was constructed of the Klamath, Deschutes, and Jackson Counties using 2008 IMPLAN software and data (the most recent available) and used to estimate economic impacts of the proposed forestry-related enterprises. Separate analyses were conducted to estimate impacts from the construction and the operations phases of the proposed enterprises. The model was used to estimate total value added and employment.

Value added is the sum of labor income (including employee and proprietor income and all payroll and benefits), taxes paid, and gross operating surplus or profit. Value added is a measure of the contribution to GDP of the proposed enterprise. Employment represents the annual average number of employees, whether full or part-time, of the businesses producing output. Value added and employment represent the net economic benefits that accrue to the region as a result of increased economic output.

The size of the indirect and induced effects is measured by the multiplier, which as noted above, is a measure of the strength of the linkages between the proposed enterprise and other businesses in the local economy and the degree that spending is used to buy products from local businesses rather than used to import goods or services produced elsewhere. IMPLAN can be used to estimate the total multiplier effects of a change in output in the industry under study, in our case forestry-related businesses, that are due to the resultant change in demand for labor and goods and services used as inputs to our enterprises (backward linkages). However, the forestry enterprises has not only backward linkages to businesses such as timber operations and equipment manufacturers that supply inputs, but also has forward linkages to industries that purchase products from the proposed enterprises. IMPLAN does not measure the impacts to forward linked industries; these must be assessed by the analyst outside the model and then entered as a direct change in output (known as final demand) to the forward-linked industry. Forward linkages in this model are anticipated to be small, as little additional processing of the outputs of our proposed enterprises is expected, and are not analyzed in this report.

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**Economic Impacts of Proposed Forestry Related Enterprises**

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**2.2.2.1 Limitations of the IMPLAN Model**

IMPLAN analysis has some limitations. One of the most important is that of fixed proportions: for any good or service, all inputs are combined in fixed proportions that are constant regardless of the level of output. Hence, there is no substitution among production inputs and no economies of scale are possible. Second, each production function incorporates fixed technology, so for example the same proportion of labor and capital are used. These limitations are not a significant concern in our analysis as the inputs for each enterprise were identified through a site-specific analysis by The Beck Group. Third, I-O does not model any price effects that might be important to a region. Regardless of the level of production, it is assumed that price and returns per unit of production are constant. Again, this limitation is not a concern in our analysis as no price effects are expected due to the proposed enterprises as the level of production is relatively small. Finally, I-O assumes that resources that become unemployed or employed due to a change in final demand have no alternative employment.

The IMPLAN database contains 509 sectors at the national level. While this is a large number of sectors, some sectors contain a wide range of products or services and the production functions reflect the average or aggregate production technology for the goods or services produced. For example, while there is an electricity generation sector in IMPLAN, there is no industry sector in IMPLAN that corresponds specifically to biomass power production. To tailor the analysis as much as possible to the proposed enterprises, the data on expenditures from each enterprise was separately entered in the model rather than using national average production functions imbedded in the IMPLAN model.

**2.3 Estimate Direct and Total Economic Impacts**

The economic impact analysis estimated the total number of additional jobs and value added that are estimated to accrue to the local economy due to the proposed enterprises. To estimate the economic impact of enterprise-related expenditures shown in **Table 2-1**, more analytical steps are necessary. First, it was necessary to estimate the proportion of expenditures that would occur locally within the 3-county study area. Also, as noted above, there is no industry sector in IMPLAN that exactly corresponds with biomass power production or the other proposed enterprises, so it is necessary to identify how construction and operation costs will be spent in different sectors of the local economy. These expenditures were used as inputs to the IMPLAN model to estimate the total economic impacts of the proposed enterprises. Detailed tables are provided in **Appendix A** that summarize the estimated total expenditures and the local share for each proposed enterprise.

## Chapter 3

## Economic Impact Estimates

This section presents the estimated economic impacts, in terms of increased jobs and value added, of each of the five proposed enterprises. **Table 3-1** summarizes estimated total economic impacts (direct, indirect, and induced) for each individual enterprise for construction and operations phases. Total economic impacts of each individual enterprise were estimated assuming that no other enterprises were developed.

### 3.1 Summary of Economic Impacts

The estimated total economic impact of all enterprises (presented in the bottom row of **Table 3-1**) assumes that all enterprises are developed simultaneously. As one enterprise, the forestry organization, would provide inputs to the other enterprises, the sum of the total effects of all four enterprises presented in **Table 3-1** is smaller than the sum of each individual enterprise (i.e. some of the indirect effects of the biomass power plant, wood shavings plant, and wood chipping plant are already included in the forestry organization effects).

In total, assuming all enterprises are constructed, it is estimated that approximately 230 to 270 jobs in the region may be supported during the initial start-up and construction phase. During operations, we estimate that all enterprises would support 195 to 210 full and part-time jobs, and \$15.7 to \$16.7 million in value added. Over the next 20 years, spanning both the construction and operations phases in all five projects, the total value added (including income, taxes, benefits) that the enterprises would support in the region is estimated at \$245.3 to \$263.2 million, depending on which biomass power plant is constructed.

**Table 3-1 Estimated Total Economic Impacts (Direct, Indirect, and Induced) of Proposed Forestry – Related Enterprises: Klamath, Deschutes, and Jackson Counties**

Enterprise	Construction Phase: One-Time		Operations Phase: Annual, Ongoing		Present Value: 2011-2030
	Employment	Value Added (Millions \$)	Employment	Value Added (Millions \$)	Value Added (Millions \$)
Power Plant					
<i>Stand Alone</i>	200	\$10.0	110	\$10.2	\$161.2
<i>Giiwas Cogen</i>	230	\$11.5	110	\$10.5	\$167.8
<i>Gilchrist Cogen</i>	240	\$12.1	130	\$11.4	\$181.3
Forestry Organization	10	\$0.8	30	\$2.6	\$40.2
Wood Shavings Plant	20	\$0.9	20	\$1.2	\$18.6
Wood Chipping Plant	insignificant	\$0.1	40	\$4.1	\$61.5
Mazama Tree Farm	N/A	N/A	20	\$0.8	\$12.3
<b>Total (5 Enterprises)</b>	<b>230 – 270</b>	<b>\$11.9 - \$13.9</b>	<b>195-210</b>	<b>\$15.7 - \$16.7</b>	<b>\$245.3 - \$263.2</b>

Note: The "Total" range is due to the different impacts estimated for the three variations of the power plant. Additionally, the "Total" does not sum. The forestry organization captures a portion of the 'indirect' effects of the other enterprises, so summing all enterprises would result in double-counting of some effects.

Economic Impacts of Proposed Forestry Related Enterprises

As indicated in the table, there are three proposed variations of the power plant: stand alone at Giiwas, cogeneration plant at Giiwas, and cogeneration plant at Gilchrist. In each variation, the employment and value added supported by the power plant is the largest of the proposed enterprises for both the construction and the operations phases. In the construction phase, approximately 200 to 240 full and part-time jobs and \$10.0 million to \$12.1 million in value added may be supported in the 3-county region to provide labor and materials to construct the power plant. During operations, the power plant is expected to support approximately 10 to 15 employees at the plant, and an additional 90 to 120 in other sectors through purchase of biomass fuel, ongoing repair and maintenance services, truck transportation, and other supplies. Total value added that would be annually supported at the power plant is estimated at \$10.2 to \$11.4 million annually.

The other three new enterprises, the forestry organization, the wood shavings plant, and the wood chipping plant have a similar magnitude of economic impacts. Each supports approximately 0 to 20 jobs and \$0.1 to \$0.9 million in value added in the initial construction phase, and between 20 to 40 jobs and \$1.2 million to \$4.1 million in value added during the operations phase. The Mazama Tree farm, which is a purchase of an existing enterprise by the Tribes, is expected to result in slightly less additional employment and income of just under 20 jobs and approximately \$0.8 in income annually (note that this is employment and income *in excess* of current levels estimated to be supported at the tree farm).

Figures 3-1 and 3-2 highlight total impacts by sector during the long-term operations phase. As indicated in the figures, the sectors with the most economic impacts are the agricultural (which includes forestry enterprises), manufacturing, TIPU (Transportation, Information, and Public Utilities), trade, and service industries.

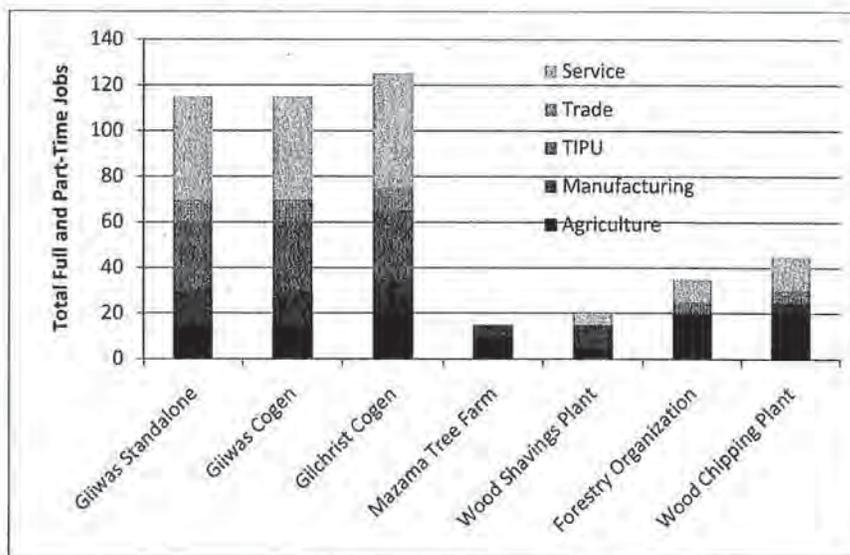


Figure 3-1 Annual Employment by Sector by Enterprise.

### Economic Impacts of Proposed Forestry Related Enterprises

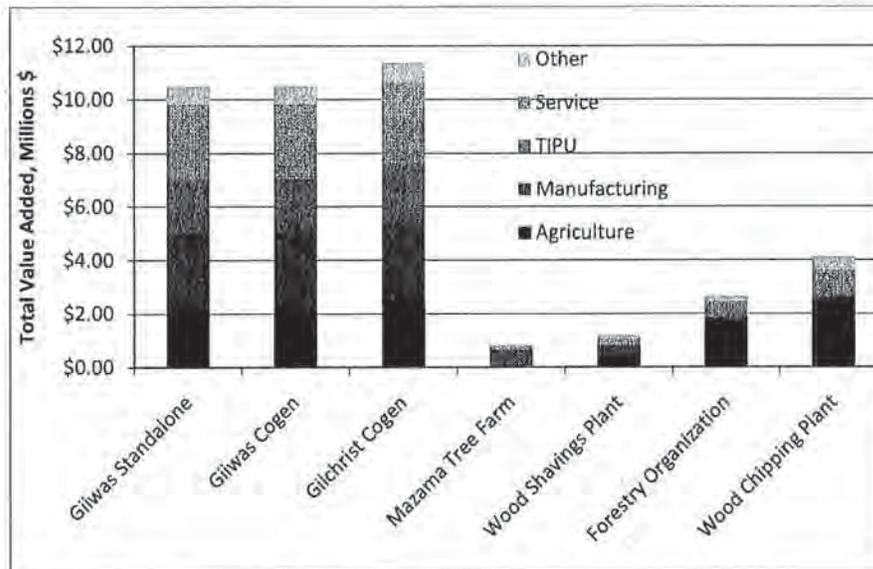


Figure 3-2 Annual Value Added by Sector by Enterprise.

While **Table 3-1** and **Figures 3-1** and **3-2** summarize total economic impact, including the indirect and induced effects in other economic sectors, **Figure 3-3** and **Table 3-2** highlight the magnitude of the employment multiplier effect of each enterprise. The multiplier is equivalent to the ratio of total economic impact to direct economic impact. For example, the Gilchrist Cogeneration plant would directly employ an estimated 15 people at the facility, but would support an additional 110 people at other business, resulting in total employment of approximately 125. This equates to a multiplier of 8.4; for every job at the Gilchrist Cogeneration facility, there are an estimated 8.4 total jobs created, or 7.4 *additional* jobs created at other local businesses (5.1 indirect jobs and 2.3 induced jobs). This high multiplier indicates heavy reliance of the biomass facility on goods and services provided by the local economy, in particular wood fuel, trucking, maintenance, permitting, and utilities. The other biomass power plant alternatives have similarly high multipliers, while the wood chipping plant has an even higher multiplier at 14.9 (due to relatively few employees at the facility but a significant number of jobs being created in the forestry sector to supply the raw wood product material to the facility). The other enterprises have lower multipliers ranging from 1.3 for the Mazama Tree Farm to 2.2 for the wood shavings plant.

Economic Impacts of Proposed Forestry Related Enterprises

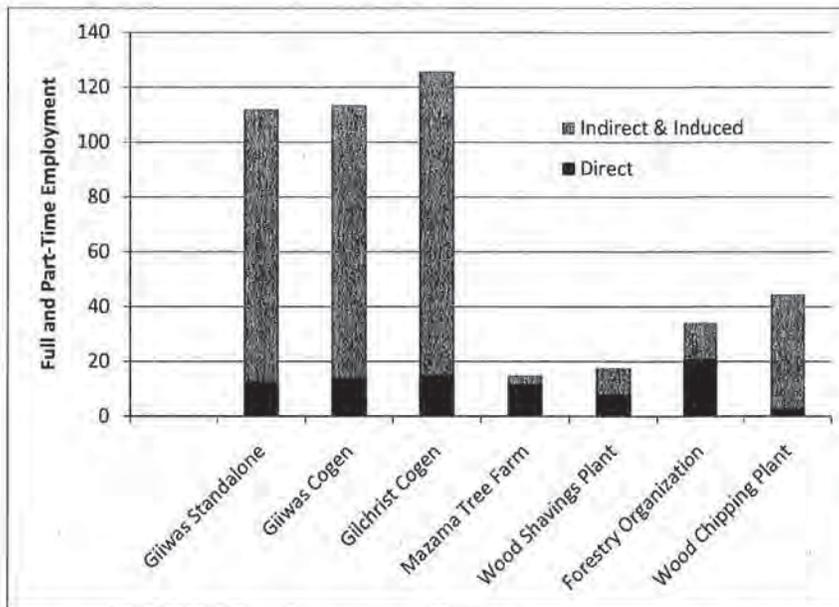


Figure 3-3 Estimated Direct, Indirect, and Induced Annual Employment Comparison by Enterprise.

Table 3-2 Estimated Annual Multiplier Effects

Proposed Enterprise	Direct Employment Multiplier (A)	Indirect Employment Multiplier (B)	Induced Employment Multiplier (C)	Total Employment Multiplier (A+B+C)
Biomass Power Plant				
Giiwas Stand alone	1.0	5.2	2.4	8.6
Giiwas Cogen	1.0	4.8	2.3	8.1
Gilchrist Cogen	1.0	5.1	2.3	8.4
Forestry Organization	1.0	0.0	0.6	1.6
Wood Shavings Plant	1.0	0.7	0.5	2.2
Wood Chipping Plant	1.0	9.9	3.9	14.9
Mazama Tree Farm	1.0	0.0	0.5	1.3

As indicated in **Table 3-2**, developing the proposed enterprises will not only directly support employment and income at the facilities, but will also support jobs and income at a myriad of other local businesses, including businesses in the construction, transportation, retail, trade, services, utilities, and forestry sectors.

Detailed results detailed tables on the direct, indirect, and induced effects of the five proposed forestry-related enterprises are presented below. Impacts are presented by project phase (construction and operations) and by economic sector.

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**Economic Impacts of Proposed Forestry Related Enterprises**

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**3.2 Biomass Power Plant**

Total employment and value added impacts supported by the three alternatives for the biomass power plant are presented in **Tables 3-3 to 3-8** below. As indicated in **Table 3-1**, of the three alternatives, the Gilchrist cogeneration facility would result in the largest economic impact, while the Giiwas stand alone facility would have the smallest economic impact. (The Giiwas cogeneration facility would have slightly greater economic impact than the Giiwas stand alone facility.) However, the economic activity supported by each facility variation are fairly similar, with the impacts of the Gilchrist cogeneration facility a little more than 10 percent greater than the impacts of the Giiwas stand alone facility. Detailed impacts for each power plant alternative are presented below.

**3.2.1 Giiwas Stand Alone Power Plant**

Total employment and value added impacts supported by the Giiwas stand alone power plant are presented in **Table 3-3** (operations) and **Table 3-4** (construction) below. As indicated in the tables, during the operations phase, approximately 15 employees and \$2.61 million in value added are supported directly by the enterprise (note that this does not include value added related to enterprise profits). Expenditures in the local economy by the power plant and its employees result in indirect and induced impacts of approximately 100 additional employees and \$7.55 million in value added, primarily in the agriculture (which includes forestry), TIPU (transportation, information, and public utilities), and services sectors. Initial capital investment and construction of the power plant provide a short-term boost to the local economy, with approximately 135 employees and \$5.77 million in value added supported directly and an additional 70 employees and \$4.27 million in value added supported through indirect and induced impacts.

Economic Impacts of Proposed Forestry Related Enterprises

Table 3-3 Summary of Giiwas Stand Alone Power Plant: Operations

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	15	0	15
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	15	0	0	15
TIPU	0	30	0	30
Trade	0	0	5	10
Service	0	20	25	45
Government	0	0	0	0
<b>Total Employment</b>	<b>15</b>	<b>70</b>	<b>30</b>	<b>110</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$2.21	\$0.00	\$2.22
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.04	\$0.01	\$0.05
Manufacturing	\$2.61	\$0.01	\$0.01	\$2.62
TIPU	\$0.00	\$1.91	\$0.07	\$1.98
Trade	\$0.00	\$0.11	\$0.37	\$0.48
Service	\$0.00	\$1.22	\$1.46	\$2.68
Government	\$0.00	\$0.10	\$0.03	\$0.13
<b>Total Value Added</b>	<b>\$2.61</b>	<b>\$5.60</b>	<b>\$1.95</b>	<b>\$10.16</b>

Notes: Totals may not sum due to rounding. TIPU is Transportation, Information, and Public Utilities.

## Economic Impacts of Proposed Forestry Related Enterprises

**Table 3-4 Summary of Stand Alone Giiwas Plant: Construction**

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	120	0	0	120
Manufacturing	0	0	0	0
TIPU	0	0	0	0
Trade	0	0	10	10
Service	15	20	30	70
Government	0	0	0	0
<b>Total Employment</b>	<b>135</b>	<b>25</b>	<b>45</b>	<b>205</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$0.00	\$0.01	\$0.01
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$5.01	\$0.01	\$0.02	\$5.04
Manufacturing	\$0.00	\$0.03	\$0.01	\$0.04
TIPU	\$0.00	\$0.08	\$0.10	\$0.18
Trade	\$0.00	\$0.25	\$0.52	\$0.77
Service	\$0.76	\$1.15	\$2.04	\$3.96
Government	\$0.00	\$0.02	\$0.04	\$0.05
<b>Total Value Added</b>	<b>\$5.77</b>	<b>\$1.53</b>	<b>\$2.74</b>	<b>\$10.04</b>

Notes: Totals may not sum due to rounding. TIPU is Transportation, Information, and Public Utilities.

### 3.2.2 Giiwas Cogeneration Plant

Total employment and value added impacts supported by the Giiwas cogeneration power plant are presented in **Table 3-5** (operations) and **Table 3-6** (construction) below. As indicated in the tables, during the operations phase, approximately 15 employees and \$2.96 million in value added are supported directly by the enterprise (note that this does not include value added related to enterprise profits). Expenditures in the local economy by the power plant facility and its employees result in indirect and induced impacts of approximately 100 additional employees and \$7.55 million in value added, primarily in the agriculture (which includes forestry), TIPU (transportation, information, and public utilities), and services sectors. Initial capital investment and construction of the power plant provide a short-term boost to the local economy, with approximately 155 employees and \$6.59 million in value added supported directly and an additional 80 employees and \$4.9 million in value added supported through indirect and induced impacts.

Economic Impacts of Proposed Forestry Related Enterprises

Table 3-5 Summary of Giiwas Cogeneration Plant: Operations

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	15	0	15
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	15	0	0	15
TIPU	0	25	0	30
Trade	0	0	5	10
Service	0	20	25	45
Government	0	0	0	0
<b>Total Employment</b>	<b>15</b>	<b>70</b>	<b>30</b>	<b>115</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$2.11	\$0.00	\$2.11
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.04	\$0.02	\$0.06
Manufacturing	\$2.96	\$0.01	\$0.01	\$2.97
TIPU	\$0.00	\$1.88	\$0.07	\$1.95
Trade	\$0.00	\$0.11	\$0.38	\$0.49
Service	\$0.00	\$1.32	\$1.49	\$2.80
Government	\$0.00	\$0.10	\$0.03	\$0.12
<b>Total Value Added</b>	<b>\$2.96</b>	<b>\$5.56</b>	<b>\$1.99</b>	<b>\$10.51</b>

Notes: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

### Economic Impacts of Proposed Forestry Related Enterprises

**Table 3-6 Summary of Giiwas Cogeneration Plant: Construction**

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	135	0	0	135
Manufacturing	0	0	0	0
TIPU	0	0	0	0
Trade	0	5	10	15
Service	20	25	35	80
Government	0	0	0	0
<b>Total Employment</b>	<b>155</b>	<b>30</b>	<b>50</b>	<b>235</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$0.00	\$0.01	\$0.01
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$5.63	\$0.01	\$0.02	\$5.67
Manufacturing	\$0.00	\$0.03	\$0.01	\$0.05
TIPU	\$0.00	\$0.10	\$0.11	\$0.20
Trade	\$0.00	\$0.28	\$0.60	\$0.87
Service	\$0.96	\$1.33	\$2.34	\$4.62
Government	\$0.00	\$0.02	\$0.04	\$0.06
<b>Total Value Added</b>	<b>\$6.59</b>	<b>\$1.77</b>	<b>\$3.13</b>	<b>\$11.48</b>

Notes: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

#### 3.2.3 Gilchrist Cogeneration Plant

Total employment and value added impacts supported by the Giiwas cogeneration power plant are presented in **Table 3-7** (operations) and **Table 3-8** (construction) below. As indicated in the tables, during the operations phase, approximately 15 employees and \$2.94 million in value added are supported directly by the enterprise (note that this does not include value added related to enterprise profits). Expenditures in the local economy by the power plant facility and its employees result in indirect and induced impacts of approximately 110 additional employees and \$8.44 million in value added, primarily in the agriculture (which includes forestry), TIPU (transportation, information, and public utilities), and services sectors. Initial capital investment and construction of the power plant provide a short-term boost to the local economy, with approximately 165 employees and \$6.93 million in value added supported directly and an additional 85 employees and \$5.14 million in value added supported through indirect and induced impacts.

Economic Impacts of Proposed Forestry Related Enterprises

Table 3-7. Summary of Gilchrist Cogeneration Plant: Operations

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	20	0	20
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	15	0	0	15
TIPU	0	30	0	30
Trade	0	0	5	10
Service	0	25	25	50
Government	0	0	0	0
<b>Total Employment</b>	<b>15</b>	<b>75</b>	<b>35</b>	<b>125</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$2.45	\$0.00	\$2.45
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.04	\$0.02	\$0.06
Manufacturing	\$2.94	\$0.01	\$0.01	\$2.95
TIPU	\$0.00	\$2.11	\$0.08	\$2.18
Trade	\$0.00	\$0.13	\$0.41	\$0.53
Service	\$0.00	\$1.45	\$1.60	\$3.05
Government	\$0.00	\$0.11	\$0.03	\$0.14
<b>Total Value Added</b>	<b>\$2.94</b>	<b>\$6.29</b>	<b>\$2.15</b>	<b>\$11.38</b>

Notes: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

### Economic Impacts of Proposed Forestry Related Enterprises

**Table 3-8 Summary of Gilchrist Cogeneration Plant: Construction**

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	145	0	0	145
Manufacturing	0	0	0	0
TIPU	0	0	0	0
Trade	0	5	10	15
Service	20	25	40	85
Government	0	0	0	0
<b>Total Employment</b>	<b>165</b>	<b>30</b>	<b>55</b>	<b>245</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$0.00	\$0.01	\$0.01
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$5.95	\$0.01	\$0.03	\$5.99
Manufacturing	\$0.00	\$0.04	\$0.01	\$0.05
TIPU	\$0.00	\$0.10	\$0.12	\$0.22
Trade	\$0.00	\$0.29	\$0.63	\$0.92
Service	\$0.98	\$1.39	\$2.46	\$4.83
Government	\$0.00	\$0.02	\$0.04	\$0.07
<b>Total Value Added</b>	<b>\$6.93</b>	<b>\$1.85</b>	<b>\$3.29</b>	<b>\$12.08</b>

Notes: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

### 3.3 Forestry Organization

Total employment and value added impacts supported by the forestry organization are presented in **Table 3-9** (operations) and **Table 3-10** (construction) below. As indicated in the tables, during the operations phase, approximately 20 employees and \$1.81 million in value added are supported directly by the enterprise. Expenditures in the local economy by the forestry organization and its employees result in indirect and induced impacts of approximately 15 additional employees and \$0.83 million in value added, primarily in the trade and services sectors. This is due to the fact that nearly all ongoing multiplier effects are due to increased income translating into increased household spending in these sectors (induced impacts). Initial capital investment to form the forestry organization provides a short-term boost to the local economy, with approximately 10 employees and \$0.56 million in value added supported directly and an additional 5 employees and \$0.26 million in value added supported through indirect and induced impacts.

Economic Impacts of Proposed Forestry Related Enterprises

**Table 3-9 Summary of Forestry Organization: Annual Ongoing Operations**

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	20	0	0	20
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	0	0	0	0
TIPU	0	0	0	0
Trade	0	0	5	5
Service	0	0	10	10
Government	0	0	0	0
<b>Total Employment</b>	<b>20</b>	<b>0</b>	<b>15</b>	<b>35</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$1.81	\$0.00	\$0.00	\$1.81
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.01	\$0.01
Manufacturing	\$0.00	\$0.00	\$0.00	\$0.00
TIPU	\$0.00	\$0.00	\$0.03	\$0.03
Trade	\$0.00	\$0.02	\$0.15	\$0.17
Service	\$0.00	\$0.01	\$0.59	\$0.61
Government	\$0.00	\$0.00	\$0.01	\$0.01
<b>Total Value Added</b>	<b>\$1.81</b>	<b>\$0.04</b>	<b>\$0.79</b>	<b>\$2.64</b>

Notes: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

### Economic Impacts of Proposed Forestry Related Enterprises

**Table 3-10 Summary of Forestry Organization: Initial, One-Time Start-Up Impacts**

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	0	0	0	0
TIPU	0	0	0	0
Trade	10	0	0	10
Service	0	0	5	5
Government	0	0	0	0
<b>Total Employment</b>	<b>10</b>	<b>0</b>	<b>5</b>	<b>15</b>
<b>Value Added (2011 Millions\$)</b>				
Agriculture	\$0.00	\$0.00	\$0.00	\$0.00
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00
Manufacturing	\$0.00	\$0.00	\$0.00	\$0.00
TIPU	\$0.00	\$0.01	\$0.01	\$0.01
Trade	\$0.56	\$0.00	\$0.04	\$0.61
Service	\$0.00	\$0.04	\$0.16	\$0.20
Government	\$0.00	\$0.00	\$0.00	\$0.01
<b>Total Value Added</b>	<b>\$0.56</b>	<b>\$0.05</b>	<b>\$0.21</b>	<b>\$0.83</b>

Note: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

### 3.4 Wood Shavings Plant

Total employment and value added impacts supported by the wood shavings plant are presented in **Table 3-11** (operations) and **Table 3-12** (construction) below. As indicated in the tables, during the operations phase, approximately 10 employees and \$0.32 million in value added are supported directly at the facility. Expenditures in the local economy by the facility and its employees result in indirect and induced impacts of approximately 10 additional employees and \$0.86 million in value added, primarily in the service sectors. Construction of the facility provides a short-term boost to the local economy, with approximately 10 employees and \$0.54 million in value added supported directly and an additional 5 employees and \$0.34 million in value added supported through indirect and induced impacts.

Economic Impacts of Proposed Forestry Related Enterprises

**Table 3-11 Summary of Wood Shavings Plant: Annual Ongoing Operations**

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	5	0	5
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	10	0	0	10
TIPU	0	0	0	0
Trade	0	0	0	0
Service	0	0	5	5
Government	0	0	0	0
<b>Total Employment</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>20</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$0.42	\$0.00	\$0.42
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00
Manufacturing	\$0.32	\$0.03	\$0.00	\$0.36
TIPU	\$0.00	\$0.05	\$0.01	\$0.06
Trade	\$0.00	\$0.06	\$0.05	\$0.11
Service	\$0.00	\$0.04	\$0.20	\$0.24
Government	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total Value Added</b>	<b>\$0.32</b>	<b>\$0.60</b>	<b>\$0.26</b>	<b>\$1.19</b>

Note: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

### Economic Impacts of Proposed Forestry Related Enterprises

**Table 3-12 Summary of Wood Shavings Plant: Initial, One-Time Construction Impacts**

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	5	0	0	5
Manufacturing	0	0	0	0
TIPU	0	0	0	0
Trade	0	0	0	0
Service	5	0	5	10
Government	0	0	0	0
<b>Total Employment</b>	<b>10</b>	<b>0</b>	<b>5</b>	<b>15</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$0.00	\$0.00	\$0.00
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.14	\$0.00	\$0.00	\$0.14
Manufacturing	\$0.00	\$0.00	\$0.00	\$0.00
TIPU	\$0.00	\$0.01	\$0.01	\$0.02
Trade	\$0.00	\$0.02	\$0.04	\$0.06
Service	\$0.39	\$0.09	\$0.17	\$0.65
Government	\$0.01	\$0.00	\$0.00	\$0.01
<b>Total Value Added</b>	<b>\$0.54</b>	<b>\$0.12</b>	<b>\$0.23</b>	<b>\$0.89</b>

Note: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

### 3.5 Wood Chipping Plant

Total employment and value added impacts supported by the wood chipping plant are presented in **Table 3-13** (operations) and **Table 3-14** (construction) below. As indicated in the tables, during the operations phase, approximately 5 employees and \$0.16 million in value added are supported directly at the facility. Expenditures in the local economy by the facility and its employees result in indirect and induced impacts of approximately 40 additional employees and \$3.97 million in value added, primarily in the trade and services sectors. Construction of the facility provides an insignificant short-term boost to the local economy, with fewer than five employees and \$0.14 million in value added supported in all sectors.

Economic Impacts of Proposed Forestry Related Enterprises

Table 3-13 Summary of Wood Chipping Plant: Annual Ongoing Operations

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	20	0	20
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	5	0	0	5
TIPU	0	0	0	0
Trade	0	5	5	5
Service	0	5	10	15
Government	0	0	0	0
<b>Total Employment</b>	<b>5</b>	<b>30</b>	<b>10</b>	<b>45</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$2.47	\$0.00	\$2.47
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.01	\$0.01
Manufacturing	\$0.16	\$0.00	\$0.00	\$0.16
TIPU	\$0.00	\$0.02	\$0.03	\$0.04
Trade	\$0.00	\$0.34	\$0.14	\$0.48
Service	\$0.00	\$0.39	\$0.55	\$0.94
Government	\$0.00	\$0.01	\$0.01	\$0.02
<b>Total Value Added</b>	<b>\$0.16</b>	<b>\$3.23</b>	<b>\$0.74</b>	<b>\$4.13</b>

Notes: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

## Economic Impacts of Proposed Forestry Related Enterprises

**Table 3-14 Summary of Wood Chipping Plant: Initial, One-Time Construction Impacts**

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	0	0	0	0
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	0	0	0	0
TIPU	0	0	0	0
Trade	0	0	0	0
Service	0	0	0	0
Government	0	0	0	0
<b>Total Employment</b>	<b>Insignificant</b>	<b>Insignificant</b>	<b>Insignificant</b>	<b>Insignificant</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.00	\$0.00	\$0.00	\$0.00
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00
Manufacturing	\$0.00	\$0.00	\$0.00	\$0.00
TIPU	\$0.00	\$0.00	\$0.00	\$0.00
Trade	\$0.09	\$0.00	\$0.01	\$0.10
Service	\$0.00	\$0.01	\$0.03	\$0.03
Government	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total Value Added</b>	<b>\$0.09</b>	<b>\$0.01</b>	<b>\$0.04</b>	<b>\$0.14</b>

Note: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

### 3.6 Mazama Tree Farm

Total employment and value added impacts supported by the more intensive management anticipated under tribal ownership are presented in **Table 3-15**. Impacts are only estimated for operations as it is anticipated that initial capital investment to assume ownership would be minor. As indicated in the tables, during the operations phase, approximately 10 new employees and \$0.65 million in additional employee income would be supported directly at the tree farm (additional value added may accrue if profitability of the tree farm rises as well). Although the Mazama Tree Farm is an existing forestry enterprise, communication with representatives of the Klamath Tribes indicates that additional economic activity will result from tribal ownership. In particular, it is expected that the number of jobs will increase on the project due to three factors: 1) increased overall professional management (including by biologists, foresters, and restoration professionals), program for stand improvement that will include thinning operations, and 3) more active timber extraction activities.

In total, these activities are expected to result in approximately 10 additional jobs with compensation of approximately \$650,000 annually *in excess* of current compensation and employment at the Mazama Tree Farm. Compensation was estimated based on data from The Beck Group that management positions may be compensated at approximately \$60,000 annually

Economic Impacts of Proposed Forestry Related Enterprises

while timber crews may be compensated at approximately \$40,000 annually. Other economic activity on the Mazama Tree Farm may also result from Tribal management, but is not expected. Expenditures in the local economy by the enhanced tree farm management and its employees are estimated to result in indirect and induced impacts of approximately 5 additional employees and \$0.17 million in value added, primarily in the trade and services sectors.

Table 3-15 Summary of Mazama Tree Farm: Annual Ongoing Impacts

Sector	Direct	Indirect	Induced	Total
<b>Employment (Full and Part-Time Jobs)</b>				
Agriculture	10	0	0	10
Mining	0	0	0	0
Construction	0	0	0	0
Manufacturing	0	0	0	5
TIPU	0	0	0	0
Trade	0	0	0	0
Service	0	0	0	0
Government	0	0	0	0
<b>Total Employment</b>	<b>10</b>	<b>0</b>	<b>5</b>	<b>15</b>
<b>Value Added (2011 Millions \$)</b>				
Agriculture	\$0.65	\$0.00	\$0.00	\$0.00
Mining	\$0.00	\$0.00	\$0.00	\$0.00
Construction	\$0.00	\$0.00	\$0.00	\$0.00
Manufacturing	\$0.00	\$0.00	\$0.00	\$0.65
TIPU	\$0.00	\$0.00	\$0.01	\$0.01
Trade	\$0.00	\$0.00	\$0.03	\$0.03
Service	\$0.00	\$0.00	\$0.13	\$0.13
Government	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total Value Added</b>	<b>\$0.65</b>	<b>\$0.00</b>	<b>\$0.17</b>	<b>\$0.83</b>

Note: Totals may not sum due to rounding. TIPU is (Transportation, Information, and Public Utilities).

## Appendix A

## Detailed Tables of Expenditures by Proposed Enterprise

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This appendix provides the detail on the expenditures for each enterprise that were analyzed in this study. The expenditures for each enterprise were used as inputs in the IMPLAN economic model to estimate total impacts on all sectors from increased household spending (induced impacts due to changes in employee compensation) and total impacts on all sectors of increased demand for local goods and services (indirect impacts due to demand from the proposed enterprises). Expenditures for retail goods such as fuel or capital equipment were 'margined' in IMPLAN to estimate only the impact on the retail sector as there is little to no petroleum extraction and refining in the study area nor is it expected that equipment required in the study area would be manufactured in the area. Tables A-1 through A-4 summarize estimated operations and construction/capital expenditures by the biomass power facility, forestry organization, wood shavings facility, and wood chipping facility. Data for these tables is from The Beck Group.

Although the Mazama Tree Farm is an existing forestry enterprise, communication with representatives of the Klamath Tribes indicates that additional economic activity will result from tribal ownership. In particular, it is expected that the number of jobs will increase on the project due to three factors: 1) increased overall professional management (including by biologists, foresters, and restoration professionals), program for stand improvement that will include thinning operations, and 3) more active timber extraction activities. In total, these activities are expected to result in 12 additional jobs with compensation of approximately \$650,000 annually *in excess* of current compensation at the Mazama Tree Farm. Compensation was estimated based on data from The Beck Group that management positions may be compensated at approximately \$60,000 annually while timber crews may be compensated at approximately \$40,000 annually. Additional purchase of goods or services may also result from Tribal management, but is not expected.

Economic Impacts of Proposed Forestry Related Enterprises

Table A-1 Detailed Estimates of Expenditures: Biomass Power Plant Facility Alternatives

Type of Expenditure	Standalone Giiwas	Giiwas Cogeneration	Gilchrist Cogeneration	% Local
<b>Operations</b>				
Employee Compensation	\$1,203,186	\$1,300,596	\$1,224,614	100%
Fuel Supply				
Truck Transportation	\$2,513,231	\$2,391,600	\$2,777,785	100%
Forestry Industry	\$3,769,846	\$3,587,400	\$4,166,678	100%
Ash hauling/disposal				
Truck Transportation	\$44,812	\$52,000	\$59,500	100%
Waste Management	\$44,812	\$52,000	\$59,500	100%
Other Operations and Maintenance				
Consumables	\$490,412	\$512,099	\$580,362	25%
Environmental Costs	\$136,964	\$140,252	\$154,164	75%
Routine Maintenance	\$600,000	\$700,000	\$763,000	100%
Major Maintenance	\$110,000	\$116,000	\$125,000	100%
Capital Expenditure	\$20,000	\$20,000	\$20,000	0%
Utilities	\$819,000	\$861,000	\$888,300	100%
Insurance	\$182,968	\$207,735	\$222,030	100%
Taxes	\$702,419	\$828,141	\$855,635	100%
<b>Construction</b>				
Power Plant facilities				
Capital Equipment	\$25,500,000	\$28,700,000	\$30,780,000	0%
Engineering	\$6,000,000	\$7,100,000	\$7,695,000	25%
Construction	\$11,000,000	\$12,000,000	\$12,825,000	75%
Fuel receiving, processing, storage facilities				
Equipment	\$2,800,000	\$3,150,000	\$3,500,000	0%
Construction	\$1,200,000	\$1,350,000	\$1,500,000	100%
Project Management / Permitting / Engineering	\$900,000	\$1,000,000	\$1,000,000	0
Site preparation/roads/fencing costs	\$350,000	\$400,000	\$400,000	100%
Interconnection/Water/Sewer	\$1,400,000	\$1,600,000	\$1,800,000	100%
Dry Kilns				
Capital Equipment		\$2,600,000		0%
Engineering		\$400,000		25%
Construction		\$1,000,000		25%
Working Capital	\$2,500,000	\$2,500,000	\$2,900,000	0%

Source: Personal communication with The Beck Group.

### Economic Impacts of Proposed Forestry Related Enterprises

**Table A-2 Detailed Estimates of Expenditures: Forestry Organization**

Type of Expense	Purchase Value	% Local
<b>Operations</b>		
Employee Compensation	\$1,812,823	100%
Woods Supplies and Services		
Fuel and Lube	\$85,785	100%
Maintenance and Repairs	\$329,790	100%
Annual Truck Supplies and Services		
Fuel	\$230,400	100%
Tires	\$41,600	100%
Oil and Lubrication	\$28,908	100%
Maintenance and repairs	\$57,040	100%
Grinding Supplies and Services		
Fuel and Lube	\$224,844	100%
Maintenance and Repairs	\$84,484	100%
Other		
Office/Building Expenses	\$18,000	100%
Office Utilities (phone/water/power)	\$10,000	100%
<b>Initial Capital Expenses</b>		
In-Woods Equipment		
Feller Buncher on a tracked carriage	\$475,000	100%
Wheeled Grapple Skidder	\$300,000	100%
Delimber on a tracked carriage	\$500,000	100%
Excavator with a grapple log loading attachment	\$300,000	100%
Service Truck	\$70,000	100%
Trucking Equipment		
Log Truck and Trailer (4)	\$580,000	100%
Chip Truck and Trailer (2)	\$380,000	100%
Grinding Equipment		
Front End Loader	\$600,000	100%
Horizontal Bed, Tracked Grinder	\$475,000	100%
Loader with Biobucket	\$300,000	100%
Service Truck	\$60,000	100%
Semi-Tractor & Equipment Trailer (used)	\$75,000	100%
Fuel Tank	\$5,000	100%
Water Truck	\$30,000	100%

Economic Impacts of Proposed Forestry Related Enterprises

**Table A-3 Detailed Estimates of Expenditures: Wood Shavings Plant**

Type of Expense	Purchase Value	% Local
<b>Operations</b>		
Employee Compensation	\$323,220	100%
Raw material cost	\$714,809	100%
Direct Manufacturing Costs		
Packaging	\$334,973	26%
Utilities	\$59,055	100%
Supplies	\$42,000	100%
Repair and maintenance	\$10,000	100%
<b>Construction</b>		
Purchased and Fabricated Equipment	\$1,844,549	0%
Mechanical Installation	\$216,610	100%
Electrical Installation	\$388,300	100%
Spare Parts	\$84,244	0%
Freight	\$94,175	0%
Project Management	\$88,257	25%
Contingency	\$294,191	0%
Building and Site Prep	\$314,003	100%
Permits	\$25,000	100%

**Table A-4 Detailed Estimates of Expenditures: Wood Chipping Plant**

Local Purchase Value	Purchase Value	% Local
<b>Operations</b>		
Employee Compensation	\$156,280	100%
Raw material cost	\$4,200,000	100%
Direct Manufacturing Costs		
Other Supplies		
Fuel	\$464,802	50%
Other Supplies/Repairs	\$566,918	50%
<b>Construction</b>		
Mobile Chipper	\$985,000	100%
Front End Loader	\$300,000	100%
Log Loader	\$250,000	100%
Chip Screening System	\$150,000	100%

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**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1230_097-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_LT_1230_097-2	<p>It is unclear which sections of the EIS/EIR the comment author is referring to. Discussion on historic use of fish in Chapter 1 for example, describes the Tribe's reliance on "the fish populations of the Klamath Basin". On p. 1-4, the Draft EIS/EIR acknowledges that construction of the four main-stem hydroelectric facilities on the middle part of the Klamath Basin between 1918 (Copco 1 Dam) and 1962 (Iron Gate Dam) blocked the passage of migrating salmon and steelhead to the Upper Basin. On p. 1-6 the Draft EIS/EIR documents that the "Klamath River is blocked at Iron Gate Dam for passage of fall and spring run Chinook salmon, coho salmon, and steelhead, limiting fish production in the basin and access to salmon by tribes in the Upper Basin." In the first paragraph under Section 1.1.3.4., p. 1-8, the Draft EIS/EIR states "The Klamath Basin once produced large runs of steelhead, Chinook salmon, coho salmon, green sturgeon, eulachon, coastal cutthroat trout, and Pacific lamprey. Runs of these anadromous fish (fish that migrate from salt water to spawn in fresh water) contributed substantially to tribal, commercial, and recreational fisheries (USFWS 1986; Klamath River Basin Fisheries Task Force 1991; Gresh et al. 2000)."</p> <p>Butler et al. (2010) is cited in the Aquatic Resources section of the Draft EIS/EIR on p. 3.3-8 as evidence that steelhead were present in the Upper Klamath Basin upstream of Upper Klamath Lake.</p> <p>The first sentence on p. 3.12-6 in the Tribal Resources section of the Draft EIS/EIR states "Historically, The Klamath Tribes fished not only for salmon and steelhead, but also for mullet, suckers, trout, sturgeon, eels, and lamprey." Another reference to the use of steelhead may be found on p. 3.12-9 which states "Among the anadromous fish The Klamath Tribes used as staple foods are fall and spring Chinook salmon, steelhead, Pacific lamprey, and possibly coho and sockeye salmon."</p> <p>Analysis of the potential impacts and benefits to steelhead under each alternative is contained in Section 3.3 of the EIS/EIR.</p>	No
IT_LT_1230_097-3	As noted in responses to comments from this comment author above, reference to this conclusion by the Chinook Expert Panel has been added to the EIS/EIR.	Yes
IT_LT_1230_097-4	It is unclear which sections of the EIS/EIR the comment author is referring to, however Section 3.3.3.1 does note that "steelhead historically used habitat upstream of Upper Klamath Lake prior to the Construction of Copco 1 Dam."	No

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1230_097-5	The following sentences have been added to Section 2.4.1.2: "According to Lane and Lane Associates (1981), Copco 1 was built with the intention that a fishway would be constructed as a mitigation measure for salmon. However, by the completion of Copco 1, the idea of fishway passage had been abandoned because of its impracticality, and a hatchery was planned in lieu of fish passage."	Yes
IT_LT_1230_097-6	It is unclear which section of the EIS/EIR the comment author is referring to; there is no Section 2.1.1.3 in the Draft EIS/EIR.	No
IT_LT_1230_097-7	Suggested text has been added to Section 3.12.3.1.	Yes
IT_LT_1230_097-8	Unfortunately, it is unclear which section of the EIS/EIR the comment author is referring to; there is no Section 2.1.2.1 in the Draft EIS/EIR.	No
IT_LT_1230_097-9	It is unclear which section of the EIS/EIR the comment author is referring to; there is no Section 2.1.2.1 in the Draft EIS/EIR.	No
IT_LT_1230_097-10	It is unclear which section of the EIS/EIR the comment author is referring to there is no Section 2.1.2.1.1 in the Draft EIS/EIR. The term mullet is used in Section 3.12 and we assume that the author is referring to the use of mullet and suckers in this section of the Draft EIS/EIR. The distinction is noted and appreciated.	No
IT_LT_1230_097-11	It is unclear which section of the EIS/EIR the comment author is referring to Section 3.1.1.1 of the Draft EIS/EIR does not refer to "cutthroat". In our search of the document we have found that "cutthroat" is described as being present in the upper basin (upstream of Iron Gate) in Section 3.12 and in Section 3.20.  We have revised the EIS/EIR to eliminate any reference to cutthroat trout being present in the Upper Klamath Basin.	Yes
IT_LT_1230_097-12	It is not clear as to what section this comment refers to in the Draft EIS/EIR. Chapter 2 states that the Oregon Phase I Reintroduction Plan, is to be prepared by the ODFW and the Klamath Tribes and that ODFW, the Klamath Tribes, and other Fish Managers would be responsible for implementation of the Phase I Reintroduction Plan.	No
IT_LT_1230_097-13	The KBRA is being treated as The active reintroduction of Chinook Salmon into Upper Klamath Lake and its Tributaries as a component of the Fisheries Reintroduction and Management Plan was analyzed in the Draft EIS/EIR at the programmatic level.	No
IT_LT_1230_097-14	As noted in Chapter 2, the restoration actions described by the comment author would not be completed under the No Action/No	No

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	Project Alternative. The page number provided by the comment author relative to this comment appears to refer to bull trout critical habitat effects under the No Action/No Project Alternative presented in Section 3.3, Aquatic Resources. Analysis of the effects to this habitat relative to the Proposed Action are presented on p. 3.3-111 of the Draft EIS/EIR.	
IT_LT_1230_097-15	The only reference to canneries provided in the Draft EIS/EIR appear on p. 3.12-37, 3.15-45, and 3.16-19. It is unclear which reference the comment author is requesting be deleted.	No
IT_LT_1230_097-16	The Draft EIS/EIR did not include an Attachment 7. It is unclear what table in the EIS/EIR the comment author is referring to.  We are aware of the response to comment #190 in the Final Chinook Salmon Expert Panel Report Addendum made by the Chinook Salmon Expert Panel. The Expert Panel Reports are addressed in the EIS/EIR Section 3.3.4.3 Effects Determinations, Alternative 2 (and 3), Aquatic Resources Effects, Species Specific Impacts for coho, steelhead and Chinook salmon respectively.  Master Response AQU-6B Expert Panel Coho, Steelhead and Chinook.  Master Response AQU-30 BRT Current Status of Chinook Fisheries.  Text has been added to the EIS/EIR in Section 3.3.3 summarizing the findings of the Biological Review Team.	No
IT_LT_1230_097-17	This sentence was changed to address other comments; this text change is no longer applicable.	No
IT_LT_1230_097-18	Sentence added to clarify.	Yes
IT_LT_1230_097-19	Additional text has been added in the KBRA impact analysis to describe tribal water right issues.	Yes
IT_LT_1230_097-20	Section 3.8.2.1, Federal Water Law, has been revised to include language on 43 U.S.C. 666, the McCarran Amendment.	Yes
IT_LT_1230_097-21	This sentence has been deleted to alleviate confusion.	Yes
IT_LT_1230_097-22	The evaluation of the No Action/No Project in Section 3.8 has been clarified with the following statement "The No Action/No Project Alternative does not include any action to change water supplies from existing adverse conditions." Though these conditions have been on-going for many years prior to the Notice	Yes

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_097-23	of Intent for this EIS/EIR, this clarification has been made to acknowledge the current adverse conditions.  It is not clear as to what section this comment refers to in the Draft EIS/EIR. Chapter 2 describes the KBRA, including the various programs. Text has been added to Section 3.8 to reflect the management flexibility allowed by the KBRA.	Yes
IT_LT_1230_097-24	Many of the elements of the KBRA are still subject to the future development of plans and implementation strategies. Recognizing that implementation of many elements of the KBRA is unknown and not reasonably foreseeable at this time, the connected action analysis is being undertaken at a programmatic level. The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with Federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future. Therefore, it is anticipated additional NEPA and CEQA analyses for the suite of actions contained in KBRA would be tiered as appropriate to this EIS/EIR.  Change has been made to p. ES-40 of the Draft EIS/EIR.	Yes
IT_LT_1230_097-25	The discussion that Alternative 4 and 5 do not meet all the CEQA objectives is included in the description of alternatives in Section ES.6. Section ES.7.2 discusses the environmental impacts and benefits of each of the alternatives.	No
IT_LT_1230_097-26	Change made in the Executive Summary under Alternatives 2 and 3 in Section ES.7.2.	Yes
IT_LT_1230_097-27	As discussed in the EIS/EIR, DOI will identify an environmentally preferred alternative in the Record of Decision. Per CEQA regulations, CDFG has identified an environmentally superior alternative in the EIS/EIR. The discussion of the environmentally superior alternative in the EIS/EIR is for the purposes of CEQA for CDFG.	No
IT_LT_1230_097-28	The comment author is correct that water quantity should be included as essential to safeguard a fishery. This correction has been made to Section 3.12.	Yes

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Indian trust resources are property or legal interests that the United States has a legal obligation to manage for the benefit of one or more federally recognized Indian tribes or individual Indians. Trust resources and rights cannot be sold, leased, or otherwise encumbered without approval of the United States.</p> <p>To capture the fact that tribes use many resources the U.S. Government does not consider a trust resource we have included a description of Resources Traditionally Used by Tribes. Resources Traditionally Used by Tribes are those that are related to tribal cultural values associated with a tribal way of life that may not meet the definition of a trust resource, but which may or may not be entitled to legal protection under statute, regulation, or other law or regulation</p> <p>Section 3.12 has been revised to better define the differences between trust resources and resources traditionally used by tribes.</p>	
IT_LT_1230_097-29	The suggested correction has been made in Section 3.12.	Yes
IT_LT_1230_097-30	Suggested changes have been made in Section 3.12, Tribal Trust Assets.	Yes
IT_LT_1230_097-31	Suggested changes have been made in Section 3.12, Tribal Trust Assets.	Yes
IT_LT_1230_097-32	Suggested changes have been made in Section 3.12, Tribal Trust Assets.	Yes
IT_LT_1230_097-33	Master Response TTA-5 Presentation of Effects.	No
IT_LT_1230_097-34	Master Response TTA-5 Presentation of Effects.	No
IT_LT_1230_097-35	Master Response GEN-9 Beneficial Effects.	No
IT_LT_1230_097-36	Master Response GEN-9 Beneficial Effects.	No
IT_LT_1230_097-37	<p>The section clearly states adverse impacts related to dams. Information about tribal history and environmental justice issues in the area of analysis was derived from the U.S. Department of Interior's (DOI) Effects of PacifiCorp Dams on Indian Trust Resources and Cultural Values in the Klamath Basin: Background Technical Report also referred to as Background Technical Report Informing the Secretarial Determination Overview Report: Current Effects of Implementing the KHSA and KBRA on Indian Trust Resources and Cultural Values (DOI 2012a).</p> <p>A reference to the Sociocultural/Socioeconomics Effects Analysis Technical Reports was added to the introductory text of EIS/EIR</p>	Yes

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
	Section 3.16 on Environmental Justice.	
IT_LT_1230_097-38	Suggested changes have been made in Section 3.16, Environmental Justice.	Yes
IT_LT_1230_097-39	Suggested changes have been made in Section 3.16, Environmental Justice.	Yes
IT_LT_1230_097-40	Text in Section 3.16, Environmental Justice, has been revised.	Yes
IT_LT_1230_097-41	The section clearly states adverse impacts related to dams. Information about tribal history and environmental justice issues in the area of analysis was derived from the U.S. Department of Interior's (DOI) Effects of PacifiCorp Dams on Indian Trust Resources and Cultural Values in the Klamath Basin: Background Technical Report also referred to as Background Technical Report Informing the Secretarial Determination Overview Report: Current Effects of Implementing the KHSA and KBRA on Indian Trust Resources and Cultural Values (DOI 2012a).  A reference to the Socioeconomics Effects Analysis Technical Reports was added to the introductory text of EIS/EIR Section 3.16, Environmental Justice.	Yes
IT_LT_1230_097-42	Suggested changes have been made in Section 3.16, Environmental Justice.	Yes
IT_LT_1230_097-43	Suggested changes have been made in Section 3.16, Environmental Justice.	Yes
IT_LT_1230_097-44	Text has been revised in Section 3.16, Environmental Justice, to distinguish adverse impacts.	Yes
IT_LT_1230_097-45	Master Response TTA-5 Presentation of Effects.	No
IT_LT_1230_097-46	Master Response TTA-5 Presentation of Effects.	No
IT_LT_1230_097-47	The term <i>Disproportionate</i> comes from Executive Order (EO) 12898 that requires Federal agencies to identify and address disproportionate effects of its programs, policies, and activities.  E.O. 12898 states:  To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, <b>disproportionately</b> high and adverse human health or environmental effects of its programs, policies,	Yes

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.	
IT_LT_1230_097-48	The section states that “the core of the KBRA is to provide water reliability to farmers, which would ensure continuation of agricultural jobs in the area of analysis. In the long term, the KBRA has the potential to offset the loss of agricultural jobs and would not result in a long term environmental justice issue for farm workers.” This would not be an adverse, disproportionate effect.	No
IT_LT_1230_097-49	The requested citation has been added to the EIS/EIS.	Yes
IT_LT_1230_097-50	The EIS/EIS has been revised to address the comment.	Yes
IT_LT_1230_097-51	Text revised to clarify that “the river may be used as refuge from water quality impacts during implementation of the Proposed Action.”	Yes
IT_LT_1230_097-52	Section 3.3, Aquatic Resources utilizes the analysis and conclusions from Dunsmoor and Huntington (2006) in numerous locations. However as noted on p. 3.3-49 of the Draft EIS/EIR, no individual existing numeric model captures all of the long-term water quality conditions anticipated under the Proposed Action and the alternatives. Modeling conducted for the California Klamath River TMDLs provides long-term quantitative predictions for multiple water quality parameters in the Klamath River, assuming full implementation of TMDLs (except for water temperature), which is considered to be a reasonably foreseeable future action under NEPA. Other numeric models used for the long-term water quality analyses presented in the Draft EIS/EIR include the Klamath River Water Quality Model (KRWQM) developed by PacifiCorp for the Federal Energy Regulatory Commission relicensing process and the RBM10 water temperature model developed as part of the Secretarial Determination studies. These models are described in Section 3.2.4.1 (p. 3.2-33 to 3.2-42) and Appendix D of the Draft EIS/EIR. Results of water temperature modeling with respect to fish health conducted by Dunsmoor and Huntington (2006) (using the KRWQM results) are also cited numerous times in the water quality and aquatic resources analysis (Sections 3.2.4 and 3.3.4). As stated in Section 3.2.4.1.1 (p. 3.2-36, with respect to water temperature), “since no one existing model captures all of the elements analyzed for water temperature in this Klamath Facilities Removal EIS/EIR, where possible, model outputs are used in combination to assess similar spatial and temporal trends in predicted water temperature.” The same is true for the dissolved oxygen analysis (Section 3.2.4.1.4, p. 3.2-38 to 3.2-39) and for	No

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>nutrients (Section 3.2.4.1.3, p. 3.2-37 to 3.2-38), where the latter primarily uses the results of an empirical analysis conducted by Asarian et al. (2010) rather than the TMDL model nutrient results (the TMDL model results are only used to assess general trends). Further, as presented in Section 3.2.4.3 Effects Determinations (p. 3.2-47 to 3.2-147), the Klamath River TMDL model results generally agree with the results of other numeric modeling efforts conducted in the Klamath Basin and cited in the Draft EIS/EIR. Note that for the long-term dissolved oxygen analysis called out in this comment, the KRWQM results with respect to dissolved oxygen immediately downstream from Iron Gate Dam are presented along with the TMDL model results in Section 3.2.4.3.2.4 (p. 3.2-109 to 3.2-11).</p>	
IT_LT_1230_097-53	<p>Reference to Expert Panel conclusion on Chinook salmon has been added.</p> <p>Master Response AQU – 30 BRT Current Status of Chinook Fisheries.</p> <p>The findings of the Biological Review Team have also been added to the EIS/EIR in Section 3.3.</p>	Yes
IT_LT_1230_097-54	The EIS/EIS has been revised to address the comment.	Yes
IT_LT_1230_097-55	The EIS/EIS has been revised to address the comment	Yes
IT_LT_1230_097-56	<p>The page that the comment author is requesting the inclusion of this language describes the effects of the Proposed Action on Fall-Run Chinook Salmon. The language that the comment author is noting describes the effects of the No Action/No Project Alternative. This language was added to the No Action/No Project Alternative analysis as noted in response to the comment author's previous comment.</p>	No
IT_LT_1230_097-57	The EIS/EIS has been revised to address the comment.	Yes
IT_LT_1230_097-58	The EIS/EIS has been revised to address the comment.	Yes
IT_LT_1230_097-59	The EIS/EIS has been revised to address the comment	Yes
IT_LT_1230_097-60	The EIS/EIS has been revised to address the comment.	Yes
IT_LT_1230_097-61	The EIS/EIS has been revised to address the comment.	Yes
IT_LT_1230_097-62	<p>Section 18 of the KBRA describes these additional water storage projects. Before the water diversion limitations to Reclamation's Klamath Project may be made permanent, these Upper Klamath Lake projects must be designed and studied through a NEPA</p>	No

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**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_097-63	<p>process that would include compliance with the Endangered Species Act (ESA). However, since these studies are not yet complete, the KBRA is analyzed in this EIS/EIR programmatically and the KBRA does not supersede existing laws or regulations.</p> <p>In the Final EIS/EIR, 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 Draft EIS/EIR Section 3.2.4.3.2.1 (Proposed Action) Lower Klamath Basin. In the EIS/EIR, much of the discussion of diel water temperature variation downstream from the dams is presented as part of the analysis of the Proposed Action, whereby dam removal would increase diel variability. For example, the Draft EIS/EIR addresses increased 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 of Copco I 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 stateline and downstream from Iron Gate Dam. Further, the impact statement for the Klamath River downstream from J.C. Boyle Dam explicitly calls out effects on water quality due to anticipated increases/decreases in daily water temperature fluctuations (p. 3.2-77).</p> <p>However, to better present the effects of water temperature variation on aquatic species in the Klamath River, the Draft EIS/EIR has been revised in Section 3.3.4.3 (p. 3.3-88) to include additional explanation of diel temperature variation under the Proposed Action (see also Master Response AQU-31. Thermal Lag and Diel Temperature).</p> <p>Additionally, the Draft EIS/EIR impact statements for the Klamath River downstream from Copco I Reservoir and downstream from Iron Gate Dam focus on the seasonal shift in water temperatures. These impact statements have been revised for the Final EIS/EIR to include explicit statements about increased diel temperature variation, which are supported by the analysis already provided in the Draft 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>	Yes

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**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1230_097-64	<p>Flow diversions at Copco 2 are addressed in Reclamation’s Klamath Project description and the EIS/EIR aquatics analysis. At Copco 2 Dam, flow is diverted on river left through a water intake structure and conveyed through the power generation system. River flow in excess of diverted water is allowed to flow over the concrete spillway. An existing metal flume through the dam provides an additional 5 cubic feet per second (cfs) to the bypass reach below the dam (Public Draft EIS/EIR Section 2.4.1.3, p. 2-11).</p> <p>Additionally, as described as part of existing physical habitat conditions, the 1.5 mile long Copco 2 bypass reach has flows of about 5 cfs provided below Copco 2 Dam. This riverine reach historically provided complex habitat suitable for salmonid spawning and rearing (Section 3.3.3.2, p. 3.3-26). Access to the Copco 2 bypass reach is inherently included in Alternatives 2 and 3 since all habitat upstream of Iron Gate Dam in the Klamath River Hydroelectric Reach would be accessible to aquatic species should the dams be removed. Fish access to habitat in the Copco 2 bypass reach is also addressed under Alternative 4 (p. 3.3-148 to 3.3-171) and Alternative 5 (p. 3.3-172 to 3.3-195).</p>	No
IT_LT_1230_097-65	<p>This has been added to Table 4-3, p. 4-14 of the Draft EIS/EIR. Text has also been added to anadromous fish impact discussions.</p>	Yes
IT_LT_1230_097-66	<p>This has been added to Table 4-3, p. 4-17 of the Draft EIS/EIR. Text has also been added to anadromous fish impact discussions.</p>	Yes
IT_LT_1230_097-67	<p>P. 4-29 under Section 4.4.1 states that the Klamath Hydroelectric Project has contributed to cumulative adverse water quality effects. Additionally, the various water quality cumulative effects paragraphs discuss how water quality has been affected in the Hydroelectric Reach by the presence of the dams. The cumulative effects for aquatic resources (Section 4.4.2) generally describes how the four hydroelectric dams have blocked access to habitat and altered flow and water quality for aquatic species. The comment does not describe any additional impacts that have occurred from the presence of Copco 2 Dam; therefore no other changes have been made.</p> <p>Flow diversions at Copco 2 are addressed in Reclamation’s Klamath Project description and the EIS/EIR aquatics analysis. At Copco 2 Dam, flow is diverted on river left through a water intake structure and conveyed through the power generation system. River flow in excess of diverted water is allowed to flow over the concrete spillway. An existing metal flume through the dam provides an additional 5 cubic feet per second (cfs) to the bypass reach below the dam (Public Draft EIS/EIR Section 2.4.1.3, p. 2-11).</p>	No

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**Submittal Date** December 30, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>Additionally, as described as part of existing physical habitat conditions for Aquatic Resources, the 1.5 mile long Copco 2 bypass reach has flows of about 5 cfs provided below Copco 2 Dam. This riverine reach provides complex habitat suitable for salmonid spawning and rearing (Section 3.3.3.2, p. 3.3-26). Access to the Copco 2 bypass reach is inherently included in Alternatives 2 and 3 since all habitat upstream of Iron Gate Dam in the Klamath River Hydroelectric Reach would be accessible to aquatic species should the dams be removed. Fish access to habitat in the Copco 2 bypass reach is also addressed under Alternative 4 (p. 3.3-148 to 3.3-171) and Alternative 5 (p. 3.3-172 to 3.3-195).</p>	
IT_LT_1230_097-68	<p>This section has been revised in accordance with changes made to Section 3.2 Water Quality.</p>	Yes
IT_LT_1230_097-69	<p>Section 4.4.1.1 describes the cumulative water quality effects by first briefly stating the impacts described in Section 3.2, Water Quality, and then considering how these would combine with other actions/programs to contribute to cumulative water quality effects. Please see Section 3.2 Water Quality for discussion and references to Dunsmoor and Huntington (2006).</p> <p>Section 3.2 Water Quality has been updated to reflect changes in the temperature discussion for below Iron Gate Dam and now states these changes would be less than significant. The Cumulative Effects section has been revised in accordance with these changes, and states the temperature changes would not be cumulatively considerable.</p>	Yes
IT_LT_1230_097-70	<p>Flow diversions at Copco 2 are addressed in Reclamation's Klamath Project description and the EIS/EIR aquatics analysis. At Copco 2 Dam, flow is diverted on river left through a water intake structure and conveyed through the power generation system. River flow in excess of diverted water is allowed to flow over the concrete spillway. An existing metal flume through the dam provides an additional 5 cubic feet per second (cfs) to the bypass reach below the dam (Public Draft EIS/EIR Section 2.4.1.3, p. 2-11).</p> <p>Additionally, as described as part of existing physical habitat conditions, the 1.5 mile long Copco 2 bypass reach has flows of about 5 cfs provided below Copco 2 Dam. This riverine reach historically provided complex habitat suitable for salmonid spawning and rearing (Section 3.3.3.2, p. 3.3-26). Access to the Copco 2 bypass reach is inherently included in Alternatives 2 and 3 since all habitat upstream of Iron Gate Dam in the Klamath River Hydroelectric Reach would be accessible to aquatic species should the dams be removed. Fish access to habitat in the</p>	No

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**Submittal Date** December 30, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	Copco 2 bypass reach is also addressed under Alternative 4 (p. 3.3-148 to 3.3-171) and Alternative 5 (p. 3.3-172 to 3.3-195).	

IT\_MC\_1018\_003

**Klamath Falls Hearing - 10-18-2011**

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STATEMENT PROVIDED BEFORE PUBLIC HEARING

(Directly to Court Reporter)

MR. DON GENTRY: Don Gentry, G-e-n-t-r-y.

Comment 1 - Approves of Dam Removal

I'm vice chairman of the Klamath Tribes and I'm  
here to communicate the Klamath Tribes' support of the  
findings of the Draft EIS/EIR and to express our continued  
support of the Klamath Basin Restoration Agreements and  
the Klamath Hydroelectric Settlement Agreements.

The Draft EIS/EIR generally confirms that the  
KBRA and KHSAs are good for the Klamath Tribes and good for  
the people of the Klamath Basin, from the headwaters to  
the mouth and beyond.

Comment 2 - NEPA

As supporters to the agreements and a party to  
the agreements, we felt that the EIS needed to be done in  
a comprehensive and detailed way, using the best available  
science, it needs to be open, we need to use the  
appropriate analysis to address the complex issues around  
this.

And I appreciate the work that was done to it  
in addressing the complex issues head on, and just the  
summary testifies to that.

We certainly believe that the EIS displays and reveals the positive and negative impacts. We believe -- the Klamath Tribes believe that the agreements represent the best alternative to the status quo of continued conflict and legal battles. With that, and accordingly, the Klamath Tribes support Alternative 2 or, at a minimum, Alternative 3, for full or partial removal of the lower four dams in the Klamath River. This is certainly the best way to restore our salmon and steelhead to the Klamath homelands which have been denied access to this area for over 94 years.

Comment 3 - Approves of Dam Removal

As a Klamath tribal hunter and fisherman, it's difficult to even explain how this has impacted the tribal community up here. I was taught by my father to hunt and fish for my family, as many of our tribal men and members of the community have. I have had an opportunity to fish with my native friends downriver, and each time I do, I -- I feel a sense of loss for what we have been denied up here, as the Klamath people.

Comment 4 - ITAs

I appreciate that the EIS looked at the facts and the historical information regarding the presence of salmon here in the upper basin and the importance of that salmon to the tribal community. This loss has been

Comment 5 - Fish

immeasurable to us. It's because of that that we support removal of the dams. We know that a free-flowing river is the best way and provides the greatest opportunity to restore those valuable fisheries, not only valuable to us and our lifestyle and culture, but to all the people in the whole basin, with positive impacts. We believe that this is the best solution and this will pave the way for implementation of the KBRA and KHSA, which is critical to the sustainability of our people.

Thank you.

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 18, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1018_003-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1018_003-2	Master Response GEN-1 Comment Included as Part of Record.	No
IT_MC_1018_003-3	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1018_003-4	Refer to Section 3.12.3.1 of the Draft EIS/EIR for a description of how The Klamath Tribes have been affected by a loss of fish in their diet.	No
IT_MC_1018_003-5	Master Response GEN-1 Comment Included as Part of the Record.	No

IT\_MC\_1019\_011

**PUBLIC HEARING ON THE KLAMATH DAM**

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CHILOQUIN, OREGON

OCTOBER 19, 2011

---o0o---

MR. DON GENTRY: Don Gentry, G-e-n-t-r-y,

Vice-Chairman of the Klamath Tribes. Thanks for providing

this opportunity to speak.

Comment 1 - Approves of Dam Removal

On behalf of the tribes, I came here to express our

support of the findings of the Draft EIS, EIR and our

continued support of the Klamath Basin Restoration

Agreement and Klamath Hydro Electric Settlement Agreement.

After hearing much of the testimony last night, I

felt it would be important to commend the team for the

hard work done. It was a real difficult task that had to

be done in a short period of time to address many complex

and controversial issues.

Comment 2- NEPA

Though I haven't, I admit I haven't read the whole

document thoroughly, I have read the summary and I have

looked through parts of it, looked through the indices.

I would have to say that you folks did a great job.

I don't think any of the complex and controversial issues

that have been identified in this open public process,

which again was really important to us as signatories to

the KBRA, I know it is important to the Secretary and to

the public to have an open process that consider all the

potential implications and impacts on the folks in the community and all the resources.

I believe that you addressed those head-on, and I think that you used the best available science, acceptable scientific methods. And on top of that it was peer reviewed.

I think that that's real critical to point out.

Irrespective of whether you like the results or even the comments of some of the folks on the peer review team, it was peer reviewed.

I kind of say that because some of the statements that were -- some folks, the opponents of the dam removal, focused on some of those less than convincing things that support dam removal, you know. They want to focus on those things.

But to me that testifies that this was an open process. It wasn't something that was shoved down the throats of the public. Basically you cited those statements even though that maybe wouldn't necessarily support dam removal.

But the preponderance of the information gathered certainly supports dam removal and the importance of that in terms of restoring the fish. So that is evident. We can see that throughout the document.

I think you've done a commendable job in addressing some of the needs to address the wrongs here in the Basin, the long-standing wrongs that have affected the Klamath peoples and other tribal communities.

Comment 3 -  
Environmental Justice

The fact that we've been denied salmon for 94 years

is certainly an injustice. And I appreciate the environmental justice section and what was done there to address those shortcomings and the long-standing issues that have affected us as native people.

Comment 4 - NEPA

This is about all the community, the whole community. And I see that that was addressed comprehensively in the EIS and EIR, and I appreciate that. And with that I wanted to express a little bit of why we support the Klamath Basin Restoration Agreement which is related to action.

I think you did as good a job as you could to address that, knowing that it's a related action and wasn't specifically designed to look at the benefits of the Klamath Basin Restoration Agreement.

Comment 5 - KBRA

But certainly the Klamath Basin Restoration Agreement was designed to address those issues that you put up front, the legal battles that have been ongoing, the battles over water, unpredictable water supplies to the ag community, fish kills that affected people up and

down the Basin, the coastal fisheries, the stability of our region. That was the heart of the Klamath Basin Restoration Agreement to provide stability for all those involved here.

And from that perspective, removing the dams, supporting the agreement is in the best interests of the public. Though some folks realize that they weren't a party to the agreement, so that the key parties had to be there because it affected the water. At the heart of that, we addressed sustainable water to agriculture; we addressed the need of water for fish; we addressed the need to restore the system and addressed the real problems that have been ongoing. Rather than put Band-Aids on things that provide drought relief and relief to the fisherman who couldn't fish because of the reduced population. This is a meaningful solution that will provide for all of us here in the Basin.

And that really is a part of the Klamath Tribes culture, to be concerned for our neighbors. We have always been welcoming people. Maybe sometimes it can be perceived to our detriment.

But that has been our personality, that is who we are, that is in our culture, our traditions, in our legends.

I am always reminded even if we had a flea to share, we would share that flea with our neighbor. That's the heart of our people.

Though we've been wounded and injustices have occurred, we are not focused on that --

THE FACILITATOR: Time.

MR. DON GENTRY: We are not focused on that, we are focused on the solutions.

Thank you.

**Comment Author** Gentry, Don  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1019_011-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1019_011-2	Master Response GEN-1 Comment Included as Part of Record.	No
IT_MC_1019_011-3	Master Response GEN-1 Comment Included as Part of Record.	No
IT_MC_1019_011-4	Master Response GEN-1 Comment Included as Part of Record.	No
IT_MC_1019_011-5	Master Response GEN-1 Comment Included as Part of Record.	No

IT\_LT\_1019\_082

Public Comments of Mary E. Gentry, at the Chiloquin Community Center, Chiloquin, Oregon October 19, 2011. *EIS/EIR PLOCS*

Comment 1 - Approves of Dam Removal

(2) My name is Mary Summers Gentry; my Klamath name is (loloka), which means "little fire." *Support* First I ~~approve~~ <sup>support</sup> of Alternative 2, and at a minimum alternative 3. Now I will ramble on about me as seems to be the format for these hearings, but please do not clap as I am not running for office and I personally do not seek your approval or validation of my position. I am an enrolled member of the Klamath Tribes. I was born and raised in Chiloquin, Oregon. I too, am a fourth generation ranching family and own land along the banks of the Sprague River. My family is one of the few dozen remaining tribal families that own land designated through the allotment act. Prior to ranching, we as tribal people lived and gathered in the pristine lands of this great basin from time immemorial and my ancestors observed the creation of Crater Lake and always knew exactly where it was. AS a member of the Klamath Tribe I have never been able to fish for the salmon, but know our storey of creation states the fish was placed here for our subsistence and as Adam named the animals in the garden we were able to name the salmon "ci'als". I also work in the community. I pay federal, state and county property taxes, buy my goods and services in the Klamath basin and I pay for electricity. Although, I know how to live without electricity as my family once did on the former Klamath Indian reservation. We did not get electricity until 1970's, on our property, <sup>A</sup> and are very glad we have it available to power up our casino, yet when the power goes out we have a generator that kicks in after 10 seconds in outages. *Provides a warm place, meal or a cup of coffee as well jobs for our community.*

My long felt goal and personal desire and prayer is that we would treat each other honorably, with respect and rise above racial issues that continue to be rampant within the Klamath Basin. It is time for change and for the nation and this county to recognize the first peoples of this land, the "Indians, Natives, First Nations," as people with inherent rights and vital role as the first stewards of this land. We have survived "Out of Control government" policies such as annihilation, extermination, assimilation and we take our sovereign status and treaty rights seriously and are not a "special interest group" The treaties are still supreme law and should be honored.

(1) Thank you for the opportunity awarded to express my view. This historical Restoration Agreement and the Klamath Hydroelectric Settlement Agreement awards us the opportunity to build relationships, sustain our individual lifestyles and various cultures whether we are tribes, fishermen, ranchers, agriculture or rate payers and will all benefit from a healthy environment. *Undam the dams, this will provide us the opportunity to fish for the salmon as the creator intended, and so This gives me, our tribe, our leadership the courage and strength to work cooperatively with our community and partys involved in the agreement. Sup Keuca - Thank you*

**Comment Author** Gentry, Mary  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1019_082-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

IT\_MC\_1019\_006

## PUBLIC HEARING ON THE KLAMATH DAM

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 CHILOQUIN, OREGON  
 OCTOBER 19, 2011  
 ---o0o---

MS. MARY GENTRY: Good evening, thank you for  
 being here.

(Speaker talks in native language.)

THE FACILITATOR: Could you spell your last  
 name?

MS. MARY GENTRY: Mary Gentry, G-e-n-t-r-y.

(Native language spoken), welcome to Chiloquin,  
 home of the Klamath Tribes.

I am the wife of the vice chairman, Don Gentry,  
 and I have his permission to speak. I pray that I don't  
 dishonor him or the Klamath Tribes as I speak some of my  
 mind from some of the wounded feelings that I had last  
 night, which is very tough to take.

My Indian name is Loloka, which means Little

Comment 1 - Approves of Dam Removal



Fire. First, I support Alternative 2 and, at a  
 minimum, Alternative 3.

Now I will ramble on a little about me. It  
 seems to be a position, or the format of some of these  
 hearings, or at least it was last night.

But please do not clap, anyone, for me,  
because I'm not running for any office, and I personally  
do not seek approval or validation for my position.  
I am an enrolled member of Klamath Tribes and I  
was born and raised right here in Chiloquin. I, too, am a  
fourth-generation ranching family and own land along the  
banks of the Sprague River.

Prior to ranching, my family, as tribal people,  
lived and gathered in the pristine lands of the greater  
basin from time immemorial, and my ancestors observed the  
creation of Crater Lake and always knew exactly where it  
was.

As a member of the Klamath Tribes, I have  
never been able to fish for salmon or cook it for my  
family but know our story of creation states that fish  
were placed here for our subsistence by the Creator  
himself, and as Adam was able to name the animals in the  
Garden, we as a tribe, were able to name the salmon,  
(native language spoken).

I also work in this community. I pay federal,  
state, and county property taxes. I buy my goods and  
services in the Klamath Basin and I am an electricity  
user, I pay for electricity to run our ranch, although I  
also know how to live without electricity, as we lived on

the former Klamath Indian Reservation. Electricity was not placed on our land until the mid-1970s.

And also, we are glad that we have electricity to run our casino. This is an economic self-sufficiency enterprise for the Klamath Tribes and it supports many jobs for our tribal community and the basin. It also is a very warm place to go when the power goes out, a place to get a nice meal and a warm cup of coffee, as this morning, when the power went out, because we have a generator that kicks in in ten seconds when the power goes out.

My long-felt goal and personal desire is that we would treat each other honorably, with respect, and rise above racial issues that continue to be rampant within the Klamath Basin, which has been greater than the 20 years, sir, that you have been involved in these issues.

Comment 2 - ITAs

It is a time for change and for the nation and this country to recognize the first people of this land, the Indians, Natives, First Nations, as people with inherent rights and with a vital role as the first stewards of this land. We have survived out-of-control government policies such as annihilation, extermination, and assimilation, and we take our sovereign status and treaty rights seriously and are not a special interest

group. The treaties are still supreme law and should be honored.

I'd like to thank our tribal leadership, as they gave us the right to be involved in the KBRA, and I appreciate that. And I honor these men and the battles that they have taken on, and the former chairmen of our tribes, that they have taken on, and they battle and they continue, still, on my behalf.

I thank you for the opportunity awarded to  express my view. This historical restoration agreement and Klamath Hydroelectric Settlement Agreement awards us the opportunity to build relationships, sustain our individual lifestyles and various cultures, whether we are tribes, fishermen, ranchers, agricultural or ratepayers, and will all -- we will all benefit from a healthy environment.

Undam the dams. This will provide us the opportunity for our salmon to return and that we may -- that it may sustain us as the creator intended.

This hope gives me, our tribe, our leadership, the courage and the strength to work cooperatively with our community and the parties involved in this agreement.

(Native language spoken.)

Thank you.

**Comment Author** Gentry, Mary  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1019_006-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_MC_1019_006-2	Refer to Section 3.12.3.1, of the Draft EIS/EIR for a history of the Klamath Tribes and a description of how The Klamath Tribes have been affected by a loss of fish in their diet.	No
IT_MC_1019_006-3	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

PUBLIC HEARING ON THE KLAMATH DAM  
REMOVAL DRAFT EIS/EIR

---oOo---

YREKA, CALIFORNIA  
THURSDAY, OCTOBER 20, 2011

MR. BOB GOODWIN: Good evening. It's getting  
late, isn't it?

I'd like to thank you guys, Mark and Dennis,  
for putting this on --

THE FACILITATOR: Could you give us your name,  
please?

MR. BOB GOODWIN: Bob Goodwin, I'm the  
self-government coordinator for the Karuk tribe and also a  
tribal member. And it's B-o-b G-o-o-d-w-i-n.

And again, I'd like to thank you fellows for  
coming out and giving the residents of Siskiyou County an  
opportunity to speak. Obviously, there's some pretty  
strong opinions both ways.

I have been involved in the process here since  
about 2001, and when I walked in the door and started  
listening to people, I wasn't in agreement with removing  
the dams, either, but I think that I took the time and  
looked at the information that was given out, we worked  
very closely with some of the farmers in the upper basin  
to assure that they are going to have water flows up there  
and also to assure that we are going to get better water

quality in the lower Klamath River.

I grew up here, I was born in Yreka and I was raised in Happy Camp. I'm 47 years old and I have seen the decline of the salmon fishery, personally. I remember, as a kid, watching the salmon and just being amazed at how many were in Indian Creek and in Elk Creek and in Clear Creek and in the main stem of the river. The fish aren't there anymore.

And people can point their fingers everywhere they want to point, but sometimes you need to look in the mirror and see what's happening right here, right in our homeland.

Our medicine people do the ceremonies, I have been in the ceremonies, I have participated in the ceremonies, it's very powerful when you go down there, but it's also sad to see the decline of the salmon that is so important to our people.

My children -- my daughter was up, speaking earlier. My son would be up here but I think he had to go buy a video game or something more important in his world, but I'm completely in support of what we are doing here.

Comment 1 - Approves of Dam Removal

I know that there's more things that could be done to assure some of the people that are in the room today, and some of the people that have left already, that

their needs are going to be met, but I know that, working  
as hard as we have with the other tribes in the basin and  
with the other participants, that it's -- this is going to  
be a living document, I can see that, I have been a part  
of it.

I wasn't for dam removal when I walked in the  
door; in fact, I was opposed to it and I had to have time  
to see what was being done by the science and also in my  
own mind, to look back at the number of fish that we used  
to have in the system.

Comment 2 - Hydrology

And when they built these dams here, you hear a  
lot of people talking about flood control and this and  
that; those aren't flood control dams, we know that. We  
have had some of the worst floods since the dams were in:  
'55, '64, '76, '97. Those dams didn't stop any of those  
floods.

Now we are talking about increasing the  
capacity of Upper Klamath Lake by 97,000 acre feet. I  
think that's going to do more because the dams, combined,  
only hold about 12,000 acre feet, 13,000 acre feet.  
It only makes sense that we can work together,  
we can get this right, we have to be careful. Today is  
not the end of it, people are going to have more time for  
comment, and I really look forward to people coming down

and talking to us at the tribe and expressing their  
opinions, and I think that we can work through this and  
that we can get it done correctly.

Again, I applaud you and thank you for your  
time.

THE FACILITATOR: Thank you.

**Comment Author** Goodwin, Bob  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_024-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_MC_1020_024-2	Master Response HYDG-1 Flood Protection.	No

IT\_MC\_1020\_020

PUBLIC HEARING ON THE KLAMATH DAM  
REMOVAL DRAFT EIS/EIR  
---o0o---  
YREKA, CALIFORNIA  
THURSDAY, OCTOBER 20, 2011

MS. JACLYN GOODWIN: Hello, my name is Jaclyn

Goodwin, J-a-c-l-y-n G-o-o-d-w-i-n.

I am a Karuk tribal member and long-time

Comment 1 - Approves of Dam Removal

resident of Siskiyou County. I support dam removal and

the restoration agreement. Our Karuk people have lived

for thousands of years off of the salmon. Today we hardly

get enough salmon for a few meals a year.

The lack of salmon has impacted our health and

threatens our culture. The benefits of dam removal far

outweigh any kind of negative impact there may be.

It's about doing what's right for the next

generations so, in the future, the Klamath River may be

restored to a healthy state for the salmon, the people,

and the environment.

Thank you.

**Comment Author** Goodwin, Jaclyn  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_020-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

IT\_EM\_1118\_099

From: Ron Griffith, enrolled member Karuk 1930 11/18/2011 11/18/2011  
 643 North St.  
 Yreka CA 96097  
 Email: [reg80427@gmail.com](mailto:reg80427@gmail.com)  
 Ph. 530 598-8447

To: The Secretary of Interior and to reviewers of the Klamath Hydroelectric Project Facilities Removal Draft Environmental Impact Statement (DEIS) and the Draft Environmental Impact Report (DEIR)

Subject: Public comments to be reviewed and entered into the record of factors considered in decision making regarding the DEIS and DEIR

Dear Secretary of Interior and Reviewers:

Comment 1 - Disapproves of Dam Removal

Please reject KBRA 15.3.9 and the DEIS & DEIR documents.

Comment 2 - ITAs

These documents do not respect Indian rights, they include long-term discrimination against Indians regarding future participation in Klamath River decision-making, and they are not in the best interests of the ecological health of the river. The Klamath River situation is more complex than is reflected in the current documents, and the ideas set forward do not allow many citizens with major interests in the river to be heard or to express some of the additional complexity. If you will set aside these flawed documents then Indians and other disenfranchised individuals will have a chance to help decide these critical issues. I especially want to contribute and bring to light many important Shasta, Karuk, Yurok and Modoc Indian concerns.

Yours Truly,  
 Ron Griffith  
[KSDcomments@dfg.ca.go](mailto:KSDcomments@dfg.ca.go)

The material to follow highlighted in purple represents some brainstorming:

Public no power  
 Represent true stewardship of/for Mother Earth

Army Corp of Engineers  
 EPA (Environmental Protection Agency) - Interpretation - Provide rules/standards/thresholds for impacts - Help mitigate Pros & Cons BLM (Bureau of Land Management)

Klamath whale  
 Underwater volcanoes along the coast had just erupted Underwater geography & habitat changed due to lava coverage (wide area) Lava altered temperature, built mountains, burried plankton (Gray Whale food)  
 Plankton eat muscle waste(?)

Same time, small amounts of Japan's radioactive waste starting to hit US west coast Dredging & gold

Monday, November 21st

Deadline to respond to DEIS/DEIR ->

Negative impacts ->

Mitigation (no legal time constraint) -> Mitigated, another DEIS -> Pass as is, EIS ->

When/where was DEIS/DEIR for KBRA published/posted?

CRM = CEQA (California Environmental Quality Act) + Etc + Impact

Resighini Rancheria - Quartz Valley Indian Reservation/Del Norte Hoopa refused to sign KBRA because doing so would give up water/fishing rights

Conflicts of interest

Salmon nursery

Caution & critical state

Biased

Bulldozed over - Need right legal language in DEIS response

DEIS is power to public/private. But need to know how to use it & how it works. Tribes need to empower themselves. Need legal team, person or advocate checking daily for new DEIS or approaching laws. Need time to prepare and respond to DEIS. Water tests? Soils tests? Air tests?

Habitat data? Cultural resource data? Need time to collect facts, and to be able to prove with the right legal language and data.

Klamath River water ->

#1 Tribes want & legally have 1st rite

#2 Oregon farmers want & legally have 2nd rite (usually get 1st rite - Political/commercial bias' - Conflicts of interests with Tribes)

#3 Commercial fishermen want & have no legal right (Share some interest with Tribes - Conflict of interests with farmers)

IS/WILL? dam removal going to hurt the Oregon farmers?

What's up with Oregon farmers & commercial fisherman?

How do they feel about KBRA? Are they disputing?

KBRA allocates \$92 million TAX dollars, and 330,000 acre square feet of water from the Klamath to irrigate 20,000 Tule acres, and the lower Klamath Wildlife Refugee. EVERY year - For 50 YEARS! Pretty specific amounts here. How many acre square feet of water does the Klamath River produce? Especially during the low periods? What's left for the ecosystem, the fish and the rest of the habitat? Will the Klamath produce as much water as it does now in even 10, 15, or 20 years, much less 50? Warming trends suggest the Klamath will produce less. In this scenario, Tule will continue to be subsidized at the expense of the TAXPAYER, while the ecosystem receives less and less water (and energy).

What part/parts of the Klamath River will the 330,000 acre square feet of water be irrigated from? Above/below polluted areas?

**Comment Author** Griffith, Ron  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** November 18, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_EM_1118_099-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_EM_1118_099-2	Master Response TTA-7 Tribal Involvement in Future Discussions of Water Management.	No

December 19, 2011

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

KLAMATH SETTLEMENT  
EIS/EIR COMMENTS

Dear Ms. Vasquez,

Comment is - Cultural Resources

The following documentation will clearly define who the Upper Klamath Indians really are as to tribe. In relation to:

1. TREATY WITH THE POHLIK OR LOWER KLAMATH, ETC., 1851, OCTOBER 6, 1851, UNRATIFIED.
2. A TREATY SUPPLEMENT TO THE FOREGOING TREATY.

This was signed at Camp Cor-a-tem near the mouth of the Salmon River, as an addenda to Treaty signed October 6, 1851, at the junction of the Klamath and Trinity rivers. Karok names of people and places appear on both of these treaty documents.

The Karok Tribe never was a party to Treaty "R".

3. TREATY WITH THE UPPER KLAMATH, SHASTA AND SCOTT'S RIVER, 1861, NOVEMBER 4, 1851 UNRATIFIED.

Read on....

Karok means up river, Yurok means down river, and the Shasta were upper Klamath. In tribal lexicon of the tribes on the river. This is where the term "Upper Klamath" came from.

Today we have to use documents written down by the Europeans, and the United States Government, who did not always get it right. The misuse of a term written over a hundred (100) years ago can still effect what is happening today as in the case of the treaties with the tribes on the Klamath River. The use of the term "upper" for the Karok in their treaty "Q" instead of "up river", then again in the Shasta Treaty "R", and the Shasta are the upper river people, on the Klamath River.

Treaty "Q", Karok names on this treaty are underlined.

According to Professor Bright: Up-pa-goines is a Karok town.  
"Sa-von-ra, Karok, Up-pa-grah, is Karok. Ex-fin-e-pah, is Karok.  
"Cham-ma-ko-nec, is Karok. Coc-ko-man, personal name clearly involves a Karok place name. Che-nah, Karok- across from Orleans.

Bright, "The treaty supplementary" to Treaty "Q" clearly refers to the Karok!

Bright states "Treaty R from Scott Valley is a problem for him". Because Professor Bright had studied the Karok language for years, and he did not understand the names of the Shasta on the TREATY WITH THE UPPER KLAMATH, SHASTA AND SCOTT'S RIVER, 1851. November 4, 1851./UNRATIFIED.

O-DE-I-LAH, was the Shasta area from Clear Creek up the Klamath River.

4. The National Archives, Washington D.C. Roll 8. Unratified Treaties list treaties A To R.

Q. Poh-lik, or Lower Klamath, &c., October 6, 1851.

R. Upper Klamath, Shasta, &c., November 4, 1851.

(Treaty "Q" and Treaty "R" are totally separate treaties).

5. EIGHTEENTH ANNUAL REPORT To The SECRETARY OF THE SMITHSONIAN INSTITUTION. 1896-97. J.W. Powell Director. Washington Government Printing Office 1899.

On pages 788 and 789 is the SCHEDULE OF INDIAN LAND CESSIONS ---

Page 788 show date October 6, 1851 Treaty "Q" areas of this treaty, by tribal names. Reserve a tract on Klamath river - page 789 shows map number 303. And under this line Cede claim to all other territory--page 789 shows map number 304, which does not come above the Karok furthers upstream village at Clear Creek on the Klamath River.

Now on page 788 and 789 it shows November 4, 1851. Reserve a tract on the upper Klamath river--page 789 The first of these tribes was commonly called Upper Klamath; the next three, Shasta Valley Indians; and the last two, Scotts Valley Indians. And these are referred to map numbers 305 and 306.

Please note on the map that 306 of ceded lands extend from Thompson Creek on the Klamath River to Clear Creek below Happy Camp. As you know Commissioner Redick McKee and George Gibbs, both stated in their journals that when they proceeded up the Klamath river from Clear Creek the language changed from Karok to that of the Shasta language.

Royce) LAND CESSION BY TRIBES 955

Names on Treaty "Q" October 6, 1851.

Page 958 Pehtuck see Klamath. (This name is spelled Peh-tsick in Treaty "Q" means Karok).

Pohlik, see Klamath.

Page 955 Klamath, October 6, 1851

Names on Treaty "R" November 6, 1851

Page 957 Odeilah November 4, 1851

Names on Treaty "R" continued.

Page 955 Idakariwakaha, November 4, 1851  
Ikaruck, November 4, 1851  
Kosetah November 4, 1851  
Page 963 Watsahewa November 4, 1851  
Page 954 Eeh November 4, 1851

Comment 1b - Cultural Resources

These are all listed with November 4, 1851 Treaty, and Designation of cession on map, show numbers 305, and 306. These are Shasta names.

All these documents clearly show the Upper Klamath, Shasta and Scotts River areas of Treaty "R", concluded in Scotts Valley November 4, 1851 are all Shasta Indian aboriginal lands.

Mr. Henry Joe AKA, Henry Joseph, Shasta medicine man, lived in the area of Happy Camp to Seiad. One time he came to Tyee Jim's village in Quartz Valley to doctor my Great Aunt Clara Wicks when she was a girl, for severe headaches. She said she never did have a headache again. Clara lived to be 103 years old, passed away 1978. See Henry's photo.

Chief Idakariwakaha's village was at Boggus, on the Klamath River. His Granddaughter Missouri Ann Owens is buried in the Way Cemetery, some distance above Copco. See photo.

Chief SunRise also signed the Shasta Treaty, he lived on the Scott River, near the mouth of Kelsey Creek. His daughter Betsy Frain, lived on what is now called the Frain Ranch, way up on the upper reaches of the Klamath River. Betsy, and her daughter, also two of Betsy's brothers are buried at the Way Cemetery.

Valentine and Lucinda Griffith lived on the north side of Klamath River, just below where the "Cave Fight" took place. They had a large family. See photos.

Tom and Isabell Smith, had a Shasta Indian Allotment on Shovel Creek. They had a small ranch there.

Jake and Susan Smith. Would visit his brother Tom Smith, at Shovel Creek, sometimes for a few years, and also lived at the Reservation on Duzel Creek, Scott Valley.

All these Shasta Indians lived along the Klamath River, most near where they were born.

I have done the genealogy for the Shasta Nation, and have check records of surrounding tribes. Not one Karok Indian was ever born above Clear Creek, on the Klamath River, before contact time. (The coming of the white man).

Comment 2 - Disapproves of Dam Removal

This is my COMMENT ON THE DRAFT EIS/EIR. I WISH THE FOUR (4) KLAMATH RIVER DAMS TO REMAIN WHERE THEY ARE!

Sincerely

Betty L. Hall, Shasta Historian, 10736 Quartz Valley Rd., Fort Jones, CA. 96032.

4 of 26

cc: Mr. Gordon Lepping  
 California Dept. of Fish and Game  
 Northern Region  
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 Eureka, CA. 95501

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 Ken Salazar  
 1849 C Street N.W.  
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SANTA BARBARA · SANTA CRUZ

DEPARTMENT OF LINGUISTICS  
LOS ANGELES, CALIFORNIA 90024

September 5, 1984

James T. Rock  
U.S.D.A. Forest Service  
Klamath National Forest  
1312 Fairland Road  
Yreka, CA 96097

Dear Jim,

Regarding your letter of 29 August, I'm glad to give what comments I can on Treaties Q and R and 1851-52, g/

Treaty Q, made near Weitchpec, says in its title that it refers to "the Pohlik or Lower Klamath, Gc, tribes" -- which one would of course interpret as referring to the Yurok -- except for the "Gc." In the list of signatures, the first probable reference to the Karok is the "Up-pa-goines": this is the Yurok name, Opepoi, for Red Cap, called Vuppan in Karok, but there is no doubt that this was a Karok town. Early records often refer to Karok towns (up to Katimin) with Yurok names, presumably because Yurok guides were being employed. However, I can't say anything about the names of the two Indians who "signed" for Red Cap.

Next is the "Sa-von-ra" tribe: this is Karok Sahvurum, at Boise Creek. The first of the three Indian names, also given as "Sa-von-ra", undoubtedly indicates that the person in question used his village name as part of his personal name, a well-known Karok practice.

Next, the "Cham-ma-ko-nee tribe", Karok čamknič, below Camp Creek. I can't say anything about the personal name. m/

Next is the "Coc-ko-man" tribe: this is Yurok ko'omen "Orleans", Karok pančmnik. The personal name "Pa-na-mo-nee" clearly involves the Karok placename.

Next is the "Chee-nah tribe": this is Karok čičnač, acrossriver from Orleans. I can't comment on the personal names.

g/   
The treaty "supplementary" to Treaty Q (Meizer 96-97), signed at the mouth of the Salmon River, clearly refers to the Karok. First, the reference to "the Si-wah band" reflects Yurok segwu, Karok ka'tim'iin. The first Indian name, "Esse-pist-i-a", clearly involves Karok 'issipiš "Ishi Pishi". The third name, "Chee-fee-cha", probably reflects Karok xančič, "frog".

-2-

6 of 26

Next, the "Op-pe-o band" is Yurok apyu, Karok yúxtuuyruk, a section of Katimin. The second personal name, "Peek-neets", is probably Karok pihniic "old man" (the tail end of a longer name).

Next, the "He-ko-neck band" is Yurok ikwanek, Karok asannaamkarak "Ike's place". The second personal name "Non-a-puck-if-ma", is probably Karok xanpuk-ifmaar "tadpole married-man".

Next, "In-neck" is Yurok enek, Karok 'eexrihpippaaurapuh, opposite Ike's. The personal name "Sish-kah" is probably Siskaam "big penis".

Treaty R, from Scott's Valley, of course raises a problem with regard to the "O-de-i-lah tribe or band from the Upper Klamath River". I can't identify this etnonym, and can only speculate (because all the other groups in Treaty R are Shasta-speaking) that it refers to the little-known Klamath River Shasta, living from Seiad upriver. None of the personal names make any sense to me. The one person who knows the Shasta language and might identify some of this material is Professor Shirley Silver in the Anthropology Department at Sonoma State.

Of course I am curious as to why all these matters are of interest to the Forest Service -- or is it just to you personally? Keep me posted.

All best,

*Bill*

William Bright  
Professor

## INDIAN AFFAIRS: LAWS AND TREATIES

Vol. IV, Laws (Compiled to March 4, 1927)

Compiled and edited by Charles J. Kappler. Washington : Government Printing Office, 1929.

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[Home](#) | [Disclaimer & Usage](#) | [Table of Contents](#) | [Index](#)

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### PART IV.—TREATIES.

Page Images

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#### TREATY WITH THE POHLIK OR LOWER KLAMATH, ETC., 1851. October 6, 1851. | Unratified.

Page 1117

#### TREATY MADE AND CONCLUDED AT CAMP KLAMATH, AT THE JUNCTION OF KLAMATH AND TRINITY RIVERS, STATE OF CALIFORNIA, OCTOBER 6, 1851, BETWEEN REDICK MCKEE, INDIAN AGENT ON THE PART OF THE UNITED STATES, AND THE CHIEFS, CAPTAINS AND HEAD MEN OF THE POHLIK OR LOWER KLAMATH, &C., TRIBES OF INDIANS.

A treaty of peace and friendship made and concluded at Camp Klamath, at the junction of the Klamath and Trinity rivers, between Redick McKee, one of the Indian agents specially appointed to make treaties with the various Indian tribes in California, on free part of the United States, and the chiefs, captains, and head men of the tribes or bands of Indians now in council at this camp, representing the Poh-lik or lower Klamath, the Peh-tsick or upper Klamath, and the Hoo-pah or Trinity river Indians; containing also stipulations preliminary to future measures to be recommended for adoption, on the part of the United States.

#### ARTICLE 1.

The said tribes or bands acknowledge themselves, jointly and severally under the exclusive jurisdiction, authority and protection of the United States; and hereby bind themselves to refrain hereafter from the commission of all acts of hostility or aggression towards the government or citizens thereof, and to live on terms of peace and friendship among themselves, and with all other Indian tribes which are now or may hereafter come under the protection of the United States.

## ART. 2.

Lest the peace and friendship established between the United States and the said tribes should be interrupted by the misconduct of individuals, it is expressly agreed that, for injuries received on either side, no private revenge or retaliation shall take place or be attempted; but instead thereof, complaints shall be made by the party aggrieved to the other, through the Indian agent of the United States in their district, whose duty it shall be to investigate, and, if practicable, adjust the difficulty; or, in case of acts of violence being committed upon the person or property of a citizen of the United States by an Indian or Indians belonging to or harbored by either of said tribes or bands, the party or parties charged with the commission of the crime shall be promptly delivered up when demanded, to the civil authorities of the State of California for trial; and in case the crime has been committed by a citizen or citizens of the United States upon the person or property of all Indian or Indians of either of said tribes, the agent shall take all proper measures to bring the offender or offenders to trial in the same way.

Page 1118

## ART. 3.

The said tribes or bands hereby jointly and severally relinquish, cede, and forever quit claim to the United States, all their right, title, claim or interest of any kind which they or either of them have to lands or soil in California.

## ART. 4.

To promote the settlement and improvement of said tribes or bands, it is hereby stipulated and agreed, on the part of the United States, that the following tract or district of land shall be appropriated and set apart as an Indian reservation, and the use and possession thereof forever guaranteed to the said tribes, their successors, and to such other tribes as the United States may hereafter remove from other parts of the valleys of the Trinity or Klamath rivers, or the country adjacent, and settle thereupon, to wit: commencing at the mouth of a stream called John's creek, emptying into Trinity river on the north side thereof, about fourteen miles above this camp; thence running up the middle of the same with its windings, to a distance of five miles; thence north to the summit of the dividing ridge between the waters of the Trinity and Klamath rivers; thence northwestwardly in a straight line to a point on said Klamath river opposite the lower end of what is now known as "Red Cap's" bar; thence due west to the summit of the first ridge lying beyond the Klamath river; thence southwestwardly along the summit of said ridge to a point due north of the mouth of Pine creek; thence south to the mouth of Sand creek; thence up Pine creek with its windings, to a point due south of the place of beginning; and thence north to said place of beginning. The said reservation including, by estimation, a tract twenty miles in length by twelve miles in width, and containing in all six or seven square miles of farming land. It is, however, understood and agreed that the United States reserves the right of way over said lands, and of using for farming purposes any quantity thereof not exceeding one thousand acres; also the right to establish such military posts, erect such buildings, and make such improvements for the accommodation of their agent and other officers or servants as the President may direct; also that said tribes or bands shall never sell or alienate their right or claim to any part thereof, except to the United States, nor shall they ever lease to or permit white men to settle, work or trade upon any part thereof without the written permission of the United States Indian agent for the district.

ART. 5.

It is further stipulated and agreed that the said tribes or bands shall, within three years from the date hereof, or sooner, if thereto required by the United States, remove to and settle upon said reservation; and that whenever said removal and settlement shall be ordered by the United States or made by said tribes, such farmers, mechanics, and school-teachers to instruct them in the language, arts, and agriculture of the whites as the President may deem expedient and proper, shall be assigned, provided for, and settled among them, so as to place the Indians on said reservation in a situation as favorable for their improvement (being in like manner supplied with facilities for farming, stock-raising, &c.,) as by the treaty of Lu-pi-yu-ma on the 20th day of August, 1851, is stipulated to be assigned to and provided for the Clear Lake Indians. It is understood, however, that if upon examination by the Indian agent it is found that any of the articles or supplies provided in said treaty for the Clear Lake Indians shall be unnecessary for or unsuited to the Indians on the Trinity and Klamath, the President may in his discretion withhold the same, and invest the value thereof in other and more suitable goods. And it is further expressly agreed and understood that if either of said tribes or bands, or other Indians harbored by them shall be guilty of theft, robbery or murder, either upon the persons and property of Indians or whites, the United States may exclude such tribe or band from all the benefits of this treaty.

ART. 6.

As early as convenient after the ratification of this treaty by the President and Senate, the United States will deliver to the said Klamath and Trinity Indians, through their agent, during each of the years 1852 and 1853, viz: five hundred pairs two and a half point Mackinaw blankets, five hundred pairs strong cotton pantaloons, five hundred cotton (hickory) shirts, five hundred red flannel shirts, five hundred strong cotton or linsey gowns, three thousand yards of calico, three thousand yards of four-fourths brown sheetings, thirty pounds Scotch thread, five thousand needles, six dozen pairs scissors, two gross thimbles, ten pounds pins, ten dozen nine-inch flat files, thirty-five dozen large size butcher knives, ten mattocks, one hundred garden or corn hoes, two hundred chopping axes, handled, common size; two hundred chopping axes, handled, small size; one hundred sheet-iron camp kettles, large size; one hundred sheet-iron camp kettles, second size.

Page 1119

It is understood, however, that the agent shall use a sound discretion as to the time when, and the tribes or persons to whom the said goods shall be distributed, having reference to their peaceful disposition and good conduct.

ART. 7.

In consideration of the premises, the United States, in addition to the numerous presents of beef, bread, sugar, blankets, shirts, &c., &c., made to said tribes at this camp, will, within sixty days from the date hereof, furnish them free of charge at the ferry of C. W. Durkee, in Klamath river, to enable them to rebuild the houses recently destroyed by the whites, with four dozen chopping axes, handled, ten sacks of hard bread, and four bullocks, sixteen pairs heavy blankets, to be distributed among them by said Durkee, according to their respective losses.

ART. 8.

These articles to be binding upon the contracting parties when ratified by the president and Senate of the United States.

In testimony whereof the parties have hereunto signed their names and affixed their seals this sixth day of October, anno Domini 1851:

(SEAL.)

REDICK McKEE,  
*United States Indian Agent for California.*

For and in behalf of the Wetch-peck tribe, living at mouth of Trinity:

WUCK-UG-GRA, his x mark. [SEAL.]  
WA-PE-SHAW, his x mark. [SEAL.]  
SA-SA-MICH, his x mark. [SEAL.]  
EN-QUA or AMOS, his x mark. [SEAL.]

For and in behalf of Wuh-si' tribe, living three miles below mouth of Trinity river:

MO-RU-KUS, his x mark. [SEAL.]

For and in behalf of the Cap-pel tribe:

MAH-ON, his x mark. [SEAL.]

For and in behalf of the Mor-ri-ahs:

MAH-ON, his x mark. [SEAL.]  
WUS-SUR, his x mark. [SEAL.]  
UP-PER-GASH, his x mark. [SEAL.]

For and in behalf of the Ser-a-goines:

UP-LA-GO-PUS, his x mark. [SEAL.]  
MOO-ROO-KUS, his x mark. [SEAL.]  
SA-ET-MA-GEHL, his x mark. [SEAL.]

For and in behalf of the Pak-wan tribe:

CAP-PEL-LA-WAH, his x mark. [SEAL.]

For and in behalf of the Ut-cha-pah tribe, living near the mouth of Bluff creek:

E-NE-NUCK, his x mark. [SEAL.]  
MOW-WEIGHT, his x mark. [SEAL.]

For and in behalf of the Up-pa-goines, living near "Red Cap's" bar, on Klamath river:

KEE-CHAP, his x mark. [SEAL.]  
RED CAP or MIK-KU-REE his x mark. [SEAL.]

For and in behalf of the Sa-von-ra tribe:

SA-VON-RA, his x mark. [SEAL.]  
UP-PA-GRAH, his x mark. [SEAL.]  
EX-FIN-E-PAH, his x mark. [SEAL.]

For and in behalf of Cham-ma-ko-nee tribe:

KA-TOP-KO-RISH, his x mark. [SEAL.]

For and in behalf of the Coc-ko-man tribe:

PA-NA-MO-NEE, his x mark. [SEAL.]

For and in behalf of the Chee-nah tribe, living ten miles below mouth of Salmon river:

AK-KA-REE-TA, his x mark. [SEAL.]

Page 1120

For and in behalf of the Hoo-pahs or Trinity river Indians, residing in twelve rancherias or villages:

Principal chief, AH-ROOK-KOS, his x mark. [SEAL.]  
TE-NAS-TE-AH or JOHN, his x mark. [SEAL.]  
MET-POOKA-TA-MAH, his x mark. [SEAL.]  
NIC-A-OVA-EN-NA, his x mark. [SEAL.]  
WASH-TEN, his x mark. [SEAL.]

Signed, sealed and delivered, after being duly explained, in presence of—

JOHN MCKEE, *Secretary*.

C. W. DURKEE, GEORGE GIBBS, *Interpreters*.

H. W. WESSELLS, *Brevet Major, U. S. A., commanding escort*.

WALTER VAN DYKE, GEO. W. ELLSWORTH, MORRIS. S. THOMPSON, WALTER McDONALD, *Interpreters*.

### A TREATY SUPPLEMENTARY TO THE FOREGOING TREATY

The undersigned chiefs, captains and head men of the Si-wah, Op-pe-o, He-ko-neck and In-neck tribes or bands of Indians, residing at and near to the mouth of the Cor-a-tem or Salmon river, having had the terms and stipulations of the foregoing treaty, concluded at Durkee's ferry on the 6th instant, fully explained to them by Redick McKee, Indian agent of the United States, having expressed an earnest desire to become parties to the said treaty in all its articles and stipulations, it is therefore agreed by and between the said agent and the said chiefs, &c., that the said bands be and hereby are admitted as parties to the same, and to the advantages thereof, and become bound by the stipulations therein contained as fully in all respects as if they had been parties thereto originally.

In testimony whereof the parties have hereunto signed their names and affixed their seals at Camp Cor-a-tem, near mouth of Salmon river, this twelfth day of October, anno Domini, 1851.

[SEAL.]

REDICK McKEE,  
*United States Indian Agent*

For and in behalf of the Si-wah band:

ESSE-PISH-I-A, his x mark. [SEAL.]  
RES-SOW, his x mark. [SEAL.]  
CHEE-FEE-CHA, his x mark. [SEAL.]  
PI-RA-TEEM, his x mark. [SEAL.]

For and in behalf of the Op-pe-o band:

CA-POR-U-PUCK, his x mark. [SEAL.]  
PEEK-NEETS, his x mark. [SEAL.]

For and in behalf of the He-ko-neck band:

YAH-FEE-PAH, his x mark.  
HON-A-PUCK-IF-MA, his x mark. [SEAL.]

For and in behalf of the In-neck band:

SISH-K AH, his x mark. [SEAL.]

Signed, sealed and delivered after the foregoing treaty of 6th instant, and this addenda  
had been fully explained in presence of—  
JOHN MCKEE, *Secretary*.  
C. W. DURKEE, *Interpreter*  
GEORGE GIBBS.  
H. W. WESSELLS, *Brevet Major U.S.A., commanding escort*  
JOHN S. GRIFFIN, *Assistant Surgeon U.S.A.*  
WALTER MCDONALD.

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## INDIAN AFFAIRS: LAWS AND TREATIES

Vol. IV, Laws (Compiled to March 4, 1927)

Compiled and edited by Charles J. Kappler. Washington : Government Printing Office, 1929.

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[Home](#) | [Disclaimer & Usage](#) | [Table of Contents](#) | [Index](#)

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### PART IV.—TREATIES.

Page Images

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#### TREATY WITH THE UPPER KLAMATH, SHASTA AND SCOTT'S RIVER, 1851. November 4, 1851. | Unratified.

Page 1121

#### TREATY MADE AND CONCLUDED AT CAMP, IN SCOTT'S VALLEY, SHASTA COUNTY, STATE OF CALIFORNIA, NOVEMBER 4, 1851, BETWEEN REDICK M'KEE, ONE OF THE COMMISSIONERS ON THE PART OF THE UNITED STATES, AND THE CHIEFS, CAPTAINS AND HEAD MEN OF THE UPPER KLAMATH, SHASTA, AND SCOTT'S RIVER TRIBES OF INDIANS.

A treaty of peace and friendship made and concluded at camp, in Scott's valley, Shasta county, California, between Redick McKee, one of the Indian agents specially appointed to make treaties with the various Indian tribes in California, on the part of the United States, and the undersigned chiefs, captains and head men now in council at this camp, representing the Upper Klamath, Shasta, and Scott's river Indians, residing severally in twenty-four, nineteen, and seven rancherias or villages, and known as the O-de-l-ah tribe or band, I-shack chief, from the Upper Klamath river; I-ka-ruck tribe or band, Tso-hor-git-sko chief, Ko-se-tah tribe or band, Ada-war-how-ik chief; I-da-kar-i-waka-ha tribe or band, I-da-kar-i-waka-ha chief, from Shasta, valley; Wat-sa-he-wa tribe or band, Ar-rats-a-cho-i-ca chief; E-eh tribe or band, An-na-nik-a-hok chief, from Scott's valley.

#### ARTICLE 1.

The said tribes or bands acknowledge themselves jointly and severally under the exclusive jurisdiction, authority and protection of the United States, and hereby bind themselves to refrain hereafter from the commission of all acts of hostility or aggression towards the government or citizens thereof, to live on terms of peace and friendship

among themselves and with all other Indian tribes which are now or may hereafter come under the protection of the United States.

#### ART. 2.

To preserve the peace and friendship hereby established between the United States and the said tribes or bands, it is understood and agreed that for injuries received on either side, no private revenge or retaliation shall take place or be attempted; but instead thereof complaints shall be made by the party aggrieved to the other, through the Indian agent or sub-agent of the United States for their district, who shall investigate, and, if practicable, adjust the difficulty; and in case of acts of violence being committed upon the person or property of a citizen or citizens of the United States by an Indian or Indians belonging to or harbored by either of said tribes or bands, the party or parties charged with the commission of the crime shall be promptly delivered up when demanded of the chiefs by the said agent or a duly authorized officer of the county, to be tried for the alleged offence by the civil authorities of the State of California; and in case the crime has been committed by a citizen or citizens of the United States upon the person or property of an Indian or Indians of either of said tribes or bands, the agent shall take all proper measures to bring the offender or offenders to trial in the same way.

#### ART. 3.

The said tribes or bands for and in consideration of the premises, and of the stipulations and promises hereinafter contained, hereby jointly and severally sell, cede, relinquish, and forever quit claim to the United States, all their right, title, claim or interest of any kind which they or either of them have to the lands they now occupy, and to all other lands or soil in California.

#### ART. 4.

To promote the permanent settlement and improvement of said tribes or bands, it is hereby stipulated and agreed that the following described tract or district of country shall be appropriated and set apart as an Indian reservation, and the use and possession thereof forever guaranteed to the said tribes or bands and their successors, equally with such other Indian tribes or bands and their successors, as the United States may hereafter remove from the waters of the Klamath or Trinity rivers of elsewhere in northern California, and settle thereupon, to wit: commencing at a point on the easterly side of Scott's valley, about six miles above the cabin or improvement generally known as Watson, Gee & Company's ranch, where two cedar trees stand upon the southwest side of a bald hill, and midway between the said cedars; thence running in a southwesterly direction across the said valley to a point projecting into the same, behind which stands a conical peak called Saino's peak; thence over the same and over said peak to the summit of the dividing ridge between the waters of Scott's and Klamath rivers; thence following the same

Page 1122

to where a divide runs northward to a creek or large brook entering the Klamath from the northward next above the one entering at Murderer's bar, and known as Indian creek; thence along said divide and across the Klamath river to the mouth of said creek; thence up the main fork of said creek to the forty-second parallel of north latitude; thence eastward along said parallel to a point due north of a point where the ridge dividing the waters of Scott's river from the waters of Humbug creek terminates at or near the

Klamath; thence due south, crossing the Klamath river, to said point; thence following said divide and the divide separating the waters of Scott's river from the waters of Shasta river to a point in a line with the place of beginning, and thence southwesterly to said place of beginning; said tract being by estimation twenty-four miles in length from northwest to southeast by fifteen miles in average width, and containing between four and five square miles of tillable land, *Provided, however*, That those citizens of the United States who are now engaged in mining, raising, or washing gold upon that part of Scott's river lying between the first creek entering the same from the north, above the town of Scott's bar and the mouth of said river, shall be permitted to hold and work the claims of which they are now in actual possession for the term of two years from the date of this instrument, unless sooner exhausted; and *Provided further*, That such other citizens of the United States as have already thrown up earth or raised ore on any other part of said reserve shall be allowed until the first day of June next to wash the same, and that those having cabins or other improvements already erected on said reservation shall be permitted to occupy and enjoy the same, free from molestation, until said first day of June, eighteen hundred and fifty-two, and no longer. *It is also further provided*, That the said tribes or bands shall never sell or alienate their right or claim to any part thereof except to the United States, nor shall they ever lease to or permit white men to settle, work, or trade upon any part thereof without the written permission of the United States Indian agent for the district. It is agreed and understood, however, that the United States reserves the right of way over said lands, and of using for farming purposes any quantity thereof not exceeding one thousand acres; also the right to establish such military post or posts, erect such buildings, and make such other improvements for the accommodation of an Indian agent and other officers or servants as the President may direct.

ART. 5.

The said tribes or bands agree and hereby bind themselves to remove to and settle permanently upon said reservation, within two years from the date hereof, or sooner if thereto required by the Indian agent of the United States; and whenever said removal and settlement shall take place, the United States with a desire to encourage them in acquiring a knowledge of letters, agriculture, and the mechanic arts, will employ and settle among them upon said reservation, one principal school-teacher, with three male and female assistant teachers to instruct said tribes in the different branches of a common-school education and in the domestic arts of sewing and house-keeping, upon the manual labor system; also one practical farmer who shall assist said tribes in cultivating the soil and act as superintendent of agricultural operations, with two assistant farmers, one carpenter or worker in wood who shall direct and aid in the construction of houses, repairing wagons, &c., and one blacksmith or worker in iron also to be employed for their assistance and convenience; all of the above teachers, farmers, and mechanics to be paid and maintained upon said reservation by the United States for the period of five years, and as long thereafter as the President may deem advisable; also that the United States will erect suitable dwellings, school-houses and shops for the accommodation of an agent, and of the teachers, farmers and mechanics above specified, and store-houses for the protection of the public property.

ART. 6.

The United States will also appoint and settle among said tribes upon said reservation, an agent or sub-agent of the Indian department to carry out the stipulations of this treaty and the general laws and regulations of the Indian department pertaining to the government and improvement of said tribes; and until the United States shall have

established a military post on or in the neighborhood of said reservation, with a regular physician or surgeon attached thereto, the United States Indian agent for the district shall be authorized, and is hereby directed to employ at the expense of the United States, an experienced physician to reside on said reservation, attend to the sick among either whites or Indians, and especially

Page 1123

to vaccinate the members of each tribe; and when said military post shall be established, the services of the surgeon thereto attached may be substituted by said agent for those of the physician first employed, allowing him therefor a reasonable compensation.

**ART. 7.**

To aid said tribes or bands in their subsistence while removing to and making their settlement upon said reservation, the United States, in addition to twelve head of beef cattle, twenty sacks (one thousand pounds) of flour, and numerous other presents of blankets, shirts, &c., given to them at this camp, will furnish them free of charge, during each of the years 1852 and 1853, with two hundred head of beef cattle, to average in weight five hundred pounds net, and two hundred sacks (equal to twenty thousand pounds) of flour, five hundred pair of two and a half point Mackinaw blankets, five hundred pairs strong pantaloons, five hundred cotton (hickory) shirts, five hundred red flannel shirts, six hundred linsey gowns for women, and girls, three thousand yards of calico, three thousand yards 4-4 brown sheetings, twenty-five pounds of Scotch thread, five thousand needles, assorted, one gross of thimbles, ten pounds of pins, twelve dozen scissors, fifty dozen common size butcher knives, five hundred pea-jackets of heavy, strong cloth, assorted, one thousand pounds of salt, one hundred hatchets, all to be distributed among them by the agent, according to their respective numbers.

**ART. 8.**

As early as convenient after the ratification of this treaty by the President and Senate, and the settlement of said tribes or bands upon said reservation, the United States will also furnish them with twenty-four brood-mares and one stallion, thirty milch cows and one bull, fifty sheep, ten hogs (both sexes,) four yoke of work cattle, with yokes, chains, &c., two breaking ploughs, ten small ploughs, two ox wagons, one mule wagon, seeds of all proper kinds for sowing and planting, eight work mules or horses with harness, one hundred heavy spades, twelve mattocks, four hundred garden or corn hoes, two hundred chopping axes, common size, with handles, two hundred chopping axes, small size, with handles, two hundred sheet-iron camp-kettles, first size, two hundred sheet-iron camp-kettles, second size, four hundred tin pans, (two hundred large size, two hundred small size,) one set of blacksmithing tools, one set of carpenter's tools, three thousand pounds of iron, five hundred pounds of steel, assorted, fifty dozen pint tin cups, fifty dozen tin plates, fifty dozen iron-lined spoons, three United States flags. The stock enumerated above, and the product thereof, together with the farming utensils and mechanical tools to be held as the joint property of said tribes or bands, the former to be marked or branded with such letters or marks as will at all times designate the same to be their property, and no part or portion thereof shall be killed, exchanged, sold, or otherwise parted with, without the assent and direction of the agent.

**ART. 9.**

It is further agreed, that the United States will fence in with a good board or post and rail

fence, preparatory to breaking up the soil for planting, one thousand acres of land; and if, by the year 1853, the said tribes or bands shall not be in a situation to provide themselves with food and clothing, and the agent for their district shall so recommend, the President, in his discretion, may order for their use, in the year 1854, a like or smaller quantity of the articles enumerated in article 7 to be provided for the years 1852 and 1853.

ART. 10.

It is further understood and agreed that within the line of the reservation referred to and described in article 4, there shall be retained and set apart a belt or border of one mile in width on the eastern and southern sides or lines thereof, whereon it shall not be lawful for either Indians or white men to settle on or remain, or to pass over except by the highways or roads running through the same, but the same shall be exclusively within the jurisdiction of the United States.

ART. 11.

The said tribes or bands hereby bind themselves to deliver up within sixty days from the date hereof, all horses, mules, or other property which may be in their possession, stolen from the whites, the claimants making proof of ownership before the agent or such person as he may designate to act in his absence, or before a magistrate or judge of the county of Shasta; all such property claimed but not clearly identified, to be returned to the Indians.

Page 1124

In testimony whereof, the parties have hereunto signed their names and affixed their seals, this fourth day of November, anno Domini eighteen hundred and fifty-one.

REDICK McKEE,  
*United States Indian Agent.* [SEAL.]

For and in behalf of the O-de-l-lah tribe or band from the Upper Klamath river:

I-SHACK, his x mark. [SEAL.]  
E-EH-NE-QUA, his x mark. [SEAL.]  
PI-O-KUKE, his x mark. [SEAL.]  
SA-NAK-A-HA, his x mark. [SEAL.]

For and in behalf of the I-ka-ruck tribe or band in Shasta valley:

TSO-HOR-GIT-SKO, his mark. [SEAL.]  
CHE-LE-NA-TUK, his x mark. [SEAL.]

For and in behalf of the Ko-se-tah tribe or band in Shasta valley:

ADA-WAR-HOW-IK, his x mark. [SEAL.]  
QUAP-SOW-A-HA, his x mark. [SEAL.]

For and in behalf of the Ida-kar-l-waka-ha tribe or band in Shasta valley:

A-LAT-SE-WAK-A-NA, his x mark. [SEAL.]  
 IDA-KAR-I-WAK-A-HA, his x mark. [SEAL.]

For and in behalf of the Wat-sa-he-wa tribe or band in Scott's valley:

AR-RATS-A-CHO-I-C A, his x mark. [SEAL.]

For and in behalf of E-eh tribe or band in Scott's valley:

AN-NA-NIK-A-HOK, his x mark. [SEAL.]  
 SUN-RISE, his x mark. [SEAL.]

Signed, sealed and delivered, after being fully explained, in presence of—

JOHN McKEE, *Secretary*.  
 GEORGE GIBBS, LINDLEY ABEL, *Interpreters*  
 W. T. SMITH,  
 F. H. McKINNEY,  
 C. McDERMIT,  
 SAMUEL FLEMING,  
 WALTER McDONALD,  
 C. FULTON,  
 WM. H. BURGESS,  
 EDWARD HICKS,  
 WILLIAM DAIN,  
 LIRY SWAN,  
 GEO. W. TAIT.

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19 of 25

Library No. 1-191

DOCUMENTS RELATING TO THE NEGOTIATION OF RATIFIED AND  
UNRATIFIED TREATIES WITH VARIOUS TRIBES OF INDIANS, 1801-69  
(Series 5, Records of the Bureau of Indian Affairs)

Roll 8

UNRATIFIED TREATIES

1821-65



THE NATIONAL ARCHIVES  
COLLEGE PARK, MARYLAND 20740  
GENERAL SERVICES ADMINISTRATION  
WASHINGTON, D.C. 20540

20 of 26

DEPARTMENT OF INDIAN AFFAIRS  
*Treaties (unrat.) Talks & Councils*

EXECUTIVE SECTION, SENATE OF THE UNITED STATES  
January 19, 1905.

There be printed for the use of the Senate fifty  
of the following Indian treaties: Exhibits A, B, C, D, E, F,  
G, H, I, J, K, L, M, N, O, P, Q, and R, Thirty-second Congress, first  
session.

CHARLES G. BENNETT,  
Secretary.

By H. M. ROSE,  
Chief Clerk.

(52d Congress, 1st session.)

MESSAGE FROM THE PRESIDENT OF THE UNITED STATES  
TRANSMITTING EIGHTEEN TREATIES MADE WITH INDIANS  
IN CALIFORNIA OF THE FOLLOWING TRIBES, VIZ:

- 1. *Chico*, *Chico*, &c., May 13, 1851.
- 2. *Chico*, *Chico*, *Wo-la-shi*, &c., May 13, 1851.
- 3. *Chico*, *Chico*, *Wo-wol*, &c., June 9, 1851.
- 4. *Chico*, *Chico*, *Texon*, &c., June 20, 1851.
- 5. *Chico*, *Chico*, *Wichindis*, &c., May 25, 1851.
- 6. *Chico*, *Chico*, *Ya-ma-do*, &c., July 13, 1851.
- 7. *Chico*, *Chico*, *Esquin*, &c., August 1, 1851.
- 8. *Chico*, *Chico*, *Wichindis*, &c., August 16, 1851.
- 9. *Chico*, *Chico*, *Chico*, *Chico*, &c., September 9, 1851.
- 10. *Chico*, *Chico*, *Chico*, &c., September 15, 1851.
- 11. *Chico*, *Chico*, *Chico*, *Chico*, &c., January 5, 1852.
- 12. *Chico*, *Chico*, *Chico*, *Chico*, &c., January 7, 1852.
- 13. *Chico*, *Chico*, *Chico*, *Chico*, &c., March 19, 1851.
- 14. *Chico*, *Chico*, *Chico*, *Chico*, &c., April 27, 1851.
- 15. *Chico*, *Chico*, *Chico*, *Chico*, &c., August 20, 1851.
- 16. *Chico*, *Chico*, *Chico*, *Chico*, &c., August 22, 1851.
- 17. *Chico*, *Chico*, *Chico*, *Chico*, &c., October 6, 1851.
- 18. *Chico*, *Chico*, *Chico*, *Chico*, &c., November 4, 1851.

Approved with the documents and treaties referred to the Com-  
missioner of Indian Affairs, and ordered to be printed in confidence for the use  
of the Senate.  
Injunction of secrecy removed.  
Ordered reprinted.

EIGHTEENTH ANNUAL REPORT  
OF THE  
BUREAU OF AMERICAN ETHNOLOGY

TO THE  
SECRETARY OF THE SMITHSONIAN INSTITUTION

1896-'97

BY  
J. W. POWELL  
DIRECTOR

IN TWO PARTS—PART 2



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1899



SCHEDULE OF INDIAN

Date	Where or how concluded	Reference	Tribe	Description of cession or reservation
1851 Oct. 6			Peh-llk, or Lower Klamath, Peh-tuck, or Upper Klamath, and Hoo-pah, or Trinity river.	Reserve a tract on Klamath river. Cede all claim to other territory.
Nov. 4			O-da-i-lah, I-ka-ruck, Ko-ss-tah, I-da-kay-i-waka-ha, Wat-sa-he-wa, and E-eh.	Reserve a tract on the upper Klamath river. Cede claim to all other territory.
1852 Jan. 5			San Luis Rey, Kah-wè-a, and Co-com-cah-ra.	Reserve a tract in SW. California. Cede claim to all other territory.
Jan. 7			Diegueno	Reserve a tract on S. line of California. Cede claim to all other territory.
June 22	Washington, D. C.	Stat. L., x. 974.	Chickasaw	Question of title to reserve of 4 miles square on Big Sandy, in Tennessee, set apart by treaty of Oct. 19, 1818, to be determined by the Secretary of the Interior.
July 1	Santa Fe, New Mexico.	Stat. L., N, 979.	Apache	U. S. to settle and adjust Apache boundaries.
1853 Sept. —			Tejon, Castake, San Imirio, et al.	Superintendent Beale establishes a reserve, called Tejon Pass.
Sept. 10	Table Rock, Oregon territory.	Stat. L., x. 1018.	Rogue River Indians	Cede tract within the following boundaries: Commencing at a point 1 mile below the mouth of Applegate creek, on the south side of Rogue river, running thence southerly to the highlands dividing the waters of Applegate creek from those of Althouse creek; thence along said highlands to the summit of the Siskiyou range of mountains; thence easterly to Pilot rock; thence northeasterly to the summit of the Cascade range; thence northerly along the said Cascade range to Pitt's peak; continuing northerly to Rogue river; thence westerly to the head of Jump-off-Jo creek; thence down said creek to the intersection of the same with a line due N. from the place of beginning; thence to the place of beginning. Indians to retain temporary occupancy of a portion of the ceded country until a reserve is assigned them, bounded as follows: Commencing on the N. side of Rogue river, at the mouth of Evans creek, thence up said creek to the upper end of a small prairie bearing in a northwesterly direction from Table mountain, or Upper Table rock; thence through the gap to the S. side of the cliff of the said mountain; thence in a line to Rogue river, striking the southern base of lower Table rock; thence down said river to the place of beginning.

Source]

CESSIONS OF 1851-1853

789

LAND CESSIONS—Continued.

<i>Historical data and remarks</i>	<i>Designation of cession on map</i>	
	<i>Number</i>	<i>Location</i>
	303	
	304	
The first of these tribes was commonly called Upper Klamath; the next three, Shasta Valley Indians; and the last two, Scotts Valley Indians.	305	California 1.
	306	
	307	
	308	
	309	
See treaty of May 24, 1834.	310	
The U. S. never formally complied with the provision of this treaty by establishing the specific boundaries of the Apache, but according to the reports of Superintendent Merriwether and Lieutenant Mowry, in 1854 and 1857, respectively, the various bands of Apache occupied or claimed the country extending from the Comanche territory on the E. to Colorado river on the W. and lying S. of the Uta, Navaho, and Paiute. Within these general limits, however, were small tracts occupied by other tribes, such as Pima and Maricopa, Papago, Yuma, Moki, etc.		
This reserve was surveyed shortly after its location, by H. D. Washburn, and contained about 75,000 acres. Nov. 25, 1856, the Secretary of the Interior ordered its reduction to 25,000 acres, to bring it within the limits prescribed by act of Mar. 3, 1855. The boundaries of the reduced reserve were never surveyed. Subsequently, ex-superintendent Beale and others obtained patents under old Spanish grants for most of the land covered by the original reserve. Measures were therefore taken to remove the Indians and to abandon the reserve. The last of the Indians were removed to Tule River reserve, as reported by Superintendent Wiley, July 11, 1864. The tract shown on the map exhibits the boundaries of the reserve as originally surveyed.	311	California 2.
	312	Oregon 1, California 2.
The boundaries of the country reserved under this clause are shown by dotted red lines. It was known as Table Rock reserve, and was abandoned and the Indians removed in 1855.		

BUREAU OF AMERICAN ETHNOLOGY

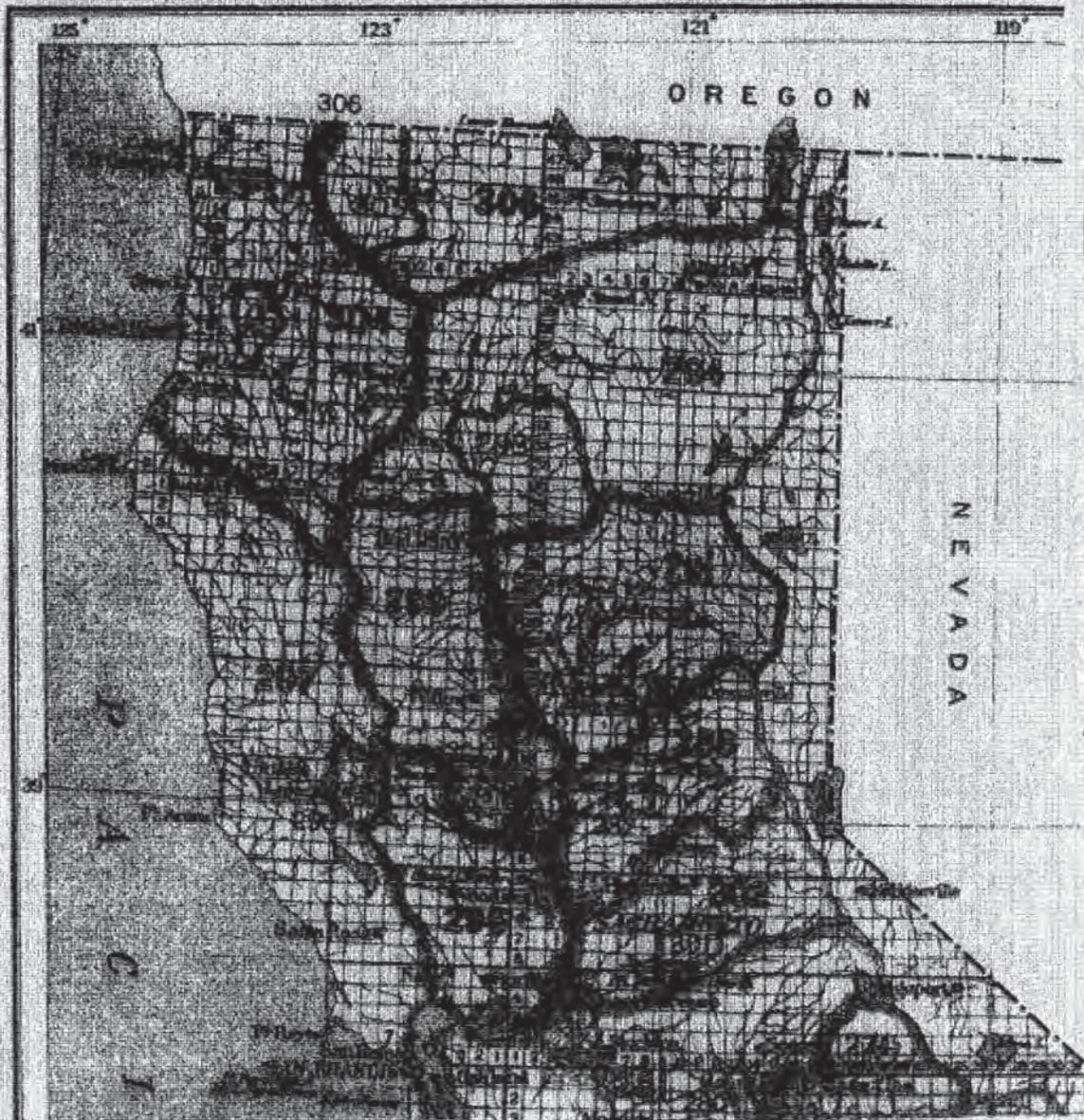
18th. ANNUAL REPORT. PL. CXV

306 - Lands ceded by 13 Shasta Chiefs when they signed a Treaty with the U.S. Government, at Fort Jones, California. On November 4, 1851.

305 - Reservation set aside according to Treaty with the Shasta on November 4, 1851.

THIS TREATY WAS NEVER RATIFIED.

BUREAU OF AMERICAN ETHNOLOGY





I DARAKIWA KAHHA - CHIEF



HENRY JOE



Shovel creek Jake



Old Susan - Postress - -

**Comment Author** Hall, Betty  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** December 27, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1227_093-1	<p>Master Response CUL-2 Federal Recognition.</p> <p><b>National Historic Preservation Act (NHPA) of 1966, as amended in 1992</b></p> <p>The NHPA is the primary federal legislation governing preservation of cultural and historical resources in the United States. The NHPA established a national historic preservation program which encourages the identification and protection of cultural resources. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties listed in or eligible for the National Register of Historic Places and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (16 USC Section 470f). The ACHP promulgated the Section 106 implementing regulations, found at 36 CFR Part 800, which sets forth the Section 106 process, including consultation requirements.</p> <p>Identifying consulting parties pursuant to 36 CFR Section 800.3(f): The public involvement process for NEPA has been extensive and sustained. It has included outreach and invitations to consult to other federal agencies, state and local governments, nongovernmental organizations, and the public. In addition, DOI has separately notified the ACHP, California SHPO, Oregon SHPO, six federally recognized Indian tribes, two Indian organizations, and other interested parties. Tribal consultation for Section 106 was initiated via letter dated October 19, 2010. Tribal consultation is ongoing.</p>	No
IT_LT_1227_093-2	<p>Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.</p>	No

IT\_MC\_1020\_015

PUBLIC HEARING ON THE KLAMATH DAM  
REMOVAL DRAFT EIS/EIR  
---o0o---  
YREKA, CALIFORNIA  
THURSDAY, OCTOBER 20, 2011

MS. BETTY HALL: I'm Betty Hall, and I'm a

Comment 1 - Cultural Resources

Shasta historian -- for the Shasta Tribe. First of all I want everyone here

to realize and to understand that Treaty R belongs to the

Shasta Nation. It was signed with the Shasta and Upper

Klamath Indians on November 4th, 1851 in Scott Valley

signed by 13 Shasta chiefs. It belongs to the Shasta.

The treaty does not belong to the Karuk Tribe.

I know the council is here and I think they

already know that. But the Klamath, now -- the culture

resource you have talked about, I talked to people about

it, are Shasta sites, Shasta villages, Shasta burial

grounds under those dam reservoirs.

If they come out we are very concerned what's

going to happen to them. That's a big concern of ours.

Comment 2 - Fish

Now the Klamath, you said they never had salmon

for 90 years. They never did have salmon, for centuries.

When Peter Skene Ogden came to the Klamath area, he was

the first white man to be there. And they told him that

they never had salmon on the Klamath River, and they told

him that they never had any villages on the Klamath River.

That's all Shasta aboriginal lands from Clear

Creek to the headwaters of the Klamath. The Klamath  
Indians and the BIA met with the officials when they were  
planning to put in the dams. And they talked about fish  
ladders, and they said well, the fish didn't get up there  
anyway. So they put in the fishery.  
And the Klamath people were very happy they  
could have fish planted up in the Klamath Lake and  
Williamson and Sprague.

Some of this doesn't make sense when you look  
back at history what it was on the river at that time.

Thank you.

**Comment Author** Hall, Betty  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** October 20, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_015-1	<p>Master Response CUL-1 Shasta Nation Participation.</p> <p>Master Response CUL-2 Federal Recognition.</p>	No
IT_MC_1020_015-2	<p>Historical distributions of anadromous fish are described in the Draft EIS/EIR in Section 3.3.3.1, Aquatic Resources. Historical records reviewed by Hamilton et al. (2005) and information obtained from archaeological sites analyzed by Butler et al. (2010) indicate that prior to the construction of Copco 1 Dam, Chinook salmon and steelhead spawned in the tributaries upstream of Upper Klamath Lake, including the Sprague, Williamson, and Wood rivers.</p> <p>The question regarding the historical distribution of salmon and steelhead above Iron Gate Dam was also addressed in proceedings before Administrative Law Judge Honorable Parlen L. McKenna who concluded that agencies had met their burden of proof on this issue (EIS 1.2.6.2, Federal Energy Commission Relicensing). Among other findings, Judge McKenna determined (Administrative Law Judge 2006) that:</p> <ul style="list-style-type: none"> <li>• 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 (Findings Of Fact (FOF) 2A-3, p. 12).</li> <li>• Chinook salmon (both spring and fall-run) were abundant in the tributaries of the Upper Klamath Basin, including Jenny, Fall, and Shovel Creeks, as well as the Wood, Sprague, and Williamson rivers (FOF 2A-4, p. 12).</li> <li>• Steelhead trout utilized habitat in Spencer, Shovel, Fall, Camp, and Scotch creeks, and they were likely distributed as far upstream as Link River (FOF 2A-5, p. 12). <ul style="list-style-type: none"> <li>o Coho salmon spawned in Fall Creek (FOF 2A-6, p. 12).</li> <li>o The record shows that those anadromous fish proximate to Iron Gate Dam are genetically most similar to those populations that existed in the Upper Klamath Basin prior to the construction of the dams (FOF 2A-22, p. 15).</li> </ul> </li> </ul> <p>Additionally, the Federal Energy Regulatory Commission (Federal Energy Regulatory Commission 2007) concluded that anadromous fish occurred historically above IGD.</p> <p>The comment, as written, provides no evidence to support the argument that anadromous fish did not occur upstream of IGD.</p>	No

PUBLIC HEARING ON THE KLAMATH DAM  
REMOVAL DRAFT EIS/EIR  
---o0o---  
YREKA, CALIFORNIA  
THURSDAY, OCTOBER 20, 2011

MR. ROY HALL: My name is Roy, R-o-y, Hall,

H-a-l-l. I'm chairman of the Shasta Nation. The truth

about dam removal.

Comment 1 - Cultural Resources

The Klamath Basin Restoration Agreement,

Confidential and Privileged Settlement Communication with

the exclusion of the general public's participation causes

injury to the general public and the Shasta Nation.

This agreement will force the Shasta's out of

existence by the Karuk Tribe down the river and the

Klamath Tribe up river, establishing fishing rights below

Iron Gate Dam. The federal government and several states

are willing to destroy the Shasta Nation by creating

artificial low fish numbers for absolute control of

surface and groundwater and our lives through the KBRA

charter.

The Klamath Tribes never had an identified

village site on the Klamath River.

The Shasta's possess prehistoric village sites,

as identified in Gibbs Journal, while traveling up river

in 1851. Mr. Gibbs documented the Shasta language

encountered upon leaving Clear Creek on the Klamath River.

The foremost up river Shasta village site on the Klamath is near Lake Ewana, headwaters of the Klamath River. The Shasta's aboriginal recognized land base on the Klamath is identified at least 70 miles more or less below Iron Gate Dam, near Clear Creek. Upstream the Shasta's aboriginal land base on the Klamath River from Iron Gate Dam includes more or less 50 miles of the Klamath River, to the lake now known as Lake Ewana. The removal of four dams in the heart of the Shasta Nation requires that the Shasta Nation and the general public be allowed due process to file exceptions to the agreement, which has been denied.

Comment 2 - KBRA

Each party to the KBRA has an obligation to support this confidential agreement, no exceptions. Parties were selected that shall support and defend this agreement in each applicable venue or forum, including any administrative or judicial action in which it participates and which concerns the validity of any regulatory approval or authorizing legislation.

To remain confidential the agreement utilizes a conspiracy of silence, a secret agreement to keep silent about an occurrence, situation or subject in order to promote or protect interests among selective groups that promoted the same selfish interests, conspire to join in a

secret agreement to do an unlawful or wrongful act or to  
use such means to accomplish a lawful end.

Comment 3 - Cultural Resources

The Karuk Tribe is now attempting to use the  
stolen Shasta Treaty R as their own to control Shasta  
Nation aboriginal lands and water rights, which is where  
the dam removal currently lies.

Tribes and government agencies have erroneously  
disregarded the reserved Shasta Nation Treaty rights  
including hunting, fishing and water rights which are  
guaranteed by the Constitution of the United States. A  
tribe need not be federally recognized to establish it is  
the beneficiary of a Treaty.

In terms of agreement, the term of the  
agreement as to contractual obligations shall be 50 years  
from the effective date. The KBRA will need a Charter,  
foreign to our Constitution and unacknowledged by our laws  
and altering fundamentally the forms of our government.

THE FACILITATOR: Mr. Hall, your time is up.

If you would like to submit that, be included.

Thank you.

**Comment Author** Hall, Roy  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_023-1	Master Response GEN-1 Comment Included as Part of the Record.  Master Response CUL-1 Shasta Nation Participation.	No
IT_MC_1020_023-2	Master Response KHSA-1 Negotiations of KHSA and KBRA.	No
IT_MC_1020_023-3	Master Response CUL-2 Federal Recognition.	No

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 26, 2011  
PUBLIC TESTIMONY  
ARCATA, CALIFORNIA

MR. HIGGINS: Patrick Higgins, P-a-t-r-i-c-k  
H-i-g-g-i-n-s, consulting fisheries biologist for 20  
years in the Klamath River, helped write the restoration  
plan for the task force to the mid program review.  
People can consult klamathwaterquality.com. That's a  
good source of information I helped put together while  
working for tribes.

And I'm currently on retainer to the Resighini  
Rancheria, a small tribe at the mouth of the Klamath.

They have major problems with what they consider  
termination, similar to those expressed by councilman  
from the Hoopa Tribe, Hayley Hutt. And neither the  
Resighini, nor any other tribe that's a nonparty, would  
be able to participate in management decisions for 50

Comment 1 - NEPA years. That's got a good precedent.

▲ Mr. Lynch sang the praises of the KBRA, and they  
were many, in his view, and, yet, the DEIS/DEIR says that  
the KBRA, the Klamath Basin Restoration Agreement, is not  
sufficiently defined in order to be analyzed in the  
current documents. 2800 pages, and it doesn't analyze  
the KBRA. That's a patent violation of the National  
Environmental Policy Act and the California Environmental  
Quality Act, and it makes this deal very subject to

Comment 2 - Fish

challenge.

I'm really -- I would very much like to see our community host a debate of sorts over this, because almost any contention that he made, I believe, lacks basis. More fish. Their fish model just says, "More miles will give you more fish." But the expert panels that were convened by the KBRA said that, in fact, the pollution would stop the fish from migrating to the Keno Reservoir. And even the FERC Final Environmental Impact Statements said that the node where fish diseases happen will move from Iron Gate up closer to Keno.

So, if the fish diseases continue and in drought cycles forward, switches of the short-term Klamath cycles, like the PDO, we're going to get very, very serious droughts, somewhat like the '76, '77. And that's when the problems will arise, because most of the binding language is for delivery of water to the water users.

The suckers will not be recovered. Three populations that have been extirpated will not be put back in place because of the KBRA land allocations. The sucker recovery is part of the TMDL. That's the Clean Water Act implementation. If they're not restored to Lower Klamath Lake, which they will not be for 50 years, then the TMDL is not implemented.

The groundwater. Groundwater in the lost river, there's a blind eye towards it. The KBRA doesn't deal with it. That means the suckers won't recover there.

More polluted water, more concentrated nutrients will go  
back into the Klamath.

And, you know, if people want to learn more  
about this, they can consult [www.klamathER](http://www.klamathER). And it's  
"ecological restoration," but if "emergency room" helps,  
that's okay. So, [klamathER.org](http://klamathER.org).

And, of course, I gave you 200 comments last  
time. I'll have more this time.

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 26, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1026_065-1	<p>The Klamath Basin Restoration Agreement (KBRA) is analyzed in the EIS/EIR. The applicable resources sections in Chapter 3 and the cumulative effects section in Chapter 4, Cumulative Effects, provide a description of KBRA environmental effects.</p> <p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p>	No
IT_MC_1026_065-2	<p>Master Response AQU–23 Evaluation of Dam Removal and Restoration and Anadromy (EDRRA) Model.</p> <p>Master Response AQU–19 Chinook Expert Panel Proposed Action Better Than No Action.</p> <p>The Draft EIS/EIR has been revised to acknowledge and address the Federal Energy Regulatory Commission (2007) analysis which excluded the 360 miles of anadromous fish habitat above Keno Impoundment/Lake Ewauna and associated benefits based upon poor water quality conditions in this reservoir during summer months. The Fish Disease and Parasites sections of Draft EIS/EIR have also been revised to clarify the risk of moving the node where salmon diseases happen closer to Keno under the dam removal Alternatives.</p> <p>The Federal Energy Regulatory Commission (2007) (Final EIS/EIR) raised the issue of disease introduction related to reintroducing anadromous fish on p. 3-317 and 3-325, citing the Draft 1992 Amendment to the Task Force’s Long-Range Plan (LRP). This is not a valid citation because the draft was never approved by the Task Force and, therefore, never amended to the LRP. The quotes and conclusions attributed to this plan on p. 3-317 through 3-318 in FERC’s document are thus incorrect.</p> <p>The comment incorrectly represents the findings of the Expert Panel regarding federally listed suckers. The Resident Fish Expert panel concluded that of the two alternatives, without Dams and with KBRA (Proposed Action) or Conditions with Dams (Current Condition), the Proposed Action provides greater promise for preventing extinction of federally listed suckers and for increasing overall population abundance and productivity (Buchanan et al. 2011; p 76). The key benefits of the Proposed Action to Lost River suckers and shortnose suckers stem from major habitat improvement activities in the Upper Klamath Lake and its tributaries that support these fishes. Specific details of most activities are not yet available; therefore, the Panel’s assessment was qualitative in nature and assumes subsequent planning</p>	Yes

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
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activities will target actions for each species and life stage. In general, habitat improvement activities will include lake level management, water quality improvements, and habitat restorations (wetlands and spawning and rearing habitat). Water quality in streams is expected to improve in response to greater instream flows (purchase of water rights) and to revegetation of the degraded riparian corridors. Water quality should increase in lake fringe areas adjacent to improved wetlands, which are important for survival of larval and juvenile suckers (Buchanan et al. 2011; p 76).

While it is possible that the current infections nidus (breeding place) for *C. shasta* and *P. minibicornis* may move upstream where salmon spawning congregations occur, the likelihood of this happening is unknown. Any creation of an infections 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 (factors noted by FERC (2007) and others above). Reestablishment of natural flow and sediment transport rates to the river downstream of the current location of Iron Gate Dam would develop natural geomorphic channel forming processes to the river (Hetrick et al. 2009) which would make this synergy unlikely.

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).

Master Response WQ 4 A,C,D Hydroelectric Project Impacts to Water Quality and Anticipated KHS/KBRA Improvements.

Poor water quality (e.g., severe hypoxia, temperatures exceeding 25 °C, high pH) in the reach from Keno Dam to Link Dam might prevent fish passage at any time from late June through mid-November (Sullivan et al. 2009; USGS 2010; both as cited in Hamilton et al. 2011). However, evidence indicates that Upper Klamath Lake habitat is presently suitable to support Chinook salmon for at least the October through May period (Maule et al. 2009; Draft EIS 3.3-95). Poor summer water quality conditions may necessitate seasonal trap and haul around Keno Impoundment for some life stages of Chinook until KBRA and

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>TMDL implementation improve water quality. This is consistent with the fishway prescriptions of DOI and U..S Department of Commerce (DOC) (DOI 2007; NOAA Fisheries Service 2007). Overall, dam removal and associated KBRA actions would accelerate water quality improvements (Dunne et al. 2011) and TMDL water quality benefits to anadromous fish (Water Quality Subgroup 2011; Draft EIS 3.3-95).</p>	

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 25, 2011  
PUBLIC TESTIMONY  
ORLEANS, CALIFORNIA

Comment 1 - Approves of Dam Removal

MR. HIGGINS: Patrick Higgins, consulting fisheries biologist, P-a-t-r-i-c-k H-i-g-g-i-n-s, and I'm a consultant to the Resighini, R-e-s-i-g-h-i-n-i, Rancheria. And the Resighini favor dam removal, but they're very concerned about the Klamath Hydro Settlement Agreement and its interrelationship to the Klamath Basin Restoration Agreement.

Comment 2 - Hydrology

In fact, the DEIS/DEIR, I feel, doesn't use best available science, as required by the National Environmental Policy Act and the California Environmental Quality Act. They have ignored the National Academy of Sciences and the KBRA expert panel's advice on considering refilling of Lower Klamath Lake, both to restore sucker fish and the natural flows of the Klamath.

Comment 3 - Fish

In fact, the flows, under the KBRA, will depart further from normal. And if flushing flows are not available in dry years, I'm concerned that the algae blooms that currently set up fish kills will continue.

And it is also an opinion issued in the Final Environmental Impact Statement by FERC, the Federal Energy Regulatory Commission, that, in fact, the fish disease cycles will continue, but the node will reflect upstream from Iron Gate.

Comment 4 - NEPA

But the DEIS/DEIR just doesn't even analyze any of the Klamath Basin Restoration Agreement aspects, which is not legal under NEPA. It's called piecemeal-ing. And it's also illegal under CEQA, because things like maintaining agricultural activities, industrial agriculture, in the wildlife refuges of Tule Lake and Lower Klamath Lake, have profound impacts both on water supply and on water quality.

And so, when the KBRA says that those marshes within national wildlife refuges will be industrially farmed for 50 years, going forward, it has impacts on the Keno Reservoir that will make it remain toxic. Now, your expert panel says that the fish won't jump through there, so, therefore, you won't restore salmon to the Upper Basin, even if you remove the dams, because the nutrient problems that are killing the river go unaddressed by the Klamath Basin Restoration Agreement.

And my contention is, it's hard to test within the DEIS/DEIR because they don't even consider these issues. And I think it's just flat-out not in compliance with NEPA and what we state.

But, for instance, the DEIS/DEIR does not concern itself with the lands in California, Lower Klamath Lake, which was formally the water storage and water filter for the Klamath River and held the flows up through June and July and would be a wonderful floodwater storage mechanism. It's not considered by the DEIS/DEIR. It doesn't even consider California, in terms of the Upper Klamath Basin, and that region, nor Tule Lake, nor Lost River.

There is extirpated sucker populations in Lower Klamath Lake, Tule Lake, and Lower Lost River, and those will not be restored because of the KBRA's land use requirements and the water use in the Lost Basin. So, it's going to block the ESA implementation. And under this deal, the State of California will actually issue a blank take permit for endangered species, including Lost River suckers, shortnose suckers, bald eagles, peregrine falcons, sandhill cranes, and it doesn't even study California and the area that's impacted that have these species.

So, there's legal flaws here that are extremely egregious, from my perspective.

Comment 5 - NEPA

Dennis comments -- he says, "Comments are highly valued." Well, I filed a couple hundred on behalf of the Resighini in the Cooperators' Draft, and I didn't find any change in substance on the key points of my arguments

Comment 6 - Alternatives

Ecological restoration, like the Everglades, where to cure toxic blue-green algae in the seas off of Florida, they increased freshwater and they increased marsh. And then, if that's not enough, you increase it more. That's the only scientifically valid method, and yet, it's not adopted here. There's no NEPA alternative on ecological restoration.

And if folks want to explore this further and kind of fact-check on the science, they can surf Klamath -- [www.klamathER](http://www.klamathER.org), ecological restoration, .org or [klamathER](http://klamathER.org), Klamath emergency room.

When wet years, when good ocean, that's going to switch within the next decade to '76, '77, '86 and '94-type drought conditions. This is insufficient, and, unfortunately, the KBRA is a poison pill inside dam

removal.

MS. JONES: Okay.

MR. LYNCH: Thank you, Patrick.

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 25, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1025_039-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1025_039-2	Master Response GEN-3 Best Available Information.	No
IT_MC_1025_039-3	<p>Master Response AQU-11A through I NOAA Fisheries Service BO, ESA and KBRA Water Management.</p> <p>Flows under the Proposed Action Alternative include minimum based flows equal to the Ecological Base Flow (EBF) levels recommended by Hardy (2006) for the periods from March through June, and from August through September to insure adequate protection of anadromous fish during dry water years. In addition, flow targets were increased above those EBF flows recommended by Hardy (2006) from 895 to 1,110 cfs in August, and from 1,010 to 1,110 cfs in September to further reduce the likelihood of another adult fish kill similar to the one that occurred in 2002. As a result of these changes daily flows at Iron Gate Dam never drop below 950 cfs in September in the driest water years. In addition, under KBRA there is anticipated to be additional operational flexibility to optimize water use through the development of a drought plan and implementation of real time water management through the Technical Advisory Team's management of environmental water.</p> <p>Master Response AQU-11J NOAA Fisheries Service BO, ESA and KBRA Water Management.</p> <p>Future Federal actions influencing mainstem Klamath River flows will be subject to interagency consultations under Section 7 of the ESA. Regardless of the outcome of the Secretarial Determination, future flow releases will require compliance under the ESA to insure flow releases avoid jeopardizing Southern Oregon Northern California Coast (SONCC) coho salmon and avoid destruction or adverse modification of their designated critical habitat</p> <p>Master Response AQU-19 Chinook Expert Panel Proposed Action Better Than No Action.</p> <p>The Federal Energy Regulatory Commission (2007) (Final EIS/EIR) raised the issue of disease introduction related to reintroducing anadromous fish on p. 3-317 and 3-325, citing the Draft 1992 Amendment to the Task Force's Long-Range Plan (LRP). This is not a valid citation because the draft was never approved by the Task Force and, therefore, never amended to the LRP. The quotes and conclusions attributed to this plan on p. 3-317 through 3-318 in FERC's document are thus incorrect.</p>	No

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Comment Code	Comment Response	Change in EIS/EIR
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Migration of anadromous fish to the Upper Klamath Basin would not be a significant factor contributing to disease in resident fish (Administrative Law Judge 2006). The Administrative Law Judge also supported this assessment in finding that the movement of anadromous fish via prescribed fishways presents a relatively low risk of introducing pathogens to resident fish above IGD (Administrative Law Judge Decision at 86, Ultimate Findings of Fact and Conclusions of Law 4). Many of the pathogens (such as *C. shasta*, *F. columnaris*, *P. minibicornis*, and Ich) present below IGD are also present above the dam (Id.).

To help determine if the Proposed Action will advance restoration of the salmonid fisheries of the Klamath Basin, a Chinook Salmon Expert Panel was convened to attempt to answer specific questions that had been formulated by the project stakeholders to assist with assessing the effects of the Proposed Action compared with existing conditions (Goodman et al. 2011). The Panel concluded that the Proposed Action appears to be a major step forward in conserving target fish populations in the Klamath Basin. The Expert Panel predicted that, based on the information provided to them, it was possible that the Proposed Action would provide a substantial increase in the abundance of naturally spawned Klamath River Chinook salmon above that expected under existing conditions in the reach between Iron Gate Dam and Keno Dam. In addition, the Panel concluded that the Proposed Action offers greater potential than the current conditions for Chinook salmon to tolerate climate change and changes in marine survival (Goodman et al. 2011). While the Panel agreed that there was also evidence for dramatic increases in abundance associated with the Proposed Action upstream of Keno Dam, they cautioned that achieving substantial gains in Chinook salmon abundance and distribution in the Klamath Basin is contingent upon successfully resolving key factors (discussed in this report in detail) that will continue to affect population, such as water quality, disease, and instream flows. In addition, they stated the concern that successful implementation of KBRA would be required, and would need appropriate scientific leadership.

While it is possible that the current infections nidus (breeding place) for *C. shasta* and *P. minibicornis* may move upstream where salmon spawning congregations occur, the likelihood of this happening is unknown. Any creation of an infections 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 (factors noted by FERC (2007) and others above). Reestablishment of natural flow and sediment transport rates to the river downstream of the current location of Iron Gate Dam

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**Submittal Date** October 25, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>would develop natural geomorphic channel forming processes to the river (Hetrick et al. 2009) which would make this synergy unlikely.</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).</p> <p>Poor water quality (e.g., severe hypoxia, temperatures exceeding 25 °C, high pH) in the reach from Keno Dam to Link Dam might prevent fish passage at any time from late June through mid-November (Sullivan et al. 2009; USGS 2010; both as cited in Hamilton et al. 2011). However, evidence indicates that Upper Klamath Lake habitat is presently suitable to support Chinook salmon for at least the October through May period (Maule et al. 2009; Draft EIS 3.3-95). Poor summer water quality conditions may necessitate seasonal trap and haul around Keno Impoundment for some life stages of Chinook until KBRA and TMDL implementation improve water quality. This is consistent with the fishway prescriptions of DOI and DOC (DOI 2007; NOAA Fisheries Service 2007). Overall, dam removal and associated KBRA actions would accelerate water quality improvements (Dunne et al. 2011) and TMDL water quality benefits to anadromous fish (Water Quality Subgroup 2011; Draft EIS 3.3-95).</p>	
IT_MC_1025_039-4	<p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>As described in the Section 3.3.4.3 of EIS/EIR, the Proposed Action results in higher water elevations in Upper Klamath Lake, which would benefit Lost River and shortnose suckers. The KBRA is expected to provide benefits to sucker populations through the following measures: nutrient reduction, reconnecting former wetlands to Agency Lake, reconstructing quality rearing habitat for early life stages, and restoring shoreline spring spawning habitat restoration, among others. Restoration actions associated with KBRA implementation under the Proposed Action could alter habitat availability and suitability and affect lost river and shortnose suckers and are anticipated in the long term to improve conditions for sucker populations within Klamath Lake. Based on</p>	No

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 25, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>improved habitat quality, the effect of the Proposed Action would be beneficial for Lost River and shortnose sucker populations in the long term.</p> <p>Lost River and shortnose suckers are listed as fully protected species under CDFG code; thus, any take of these species is prohibited. However, a component of the Proposed Action includes legislation to permit the take of some individuals during implementation. Reservoir removal associated with dam removal under the Proposed Action could alter habitat availability and affect lost river and shortnose suckers (Draft EIS/EIR, § 3.3.4.3, p. 3.3-126 to 3.3-127.) Based on reduction in abundance within reservoirs, the effect of the Proposed Action would be significant for Lost River and shortnose sucker populations in the short term. (Ibid.) However, as discussed above, implementation of Mitigation Measure AR-6 could be implemented to reduce the impact to individuals within reservoirs by rescuing fish prior to reservoir drawdown. Based on small numbers of individuals affected after mitigation, the effect of the Proposed Action would be less-than-significant for Lost River and shortnose sucker populations in the short term after mitigation. (Ibid.)</p> <p>Impacts on other California special-status species are presented in Section 3.5 Terrestrial resources.</p>	
IT_MC_1025_039-5	<p>Comments received from the Cooperating Agencies on the Cooperating Agency Draft were taken into consideration by the Lead Agencies during development of the Draft EIS/EIR.</p> <p>Master Response N/CP-20 Response to Public Comment.</p> <p>Additionally, all comments will be considered by the Secretary of the Interior when making his Determination on whether removal of the four hydroelectric dams on the Klamath River that are owned by PacifiCorp will accomplish the following two goals: 1) to advance restoration of the salmonid fisheries of the basin, and 2) be in the public interest, which includes, but is not limited to, consideration of the potential impacts on affected local communities and Indian Tribes.</p>	No
IT_MC_1025_039-6	<p>The comment author suggests that the EIS/EIR should include restoration alternatives other than the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study, dam removal contemplated under the KHSA cannot be implemented without implementing the</p>	No

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 25, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>KBRA. Therefore, an alternative that would implement a restoration project other than the KBRA is not feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect it to yield the same benefits as full implementation of the KBRA.</p> <p>Additionally, the comment author stated that increasing freshwater and marsh habitat is the "only scientifically valid method" for ecological restoration. The comment, however, did not include any details or scientific support for this claim. The KBRA incorporates plans and additional restoration actions in the future and does not foreclose other measures for ecosystem restoration in the Klamath Basin.</p>	

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MR. HIGGINS: Good evening. Patrick Higgins,  
P-a-t-r-i-c-k H-i-g-g-i-n-s. I'm a consulting fisheries  
biologist and currently employed by the  
Resighini Rancheria to review the environmental document  
here.

I've got 20 years of studying the Klamath. I  
helped to write the long-range plan to restore the river  
for the Klamath Task Force. I helped with its  
mid-program review. I have up an information system,  
krisweb.com, and I have also helped put together a water  
quality information system called klamathwaterquality.com  
that people can review for information to substantiate my  
remarks.

Comment 1 -  
Approves of Dam  
Removal

I'm afraid I'm the purveyor this evening of some  
inconvenient truths. I have agreed that the dams need to

be removed. And the Resighini Rancheria favors speedy

dam removal. However, the Secretary's decision

Comment 2 - NEPA

encompasses not just the Klamath Hydro Settlement

Agreement, related to dam removal, but it also

encompasses the Klamath Basin Restoration Agreement.

Mr. Lynch actually went on at length to describe

its benefits, and, yet, unfortunately, you'll find that

the DEIS and DEIR do not cover the KBRA. They say that  
it is too ill-defined to yet be analyzed and that, in the  
future, we can see the analysis in another process. That  
actually is in violation of the National Environmental  
Policy Act. It's in violation of CEQA, the California  
Environmental Quality Act.

And, you know, originally, the Upper Klamath Lake, the Lower Klamath Lake, Tule Lake, vast, vast wetlands and lakes. The sky was black with ducks. These were tea-colored lakes, 300,000 acres, hundreds of square miles. Now 80 percent are filled.

The sucker fish, the canary in the Upper Klamath coal mine, it can live in dissolved oxygens of 3. We're breathing 8. That would kill a trout. It would kill us. It can take dissolved ammonia levels that are extremely high. It can take pH that would kill a rainbow trout. Why is the sucker, the indicator species, going, blinking out? And it's because they have taken too much in the Upper Basin. And, in fact, the only thing the sucker lacks is tennis shoes. It can't walk on land.  If the program  
was meeting NEPA and CEQA standards for use of best available  
science, there would  
be an ecologically-based alternative. The Resighini have  
repeatedly asked for such an alternative, and they have  
been told that they can't have it because it's not in the  
Settlement; and if it's not in the Settlement and the

KBRA, then it's not under consideration. Well, that's  
another violation of NEPA.

So, this is bad engineering. It's driven by  
land and water use negotiated by farmers and ranchers.

And it ignores the National Academy of Sciences and  
National Research Council report. It ignores the expert  
panel reports actually convened by the KBRA. And it  
doesn't follow a science-based approach.

Comment 4 - Water Quality

The only way to clean up the nutrient pollution,  
which is the essential central problem in the Klamath,  
compounded by the dams but huge without the dams, we need  
an Everglades-like program. In the Everglades, where the  
sea is poisonous because of toxic algae, they're going to  
return freshwater, they're going to increase wetlands,  
and, if it's not enough, they're going to do more under  
adaptive management.

Nutrient pollution is going to continue on the  
Klamath. Now, you can read the Chinook panel report.

You can read the Coho/steelhead expert panel report. If  
you don't have a fix at the top of the Basin that  
includes land retirement, you're not going to get there.

It's going to, basically, cause the disease nodes that  
are currently below Iron Gate. And this is in the FERC

EIS, the final report, and also in the expert panel  
reports. That node is going to move. It's going to move  
where the salmon congregate to spawn, closer to Keno, and

where the algae beds that support an intermediate host of  
 parasite will thrive.

Comment 5 - Fish

Under the DEIS/DEIR, we're not looking at  
 California habitat for suckers, and, yet, the California  
 Department of Fish and Game will issue a blank take  
 permit for suckers under this deal. That's  
 unconscionable.

Comment 6 - Alternatives

And so, I really feel that Option 8, which is no  
 longer under consideration, four-dam removal without  
 KBRA, would be preferable. I don't believe that we can  
 sign this Settlement and fund this deal, to the tune of a  
 billion dollars, and expect the government to uphold the  
 law.

Comment 7 - Water Quality

If the farmers and ranchers in the Upper Basin  
 didn't receive \$92 million in subsidies, the footprint of  
 that ag would shrink. The nutrient pollution would  
 shrink. There's no talk of abating -- there's no -- look  
 up "pesticides" in this thing. They don't even talk  
 about it. And, yet, the refuges, that really should be  
 back to ducks and back to water filtration, are the  
 highest place for pesticide use in Siskiyou County.

If people doubt what I'm saying and they would  
 like substantiation or to check it, you can look at  
 klamathecollogicalrestoration.org. That's klamathER.org.  
 If "emergency room" works better for you to remember  
 that, klamathER.org. MR. LYNCH: Thank you.

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 27, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1027_054-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1027_054-2	<p>The KBRA is analyzed in the Draft EIS/EIR. The applicable resources sections in Chapter 3 and the cumulative effects section in Chapter 4 provide a description of KBRA environmental effects.</p> <p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p>	No
IT_MC_1027_054-3	<p>The comment author suggests that the EIS/EIR should include restoration alternatives other than the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without the KBRA from Detailed Study, dam removal contemplated under the KHSR cannot be implemented without implementing the KBRA. Therefore, an alternative that would implement a restoration project other than the KBRA is not feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect it to yield the same benefits as full implementation of the KBRA.</p> <p>The Lead Agencies have worked to include the best available science in the EIS/EIR; the science process is described in Master Response GEN-3 Best Available Information.</p> <p>The comment also mentions that the Resighini have "asked repeatedly" for the document to include an ecologically-based alternative, but the comment does not provide details of what this alternative should include. The comment appears to reference other communications about this alternative with Interior. The Lead Agencies do not have a record of these requests, either in public scoping comments, comments made as a Cooperating Agency on the Administrative Draft EIS/EIR, records of government-to-government meetings, or comments on the public Draft EIS/EIR. While the Draft EIS/EIR may not include the specific ecological alternative considered by the comment author, the Draft EIS/EIR does have an ecologically-based alternative. The Proposed Action was developed specifically to be protective of natural resources in the system, and many KBRA components focus on improving habitat throughout the basin.</p>	No

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 27, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_054-4	<p>Concern #1: Nutrient pollution will continue in the Klamath Basin and dam removal may help, but it will not be enough.</p> <p>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality Anticipated KHSA/KBRA Improvements.</p> <p>Concern #2: An Everglades-like restoration program is needed to reduce nutrient pollution in the upper basin.</p> <p>The Everglades restoration program uses a variety of pollutant management / reduction techniques. Many of these same techniques are being contemplated for use as part of the Klamath River TMDL implementation program. Several water quality improvement activities have been recently funded through the KHSA Interim Measures (Interim Measures 10, 11, and 15; see Draft EIS/EIR Section 3.2.4.1, p. 3.2-34 to 3.2-35). Projects currently being considered under IM 11 include water quality pilot projects for organic matter removal, sediment sequestration of nutrients, treatment wetlands, and natural wetland restoration, among others, to address nutrient over-enrichment in Upper Klamath Lake and the Klamath River reaches downstream of the lake. As stated in the Draft EIS/EIR, pilot scale projects are still in the data collection or planning stage, so an assessment of water quality impacts from these projects is not yet practical (see p. 3.2-25).</p> <p>Concern #3: Dam removal will exacerbate fish disease by moving habitat for the parasite host upstream.</p> <p>Master Response AQU-27 Disease.</p>	No
IT_MC_1027_054-5	<p>The KBRA recognizes that certain species, including the Lost river sucker and short nose sucker, are fully protected under the California Fish and Game Code. Within sixty days of any concurrence to an Affirmative Secretarial Determination, CDFG is to provide draft legislation to the KBRA parties regarding a limited authorization for incidental take of certain fully protected species. CDFG would provide this draft legislation to KBRA parties only if such authorization is necessary for implementation of the KBRA. Any draft legislation authorizing take of fully protected species must be approved by the California legislature and put into law by the Governor before CDFG could authorize such take.</p>	No
IT_MC_1027_054-6	<p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p>	No
IT_MC_1027_054-7	<p>As part of KBRA, continued agricultural use in the Reclamation Klamath Project is part of the Purpose and Need Statement. The</p>	No

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	KBRA is a negotiated settlement and the Draft EIS/EIR does not analyze alternatives to the KBRA. Draft EIS/EIR Section 3.2.3.8 Inorganic and Organic Contaminants (p. 3.2-30 to 3.2-33) and Section (Appendix) C.7 (p. C-63 to C-72) present existing information on pesticides and herbicides in the Klamath Basin.	

Thanks

Fish Bio Consultant +  
Watershed Scientist

20 years studying Kaweah  
consultant to Resiglini Landowner

RR Fall  
SPEEDY  
DRY  
REMOVAL

Illegal → PEIS/DEIR = KISSA + KBRA But  
Doesn't deal w/ KBRA

Intermittent  
Treat → UKL, LKL, Tule Lake  
Huge shallow, tea colored lakes

300,000 acres. Hundreds of  
square miles. Now 80%  
filled, including TLNWR +  
LKNWR. Sucker - INDICATOR

If program was meeting NEPA +  
CEQA standards for use of "best  
available science", there would  
be an ecologically based  
Alternative.

Resiglini have made repeated requests

Govt says it can't because  
not in settlement

---

Driven by land + water use  
negotiated by farmers +  
ranchers + back-engineered

↳ Ignores NAS (2004) +  
Expert Panels EVERGLADES

---

Nutrient Pollution will  
continue, KBRA has no  
WQ plan. Claims CWA  
pollution abatement program  
will fix, but their  
meaningful implementation  
is also blocked.

It is my professional opinion that the short nose suckers + Lost River suckers will likely go extinct + ESA ~~will~~ will be compromised eliminated from lower Lost River LKL + Keno reaches. Not restored under deal, UKL prep unstable + WQ problems not likely to be fixed.

CA habitat not in DEIS/DEIR but a CESA take permit will be issued by CDFG - ~~PR will deal w/ soc injust~~

Dispersal nodes below ~~can~~  
 will move. Fish increase number  
 Based on false assumptions <sup>back to</sup>  
 (1) source) Klamath ER. ORG | ~~ATG~~ <sup>ATG</sup>  
 NO ACTION

→ Negotiate details later

→ Funded @ \$1 Billion  
+ State + Federal agencies  
signed on.

- No chance to change status  
yet.

- Locking in ~~the~~ unsustainable  
land + water use for 50 yrs  
at a huge cost \$92 M.

KlamathRER.ORG

Alt 3 = 4 dam removal +  
no KORA

✱ Instead will support No Action  
+ return to IZRC

STATE, CONDIT YESTERDAY White Salmon  
FED ABROG ~~GET IT~~ RIVER WA  
8 PAGES LONG!

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 27, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_103-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1027_103-2	<p>The KBRA is analyzed in the EIS/EIR. The applicable resources sections in Chapter 3 and the cumulative effects section in Chapter 4 provide a description of KBRA environmental effects.</p> <p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p>	No
IT_MC_1027_103-3	<p>The comment author suggests that the EIS/EIR should include restoration alternatives other than the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without the KBRA from Detailed Study, dam removal contemplated under the KHSA cannot be implemented without implementing the KBRA. Therefore, an alternative that would implement a restoration project other than the KBRA is not feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect it to yield the same benefits as full implementation of the KBRA.</p> <p>The Lead Agencies have worked to include the best available science in the EIS/EIR; the science process is described in Master Response GEN-3 Best Available Information.</p> <p>The comment also mentions that the Resighini have "asked repeatedly" for the document to include an ecologically based alternative, but the comment does not provide details of what this alternative should include. The comment appears to reference other communications about this alternative with Interior. The Lead Agencies do not have a record of these requests, either in public scoping comments, comments made as a Cooperating Agency on the Administrative Draft EIS/EIR, records of government-to-government meetings, or comments on the public EIS/EIR. While the EIS/EIR may not include the specific ecological alternative considered by the comment author, the EIS/EIR does have an ecologically based alternative. The Proposed Action was developed specifically to be protective of natural resources in the system, and many KBRA components focus on improving habitat throughout the basin.</p>	No

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 27, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1027_103-4	<p>Master Response AQU-21 NRC Dam Removal Help Coho.</p> <p>Master Response AQU-6A Expert Panel Coho, Steelhead and Chinook.</p> <p>Master Response AQU-19 Chinook Expert Panel Proposed Action Better Than No Action.</p> <p>Master Response AQU-17 Expert Panel Second Line of Analysis, Not the Only Line of Evidence.</p> <p>Concern #1: Nutrient pollution will continue in the Klamath Basin and dam removal may help, but it will not be enough.</p> <p>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Concern #2: An Everglades-like restoration program is needed to reduce nutrient pollution in the upper basin.</p> <p>The Everglades restoration program uses a variety of pollutant management/reduction techniques. Many of these same techniques are being contemplated for use as part of the Klamath River TMDL implementation program. Several water quality improvement activities have been recently funded through the KHSA Interim Measures (Interim Measures 10, 11, and 15; see Draft EIS/EIR Section 3.2.4.1, p. 3.2-34 to 3.2-35). Projects currently being considered under IM 11 include water quality pilot projects for organic matter removal, sediment sequestration of nutrients, treatment wetlands, and natural wetland restoration, among others, to address nutrient over-enrichment in Upper Klamath Lake and the Klamath River reaches downstream from the lake. As stated in the EIS/EIR, pilot scale projects are still in the data collection or planning stage, so an assessment of water quality impacts from these projects is not yet practical (see Draft EIS/EIR p. 3.2-25).</p> <p>Master Response WQ-4A, C and D Hydroelectric Project Impacts to Water Quality and Anticipated KHSA/KBRA Improvements.</p> <p>Master Response WQ-22 TMDLs and the No Action/No Project Alternative (and Alternative 4).</p>	No
IT_MC_1027_103-5	<p>As discussed in Section 3.3.4.3 of the Draft EIS/EIR under Alternatives 2 (p. 3.3-126) and 3, the KBRA is expected to provide benefits to sucker populations through: nutrient reduction, reconnecting former wetlands to Agency Lake, reconstructing quality rearing habitat for early life stages, and restoring spring</p>	No

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 27, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>shoreline spawning habitat among others. The KBRA speaks to the settlement of long-running disputes concerning the use of Klamath Basin water for irrigation, fish and wildlife. It also speaks to water quality improvements in the basin. Addressing the water-related issues within the basin is expected to benefit all species of resident fish, including suckers. The EIS/EIR concludes that based on improved habitat quality, the effect of the Proposed Action would be beneficial for Lost River and shortnose sucker populations in the long term (Draft EIS/EIR 3.3-127). The Resident Fish Expert Panel concluded that a “dams out plus KBRA” management scenario provides promise for preventing extinction of sucker species and for increasing overall population abundance and productivity (Buchanan et al. 2011).</p> <p>It is not the explicit objective of the KBRA to recover suckers, although suckers will benefit in many ways. There are other tools to address the challenges described in the comment. For example, the USFWS has released (October 2011) a draft revised Recovery Plan for the two endangered sucker species that identifies objectives and criteria for recovery which will inform and focus future recovery actions. Additionally, the USFWS has initiated designation of Critical Habitat for the Lost River sucker and shortnose sucker (76 FR 76337, December 07, 2011), which will be finalized by November 30, 2012.</p> <p>Master Response AQU-33 ESA Compliance.</p>	
IT_MC_1027_103-6	<p>The KBRA recognizes that certain species, including the Lost river sucker and short nose sucker, are fully protected under the California Fish and Game Code. Within 60 days of any concurrence to an Affirmative Secretarial Determination, CDFG is to provide draft legislation to the KBRA parties regarding a limited authorization for incidental take of certain fully protected species. CDFG would provide this draft legislation to KBRA parties only if such authorization is necessary for implementation of the KBRA. Any draft legislation authorizing take of fully protected species must be approved by the California legislature and put into law by the Governor before CDFG could authorize such take.</p>	No
IT_MC_1027_103-7	<p>Concern: Dam removal will exacerbate fish disease by moving habitat for the parasite host upstream.</p> <p>Master Response AQU-27 Disease.</p> <p>As part of KBRA, continued agricultural use in the Reclamation Klamath Project is part of the Purpose and Need Statement. The KBRA is a negotiated settlement and the EIS/EIR does not analyze alternatives to the KBRA. Draft EIS/EIR Section 3.2.3.8</p>	No

**Comment Author** Higgins, Patrick  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 27, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1027_103-8	<p>Inorganic and Organic Contaminants (p. 3.2-30 to 3.2-33) and Section (Appendix) C.7 (p. C-63 to C-72) present existing information on pesticides and herbicides in the Klamath Basin.</p> <p>The KBRA is analyzed in the EIS/EIR. The applicable resources sections in Chapter 3 and the cumulative effects section in Chapter 4 provide a description of KBRA environmental effects.</p> <p>Master Response N/CP-22 How KBRA was Analyzed.</p> <p>The majority of Federal land where farming may occur currently in the Klamath Basin would be on the several National Wildlife Refuges. The KBRA does not require the Lower Klamath Lake and Tule Lake National Wildlife Refuges to allow or continue lease land farming. The KBRA provides for an allocation of water to the refuges. Water required for lease land farming does not count against the Refuge Allocation (KBRA Section 15.1.2.D.i). See <a href="http://www.Klamathrestoration.gov">www.Klamathrestoration.gov</a> for a copy of the KBRA.</p> <p>Future refuge management decisions with respect to lease land farming would be speculative and are beyond the scope of the analysis of this EIS/EIR.</p> <p>Farming and agricultural practices on private lands are beyond the scope of the analysis of this EIS/EIR.</p>	No
IT_MC_1027_103-9	<p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p>	No

IT\_MC\_1025\_038

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 25, 2011

PUBLIC TESTIMONY  
ORLEANS, CALIFORNIA

MR. HILLMAN: Good evening. They say, at the beginning of time, when the spirit people roamed the earth, only the spirit people, and at the time of the great transformation, some of those spirit people were transformed, some into human beings, some into rocks, trees, water, the salmon, the sun, the moon, and the stars. And from that time forward, we've continued to recognize that the salmon are our very close relatives.

This is what our world view is based on, has fixed the world people. We have a responsibility to all of our relations. They have a responsibility to us.

I took the Draft EIS to put it on my nightstand the other night, and before I went to sleep I read it, ayy. Yeah, it was -- my reading skills, I don't read that fast, but I have looked through the document and read a few chapters in it. I would like to acknowledge the effort that was put into development of this document. A lot of hard work and a lot of good science.

Comment 1 - ITAs

You said that the fundamental reason why we're here tonight is to help the Secretary to make his determination whether or not dam removal is in the public interest. And I would just like for folks and the

Secretary to acknowledge that -- I'm not sure who he  
considers public and whose interests it is, but I would  
assert that the public includes all of the spirit people.  
They are also public. We can't separate ourselves and  
think that because we're human that we're somehow above  
all of the nonhuman spirit people. They are our  
relations. And they are also part of the public  
interest, and their interest needs to be considered here,  
as well.

Thank you for allowing me to speak and giving me  
cuts. And, I guess, if my kids were worse behaved, maybe  
you'll let me go first, huh? Ayy. So, thank you.

MR. LYNCH: Thank you, Mr. Hillman.

**Comment Author** Hillman  
**Agency/Assoc.**  
**Submittal Date** October 25, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1025_038-1	Master Response GEN-1 Comment Included as Part of the Record.	No

Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1020\_033

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**  
KlamathSD@usbr.gov

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

**Name:** ERIN HILLMAN

**Organization:** KARUK TRIBES

**Title:** DIRECTOR OF ADMIN/COMPLIANCE

**Address:** POB 460 HAPPY CAMP CA 96039

**Email:**

Comment 1 - Approves of  
Dam Removal

**Fax:**  
(916) 978-5055

**Comments:**

I'VE HAD THE BENEFIT OF SEEING THE SCIENCE OF THE PROPOSED ACTION. I AM CONVINCED THAT THE FISH HABITAT ABOVE THE DAMS WILL RESTORE NATURALLY WITHOUT THESE UNNATURAL BARRIERS. THE COST OF MAINTAINING THE DAMS AND PROVIDING FOR FISH TRANSPORTATION & PASSAGES IS AT A MUCH HIGHER COST THAN <sup>THEIR</sup> REMOVAL. NOT TO MENTION THE JOBS THAT WILL BE BROUGHT TO OUR AREA, <sup>WHICH</sup> ~~THEY~~ ARE DESPERATELY NEEDED. SISKIYOU COUNTY BOARD OF SUPERVISORS AND SPECIAL INTEREST GROUPS HAVE FAILED TO GRASP THE FACTS IN THIS ISSUE. RELIGENCE OR REMOVE. REMOVAL IS NOT ONLY THE MOST COST EFFECTIVE, IT JUST MAKES SENSE AND THE COUNTY BDC HAS FAILED TO SEE IT AND COMMUNICATE THE TRUTH RESULTING IN POLARIZED communities. DONT LOSE THE FACTS TO THE MIS-UNDERSTANDINGS OF A FEW. ~~WANT~~ PLEASE REMOVE THESE DAMS! REMOVE THEM BEFORE THEY ARE SO OLD AND UNSAFE THAT THEY FAIL.

**Public Disclosure:** It is not required that you submit personal information. If you decide to do so, please note that this information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Comment Author** Hillman, Erin  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1020_033-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

IT\_LT\_1223\_094

**Department of Natural Resources**

39051 Highway 96  
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Orleans, CA 95556  
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# Karuk Tribe



**Administrative Office**

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**Orleans Medical Clinic**

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Phone: (530) 627-3452  
Fax: (530) 627-3445

November 21, 2011

Elizabeth Vasquez

U.S. Department of the Interior, Bureau of Reclamation  
2800 Cottage Way, Sacramento, CA 95825

Gordon Leppig

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

BUREAU OF RECLAMATION OFFICE OF THE CLERK TO THE COMMISSIONER		
DEC 23 2011		
DATE	ACTION	
11/21	✓	AV

**RE: Comments on Klamath Facilities Removal Draft Environmental Impact Statement/Environmental Impact Report**

Ayukii Ms. Vasquez and Mr. Leppig:

The Karuk Tribe appreciates the opportunity to comment on the Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) for Klamath Facilities Removal, released September 21, 2011, as a joint environmental document for compliance with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA).

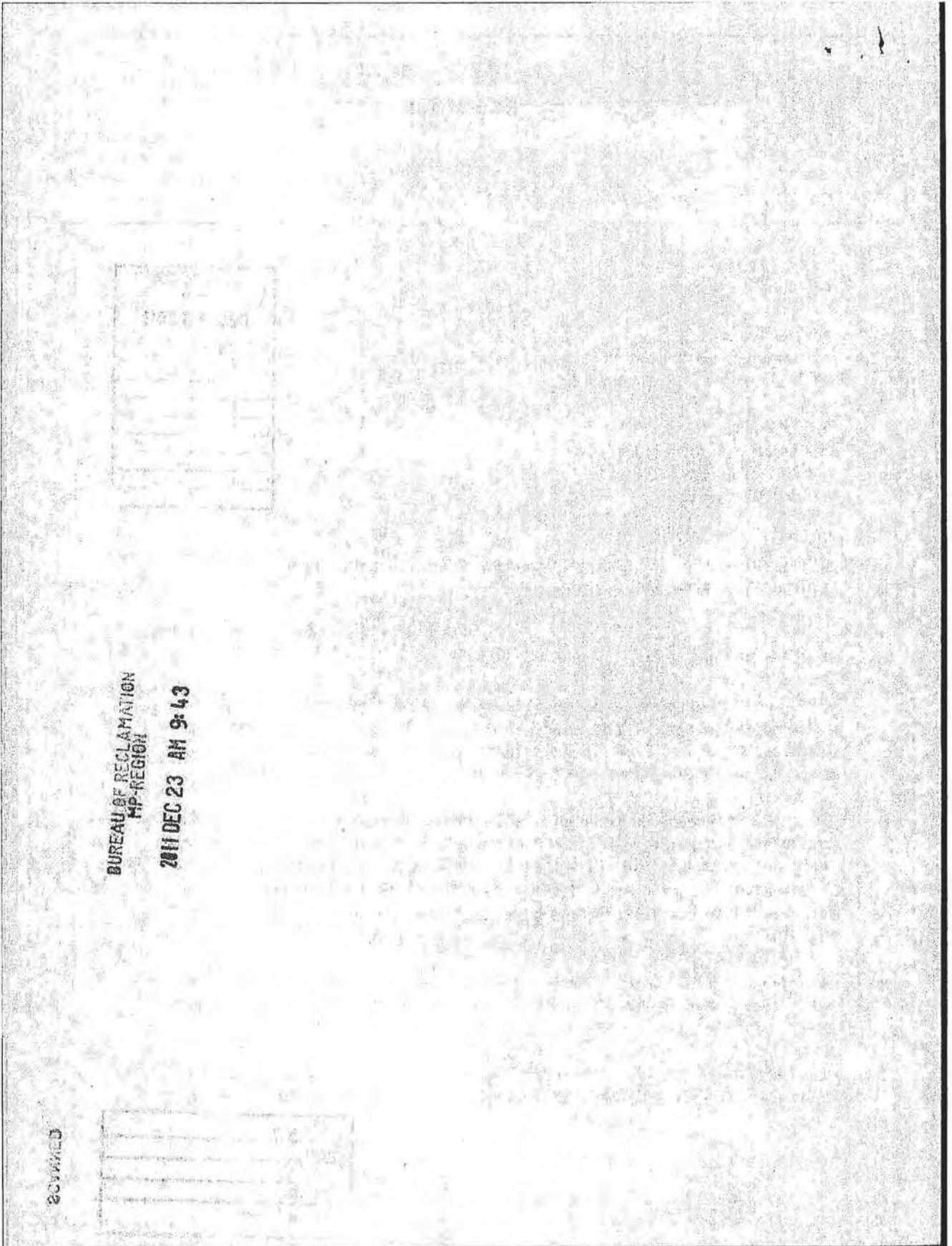
The DEIS/DEIR analyzes the potential impacts from the proposed removal of the four dams on the Klamath River, as proposed in the Klamath Hydroelectric Settlement Agreement (KHSA), along with implementation of the Klamath Basin Restoration Agreement (KBRA). The Karuk Tribe was one of 28 signatories to the KHSA and KBRA in February 2010, and in June 2010 we became a cooperating agency with the Bureau of Reclamation for development of the DEIS/DEIR.

The purpose of this DEIS/DEIR is to inform the Secretary of the Interior as he determines whether or not dam removal advances restoration of salmon fisheries and is in the public interest. This determination is due by March 2012.

The Tribe recognizes that for purposes of CEQA, the analysis of the KBRA was programmatic and based on the best available information, and that future KBRA projects may require

Classification	ENV-6.00
Project	12
Control No.	11094925
Folder ID	1194398
Date Input & Initials	12/23/2011 AP

SCANNED



additional, project-specific environmental analysis which will be tiered to this DEIS/DEIR as appropriate.

This decision is of utmost importance to the Karuk Tribe. The Karuk are salmon people – our health, our wealth, and our spiritual well-being is dependent on a healthy river and fisheries.

***Karuk Tribe Preferred Alternative***

Comment 1a - Approves of Dam Removal

The Karuk Tribe strongly supports Alternative 2 as identified in the DEIS/DEIR, which consists of full removal of the lower four dams and all their features, along with implementation of the KBRA. We believe that Alternative 2, Full Facilities Removal, best meets the purposes, needs and objectives as defined by the DEIS/DEIR. We note however, that Alternative 3 also meets the purposes, needs and objectives as defined by the DEIS/DEIR and saves nearly \$50 million in dam removal costs. Although we believe some consideration must be made regarding the risks and liabilities that may stem from leaving some structures in place, we would not oppose implementation of Alternative 3.

**Comments**

In general, the Karuk Tribe is impressed with the scope, breadth, and depth of the analysis. We applaud the Department's effort to digest such a large amount of technical information spanning across many scientific and social disciplines.

Comment 2 - Alternatives

**Comment #1: DEIS should include analysis of Alternative 8, Full Facilities Removal of Four Dams without KBRA**

The DEIS states that Alternative 8 was developed as an initial alternative but not evaluated because it "does not meet most of the purpose and need/project objectives and would not reduce environmental impacts of the Proposed Action."

To the contrary, we assert that dam removal alone would indeed meet most of the purpose and need/project objectives such as: advance restoration of the salmonid fisheries, achieve free flowing river conditions, restore and sustain natural production of fish species, etc. In fact, we assert that dam removal alone is likely to go further to meet these objectives than alternatives 1, 4, or 5.

Clearly, even among fishery advocates, there has been much public debate over the pros and cons of the KBRA. One way to help affected communities and the Secretary understand the significance of the KBRA is to compare dam removal with and without it. We believe that since dam removal without the KBRA is arguably a possible, or even likely, outcome if the effort to implement the KBRA/KHSA fails, this alternative is an important one to consider.

**Comment #2: Regarding the Klamath Riverscape**

← Comment 3 - Cultural Resources

The Karuk Tribe strongly concurs with the identification of the entire length of the Klamath River as a "riverscape" Gates (2003) and King (2004), which is potentially eligible as an ethnographic landscape for inclusion in the National Register of Historic Places. However, we do not concur with the conclusion that *"removal of dams could have an adverse effect on the Klamath River TCP or riverscape as identified by Gates (2003) and King (2004) and other sites associated with traditional cultural practices of the Klamath Tribes, Shasta, Karuk, Hoopa, and Yurok that could be eligible for inclusion on the NRHP."* The removal of the dams is specifically designed to restore health to the riverscape and its contributing elements. Therefore, the cultural resources report should recognize the perspective that the Project could enhance and preserve the TCP eligible for the National Register.

← Comment 4 - Economics

**Comment #3: DEIS fails to consider impact of toxic blue green algae blooms on eco-tourism downstream of dams.**

Although section 3.20 has some discussion on how water quality improvements could increase water based recreation, some discussion on the matter is needed in section 3-15. Table 3.15-16 lists whitewater boating user days on the upper and lower Klamath. However, the DEIS fails to note the significant drop in whitewater boating days since 2005 when the Karuk Tribe first reported results of blue-green algae sampling in the reservoirs and river. Based on the data presented in Tale 3.15-16, it should be noted that the total number of whitewater boater user days on the lower river averaged 15,144 between 1994 and 2005. After toxic blue green algae was detected and publicized, that number dropped to an average of 12,134 between 2006 and 2009. This represents a 20% decline. Note that four of the five lowest total whitewater boater user days occurred in the four years since toxic blue green algae was discovered in the Klamath Reservoirs. It is likely that similar decreases in visitation to the area for camping, hiking, and swimming decreased as well. If these data are available, any similar trends should be described.

← Comment 5 - Real Estate

**Comment #4: DEIS fails to consider impacts to real estate values downstream of the dams**

The DEIS does include some discussion on the potential effects of the various alternatives on real estate values around the reservoirs, however, the document fails to consider impacts to real estate values downstream of the dams.

Currently, in many summers we see the river turn a bright green color each August and September from Iron Gate dam down to the mouth. This discoloration is not only aesthetically unappealing, it is a result of massive blooms of the toxic blue green algae *Microcystis aeruginosa* in the Klamath Reservoirs. Real estate values of water front properties are affected

← Comment 5 cont.

by water quality. Real estate values of any property are affected by the presence of nearby toxic waste that threatens human health. Some discussion on how the project alternatives may affect property values downstream and how these property values in turn affect tax revenues in Siskiyou, Humboldt, and Del Norte Counties should be discussed.

In addition, it should be noted that many of these properties are privately owned by Indians affiliated with area Tribes. The impacts to properties held by Indians should be discussed in the Social Justice section.

← Comment 6 - Real Estate

**Comment # 5: DEIS fails to consider impacts to real estate values in and around the BOR Klamath Irrigation Project**

The DEIS does include some discussion on the potential effects of the various alternatives on real estate values around the reservoirs, however, the document fails to consider impacts to real estate values for properties associated with the BOR Klamath Irrigation Project. The value of properties associated with agricultural activities is influenced in part by reliability of irrigation water. Since the KBRA is an associated action and the KBRA indeed increases the reliability of irrigation diversions, project alternatives that include KBRA implementation would affect property values. Clearly the magnitude of these impacts are difficult to evaluate quantitatively, however some discussion on this point is warranted.

Comment 7 - Real Estate

**Comment # 6: DEIS fails to consider how massive blooms of toxic blue-green algae impacts real estate values around reservoirs in non-dam removal alternatives**

Clearly, the annual occurrence of toxic algae blooms affects the value of lakefront/lake view properties. Since the discovery of high levels *Microcystis aeruginosa* in 2005 by the Karuk Tribe, property values around the reservoirs have decreased significantly. Although the Clean Water Act mandated TMDL's theoretically would address this condition even in the absence of dam removal, it is unclear how this could be achieved or how long it would take. Thus, we believe some discussion on how the presence of the dam negatively impacts property values is warranted.

Comment 8 - Water Quality

**Comment # 7: Need to clarify statement on thermal impact of dams (Page 1-7)**

"The four dams create water temperature in the river that are too warm in the fall for fish migration..." It may be more accurate to state that the dams create a thermal lag such that in

## ← Comment 8 cont.

the spring the reservoirs warm slowly making the river unnaturally colder in spring months which affect the growth rates of juveniles whereas in the fall the reservoirs cool down slowly creating unnaturally warmer river temperatures than delays migration of fall run Chinook. This delay in migration in the fall effectively reduces the number of fishing the days in the river affecting both in river sport and tribal fisheries and could factor into a fish kill as fish stack up in the estuary waiting for river temperatures to drop. This could contribute to over-crowding and adult fish kills like that observed in 2002.

## ← Comment 9 - Fish

**Comment #8: Regarding section 3.3-67**

We do not agree with the statement in this section saying that steelhead habitat in the Klamath is generally suitable with the exception being during summer months in the river reaches located above Happy Camp up to Iron Gate Dam. Other than cold water patches and cold water tributaries, during the summer months habitat for steelhead is unsuitable for the entire river below Iron Gate Dam to the Pacific Ocean.

## ← Comment 10 - Fish

**Comment #9: Regarding section 3.3-71**

The section should acknowledge that "Red Band Trout" are simply *O. mykiss* or commonly known as "resident rainbow trout" or "resident steelhead". The section is misleading and suggests that "Red Band Trout" is another species of trout exclusive to the Klamath River. In fact, the species *O. mykiss* are the most common trout species found on the entire planet.

## ← Comment 11 - Other Aquatic Life

**Comment #10: Regarding Freshwater Mussels and section 3.3-74**

It is appropriate that *Westoven 2010* was cited in this section. This section acknowledges that *G. angulata* are widely distributed below Iron Gate Dam, but fails to mention that species *G. angulata* is not widely distributed in other river systems and the Klamath might be one of the only widely distributed populations known that still exists today. Also, DEIS should note that the species *Margaritifera falcate* would likely benefit from increased salmonid population viability with dam removal because of its reliance on salmonids as a host species and a mechanism for further distribution up stream.

## ← Comment 12 - Fish

**Comment #11: DEIS should better describe consequences of "no action" in section 3.3-101 and 3.3-107**

← Comment 12 cont.

In regards to removing the 4 dams the document acknowledges there will be an increased access to cold water tributaries such as Jenny Creek, Fall Creek, Shovel Creek, Spencer Creek and other cold water springs. This is mentioned in all the sections regarding effects on salmonids. We believe the document should go further and also acknowledge under the "no action alternative" cold water sources are severely limited. There are no cold water sources for a long distance below Iron Gate Dam. Beaver Creek is the first significant cold water tributary below the dam and is located approximately 25 miles downstream of Iron Gate dam and represents the first cold water tributary that out-migrating juvenile salmon encounter with dams in place.

Comment 13 - Fish

**Comment #12: DEIS fails to describe the full potential range of reintroduced coho under the dam removal alternatives (3.3-106)**

In regards to historic range of coho salmon, there is no rationale for why the coho salmon range is limited to the river reached below Spencer Creek. There are no physical barriers to prevent coho salmon from ranging above Klamath Lake. We don't agree with the assumption that coho historic range stopped at Spencer Creek.

Comment 14 - Fish

**Comment #13: DEIS overestimates fish mortality resulting from dam removal (3.3-113)**

We do not agree with statements in this section on Suspended Sediment Effects (SSE). Results of the analysis presented in Appendix E (E-6) suggest high mortality on steelhead might result from high levels of SSE. We believe this is an over estimate of fish mortality caused by high levels of SSE. The appendix acknowledges uncertainty in the model and this cannot be overstated. The model is based on laboratory experiments where fish are not mobile and cannot migrate to avoid lethal SSE. We suggest the analysis and results be removed due to overwhelming uncertainty as the current results will likely be misinterpreted by the public.

#### **WATER QUALITY COMMENTS (BY SECTION AND PAGE NUMBER)**

##### **Executive Summary**

##### **Page ES-44:**

The word "in" is missing before 2020 in this sentence Table ES-6 (beneficial effects): *"Largely eliminates 2020 dissolved oxygen and pH problems produced in reservoirs in the Hydroelectric Reach and transported downstream."*

**Page ES-45:**

The following footnote at the end Table ES-6 should probably be deleted, because increased periphyton is not mentioned in the table: *"Increased periphyton biomass would not affect levels of algal toxins in the Klamath River. The noxious blooms of phytoplankton (suspended algae) occurring in the calm, lake-like waters of Copco 1 and Iron Gate Reservoirs are responsible for the production of algal toxins, such as microcystin, in the Klamath River downstream of Iron Gate Dam (see Section 3.4). Noxious phytoplankton would not thrive in the free-flowing river following dam removal."*

However, this is a very important point, so if it is deleted here, it should be included prominently somewhere else.

**Chapter 1, Introduction****Page 1-6:**

"Upper Klamath Lake has become more enriched with nutrients, leading to nuisance blooms of blue-green algae that produce toxins (primarily microcystin) and creating pH and dissolved oxygen problems that are stressful to aquatic biota." Major issues are pH/DO not toxins. Revise sentence to reverse order.

**Page 1-6:**

The DEIS/DEIR appears to use the term "Keno Reach" to describe Keno Reservoir, which is different than is typical in most other Klamath Basin literature (for example, see PacifiCorp's [2004] Final License Application and FERC's [2007] EIS). For example: "The 20-mile Keno Reach of the Klamath River receives large loads of decaying organic matter (blue-green algae) from Upper Klamath Lake, producing extremely low dissolved-oxygen levels that persist in the summer and fall." In most other Klamath River documents, "Keno Reach" typically refers to un-impounded reach of the Klamath River between Keno Dam and J.C. Boyle Reservoir, while "Keno Reservoir" is typically used to refer to the impoundment that spans from Link River to Keno Dam. For example, see pages 3-9 and 3-11 in FERC (2007):

- "Keno Reservoir (RMs 253.1-233.0)"
- "Keno Reach (RMs 233-228.3)"

If possible, this should be corrected throughout the document, though it is not essential because "Keno Reach" is used by some people/documents to describe Keno Reservoir (as is done in the DEIS/DEIR). Note: we did not look through the entire DEIS to see if "Keno Reach" is also sometimes used to refer to the un-impounded reach of the Klamath River between Keno Dam and J.C. Boyle Reservoir.

**3.2 Water Quality**

**Page 3.2-17:**

*"Annual TP and TN loading reduction (TP=22,367 lbs and TN=120,577 lbs) to offset the reduced nutrient assimilative capacity in the reservoirs (as compared to a free-flowing river condition)"*

It is important to define what is meant here by assimilative capacity, because people use the word assimilative capacity in different ways and you need to be clear which one you are using here. The reservoirs absorb more nutrients (per mile) than the free-flowing river does; therefore if someone is thinking of the other definition of "assimilative capacity" they will very confused when the document says that the reservoirs have LESS assimilative capacity. The suggested revision is to add a footnote about the definition of assimilative capacity:

"The phrase 'assimilative capacity' here refers to the maximum amount of nutrients that can enter the reservoirs and still allow for water quality conditions in the reservoirs to meet water quality standards (i.e. for dissolved oxygen and algae). Because of their warm quiescent waters, the reservoirs are inherently more prone to nuisance blue-green algal blooms than free flowing reaches are. In other contexts (not in this document), 'assimilative capacity' is used to refer to the amount of nutrients that are removed (through physical, biological, and chemical processes) as water flows downstream."

[note actually the other meaning of assimilation is used later in the document on page 3.3-87  
"In the absence of the reservoirs, hydraulic residence time in this reach would decrease from several weeks to less than a day, and water quality would also be improved by nutrient assimilation in this reach (Hamilton et al. 2011).]

**Page 3.2-21:**

This sentence *"Water temperatures in the bypass reach can decrease by 5–15°C (9–27°F) when peaking operations are underway (Kirk et al. 2010)."* Should be revised to *"...when bypass operations are underway..."* because the peaking operations do not affect water temperatures in the bypass reach. The bypass operates almost constantly (except during the highest flows when both turbines at the Boyle Powerhouse are at capacity and water is allowed to spill of Boyle Dam into the bypass reach), whereas the peaking typically occurs for some hours each day. Water temperatures in the bypass reach are not affected by peaking operations, because during non-peaking hours water is stored in Boyle Dam, it is not released in the bypass reach.

**Page 3.2-23:**

Grammatical correction: the sentence *"Under low-flow summertime conditions, when the mouth can closed..."* should be revised to *"...mouth can close..."*

**Page 3.2-29:**

The wording of this sentence suggests that *M. aeruginosa* can produce anatoxin and saxitoxin, which is incorrect: *"Some cyanobacteria species, such as M. aeruginosa, produce cyanotoxins (e.g., cyclic peptide toxins that act on the liver such as microcystin, alkaloid toxins such as anatoxin-a and saxitoxin that act on the nervous system) that can cause irritation, sickness, or in extreme cases, death to exposed organisms, including humans (World Health Organization [WHO] 1999)."*

We suggest that this sentence be revised as follows: *"Some cyanobacteria species produce cyanotoxins (e.g., cyclic peptide toxins that act on the liver such as microcystin, alkaloid toxins such as anatoxin-a and saxitoxin that act on the nervous system) that can cause irritation, sickness, or in extreme cases, death to exposed organisms, including humans (World Health Organization [WHO] 1999). Species capable of producing microcystin include *Microcystis aeruginosa*, while species in the genus *Anabaena* can produce anatoxin-a and saxitoxin."*

**Page 3.2-29:**

*"Additional microcystin data collection in Upper Klamath Lake is ongoing, including measurement of toxin levels in native suckers (Vanderkooi et al. 2010, see Section 3.3, Aquatic Resources for more detail)."* It is our understanding that while Vanderkooi et al. 2010 found histological evidence (i.e. physical changes observed in dissections) consistent with damage from microcystin toxin, there have not yet been any studies to actually measure toxin levels in suckers.

**Page 3.2-26:**

*"These scenarios also represent Keno Dam as the historical natural Keno Reef, such that the Keno Reach is not a free-flowing reach (Tetra Tech 2009)."* This sentence is unclear and thus potentially misleading and should be revised. The height of the rock reef in T1BSR is lower than Keno Dam. Excerpt from Kirk et al. 2010: *"The natural conditions baseline scenario simulated the Klamath River from Upper Klamath Lake to the Pacific Ocean in the absence of all dams, except for Link Dam, but represented the presence of the historic Keno Reef (a natural basalt outcrop that was removed prior to construction of the Keno dam). Keno Reef was represented using data provided by the Bureau of Reclamation with an elevation of 1244.5 meters (4083 feet), whereas normal full pool elevation is 1245 meters (4085 feet) (PacifiCorp 2004a)."* Therefore, the suggested revision for the sentence is *"In the T1BSR, TOD2RN, and TCD2RN scenarios (but not T4BSRN), Keno Dam is replaced by the historical natural Keno Reef, such that the Keno Reach is still partially impounded even though the reef's elevation is two feet lower than the current full pool elevation of Keno Reservoir (Tetra Tech 2009, Kirk et al. 2010)."*

**Page 3.2-59:**

This sentence over-states the degree to which the reservoirs release TN:

*"Continued impoundment of water at the Four Facilities could result in long-term interception and retention of TP and TN in the KHP reservoirs on an annual basis and release (export) of TP and TN to the Klamath River downstream of Iron Gate Dam on a seasonal basis."*

The suggested revision is revise the sentence to end with "...release (export) of TP to the Klamath River downstream of Iron Gate Dam on a seasonal basis."  
For justification, see comments regarding Page 3.2-60 below.

**Page 3.2-60:**

These sentences over-state the degree to which the reservoirs release TN:

*"Further, in late-summer and fall (i.e., August-November), TP and TN concentrations can increase downstream of the KHP reservoirs due to release of TP (as ortho-phosphorus) and, to a lesser degree, TN (as ammonium), which are formed during periods of seasonal hypolimnetic anoxia in Copco 1 and Iron Gate reservoirs. This seasonal release occurs during periods that may stimulate periphyton growth in the Klamath River downstream of Iron Gate Dam (see Appendix C, Sections C.3.1.4.C.3.2.1)."*

While some ammonia is released into the Klamath River from Iron Gate Dam (i.e. ammonia concentrations are higher immediately below Iron Gate than immediately above Copco Reservoir) the reservoirs remove many times that amount of nitrate and therefore the reservoirs have an overall reducing effect on the amount of bioavailable inorganic (nitrate plus ammonia) nitrogen in the Klamath River below Iron Gate Dam. Therefore, the suggested replacement language for the two sentences quoted above is:

*"On a seasonal basis, reservoir sediments can release phosphorus to the water column during periods of seasonal hypolimnetic anoxia (see Appendix C, Sections C.3.1.4.C.3.2.1); however, most of the phosphorus released from the reservoir sediments during the anoxic period appears to remain within the hypolimnion until the reservoirs begin to turn over in the fall, and therefore is primarily not released into the river during the summer period of peak primary productivity downstream. An exception to this is that in many years TP concentrations are higher below Iron Gate Dam than above Copco Reservoir at times during the months of August through October during peak in-reservoir algal blooms, indicating that some release of TP does occur at times when it could stimulate periphyton growth downstream."*

**Page 3.2-61:**

*"In the Hydroelectric Reach, the seasonal variability in dissolved oxygen concentrations in J.C. Boyle Reservoir is highly influenced by the adverse dissolved oxygen conditions in the upstream Keno Impoundment." We are not aware (though have not fully investigated) of any evidence that dissolved oxygen levels in Keno Reservoir directly affect dissolved oxygen levels in J.C. Boyle Reservoir. Due to the steep and turbulent nature of the un-impounded river reach between Keno Dam and J.C. Boyle Reservoir, even if water leaves Keno with zero dissolved oxygen, it should be quickly brought back to near-saturation due to riffles and cascades in the*

turbulent river. It is true that the *factors that cause low D.O.* in Keno Reservoir (decomposition of algae and organic matter) also strongly affect D.O. in J.C. Boyle Reservoir; however, the *actual D.O. concentration* in water discharged from Keno Reservoir should not directly affect D.O. in J.C. Boyle Reservoir. Therefore, this sentence should be revised accordingly.

**Page 3.2-63:**

*"Continued impoundment of water at the Four Facilities could result in long-term seasonal and daily variability in dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam, such that levels do not meet California North Coast Basin Plan and Hoopa Valley Tribe water quality objectives and adversely affect beneficial uses."*

The impoundment of water in the reservoirs does not contribute to *daily variability* in D.O. below Iron Gate Dam, but it does contribute to decreased overall (i.e. daily mean) D.O. (for example, see Figure 3.2-19 and 3.2-20 in the DEIS/DEIR). In addition, we are not aware of any evidence that the reservoir impoundments have a negative effect on dissolved oxygen on the Hoopa reservation (the only areas where the Tribe's water quality objectives apply); thus, the reference to "and Hoopa Valley Tribe" should be deleted probably be deleted if the intent is to discuss the effects of the dams (however, if it is just to describe generally the conditions in the river then it is fine to leave it in). Therefore, the suggested revision is to either delete "and daily variability" from the sentence, or replace the sentence with "Current dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam are adverse, such that levels do not meet California North Coast Basin Plan and Hoopa Valley Tribe water quality objectives and adversely affect beneficial uses. Continued impoundment of water at the Four Facilities could result in continued release of water with low dissolved oxygen concentrations from Iron Gate Dam into the Klamath River, contributing to those adverse conditions, particularly in the vicinity of the dam."

**Page 3.2-67:**

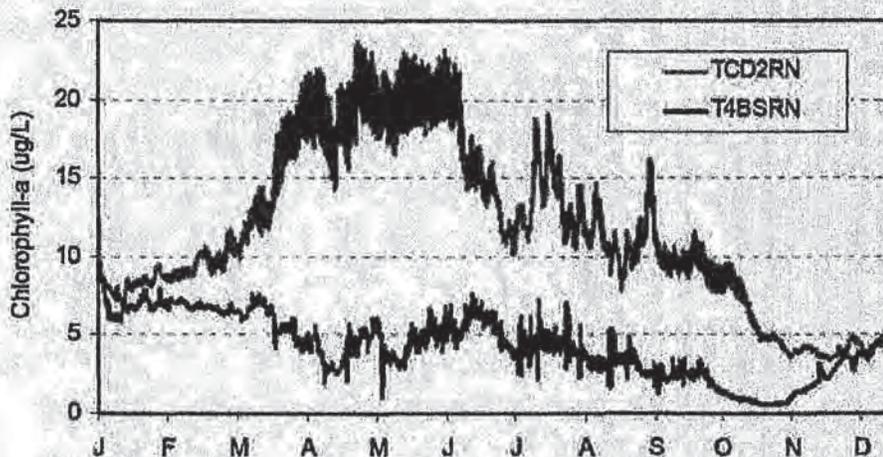
*"Continued impoundment of water at the Four Facilities could result in long-term seasonal and daily variability in pH in the Klamath River downstream of Iron Gate Dam."*

There is inconsistency regarding the pH issue in the DEIS/DEIR. In some sections, it is stated that the Proposed Action will increase pH below Iron Gate Dam, whereas in other places it is stated that it will decrease. We have researched the available information regarding this topic, and the evidence is confusing and unclear. On one hand, existing monitoring data from continuously recording pH probes indicate that pH during the summer is often higher, but not always, at Iron Gate than at sites downstream such as Seiad Valley (for example, see the 2000-2004, 2005, and 2007 data presented on pages C-47 to C-50 of the DEIS/DEIR appendix C). Additional pH data are available in the Karuk Tribe's 2008 water quality report (Karuk Tribe 2009) and the upcoming Klamath Hydroelectric Settlement Monitoring 2010 report (currently in draft). Additionally, as noted in comments regarding page 3.2-113 below, pH values in the surface of the reservoirs are extremely high (though they are less high at the ~5 m depth from

which most water is withdrawn). These existing-conditions data would suggest that algal blooms within the reservoirs are contributing to high pH in the Klamath River below Iron Gate Dam under current conditions.

However, the TMDL model predicts that for the dams-in TMDL-compliance scenarios (T4BSRN)(used in the DEIS/DEIR to approximate the No Action/No Project Alternative), mid-summer pH would be extremely low (i.e. near 8.0 with almost no daily fluctuation), whereas mid-summer pH under the dams-out scenario (TCD2RN)(used in the DEIS/DEIR to approximate the Proposed Action), would range from 8.5-9.0(see Figure 3.2-24).

We are skeptical of these extremely low pH values for the dams-in scenario. Examination of the model results presented in Appendix 7 of NCRWQCB (2010a), indicate the low pH values appears to be caused by a combination of two factors: 1) lower periphyton biomass at Iron Gate Dam, and 2) extremely low water column chlorophyll levels in Iron Gate Reservoir. With the large decreases (relative to current conditions) assumed for TMDL implementation, it definitely seems possible that periphyton biomass would be lower with a dams-in scenario (due to nutrient-trapping in the reservoirs). However, the very low chlorophyll levels in Iron Gate Reservoir seem unlikely. The following figure (from page C-56 of NCRWQCB 2010a Appendix 7) shows that the model predicts that there would be mid-summer chlorophyll levels at Iron Gate Dam would be 3-7 ug/L for the dams-in scenario but 8-19 ug/L for the dams-out scenarios:



*It seems extremely unlikely that impoundment of water would decrease water-column chlorophyll levels at Iron Gate Dam (which, in a dams-in scenario, reflect the output of Iron Gate Reservoir).*

Due to the contradictory evidence described above, it is difficult to recommend how the DEIS/DEIR should approach this issue. In summary, the field data suggests that the reservoirs

are increasing pH downstream of Iron Gate Dam; however, the TMDL model results suggest *with very aggressive upstream nutrient reductions*, it is potentially possible (though as we note above, it seems unlikely) that the reservoir's effect on pH could be eliminated or even reversed.

**Page 3.2-69:**

Regarding meeting TMDL targets for algal toxins and chlorophyll-a, the DEIS states: *"This would require decades to achieve and it is highly dependent on improvements in nutrients in the upstream reach from Link River Dam to J.C. Boyle Dam (particularly Keno Impoundment including Lake Ewauna)."*

This should also mention Upper Klamath Lake, the source of the water in Link River, thus the suggested revision is: *"This would require decades to achieve and it is highly dependent on decreasing nutrients upstream in Upper Klamath Lake, Link River, and the Keno Impoundment including Lake Ewauna."*

**Page 3.2-70:**

*"Under existing conditions, chlorophyll-a concentrations during summer through fall in the Klamath River downstream of Iron Gate Dam are lower than those in Upper Klamath Lake and the KHP reservoirs due to interception of algae by the KHP dams. However, concentrations are variable by location and increase as a result of periodic seasonal (i.e., summer, fall) in-reservoir algal blooms that are transported into the lower river (see Section 3.2.3.7)."*

This first sentence is incorrect and confusing because it combines issues/processes that should be kept separate: 1) reasons for the decrease from UKL to above Copco Reservoir, 2) reasons for the increase from above Copco Reservoir to within the reservoirs, and 3) reasons for the decrease from within the reservoirs to below Iron Gate Dam). Also, since this section is about the Lower Klamath basin, it seems irrelevant to mention UKL (it would make more sense to discuss UKL in the preceding section: Upper Klamath Basin).

Therefore, the suggested revision is: *"Under existing conditions, chlorophyll-a concentrations during summer through fall in the Klamath River downstream of Iron Gate Dam are higher than those in the river directly above Copco Reservoir, due to in-reservoir algal blooms that are transported into the lower river (see Section 3.2.3.7)."*

**Page 3.2-70:**

*"The California Klamath River TMDLs include specific load allocations for TN and TP upstream of the Four Facilities to offset the reduced nutrient assimilative capacity in the reservoirs (see Section 3.2.2.4, Klamath River TMDLs); the decreased nutrient loads would limit algal growth and decrease chlorophyll-a and algal toxin levels in the KHP reservoirs toward the TMDL targets of 10 µg/L chlorophyll-a (growing season average), M. aeruginosa cell density 20,000 cells/L, and microcystin toxin <4 µg/L (NCRWQCB 2010a)."*

This should be revised to acknowledge the uncertainty of achieving the nutrient reductions and the effects of those reductions once met. The wording in the Upper Klamath Basin section on the previous page is better and therefore it is the suggested revision: "Additionally, the Oregon and California TMDLs include specific load allocations for TN and TP upstream of the Klamath Hydropower Facilities (see Section 3.2.2.4), which are intended to eventually limit the extensive algal blooms in Copco 1 and Iron Gate Reservoirs and thus decrease chlorophyll-a and algal toxin levels toward the TMDL targets of 10 µg/L chlorophyll-a (growing season average), *M. aeruginosa* cell density 20,000 cells/L, and microcystin toxin <4 µg/L (see Table 3.2-10)"

**Page 3.2-77:**

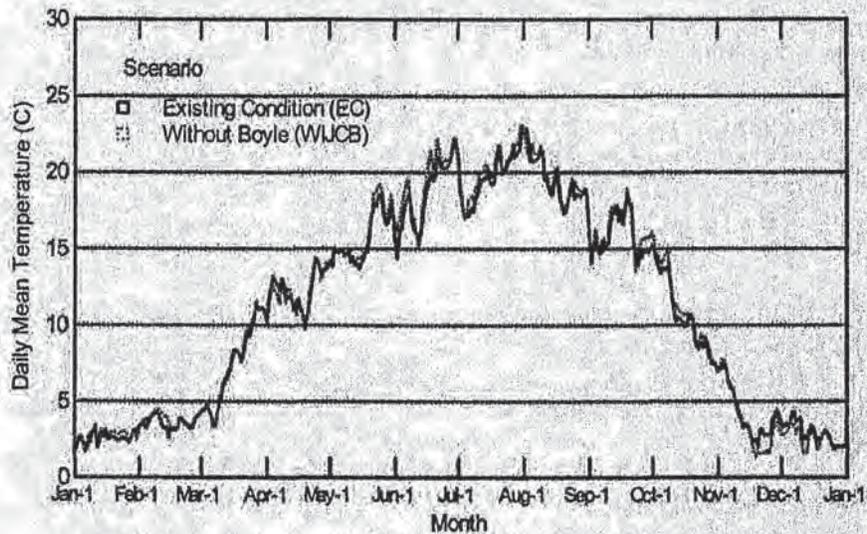
This page contains several sentences referenced to Asarian and Kann (2006a), however the information is not actually stated in the text of the cited report (which focused on nutrients, not temperature), but rather is derived from graphs created from PacifiCorp's water quality model outputs that are included as an electronic appendix to that report. The references should be clarified stating, instead, "data from electronic appendices of Asarian and Kann 2006a".

Here are the three sentences referenced to Asarian and Kann (2006a), with some suggested revisions:

1) "Higher daily fluctuations would also occur in the J.C. Boyle bypass reach because it would no longer be dominated by cold groundwater inputs at a relatively constant temperature of 11-12 C (Kirk et al. 2010, Asarian and Kann 2006a)" suggested revision: change citation to just "(Kirk et al. 2010)" (not necessary to cite Asarian and Kann 2006a).

2) "In the J.C. Boyle peaking reach model results indicate that water temperatures under the Proposed Action would be slightly lower (0.5-1 C [0.9-1.8 F]) than those predicted under the No Action/No Project and would exhibit lower daily fluctuation during June through September (NCRWQCB 2010a, Asarian and Kann 2006a)." The DEIS/DEIR Figure 3.2-3 shows water temperatures at Stateline in the peaking reach and does not indicate a consistent slightly lower overall (i.e. mean) temperature except in October and November, though it does indicate reduced daily fluctuations, i.e. lower maximum and higher minimum temperatures. Modeled mean temperatures are actually very similar between the two scenarios, with the No Action/No Project being generally very slightly lower (<0.5 C) in June - September, as illustrated in the following figure (generated from the data in the Asarian and Kann 2006a electronic appendix):

Stateline, KRWQM Outputs, Year 2000



The suggested revision is: "In the J.C. Boyle peaking reach model results indicate that water temperatures under the Proposed Action have lower daily maximums (0.0-2 C [0.0-3.6 F]) than those predicted under the No Action/No Project and would exhibit lower daily fluctuation during June through September (NCRWQCB 2010a) (Figure 3.2-3)."

3) "In the Klamath River downstream of the J.C. Boyle bypass and peaking reaches, TMDL model results indicate that water temperatures under the Proposed Action would be slightly lower (0.5-1C [0.9-1.8F]) than those predicted under the No Action/No Project and would exhibit lower daily fluctuation during June through September (NCRWQCB 2010a, Asarian and Kann 2006a; Figure 3.2-3)."

This is confusing. What is meant by "In the Klamath River downstream of the J.C. Boyle bypass and peaking reaches..."? Stateline (the location shown in cited Figure 3.2-3) is in the Peaking Reach. This should be clarified. Model results from Stateline would be a good approximation for the whole peaking reach (from the Boyle Powerhouse down to the upper end of Copco Reservoir) but the difference in temperature between the scenarios will be quite different between Stateline and downstream at Copco Dam and Iron Gate Dam due to the thermal mass of the reservoirs. For Copco Dam and Iron Gate Dam, it would be much better to use Figure 3.2-4 or Figure 3.2-5. Again, the citation of Asarian and Kann (2006a) is not necessary here.

Page 3.2-100:

The discussions how TN and TP would change with the removal of Boyle Reservoir should also reference some field data in addition to the TMDL modeling results. While there have been no in-depth empirical analyses of the effect of Boyle Reservoir, the effect can be inferred from comparing concentrations above/below the reservoir. For example, see Figure 4-4 PacifiCorp (2006a) showing TN and TP above/below Boyle Reservoir; and the PacifiCorp (2006a) statement that "Because of the short residence time, lack of stratification, and limited photic zone, the observed concentrations of total inorganic nitrogen (TIN), total nitrogen (TN), orthophosphate (PO<sub>4</sub>), and total phosphorus (TP) in outflowing waters from the reservoir are similar to those in inflowing waters (Figure 4-4), indicating the J.C. Boyle reservoir has no substantial effect on nutrients". Or just refer to Appendix C, which includes this statement: "In J.C. Boyle Reservoir (RM 224.7), the furthest upstream reservoir in this reach, concentrations of TN and TP measured between the inflow and outflow are typically similar, likely due to the shallow depth and short residence time characteristic of this impoundment (PacifiCorp 2006), indicating that relatively little nutrient retention occurs in this reservoir."

**Page 3.2-103:**

*"The TMDL model does not include denitrification as a possible nitrogen removal term in riverine segments (Tetra Tech 2009), meaning that TN concentrations under the Proposed Action (but also the No Action/No Project Alternative) may be slightly overpredicted."*

This is understating the issue. For example, using data from 2005-2008 Asarian et al. (2009) calculated that the TN retention in the Iron Gate to Seiad reach was ~15% (of inflow load) for the June-October period, whereas the TN retention predicted by the TMDL model for that same reach was 0% in June-October of 2000 (see table 3 in Tetra Tech 2009). Additionally, here is an excerpt from Asarian et al. (2009): "For example, in the July-September periods of 2007-2008, flow-weighted average TN concentrations decreased from 1.055 mg/L at Iron Gate to 0.388 mg/L at Orleans, a decline of 63%. Of that 63% decline, 65% was due to dilution and 35% due to retention. The percent reductions in concentration due to retention were lower for phosphorus parameters and ON than for TN, but higher for TIN. These results have important implications for Klamath River water quality computer models, because under-representation of natural retention processes in a model could substantially over-estimate nutrient concentrations in the lower Klamath River. For example, in the Iron Gate to Seiad TN example cited above, a dilution-only (no retention) model would predict an Orleans concentration of 0.620 mg/L, 60% higher than the measured value of 0.388 mg/L."

Therefore, the suggested revision is to remove the word "slightly" from the DEIS' sentence.

**Page 3.2-103:**

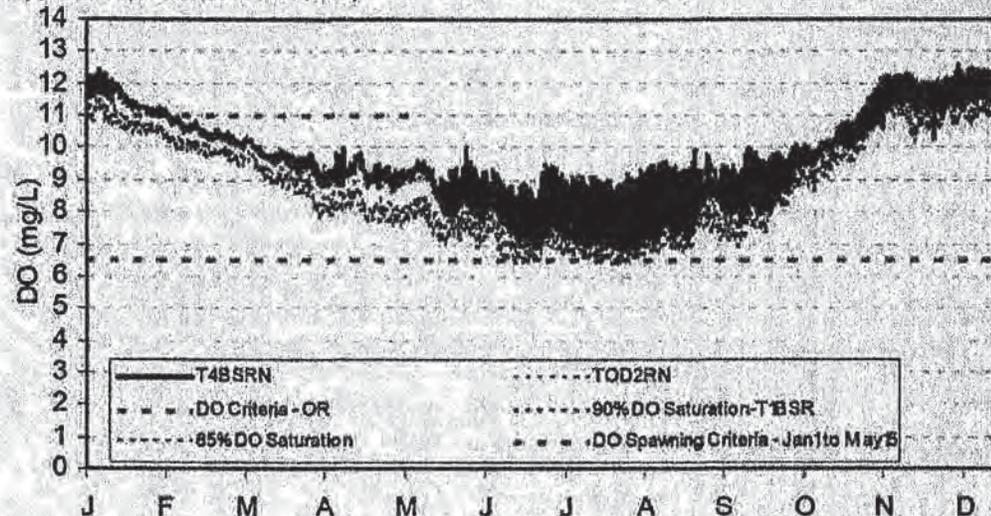
*"TMDL model results indicate that while resulting TP levels would meet the existing Hoopa Valley Tribe numeric water quality objective (0.035 mg/L TP) at the Hoopa reach (RM 45-46) of the Klamath River, TN levels would continue to be in excess of the existing objective (0.2 mg/L TN) (NCRWQCB 2010a)."*

It is important to interpret these model results in the context of the model's underestimation of nitrogen retention. Therefore, the suggested revision is: "TMDL model results indicate that while resulting TP levels would meet the existing Hoopa Valley Tribe numeric water quality objective (0.035 mg/L TP) at the Hoopa reach (≈RM 45–46) of the Klamath River, TN levels would exceed the existing objective (0.2 mg/L TN) in some months (NCRWQCB 2010a). However, as noted previously, TN concentrations in the model may be over-predicted and therefore the Hoopa Valley Tribe objective may in fact be met."

**Page 3.2-104:**

*"The Klamath TMDL model (see Appendix D) also predicts that daily fluctuations in dissolved oxygen at these locations during this same period may be greater under the Proposed Action (TCD2RN) than the No Action/No Project Alternative (T4BSRN), a condition potentially linked to greater periphyton biomass and associated daily photosynthetic swings in oxygen production in the free flowing river."*

That sentence is an incorrect summarization of the model results, because while the statement is correct for the below J.C. Boyle Dam site, it is incorrect for Stateline. The model predicts the opposite for Stateline: daily fluctuations are less under the Proposed Action (TCD2RN) than the No Action/No Project Alternative (T4BSRN). The figure presented in the DEIS/DEIR for Stateline D.O. is somewhat blurry. The following extraction of the TMDL figure (from NCRWQCB 2010a Appendix 7) shows it more clearly:



Interestingly, the TMDL model does predict increased periphyton biomass for the Proposed Action (TCD2RN), presumably due to slightly less trapping of nutrients and organic matter in J.C. Boyle Reservoir under a free-flowing condition. Thus, the prediction of decreased D.O. fluctuations under the Proposed Action (TCD2RN) is likely due to the lack of hydropower

peaking, not increased periphyton biomass. Note: the TMDL model does not incorporate scour into the mechanisms governing periphyton growth, so it likely over-estimates periphyton growth with peaking.

In summary, the suggested revision for the sentence quote above is: "The Klamath TMDL model (see Appendix D) predicts that daily fluctuations in dissolved oxygen directly downstream of J.C. Boyle Dam would be larger during this same period under the Proposed Action (TCD2RN) than the No Action/No Project Alternative (T4BSRN) (Figure 3.2-16), presumably due to the removal of the reservoir. In contrast, the TMDL model predicts reduced daily fluctuations in dissolved oxygen at Stateline in the peaking reach under the Proposed Action (TCD2RN) than the No Action/No Project Alternative (T4BSRN) (Figure 3.2-16), likely due to the lack of hydropower peaking."

**Page 3.2-110:**

This paragraph about the Klamath TMDL modeling results is confusing because it is unclear which locations are being referred to. The first sentence states "*immediately downstream of Iron Gate Dam*" but then refers to four figures that span from Iron Gate to about the Trinity River. Also, mention of the Hoopa WQ standards should be limited to the river on the Hoopa Reservation, not to other places on the Klamath (it is currently ambiguous what is being referred to). Also, regarding "Results also indicate that while minimum values may occasionally dip below the current Hoopa Valley Tribe minimum water quality objective (8 mg/L), they would not fall below the 90 percent saturation objective awaiting approval by USEPA (see Table 3.2-6)", please consult with the Hoopa Tribe to determine whether their standard is "awaiting approval by USEPA" (or is this referring to NCRWQCB's standard?).

**Page 3.2-112:**

*"The increased daily fluctuations in dissolved oxygen immediately downstream of Iron Gate Dam predicted by the PacifiCorp and Klamath TMDL modeling efforts are not entirely certain; the role of photosynthesis and community respiration from periphyton growth in the free-flowing reaches of the river replacing the reservoirs at the Four Facilities is unknown because nutrient cycling and resulting rates of primary productivity under the No Action/No Project Alternative are uncertain (see Section 3.4, Algae)."*

This statement is unnecessarily uncertain (the directionality of the effect is near-certain, it is the precise magnitude that is uncertain). Nothing is entirely "certain" but it is highly likely that predictions of increased intra-day and inter-day fluctuations will occur following dam removal are correct. The reasons are logical and well-supported by available data (modeling not required). Currently, water immediately below Iron Gate Dam reflects water discharged from depths of approximately 4.0 to 6.4 m below the water surface (see footnote on page 58 of Kann and Asarian 2007) where intra-day D.O. fluctuations are dampened because most of the

phytoplankton biomass (and hence photosynthesis and respiration), occurs closer to the reservoir surface (see Figure 41 in Kann and Asarian 2007 on page 68).

As the water flows downstream, intra-day D.O. dynamics are then dominated by periphyton and macrophytes, which exhibit a strong intra-day signal. Within some relatively short distance (exact distance unknown due to lack of data between Iron Gate and the Shasta River, but it is no further downstream than above the Shasta River) the reservoir's muting effect on intra-day D.O. is entirely overwhelmed by the river dynamics.

Under a dam removal scenario, there are no reservoirs, so the river at Iron Gate would have tens of miles of river upstream with strong intra-day influences on D.O. Therefore, regardless of changes in nutrient cycling, the river at Iron Gate Dam would exhibit a river D.O. signal with higher intra-day fluctuations, rather than the current reservoir-dampened signal. Note: increased *inter-day* D.O. fluctuations at Iron Gate with dam removal are due to the lack of the reservoir's thermal buffering effect (D.O. saturation is strongly affected by water temperature).

We suggest revising the first half of the sentence to read: "The magnitude of the increased daily fluctuations in dissolved oxygen immediately downstream of Iron Gate Dam predicted by the PacifiCorp and Klamath TMDL modeling efforts are somewhat uncertain..." and deleting also "potentially" from "...the Proposed Action would cause long-term increases in summer and fall dissolved oxygen in the lower Klamath River immediately downstream of Iron Gate Dam, along with potentially increasing daily variability."

**Page 3.2-113:**

The discussion of how the Proposed Action would affect pH in the Upper Klamath Basin and the Hydroelectric Reach is incomplete and misses the "big picture" because it is all about how pH will change in the reaches that are *current free-flowing river reaches*. There is no explicit discussion of how pH will change in the reaches *that are currently reservoirs*. In our opinion, this is just as important and worthy of mention. Dam removal would eliminate the extremely high pH that occurs in the surface waters of the Iron Gate and Copco Reservoirs during peak summer blooms. We recommend that a discussion of this topic be added. Information about high pH in the reservoirs can be found in Asarian et al. (2009) and in PacifiCorp's annual water quality monitoring reports by Raymond (various years). For example, Figure 7 in Asarian et al. (2009) shows pH >9 at the surface of Iron Gate Reservoir (note: variation in the time of day that measurements were taken confounds detailed interpretation; however, the data do document the presence of very high pH):

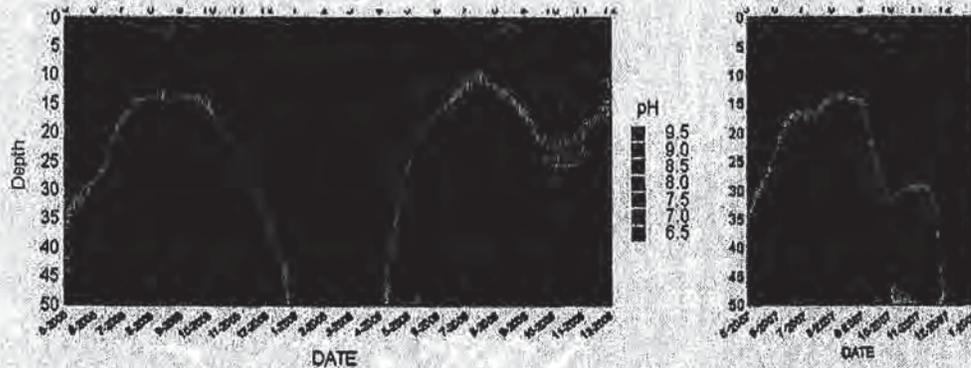
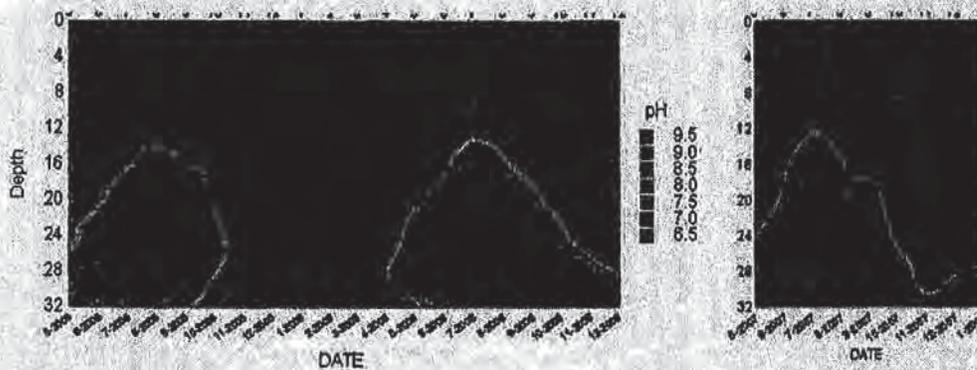


Figure 6 in Asarian et al. (2009) shows pH >9 at the surface of Copco Reservoir:



**Page 3.2-113:**

The conclusion that *“Under the Proposed Action, the short-term (<2 years following dam removal) and long-term (2–50 years following dam removal) decrease in high summertime daily pH fluctuations in the Hydroelectric Reach would be beneficial”* is not supported by Figure 3.2-23, which shows increased (not decreased) intra-day variability under the Proposed Action in the summer at Stateline (and nearly no change directly below J.C. Boyle Dam). Also, as noted in the previous comment, there is no mention of how pH will change in the reaches that are currently reservoirs. Therefore, we recommend that the sentence be changed to *“Under the Proposed Action, the short-term (<2 years following dam removal) and long-term (2–50 years following dam removal) decrease in high summertime daily pH fluctuations in portions of the Hydroelectric Reach, such as the J.C. Boyle Peaking Reach and the surface waters of Copco and Iron Gate Reservoirs, would be beneficial.”*

**Page 3.2-117:**

While mostly correct, the following statement is misleading because it overstates the risk of toxin export from UKL: *“While algal toxins and chlorophyll-a produced in Upper Klamath Lake may still be transported into the Hydroelectric Reach at levels exceeding water quality objectives*

*for Oregon and California, additional in situ production of the toxins and chlorophyll-a associated with suspended algae would be significantly less likely to occur in the freeflowing river under the Proposed Action."*

We are not aware of any evidence that algal toxins are being exported from UKL at levels that exceed WQ objectives for California or Oregon (high chlorophyll from UKL is mostly from *Aphanizomenon*). The highest levels of toxins in UKL are in the northern part of the lake, or in Agency Lake. Therefore, this sentence should be expanded and revised: "While algal toxins and chlorophyll-a produced in Upper Klamath Lake may still be transported into the Hydroelectric Reach, currently available data indicates that the concentration of microcystin toxin leaving Upper Klamath Lake has rarely, if at all, exceeded levels that would exceed water quality objectives for California and Oregon. Under the proposed action, additional in situ production of the toxins and chlorophyll-a associated with suspended algae would be significantly less likely to occur in the freeflowing river under the Proposed Action."

**Page 3.2-125:**

*"3.2.4.3.2.9 East and West Side Facilities Decommissioning the East and West Side Facilities could cause adverse water quality effects. Decommissioning of the East and West Side canals and hydropower facilities of the Link River Dam by PacifiCorp as a part of the KHSa will redirect water flows currently diverted at Link River Dam into the two canals, back in to Link River. Following decommissioning of the facilities there will be no change in outflow from Upper Klamath Lake or inflow into Lake Ewauna. Therefore, implementation of the East and West Side Facility Decommissioning action would result in no change from existing conditions."*

Actually, there could be some subtle slightly beneficial effects on water quality at the mouth of Link River. Although short, Link River is turbulent and well oxygenated. More water flowing through the entire length of the Link River, rather than the canals, could decrease oxygen demand slightly through turbulent breakup/decomposition of algal cells, which could slightly improve dissolved oxygen conditions in Keno Reservoir.

In addition, during times when there are high ammonia levels in UKL (following algal bloom crashes), more water flowing through Link River would allow for more nitrification (conversion of ammonia to nitrate), resulting in slightly reduced concentrations of ammonia entering Keno Reservoir, which could slightly reduce ammonia toxicity in Keno Reservoir. Although water quality dynamics in Link River have not been studied intensively, supporting evidence for this phenomenon can be inferred from the Deas (2008) study which found substantial nitrification in the short turbulent river reach between Keno Dam and J.C. Boyle Reservoir.

**Page 3.2-134:**

Regarding the "Partial Facilities Removal Alternative", the DEIS states that "Long-term summertime increases in pH would be beneficial for the Hydroelectric Reach and the lower Klamath River from Iron Gate Dam to the confluence with the Scott River."

This is inconsistent with what is stated for the Proposed Action and needs to be corrected. Increased summer pH is generally not beneficial in the Klamath River.

**Page 3.2-134**

This page contains a discussion of the water quality effects of decommissioning the East and West Side Facilities that fails to mention that decommissioning will slightly improve water quality conditions through more rapid decomposition of algal cells and increased nitrification. Details are provided above in the comments regarding a similar section on page 3.2-125.

**Page 3.2-135:**

The sentence contains some erroneous information and requires revision: *"Under the Fish Passage at Four Dams Alternative, the reduction in frequency of J.C. Boyle peaking operations (from daily to weekly) and overall higher flow releases would result in warmer and more variable water temperatures in the bypass reach during summer and early fall, and cooler temperatures in late fall and winter."*

Temperatures will be warmer during summer and early fall, but will not be more variable. The cause of the increased temperatures would be increased amounts of warm river water in that reach. The cause of increased variability in the Proposed Action is the lack of thermal mass of J.C. Boyle Reservoir. In Alternative 4, however, the reservoir and its thermal mass are still present so there will be no increased variability (because there will be no mechanism causing increased variability). Therefore, the suggested revision is to delete "...and more variable..."

**Page 3.2-135:**

This sentence is erroneous and requires correction: *"Similar to the Proposed Action, water temperatures in the peaking reach would be slightly cooler and less variable, also due to higher overall flows and the lower frequency of peaking operations at the J.C. Boyle Powerhouse."*

It is true under water temperatures in the peaking reach under Alternative 4 will be similar to those under the Proposed Action; however, those effects are mis-characterized here. See comment regarding page 3.2-77, above, for details.

**Page 3.2-135:**

This is erroneous and requires correction: *"Further downstream, at the Oregon-California state line, water temperatures would likely be similar to those under the No Action/No Project"*

*Alternative since large temperature effects of the peaking operations do not extend this far downstream."*

Stateline is in the peaking reach. See comments regarding page 3.2-77 above for details.

**Page 3.2-137:**

*The following passage has three issues that require correction: "Since Alternative 5 would include no peaking power generation or release of flow for recreation at J.C. Boyle, water temperature effects in the J.C. Boyle bypass and peaking reaches would be the same as under the Proposed Action i.e., warmer and more variable water temperatures in the bypass reach during summer and early fall, and cooler temperatures in late fall and winter; and, slightly cooler and less variable water temperatures in the peaking reach during summer and early fall. Further downstream, at the Oregon-California state line, water temperatures would be similar to those under the No Action/No Project Alternative since large temperature effects of the peaking operations do not extend this far downstream. Within the remainder of the Hydroelectric Reach, effects on water temperature under the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative would be the same as effects for the Hydroelectric Reach under the Proposed Action."*

The suggested revision is to replace the above excerpt with: "Since Alternative 5 would include no peaking power generation or release of flow for recreation at J.C. Boyle, water temperature effects in the J.C. Boyle bypass would be the same as Alternative 4, i.e., warmer water temperatures in the bypass reach during summer and early fall, and cooler temperatures in late fall and winter. In the peaking reach, water temperatures would be similar to those under the Proposed Action, i.e. decreased daily fluctuation due to the lack of peaking. In the current beds of Copco and Iron Gate Reservoirs, temperatures would also be similar to those under the Proposed Action."

The three issues are discussed in the following text, providing justification for the proposed changes requested above:

- 1) The effects of Alternative 5 on water temperature in the Peaking Reach will not be the same as the Proposed Action. Temperatures will be warmer during summer and early fall, but will not be more variable. The cause of the increased temperatures is increased amounts of warm river water in that reach (which occurs in both the Proposed Action and Alternative 5). The cause of increased variability in the Proposed Action is the lack of thermal mass of J.C. Boyle Reservoir; however, in Alternative 5 the reservoir and its thermal mass are still present so there will be no increased variability (because there will be no mechanism causing increased variability)
- 2) The DEIS states "Further downstream, at the Oregon-California state line, water temperatures would be similar to those under the No Action/No Project Alternative since large temperature effects of the peaking operations do not extend this far downstream." This sentence is erroneous (Stateline is in the peaking reach, so the lack of peaking in Alternative 5

will result in different water temperatures than the No Action/No Project Alternative) and duplicative (water temperature effects of the peaking reach were already discussed in the preceding sentence) and thus should be deleted.

3) "Within the remainder of the Hydroelectric Reach, effects on water temperature under the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative would be the same as effects for the Hydroelectric Reach under the Proposed Action." It should be clarified what is meant by "the remainder of the Hydroelectric Reach", because the effects between Stateline and above Copco Reservoir are different than those at downstream sites (Copco Dam and Iron Gate Dam). Which one is intended here? (the river reach between Stateline and above Copco Reservoir, or further downstream at Copco Dam/Iron Gate Dam?).

**Page 3.2-137:**

This sentence is partially erroneous: *"Under the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative, long-term (2-50 years following dam removal/construction of fish passage facilities) increases in summer/fall water temperatures and daily fluctuations in the J.C. Boyle bypass reach due to the elimination of hydropower peaking operations would be a significant impact."*

Hydropower peaking does not affect the bypass reach. The suggested revision is to end the sentence with *"...in the J.C. Boyle bypass reach due to the increased dilution of consistently cool springs by additional Klamath River water would be a significant impact."*

**Page 3.2-137:**

This sentence about the effects of Alternative 5 on water temperature requires revision: *"Slight decreases in long-term summer/fall water temperatures and less daily fluctuation in the J.C. Boyle peaking reach would be beneficial."* There will be less daily fluctuation in the peaking reach (due to no peaking) under Alternative 5; but there will not be a slight decrease in summer/fall water temperatures. See comments above on Page 3.2-77 for details.

**Page 3.2-137:**

This sentence about the effects of Alternative 5 on water temperature is erroneous and should be deleted: *"From the J.C. Boyle peaking reach to Copco 1 Reservoir, long-term water temperature effects would be similar to those under the No Action/No Project Alternative (i.e., no change from existing conditions),"* because the peaking reach ends at Copco 1 Reservoir (so there is no "J.C. Boyle peaking reach to Copco 1 Reservoir" separate from the peaking reach). There will be less daily fluctuation in the peaking reach (due to no peaking) under Alternative 5.

**Page 3.2-151 and Page 3.2-152:**

These two statements about the effects of the reservoirs on algal-derived (organic) suspended material in the Hydroelectric Reach are somewhat contradictory: *"Continued impoundment of water in the reservoirs could cause short-term and long-term seasonal (April through October) increases in algal-derived (organic) suspended material in the Hydroelectric Reach due to in-reservoir algal blooms."* (Page 3.2-151) and: *"Dam removal could eliminate the interception and retention of algal-derived (organic) suspended material behind the dams and result in long-term increases in suspended material in the Hydroelectric Reach."* (Page 3.2-152)

These two statements describe the two opposing effects of the reservoirs on algal-derived suspended material: 1) the settling algal-derived material from upstream sources (as well as settling of in-reservoir growth) and 2) internally-generated (i.e. re-growth) of algal material. There may be some CEQA-specific or NEPA-specific reason to address these items as two separate potential impacts; however, from a common-sense perspective it would seem to make more sense to assess the combined effects of these opposing forces and make a judgment about the net effect.

**Page 3.2-153:**

Similar to the comment above regarding the effects of the reservoirs on algal-derived (organic) suspended material in the Hydroelectric Reach, this same issue applies to the Lower Klamath Basin where these two seemingly contradictory statements are made: *"Continued impoundment of water in the reservoirs could result in short-term and long-term seasonal (April through October) increases in algal-derived (organic) suspended material in the KHP reservoirs and subsequent transport into the Klamath River downstream of Iron Gate Dam."* and: *"Dam removal could eliminate the interception and retention of algal-derived (organic) suspended material behind the dams and result in long-term increases in suspended material in the lower Klamath River, the Klamath Estuary, and the marine nearshore environment."*

These two statements describe the two opposing effects of the reservoirs on algal-derived suspended material: 1) the settling algal-derived material from upstream sources (as well as settling of in-reservoir growth) and 2) internally-generated (i.e. re-growth) of algal material. There may be some CEQA-specific or NEPA-specific reason to address these items as two separate potential impacts; however, from a common-sense perspective it would seem to make more sense to assess the combined effects of these opposing forces and make a judgment about the net effect.

**Page 3.2-154**

*"Continued impoundment of water in the reservoirs could cause long-term interception and retention of TP and TN on an annual basis but release (export) of TP and TN on a seasonal basis"*

This statement overstates the degree to which the reservoirs can increase nutrient concentrations downstream of Iron Gate Dam. Because this section is regarding the Klamath River below Iron Gate Dam, the use of the word "export" implies release of nutrients from the

reservoirs into the river downstream (i.e. that nutrient concentrations are higher at some point in time at Iron Gate Dam under current conditions than they would be without the dams/reservoirs). Basically this does not occur for TN (only for TP). So the suggested revision is to change "...release (export) of TP and TN on a seasonal basis" to "...release (export) of TP on a seasonal basis".

Note that earlier on that same page (3.2-154), it is stated that regarding the Upper Klamath Basin (i.e. Hydroelectric Reach) that "Continued impoundment of water in the reservoirs could cause long-term interception and retention of TP and TN on an annual basis but release (export) of TP and TN on a seasonal basis". In that case it is okay to mention "export" of TN because in that context it signifies release from the reservoir sediments to the reservoir water column (not from the reservoirs into the Klamath River), which does occur and could potentially contribute to in-reservoir algal blooms.

**Page 3.2-155:**

*"Dam removal and conversion of reservoir areas to free-flowing river conditions could cause long-term increases in dissolved oxygen, as well as increased daily variability in dissolved oxygen, in the Hydroelectric Reach."*

As is noted above on comments regarding page 3.2-104, this statement is not true for the entire Hydroelectric Reach, just parts of it. In particular, the Proposed Action would cause decreased intra-daily variability in D.O. at Stateline (not increased as stated here). Perhaps this potential effect should be split up into multiple pieces, according to the differing effects by specific location?

**Page 3.2-155:**

*"Continued impoundment of water at the Four Facilities could result in long-term seasonal and daily variability in dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam, such that levels do not meet California North Coast Basin Plan and Hoopa Valley Tribe water quality objectives and adversely affect beneficial uses."*

The impoundment of water in the reservoirs does not contribute to *daily variability* in D.O. below Iron Gate Dam, but it does contribute to decreased overall (i.e. daily mean) D.O. (for example, see Figure 3.2-19 and 3.2-20 in the DEIS/DEIR). In addition, we are not aware of any evidence that the reservoir impoundments have a negative effect on dissolved oxygen on the Hoopa reservation (the only areas where the Tribe's water quality objectives apply); thus, the reference to "and Hoopa Valley Tribe" should be deleted probably be deleted if the intent is to discuss the effects of the dams (however, if it is just to describe generally the conditions in the river then it is fine to leave it in). Therefore, the suggested revision is to either delete "and daily variability" from the sentence, or replace the sentence with "Current dissolved oxygen concentrations in the Klamath River downstream of Iron Gate Dam are adverse, such that levels do not meet California North Coast Basin Plan and Hoopa Valley Tribe water quality objectives

and adversely affect beneficial uses. Continued impoundment of water at the Four Facilities could result in continued release of water with low dissolved oxygen concentrations from Iron Gate Dam into the Klamath River, contributing to those adverse conditions, particularly in the immediate vicinity of the dam."

**Page 3.2-156:**

This sentence appears to be an erroneous near-duplicate (it is very similar to the next row, but reaches some different conclusions) and therefore should be deleted: *"Dam removal and conversion of the reservoir areas to a free-flowing river could cause short-term and long-term decreases in summertime pH in the lower Klamath River, Klamath Estuary, and the marine nearshore environment."* The information presented on pages 3.2-115 to 3.2-117 is more correctly described by the next row in the table, which is the Potential Impact *"Dam removal and conversion of the reservoir areas to a free-flowing river could cause long-term summertime increases in pH in the lower Klamath River downstream of Iron Gate Dam" with Significance Pursuant to CEQA of "LTS (from Iron Gate Dam to confluence with the Scott River) NCFEC (Klamath River just downstream of Seiad Valley, the Klamath Estuary, and the Marine Nearshore Environment)".*

There is inconsistency regarding the pH issue in the DEIS/DEIR. In some sections, it is stated that the Proposed Action will increase pH below Iron Gate Dam, whereas in other places it is stated that it will decrease. See comments above regarding page 3.2-67.

**Page 3.2-157:**

*"Dam removal and conversion of the reservoir areas to a free-flowing river would cause short-term and long-term decreases in levels of chlorophyll-a and algal toxins in the Hydroelectric Reach."*

The changes will be major, particularly for algal toxins (chlorophyll-a will still occasionally be high due to upstream blooms of *Aphanizomenon*). Therefore, the suggested revision is: *"Dam removal and conversion of the reservoir areas to a free-flowing river would cause short-term and long-term decreases in levels of chlorophyll-a and substantially reduce or eliminate algal toxins in the Hydroelectric Reach."*

**Page 3.2-158:**

*"Dam removal and conversion of the reservoir areas to a free-flowing river would cause short-term and long-term decreases in levels of chlorophyll-a and algal toxins in the lower Klamath River and the Klamath Estuary."*

The changes will be *major*, particularly for algal toxins (chlorophyll-a will still occasional be high due to upstream blooms of *Aphanizomenon*). Therefore, the suggested revision is: *"Dam removal and conversion of the reservoir areas to a free-flowing river would cause short-term*

and long-term decreases in levels of chlorophyll-a and substantially reduce or eliminate algal toxins in the lower Klamath River and the Klamath Estuary."

**Page 3.2-160:**

*"Decommissioning the East and West Side Facilities could cause adverse water quality effects."*

Nowhere in the DEIS/DEIR is it described how the decommissioning of the East and West Side Facilities cause adverse water quality effects. In fact, as described above in comments on Page 3.2-125, it is likely that decommissioning these facilities would result in a minor improvement to water quality in Keno Reservoir.

**Page 3.2-169:**

The citation for Perry et al. (2011) is missing the OFR number. It should be "2011-1243"

### **3.3 Aquatic Resources**

**Page 3.3-40**

The study results referencing Vanderkooi 2010 are overstated. The Vanderkooi et al 2010 reference is not a report or a study, it is a 2 page fact sheet that was never published.

There was disagreement as to whether microcystin was actually the cause of the lesions. No one has ever reviewed the data or report. Thus, unlike the Klamath River studies where microcystin was found and confirmed directly in fish tissue, the UKL results are highly speculative and have not been confirmed.

**Page 3.3-40**

The sentence describing the bioaccumulation in salmonids leaves out some of the data. The 3 of 7 Chinook salmon livers that were positive for toxin were for September. Samples collected on the 14th and 15th of October also showed that 1 of 7 Chinook livers had a high level of microcystin-RR (121 ppb), and 1 of 15 steelhead livers had a high level of microcystin-LR (152 ppb), both of which exceeded public health guideline levels.

The October chinook and steelhead need to be included- especially the steelhead because it is confirming of the Fetcho 2006 detection.

### **3.4 Algae**

**Page 3.4-2:**

"quite" should be changed to "quiet" in this sentence: "*Submerged aquatic macrophytes may also be present in quite backwater areas in the Klamath River..*"

**Page 3.4-4:**

Reference for elevated pH in UKL:

Kann, J., and V. H. Smith, 1999. Chlorophyll as a predictor of elevated pH in a hypereutrophic lake: estimating the probability of exceeding critical values for fish success using parametric and nonparametric models. *Can. J. Fish. Aquat. Sci* 56: 2262-2270

**Page 3.4-4:**

VanderKooi et al. 2011 is cited at several places on this page but is not listed in the references section. Should it be added to the references list, or is this an incorrect citation?

**Page 3.4-4:**

"several occasions" should be changed to "many occasions" in the following sentence: "The World Health Organization (WHO) guidelines for exposure to microcystin have been exceeded in Upper Klamath Lake (VanderKooi et al. 2011) and the middle and lower Klamath River on several occasions..."

**Page 3.4-4:**

This sentence overstates the abundance of *Anabaena* in the KHP reservoirs: "*Large Anabaena flos-aquae blooms occur in the Klamath Hydroelectric Project reservoirs, along with M. aeruginosa, and their toxin has been documented in the reservoirs and downstream (Raymond 2009).*"

For example, here are some excerpts from the cited Raymond (2009) document, documenting that *Anabaena* does not have "large blooms" in the reservoirs: "*Anabaena flos-aquae* was present briefly at low abundance." and "*Anabaena flos-aquae* was observed only in Iron Gate reservoir in 2008. It was largely confined to surface samples, appearing only once in the 8 m integrated sample. It did not appear to collect preferentially at the surface; samples taken at 0.5 m depth typically had greater biovolume than samples collected at the surface. *Anabaena planctonica* was observed in one 8 m integrated sample from Iron Gate reservoir." Additional information on *Anabaena* in sampling in Iron Gate and Copco reservoir by the Karuk Tribe and PacifiCorp in 2005-2010 can be found in Asarian and Kann (2011). The sentence should be revised accordingly.

Anatoxin was only detected once in Iron Gate reservoir in September of 2005 at levels ranging from 20-34 ug/L. (Trina Mackie CA DHS 2005).

**Page 3.4-5:**

This sentence is way too simplistic and limited, with no supporting references: *"Periphyton abundance and community composition appears to be controlled in large part by nutrient availability and flow rates, with high flow rates frequently corresponding to low periphyton abundance, and nutrient enrichment corresponding to an increased abundance of Cladophora."*

The recommended revision is to replace that sentence with: "The factors influencing periphyton abundance and community composition are complex and include abiotic factors such as nutrients, substrate, flow velocity, shading, light availability, and water temperature (Biggs 2000), as well as ecological factors such macroinvertebrate grazing that interact with abiotic factors (Powers et al. 2008)."

**Full citations:**

Biggs, B.J.F. 2000. New Zealand Periphyton Guideline: Detection, Monitoring, and Managing Enrichment of Streams. Prepared for Ministry of Environment. NIWA, Christchurch. Accessed online 11/4/2008 at: <http://www.mfe.govt.nz/publications/water/nz-periphyton-guide-jun00.pdf>

Power, M.E., Parker, M.S., Dietrich, W.E., 2008. Seasonal reassembly of a river food web: floods, droughts, and impacts of fish. *Ecological Monographs* 78, 263–282.

**Page 3.4-6:**

*"However, this decreasing trend is interrupted by large blooms of blue-green algae in Copco 1 and Iron Gate Reservoirs (Kann and Asarian 2006, Asarian et al. 2009)."* An additional good reference to add here would be Asarian and Kann (2011):

Asarian, E. and J. Kann. 2011. Phytoplankton and Nutrient Dynamics in Iron Gate and Copco Reservoirs 2005-2010. Prepared by Kier Associates and Aquatic Ecosystem Sciences for the Klamath Basin Tribal Water Quality Work Group.

**Page 3.4-6:**

*"Blue-green algae dominate the algal community during the mid-summer to fall months, with large blooms of Anabaena flos-aquae and M. aeruginosa in the reservoirs (Kann 2006, FERC 2007)."*

Actually, *Aphanizomenon* is much more abundant than *Anabaena* (though *Anabaena* is present). Also, neither of the cited documents mentions *Anabaena*. A newly completed report by Asarian and Kann (2011) analyzes the PacifiCorp and Karuk Tribe's 2005-2010 phytoplankton data collected in the Iron Gate and Copco and would be a good citation for this sentence. Additionally, blue-green algal blooms can be large in July (not late summer).

Therefore, the suggested revision is: "Blue-green algae dominate the algal community during the mid-summer to fall months, with large blooms of *Aphanizomenon flos-aquae* and *M. aeruginosa* in the reservoirs (Asarian and Kann 2011)."

Full citation:

Asarian, E. and J. Kann. 2011. Phytoplankton and Nutrient Dynamics in Iron Gate and Copco Reservoirs 2005-2010. Prepared by Kier Associates and Aquatic Ecosystem Sciences for the Klamath Basin Tribal Water Quality Work Group.

**Page 3.4-12:**

*"As described above for phytoplankton (i.e., blue-green algae), full and successful implementation of Oregon and California TMDLs would decrease nutrients in the Klamath River and would result in decreased spatial extent, temporal duration, and/or biomass of phytoplankton mats."* Since this passage occurs in the section about periphyton, this sentence should end with "...periphyton mats.", not "...phytoplankton mats."

**Page 3.4-12:**

*"Increases in nutrient availability may also cause a shift in periphyton community composition from that dominated by nitrogen-fixing periphyton species to that dominated by non-nitrogen fixers."*

Where is the evidence that would support this conclusion? In order for this to be true (increasing non-nitrogen fixers), climate change would have to increase N more than it increased P (and what are the mechanisms that would cause such a change?). If evidence is not presented, this sentence should be deleted.

**Page 3.4-14:**

*"Moreover, dam removal would allow the substantial groundwater resources within this area of analysis to cool water temperatures during the summer months (Hamilton et al. 2010). This would further reduce the suitability of conditions for blue-green algae growth and mitigate for the effects of climate change."*

Are the "substantial groundwater resource" referred to here the springs below J.C. Boyle Dam? These springs are incorporated into the water quality models developed for the PacifiCorp relicensing and TMDL, and are discussed in Section 3.2 of the EIS. Those modeling results indicate that under the Proposed Action, it is the termination of hydropower peaking (not groundwater inflow) that will reduce daily water temperature fluctuations and maximum daily water temperatures in the J.C. Boyle Peaking reach, but that daily mean temperatures will remain very similar (i.e. see Page 3.2-77).

The models do predict summer cooling under the Proposed Action at Copco Dam and Iron Gate Dam, but these temperature effects are due to elimination of the reservoirs' thermal mass, not groundwater inflow. Certainly the springs below J.C. Boyle Dam are currently (and will continue into the future) have important effects on Klamath River water temperature, but the Proposed Action will not have much, if any, effect on those springs. Thus, it is probably not accurate to say that the "groundwater resource" will result in additional cooling of the river under the Proposed Action. Furthermore, the temperature issue is probably not worth even mentioning here because its effect on phytoplankton is so minor relative to the overwhelming effect of the change from stagnant to free-flowing conditions. Therefore, the suggested revision is to delete the two sentences.

**Page 3.4-17:**

These sentences requires some revision: *"Despite the overall increases in absolute nutrient concentrations anticipated under the Proposed Action (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), the relatively greater increases in Total Nitrogen (TN) may not result in significant biostimulatory effects on periphyton growth. Existing data indicate that the Klamath River is generally N-limited (TN:Total Phosphorus (TP) <10), with some periods of co-limitation by N and P (see also Section 3.2.3.4 and Appendix C, Section C.3.2.1)."*

It is very important here to mention the minor increase in phosphorus because that is the driver of the predicted lack of substantial biostimulatory response. As currently worded, the emphasis is on the fact that TN will increase more than TP, which is actually less important than the fact that TP will only increase a small amount. Also, TN:TP ratios in the Klamath River do not indicate N-limitation, they indicate *the potential* for N limitation. Therefore, the suggested revision is:

*"Despite the overall increases in absolute nutrient concentrations anticipated under the Proposed Action (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), the large increase in Total Nitrogen (TN) may not result in significant biostimulatory effects on periphyton growth because it will be accompanied by only a relatively minor increase in Total Phosphorus (TP). Existing data regarding TN:TP ratios suggest the potential for the Klamath River to be generally N-limited (TN:TP) <10), with some periods of co-limitation by N and P (see also Section 3.2.3.4 and Appendix C, Section C.3.2.1)."*

**Page 3.4-17:**

These sentences require some revision: *"In addition, N-fixing species dominate the periphyton communities in the lower reaches of the Klamath River where inorganic nitrogen concentrations are low (Asarian et al. 2010). Since these species can fix their own nitrogen from the atmosphere, increases in TN due to dam removal may not significantly increase their biomass, particularly if overall TN increases are less than those predicted by existing models due to implementation of TMDLs and general nutrient reductions in the Klamath Basin."*

The first sentence should be revised to clarify that it refers to existing conditions (change "N-fixing species dominate" to "N-fixing species currently dominate"). The second sentence should mention the very small increase in TP, and be rephrased to avoid saying "their biomass" because species composition could shift with increased TN.

Therefore, the suggested revision is to revise the second sentence to read: "Since these species can fix their own nitrogen from the atmosphere, increases in TN due to dam removal may not significantly increase periphyton biomass in these reaches because it will be accompanied by only a relatively minor increase in TP. In addition, overall TN increases could be less than those predicted by existing models due to implementation of TMDLs and general nutrient reductions in the Klamath Basin."

**Page 3.4-18:**

The second sentence here requires some revision: *"As discussed for the lower Klamath River downstream of Iron Gate Dam, periphyton growth under the Proposed Action could be affected by increased nutrient availability following dam removal. However, since the long-term increase in nutrients in the Klamath Estuary would be a less-than-significant impact due to the implementation of TMDLs and KBRA (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), it is likely that increases in periphyton growth would also be less than significant."*

It is important to note here that the Klamath estuary is a long distance downstream of Iron Gate Dam, and that much dilution and nutrient retention occurs between two locations. Therefore, the suggested revision is to replace the second sentence with: "However, since the long-term increase in nutrients in the Klamath Estuary would be relatively small due to the effects of tributary dilution and nutrient retention in the 190 miles between Iron Gate Dam and the Estuary (Asarian et al. 2010), and would be a less-than-significant impact due to the implementation of TMDLs and KBRA (see Section 3.2.4.3.2.3 Nutrients – Lower Klamath Basin), it is likely that increases in periphyton growth would also be less than significant."

**Appendix C Water Quality Supporting Technical Information**

**Page C-29:**

The sentence *"Only minor increases in ammonia (0.05–0.1 mg/L) have been observed to occur in Copco 1 and Iron Gate Reservoirs, most often during October and November (Kann and Asarian 2005, 2007)."* could be misinterpreted to be about ammonia inside the reservoirs, whereas it is actually intended to be about the river stations above and below the reservoirs. Therefore, it should be revised to *"Only minor increases in ammonia (0.05–0.1 mg/L) have been observed to occur between above Copco 1 and below Iron Gate Reservoirs, most often during October and November (Kann and Asarian 2005, 2007)."*

**Page C-31:**

This sentence requires correction: *"Ratios of TN to TP (TN:TP) measured in the Klamath River suggest that the system is generally N-limited with some periods of co-limitation by N and P."* TN:TP ratios in the Klamath River do not indicate N-limitation, they indicate the *potential for N limitation*. The following common-sense analogy is a helpful illustration of this idea; if one person is in a room where there are 500,000 hot dogs and 50,000 buns, which food resource is limiting growth of that person, hot dogs or buns? (answer: neither). Therefore, the suggested revision is *"Ratios of TN to TP (TN:TP) measured in the Klamath River suggest the potential for the system to be generally N-limited with some periods of co-limitation by N and P."*

**Page C-57:**

Statement regarding 2009 microcystin being below 1 ug/L in free-flowing river sites is incorrect for the section below IG to Klamath-- there were numerous exceedances of both 1 ug/L and the 8 ug/L public health level. In fact this is noted on the next page C-58: *"Additional public health advisories were issued in 2009 and 2010 in Copco 1 and Iron Gate Reservoirs, as well as downstream locations in the Klamath River (including locations on the Yurok Reservation), for microcystin levels in ambient and/or freshwater mussel tissue (Kann et al. 2010a, Kann et al. 2010b, Fetcho 2010)."*

Also see page C-60.

**Page C-58:**

*"the majority of exceedances occurred in the reservoirs..."* Although true, the wording minimizes the fact that microcystin and *Microcystis* levels have consistently exceeded public health advisory levels for riverine sites downstream of the reservoirs as well (Kann and Courm 2007; 2009; Kann et al. 2010).

**Page C-61:**

Again the statement regarding 2009 microcystin being below 1 ug/L in free-flowing river sites is incorrect for the section below IG to Klamath. This is not consistent with the data. From P C-62 on following page: *"As described for the Klamath River from Iron Gate Dam to the Salmon River (Section C.6.2.1), there have been numerous exceedances of public health guidelines in the Klamath River from the Salmon River confluence to the Klamath Estuary, particularly in 2010. Public health advisories were issued in 2009 and 2010 in this reach (including locations on the Yurok Reservation) for elevated microcystin levels in ambient and/or freshwater mussel tissue samples (Kann et al. 2010a, Kann et al. 2010b, Fetcho 2010). In addition, substantial bioaccumulation (exceeding public health guidelines) of microcystin in freshwater mussels has been shown in this reach (Kann 2008, Kann et al. 2010b)."*

The statement above regarding exceedances in the reservoir vs. the river along with the citations to Watercourse 2011 regarding 2009 levels are misleading in that they imply that public health levels are rarely exceeded for the river below Iron Gate. This is clearly not the case.

## Appendix D Water Quality Environmental Effects Determination Methodology Supplemental Information

### Page D-6:

Footnote 4 under Table D-2 describes the hydrology used in the TMDL water quality model. Mention should be added that hydropower peaking in the J.C. Boyle Peaking Reach was not included in the TOD2RN, TCD2RN, and T1BSR scenarios (please first verify that with TetraTech to confirm it is correct).

### NEW REFERENCES CITED

Note: If a document we cited above in our comments is already included in the reference lists in the DEIS/DEIR, it is generally not repeated here. In some cases however we include a reference here even though it may exist already in the DEIS/DEIR (to save ourselves the time of looking through all the various reference lists in the DEIS/DEIR).

Asarian, E. and J. Kann. 2011. Phytoplankton and Nutrient Dynamics in Iron Gate and Copco Reservoirs 2005-2010. Prepared by Kier Associates and Aquatic Ecosystem Sciences for the Klamath Basin Tribal Water Quality Work Group.

Biggs, B.J.F. 2000. New Zealand Periphyton Guideline: Detection, Monitoring, and Managing Enrichment of Streams. Prepared for Ministry of Environment. NIWA, Christchurch. Accessed online 11/4/2008 at: <http://www.mfe.govt.nz/publications/water/nz-periphyton-guide-jun00.pdf>

PacifiCorp. 2004. Final License Application for the Klamath River Hydroelectric Project (FLA). Filed with the Federal Energy Regulatory Commission on February 25, 2004. PacifiCorp, Portland, OR. 7000 p.

Power, M.E., Parker, M.S., Dietrich, W.E., 2008. Seasonal reassembly of a river food web: floods, droughts, and impacts of fish. *Ecological Monographs* 78, 263–282.

### Conclusion

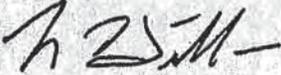
Comment 1b - Approves of Dam Removal

The Klamath Facilities Removal Draft EIS/EIR demonstrates that the positive benefits of the Klamath settlement agreements on the resources of the Klamath basin vastly outweigh potential adverse effects. We believe that on the whole, the DEIS represents a technically sound consideration of the alternatives. Thus, the Karuk Tribe supports alternative 2, full facilities removal. If economic constraints are a factor to consider, the Tribe would support

implementation of alternative 3, partial facilities removal, which would achieve many if not all of the project objectives.

We appreciate the hard work of the agencies and individuals involved in developing the DEIS and related studies. We look forward to continuing our participation in the process.

Yootva,

A handwritten signature in black ink, appearing to read "L Hillman", written over a horizontal line.

Leaf Hillman  
Director of Natural Resources

**Karuk Tribe of California**  
Department of Natural Resources  
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Orleans, CA 95556

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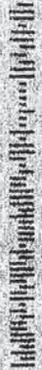


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Elizabeth Vasquez  
U.S. Department Of the Interior, Bureau of Reclamation  
2800 Cottage Way,  
Sacramento, CA 95825



**Comment Author** Hillman, Leaf  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** December 23, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1223_094-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_LT_1223_094-2	Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.	No
IT_LT_1223_094-3	The Lead Agencies acknowledge that the comment author believes that the river could be eligible as a riverscape (cultural landscape, traditional cultural property) and that the removal of the dams will restore the health of the riverscape. EIS/EIR Section 3.13, Cultural and Historic Resources, identifies potential impacts within the area of potential effect which would include these sections of riverscape, potential adverse effects may occur to sites associated with the riverscape. Mitigation Measure CHR-3 would specifically address these effects through additional consultation under NHPA Section 106 as applicable.	No
IT_LT_1223_094-4	While the estimated whitewater boating users days on the lower Klamath River presented in Table 3.15-16 may show a decline in use in more recent years, it would be incorrect to attribute this decline solely to toxic blue green algae as several factors can affect the level of use in any particular year (e.g., condition of the economy and weather). Furthermore, for the same reasons and based on available data it would also be incorrect to assume that the lower use levels exhibited in recent years implies a long term trend of decreased use. The data show similar patterns of use for both the Upper Klamath and Lower Klamath during this time period. While the removal of dams is expected to improve water quality as it relates to toxic blue green algae, the ability to isolate this effect on the level of whitewater boating use, considering the numerous factors that can affect use in any particular year, is not possible based on available data. In general, this same rationale would also apply for estimates of use levels for other recreational activities.	No
IT_LT_1223_094-5	The Draft EIS/EIR acknowledges in the Effects Determination (3.15.4.2 pages 3.15-48, 3.25-64, 3.15-81,3.15-85 and 3.15-87 that water quality, specifically toxic algae could have negative impacts to property values in the long-term and full and partial dam removal could reverse that situation. However, how long from now and to what extent is too speculative to quantify.  These effects are also considered in the Environmental Justice Section 3.16 .4.2.	No
IT_LT_1223_094-6	Please see Section 3.15, Socioeconomics, for a discussion of changes in water reliability and potential impacts on property values and agricultural land and operations.	Yes

**Comment Author** Hillman, Leaf  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** December 23, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1223_094-7	Please see Section 3.15, Socioeconomics, page 3.15-48, for a discussion of the impacts to property values under the No Action Alternative (i.e. the dams remain in place).	No
IT_LT_1223_094-8	Change has been made.	Yes
IT_LT_1223_094-9	Master Response GEN-1 Comment Included as Part of Record.  Master Response WQ – 4 Hydroelectric Project Impacts to Water Quality Anticipated KHSA/KBRA Improvements.  The comment author has not provided any information to support their position.	No
IT_LT_1223_094-10	As noted in the Draft EIS/EIR on p. 3.3-12, rainbow trout ( <i>Oncorhynchus mykiss</i> ) exhibit a wide range of life-history strategies, including anadromous forms (steelhead, described above) and resident forms, described here. 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 of Upper Klamath Lake to be primarily coastal rainbow trout, <i>Oncorhynchus mykiss irideus</i> .	No
IT_LT_1223_094-11	The comment refers to the portion of the Draft EIS/EIR describing effects to freshwater mussels from the No Action/No Project Alternative, yet discusses how the species <i>Margaritijera falcata</i> may benefit from the Proposed Action. The potential effects to freshwater mussels resulting from the Proposed Action are discussed on p. 3.3-131 through 3.3-133 of the Draft EIS/EIR.  Information regarding freshwater mussels is also provided in the Draft EIS/EIR on p. 3.3-16 and 3.3-17.  The uniqueness of the Klamath river <i>G. angulata</i> population as mentioned by the comment author has been noted in the Final EIS/EIR Sections 3.3.3.  This comment will be included as part of the record and made available to decision makers prior to a final decision on the Proposed Action.	Yes

**Comment Author** Hillman, Leaf  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** December 23, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1223_094-12	<p>Comment author concerns have been noted</p> <p>Master Response AQU – 25 Habitat Upstream of Iron Gate.</p> <p>The water temperature section of the Draft EIS/EIR Section 3.3.4.3 (P. 3.3-57 and 3.3-58) includes a discussion of water temperature issues downstream of Iron Gate Dam, as well as the section on species-specific effects on steelhead (p. 3.3-66 and 3.3-67).</p> <p>The EIS/EIR has been revised in Sections 3.3.3 and 3.3.4 to include a similar discussion within the Fall Chinook salmon and coho salmon species-specific effects sections and reflects limitations of cold water sources for the No Action Alternative in respect to aquatic resources.</p>	Yes
IT_LT_1223_094-13	<p>Comment has been noted.</p> <p>Hamilton et al. 2005 concluded that the farthest distribution of coho salmon salmon extended at least as far as Spencer Creek (p16).</p> <p>Section 3.3.3 of the EIS/EIR has been revised to include information from Snyder (1931) that coho salmon were said to migrate to the headwaters of the Klamath River to spawn, but that most people did not distinguish between the species.</p>	Yes
IT_LT_1223_094-14	<p>Comment author concerns have been noted.</p> <p>Master Response AQU-1 Sediment Amounts and Effects to Fish.</p> <p>The Draft EIS/EIR discloses multiple lines of evidence and sources of information to support findings. The projections on p. 3.3-113 state “up to 36% mortality is predicted...”. Mortality may be less. The Draft EIS/EIR also notes the mobility of steelhead to avoid degraded habitats, and that “the predictions described here are likely more dire than would occur. It is likely that at least some would enter tributaries if conditions within the mainstem were adverse (Draft EIS/EIR Section 3.3.4.3, p. 3.3-114).</p> <p>The Suspended Sediment Effects analysis uses severity of ill effects scores developed by Newcombe and Jensen (1996). These scores were derived from a wide variety of literature sources that include observations from both natural environments and laboratory studies. The comment is incorrect in its assertion that the model is based entirely on laboratory experiments.</p>	No

IT\_EM\_1120\_085

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 From: Tane' Beard[SMTP:TANESADDRESS@GMAIL.COM]  
 Sent: Sunday, November 20, 2011 12:15:43 PM  
 To: BOR-SHA-KFO-Klamathsd  
 Subject: Dam deconstruction  
 Auto forwarded by a Rule  
 November 20, 2011

Bureau of Reclamation  
 2800 Cottage Way  
 Sacramento, CA 95825  
 via email: [KlamathSD@usbr.gov](mailto:KlamathSD@usbr.gov)

To all this concerns,

My husband and I are residents of Shasta County and business owners in both Siskiyou and Shasta counties. He was raised on the Hupa Indian Reservation and has family still residing there. The destruction of the dams has personal and economic consequences that affect all of us and all of our voices should be heard.

Comment 1 - Disapproves of Dam Removal

Comment 2 - Hydropower

We are opposed to the removal of the dams for a myriad of reasons. We need the power generated by the hydroelectric dams. If we do not have access to the cheaper electricity we will have to rely on extremely expensive propane where we live and that would put us right out of business. The economy in the North State has already been struggling with more severe challenges than in most counties of California. We have had a consistently higher unemployment rate resulting in massive business losses and home foreclosures. Those of us trying to hang on through this severe downturn cannot bear further increases in our power costs.

Comment 3 - Hydrology

In The North State, the runoff from the Cascades and the Trinity mountains pose a constant risk of flooding and the dams help to control it. Just look at last years rainfall and what that would have meant to the populations in the path of the floods without our dams. We stand to lose not only the Indian burial grounds, but all of our lands will be at risk.

Comment 4 - ITAs

We need access to good quality water year around not only for all cities in California but for farming and ranching which is how rural areas make their living. Do you not remember the drought years? Do you not know that we WILL have drought again, just as sure as weather has been cycling for as long as the earth has turned? You would have to have been living in a cave to have not heard about global warming. We need MORE dams to ease the effects of disastrous droughts that we have had in the past. Just take a look the severity of the 2011 Texas drought. Do you think it may have eased the losses if they had more dams? What will happen to the Salmon then if there is no water? You know what will happen to ranchers and farmers, livestock and crops. If we cannot afford to raise your food then what? You going to look to China to raise your food too?

Comment 5 - Water Rights/Supply

Comment 6 - KHSA

Who will really benefit by the destruction of the dams? The propane and natural gas industrialists? The few who own water rights ? Are they the ones behind this?

Your plans would be catastrophic to our communities, but more importantly they will have long reaching effects on the entire state economy, making a recovery even more elusive. The dismantling will bring jobs you say? They are TEMPORARY. It will cost how many more jobs and businesses in the long term? THINK. Why would Federal agencies step into our business and destroy such a critical element of our daily lives? What are they thinking?

Create jobs by managing better. Build ladders and more fish hatcheries, leave our dams alone! Help us to stop this now!

Comment 7 - FERC

Charles and Tane Horner  
Palo Cedro, CA

**Comment Author** Horner, Charles & Tane  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 20, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_EM_1120_085-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_EM_1120_085-2	Master Response HYDP-2 Power Production at the Four Facilities.  Master Response GHG-2 Rate Increases.  Master Response GHG-3 Replacement Power.	No
IT_EM_1120_085-3	Master Response HYDG-1 Flood Protection.	No
IT_EM_1120_085-4	Master Response HYDG-1 Flood Protection.  The Draft EIS/EIR addresses potential impacts to cultural resources. The potential for damage to or vandalism of exposed sites was considered and is addressed in Mitigation Measure CHR-2 through the development of management plans and discovery plans, through consultations under the NHPA Section 106, as applicable.	No
IT_EM_1120_085-5	The water supply analysis (see Section 3.8 of the Draft EIS/EIR) includes hydrologic modeling to assist in impact analysis. The modeling includes a pattern of hydrology with drought periods to enable the evaluation to portray changes in hydrology during different types of hydrologic conditions. The dams, however, were not developed to provide long-term storage for droughts.  Master Response WSWR-1 Effects to Agricultural Water Supply.	No
IT_EM_1120_085-6	Master Response GEN-1 Comment Included as Part of Record.  Master Response GEN-20 PacifiCorp Private Ownership of Hydroelectric Facilities.  This EIS/EIR has been developed in accordance with the requirements of NEPA and CEQA to analyze the potential impacts to the environment from the removal of the four PacifiCorp dams on the Klamath River as contemplated in the KHSA and from the implementation of the KBRA. Together, these two agreements attempt to resolve long-standing conflicts in the Klamath Basin. Some of the conflicts and issues these agreements attempt to resolve are enumerated on Draft EIS/EIR p. ES-1 and ES-8-9. The activities leading to the development of the KHSA and the KBRA are discussed on p. ES-7-13. Both the KHSA and KBRA were negotiated and signed by a diverse array of over 40 parties with an interest in resolving Klamath Basin issues. The goal of the KHSA is found on p. 3 of the agreement and the goals of the KBRA are found on p. 4 of that agreement. See <a href="http://Klamathrestoration.gov">Klamathrestoration.gov</a> for the KHSA and KBRA.	No

**Comment Author** Horner, Charles & Tane  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_EM_1120_085-7	Master Response GEN-2 Some People Support Dam Removal and Others Oppose Dam Removal.	No

IT\_MC\_1026\_060

KLAMATH DAM REMOVAL  
 DRAFT EIS/EIR HEARING  
 OCTOBER 26, 2011  
 PUBLIC TESTIMONY  
 ARCATA, CALIFORNIA

MS. HUTT: Hi. My name is Hayley Hutt,  
 H-a-y-l-e-y H-u-t-t, Hoopa Valley tribal council member.

Before I forget we do have our position and our  
 letter to Senator Merkley's office in the back, if anyone  
 is interested in seeing and reading that and picking that  
 up.

Comment 1 - Alternatives

The DEIS is deceptive with inadequate  
 alternatives analysis. Dam removal cannot occur under  
 the DEIS, unless Congress also passes unacceptable  
 legislation. Alternative 1, no action/no project, is, in  
 fact, the best route to dam removal, because it restarts  
 the FERC process. The DEIS did not examine  
 Alternative 8, full facility removal of four dams without  
 the KBRA, but it should have.

Comment 2- ITAs

If the California Water Board had enforced the  
 Clean Water Act, it would have triggered the FERC and we  
 would be much further along in this process. The KBRA  
 does not guarantee water for fish. It does not guarantee  
 dam removal. And it terminates our tribal rights.

Hoopa participated in the Klamath settlement  
 talks but refused to give up rights to protect water  
 quality and flows, in order to maintain its fishery as  
 guaranteed by federal law. Senator Merkley's bill will

terminate the federal trust responsibility for our  
federal reserved rights.

And here's exactly how it reads: "The  
United States, acting in its capacity as trustee for the  
federally recognized tribes of the Klamath Basin, hereby  
provides assurances that it will not assert tribal water  
or fishing right theories or tribal trust theories in a  
manner, or tribal water or trust rights, whatever they  
may be, in a manner that will interfere with the  
diversion, use, or reuse of water for the Klamath  
Reclamation Project that is Appendix E-1 in any  
administrative context or proceeding or jurisdictional  
(sic) proceeding or otherwise."

That's terminating our trust relationship, which  
was -- been in existence for over 150 years. It means --  
termination means that the United States will defend  
their right to take 378,000 acre feet and give it to the  
irrigators over the salmon's need for water.

In regards to terminating our trust  
relationship, I also want to state that the  
National Congress of American Indians and the Affiliated  
Tribes of the Northwest have passed resolutions that say  
they will not stand by while tribal rights are being  
terminated against our will. While some have  
volunteered, we have not volunteered to waive our rights.

This fish passage will cost more -- okay. I see  
I have 28 seconds left, so I better speed it up.

I won't be able to read all my comments here,  
but I would like to make two statements, and one is that  
the Hoopa Valley Tribe knows that the KBRA threatens  
Trinity restoration goals by the fact that the majority  
of fall Chinook mortalities in the Lower Klamath on the  
September 2002 fish kill were of Trinity River origin;  
and, also, that we think it's ironic that  
Secretary Salazar holds trust relationship as any kind of  
priority, while he is willing to not only -- well, if  
while tribes have to waive their rights to be a part of  
the deal --

MS. JONES: Thank you, Ms. Hutt. Your time is  
up.

MS. HUTT: -- that's their business, but waives  
our rights against our will. Thank you.

MS. JONES: Okay. If you wanted to put your  
comments in the box, they'll be included in full.

MS. HUTT: I already did that.

**Comment Author** Hutt, Hayley  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1026_060-1	<p>The Draft EIS/EIR acknowledges that Congress must pass authorizing legislation before the Secretarial Determination can be made. The comment author implies that FERC is likely to require dam removal as part of the relicensing process, but FERC has not required removal of dams in the past as part of the relicensing process (reference).</p> <p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study, includes a detailed description of why Alternative 8 was not carried forward for more detailed analysis in the Draft EIS/EIR.</p>	No
IT_MC_1026_060-2	Master Response TTA-1 Federal Trust Responsibility and the KBRA.	No

IT\_MC\_1019\_007

## PUBLIC HEARING ON THE KLAMATH DAM

---o0o---

CHILOQUIN, OREGON

OCTOBER 19, 2011

---o0o---

MR. JACKSON: My name is Charles Jackson. I am

Comment 1 - Approves of Dam Removal

a Klamath tribal member. I support the KBRA and I believe

that all the dams should be removed.

The cost that it is going to take to get the

dams out is minimal. Since I was a little kid, gas went

up from a dollar in the '80s, and now it's over \$3.82, so

inflation is going to take effect but it's not going to

matter because, sooner or later, the dams are going to

have to go. And it's -- now is the time to get rid of it.

90 years is a long time for a dam and, obviously, it's not

working. Um, to me, the dam has no effect at all.

My great-grandma was from the Hoopa tribe, and

I've got cousins down there, so I could go get salmon,

it's no big deal. And electricity, I could live without

it. You know, the beef can go away, the ranchers can go

away, the farmers can go away, it wouldn't matter to me,

because me and my family will never leave.

I am Modoc Yahooskin -- they couldn't even

classify it Yahooskin. They don't know if it's Paiute and

they don't know if it's more Shoshone than anything, but

the Shoshone were never around. They classified the Pit

River as a tribe.

So the different tribes, they never lived in peace, there's always something going on. But they respected each other and they did not destroy the other people's families and they didn't want to make anything harmful for the future generations, and it's the same thing today. We can't get along, it's proven, there's always violence, you see the crimes and everything, but there's always the good people and we make everything work.

That's why we have this government, because we are able to get along, and as long as we can get along and we are walking through this dam removal, it's in the best interests of everyone.

We have so much water in the land and, yet, we are arguing over cubic feet, how much this rancher gets because he was here in 1900, or how much water this rancher gets, and it's already 1970, so he doesn't get as much. So there's this water dispute and the dams don't have no part of it, they are so far downriver. Everyone is worried about the A Canal or the B Canal or whatever canal and, you know, maybe you shouldn't build another ranch or farm in the middle of the desert; they don't call it the high desert for nothing; just common sense.

But we see how good the Lost River is doing. I mean, that water is just destroyed. The whole ecosystem of the Tulelake is -- what is the -- what happens for, over agriculture.

And luckily, the tribes are here. We kept Crater Lake safe because of Roosevelt, Annie Creek is good, the Sprague River is just ripped because of the farmers and ranchers at Bly; the cows got more water than the fish do, but that's all that matters to some people.

My great-grandfather was Boyd Jackson, and he would tell my grandfather stories of spearing fish where the tule room (phonetic) is --they've got big rocks there, and there would be salmon going up, and tribal members could just go out there with the kids and they could spear salmon.

And I have a son, and I won't be able to spear salmon with him, but maybe his kids can spear salmon with

him. But Mary Gentry had a nice paper and she said a lot of nice stuff, and I support the KBRA and her, and I'm glad that everyone is here to listen to this, but we just have got to get rid of the dams and go green energy. I went to Portland last week and seen the people against, you know, big government, anti-stock

markets. I thought they were fools, you know. What's the big deal? They can't do nothing. But then, you know, the government is taking care of it. Just like down here, we don't have big protests or anything, but we don't have to walk in the streets like idiots, you know, we can go to our jobs and work, so I appreciate it.

THE FACILITATOR: Norma Cummings and Matt

Walter.

**Comment Author** Jackson, Charles  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1019_007-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

IT\_WI\_1027\_026

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From: moduck29@gmail.com[SMTP:MODUCK29@GMAIL.COM]  
Sent: Thursday, October 27, 2011 11:44:49 AM  
To: BOR-SHA-KFO-Klamathsd; werner@wrinkledog.com  
Subject: Web Inquiry: Agree With Dam Removal Auto forwarded by a Rule

Name: Charles Jackson  
Organization: Tribal Member

Subject: Agree With Dam Removal

Comment 1 - Approves Dam Removal

Body: We as god fearing Americans need to continue to work together in order to remove all the dams along the Klamath River. We need to remove the dam in Klamath Falls that holds back water from the Link River to Lake Ewauna. We need to think of the future we are placings for our children and grandchildren. Remove all the dams and restore the Klamath Tribes as a Sovereign nation.

**Comment Author** Jackson, Charles  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_WI_1027_026-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

Comment 1 - Approves  
of Dam Removal

MR. JACKSON: My name is Robert Jackson,  
Robert Seeley Jackson, R-o-b-e-r-t S-e-e-l-e-y Jackson.

I'm here because I wanted to speak for what I  
think that removing the dams is going to be huge for the  
fish. I know that more habitat will mean more fish.

I think that one of the most important parts is  
that, in view of whether the dams come out or not, that  
focus on having water for the fish. Because if the fish  
die, like we had the one year, we can't get them back.  
We lose that lineage of fish. Whereas, anything that's  
being grown up there can be regrown the next year. It's  
kind of ridiculous.

Comment 2 - General/Other

And a big thing, I think that, you know, it's a  
dust bowl up there. I think that there should be  
mandatory proper irrigation usage. It's disgusting the  
waste that you see up there. It's the sun beating down  
on a dry field, as this huge hose makes mud. It's  
ridiculous. It's sad. I went up there, and I was, like,  
"I wonder if that's my water that would otherwise be  
coming by me down here at the mouth."

And, you know, the fish aren't the only thing.  
We are a fish culture, but we are also a water people.

We need the water. It's not just the fish. It's the life that surrounds the river. We need to be in contact with the river.

And, you know, it's like when I take the kids up to the river, and we go up, and I don't tell them, "No. Don't swim." It's hot. It's a river. I tell them, when we get home, "Everybody jump in the shower," you know, because it's not safe. You know, and I could go check the levels every time. Whoop-de-doo.

But we know that it's due to the practices upriver, you know. They should -- there should be management on the amount of nutrients and stuff. It's, like, we're not talking about, like, a huge loss. I mean, I believe that the fish kill could have been prevented. They could have let those crops die that one year and prevented what we had.

Comment 3 - Alternatives

So, I think that, yeah, the dams -- I was thinking Option 5 seemed like maybe the easiest one that was presented. We would get the most habitat, the most bang for our buck, whatever.

Comment 4 - ITAs

But I think that in no way should we relinquish any of our water rights, because right now that's the only thing that can keep us alive is our water. And the federal government has made that promise to our people, and I think, no matter what, they should be -- they should have to uphold that promise to us. And that's it.

**Comment Author** Jackson, Robert  
**Agency/Assoc.**  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_057-1	Master Response GEN-1 Comment Included as Part of Record.	No
IT_MC_1027_057-2	Master Response GEN-1 Comment Included as Part of Record.	No
IT_MC_1027_057-3	Master Response GEN-1 Comment Included as Part of Record.	No
IT_MC_1027_057-4	Master Response TTA-1 Federal Trust Responsibility and the KBRA.	No

IT\_MC\_1026\_066

KLAMATH DAM REMOVAL  
 DRAFT EIS/EIR HEARING  
 OCTOBER 26, 2011  
 PUBLIC TESTIMONY  
 ARCATA, CALIFORNIA

MR. JORDAN: My name is Daniel Jordan, J-o-r-d-a-n. I represent a Hoopa fishing family. I have been involved with the Klamath and Trinity River issues, particularly Trinity River issues, for 30 years, working with the Hupa Tribe.

And my comment, the reason why I kind of passed earlier, is my disappointment with this process.

And I have raised this throughout the whole thing. There is no

Comment 1 - NEPA

legal connection between dam removal and the KBRA and water allocation.

That's a political issue.

The Secretary of the Interior is responsible for operating the water deliveries in the Klamath Basin. And remember back who killed fish in 2002.

It wasn't dams. It was Secretary Norton. And we all seen those photographs of turning those valves in violation of federal law. That's what killed those fish. And this deal continues to represent that --

really, that guise that we waive dam removal, throughout this whole process. And that's not what this deal is. This is a dam removal part as a bait to generate a 50-year water allocation agreement that the Secretary is interested in. And these things need to be separated.

There's no legal connection between the two until the Secretary, through these processes, connect them together.

And taking the dam removal, all of us support dam removal. The United States has a moral and legal obligation to remove those dams. They should have never allowed them to be built, in the first place. But you don't have to connect it to the unholy agreement of the

KBRA to get the Secretary to do his job.

Comment 2 - Water Rights/Supply

But the KBRA, itself, is -- if you look at its design, it's designed on exactly the same  
flawed western water policies that have destroyed California's water  
supply, that have destroyed the Delta. It is an over-allocation of water, with an  
under-commitment of applying the proper mitigation responsibilities  
on the water developers. The KBRA says that the water users are not obligated to pay  
for mitigation, yet they are the ones that continue to destroy the river.  
The KBRA also carries out the same flawed plan that the Delta is based on,  
is using the Endangered Species Act as a management prescription. The  
Endangered Species Act was never supposed to be a management tool. It was supposed  
to be a law that said, "When you destroy resources, you've got to stop.

You've got to reassess."

These deals, including the Klamath -- the KBRA, just like the Delta deal, say that  
the ESA becomes the highest management standard. We are living so close to  
the edge on this. One bad water supply, one bad year, is going to destroy these resources.

And, yet, these documents continue to build this on a plan that even has  
to be paid for by the taxpayers at a time when the federal deficit is -- they're driving the  
federal budgets down. This does not make sense.

**Comment Author** Jordan, Daniel  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1026_066-1	Master Response ALT-7 Elimination of KBRA without KHSA including Alternatives 16 - Dredge Upper Klamath Lake and 18 - Partition of Upper Klamath Lake from Detailed Study.	No
IT_MC_1026_066-2	The KBRA is not using ESA as a management tool. The KBRA was designed to avoid the reactive nature of ESA, where actions are implemented after species declines, by developing a proactive overall program that may allow for a more robust water management system.	No

IT\_LT\_1230\_096



**Quartz Valley Indian Reservation**

13601 Quartz Valley Road  
Fort Jones, CA 96032  
ph: 530-468-5907 fax: 530-468-5908

December 30, 2011

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

Re: Comments on the Klamath Hydroelectric Project Facilities Removal draft Environmental Impact Statement (DEIS) and draft Environmental Impact Report (DEIR)

Dear Ms. Vasquez,

Thank you for the opportunity to comment on the Klamath Hydroelectric Project Facilities Removal Draft Environmental Impact Statement and Draft Environmental Impact Report (DEIS/DEIR). While the Quartz Valley Indian Reservation (QVIR) is located in the Scott River basin, we see ourselves as having a profound stake in the health of the Klamath River. Culturally significant species of salmonids must pass through the Klamath to reach the spawning grounds of our Reservation in Shackelford Creek. Our Tribal members are descendants of the aboriginal peoples of the Klamath River basin and have relied upon the fish and resources of the river since as long as humans occupied this land.

Comment 1 - Approves of Dam Removal

The Quartz Valley Indian Reservation is in favor of healthy watersheds and wants to see fish swimming in our streams and rivers; for these reasons, we support the idea of dam removal in concept. However, we have three basic concerns we wish to convey regarding the way the government is approaching dam removal and the sufficiency of the DEIS/DEIR.

Before we present our concerns, we want it to be recognized that the QVIR has been an active participant in review and comment on the Federal Energy Regulatory Commission (FERC) Klamath Hydroelectric Project (KHP) relicensing process (QVIR 2004, 2006a) and we hereby incorporate by reference our previous submissions to FERC as part of your record. We also have paid close attention to the Clean Water Act driven Total Maximum Daily Load (TMDL) process aimed at cleaning up water pollution and restoring beneficial uses such as cold water fish, including salmon. Our comments on the Klamath River and Lost River TMDLs (QVIR 2006b, 2008, 2010) are particularly relevant to the DEIS/DEIR and we also wish that they become part of your record. We are attaching as Appendix A our consultant's analysis of how our previous recommendations under the FERC process, and in response to the Klamath River TMDL, would be dealt with in the event of an affirmative Decision by the Secretary of Interior on Klamath dam removal, passage of appropriate authorizing legislation and KBRA implementation.

*Quartz Valley Indian Reservation Klamath Dam Removal DEIS/DEIR Comments 12/30/11*

← Comment 2 - ITAs

**Our first concern with the DEIS/DEIR is that QVIR is largely dismissed as an interested or affected party in the text of the document.** The DEIS/DEIR mischaracterizes QVIR water and fishing rights. We are also concerned about KBRA language that would have damaging impacts to tribal rights, should there be an affirmative Secretarial Decision and authorizing legislation. Chapter 3 of the DEIS/DEIR covers cultural issues and makes the following statements regarding the QVIR's water and fishing rights:

"Any fishing and concomitant water rights to which the Quartz Valley Community may be entitled have not yet been determined." (3.8-11)

"The Quartz Valley Reservation does not have a reserved Klamath River fishery. The Tribe is not reliant on Klamath River water, nor does the Tribe retain Klamath River reserved water rights. The Tribe's land base is not along the Klamath River. Therefore, there are no primary effects on Quartz Valley trust resources and other resources traditionally used by the Tribe. While there may be secondary effects on tribal health and cultural well being, these were not asserted in the government-to-government consultation" (3.12-16)

"The Quartz Valley Reservation is not along the Klamath River and the Tribe does not have a reserved Klamath River fishery or reserved water rights. Therefore, implementation of the Proposed Action or alternatives would not affect Quartz Valley Reservation trust resources or other resources traditionally used by the Tribe." (3.12-18)

The fish on which QVIR relies for sustenance and that are needed for our spiritual well being need to survive their migration to the ocean; therefore, we have a major stake in Klamath River health. Highly valued Scott River fish species like the Chinook salmon, coho salmon, steelhead and Pacific lamprey need an ecologically functional Klamath River. Major problems with fish diseases (Nichols and Foot 2005, Stocking and Bartholomew 2007) and acute water quality problems in the mainstem Klamath River (FERC 2007) are affecting all Scott River anadromous fish species. This has been documented in hundreds of pages of previous QVIR comments on KHP relicensing and TMDLs. QVIR needs assurance that sufficient flow is released into the Klamath River to maintain its health and pollution remedied to protect the fish on which we rely.

QVIR members have historically fished for salmon, steelhead and eels (Pacific lamprey) in the Scott River and Shackleford Creek. The Tribe retains the right to take fish on their Reservation but also in places off the Reservation on the Klamath River that members have fished historically, despite the lack of a recognized right by the United States or the State of California. Many members of QVIR are of Karuk ancestry and resided along the Klamath River before being displaced and relocated by the government to Quartz Valley. QVIR members fish on the Klamath River, often with Karuk Tribe members to whom we are related, and have done so in an unbroken tradition dating back to time immemorial. This is a practice we intend to continue and a right we do not intend to relinquish. In sum, the health of the Klamath River has a direct relationship to our health and that of all Indian people in the Klamath Basin.

Comment 3 - ITAs

**Our second concern is that the QVIR was excluded from Klamath Settlement Agreement talks that lead to the KHSA and KBRA and yet our rights would be compromised by their implementation without our consent.** Since QVIR is not a signatory to the KBRA, QVIR is “zeroed out” in the proposed budgeted tribal allocations for fisheries management in Appendix C. There are rights that all Klamath Basin Tribes share, which are treaty rights and trust responsibilities that the government is bound to uphold and we are concerned about changes triggered by the KBRA.

The current legal precedent for prioritization of water allocation by the U.S. Bureau of Reclamation (BOR) to the Klamath Project or the Klamath River is based on the Southwest Regional Solicitor of Department of Interior (DOI 1995):

“Reclamation is obligated to ensure that Project operations not interfere with the Tribes’ senior water rights. This is dictated by the doctrine of prior appropriation as well as Reclamation’s trust responsibility to protect tribal trust resources.

With respect to the Tribes’ fishing rights, Reclamation must, pursuant to its trust responsibility and consistent with its other legal obligations, prevent activities under its control that would adversely affect those rights, even though those activities take place off-reservation.”

QVIR is concerned about language that could change this precedent in the KBRA (15.3.9) that are not fully disclosed or discussed in the DEIS/DEIR:

“The United States, acting in its capacity as trustee for the Federally-recognized tribes of the Klamath Basin, hereby provides interim Assurances as stated in Section 15.3.8.B, and conditional *permanent* Assurances that it will not assert: (i) tribal water or fishing right theories or tribal trust theories in a manner, or (ii) tribal water or trust rights, whatever they may be, in a manner that will interfere with the diversion, use or reuse of water for the Klamath Reclamation Project that is not precluded by the limitation on diversions of water as provided in Appendix E-1 in any administrative context or proceeding, or judicial proceeding, or otherwise.”

An affirmative Secretarial Decision in combination with authorizing legislation would trigger KBRA implementation and would; therefore, change water delivery priority from Tribes to Klamath Project irrigators. The Solicitor’s opinion withstood legal challenge in the *Klamath Water Users Protective Association v. Patterson* decision. The U.S. Ninth Circuit Court of Appeals (9th Cir. 1999, 204 F.3d 1206) rejected the Klamath Basin Water Users appeal of practices that allocated water to endangered fishes to the benefit of Tribes as a priority over deliveries to the Klamath Project: “Similar to its duties under the Endangered Species Act (ESA), the United States, as a trustee for the Tribes, has a responsibility to protect their rights and resources.”

The DEIS/DEIR (ES-2) states “Under the KHSA and KBRA (Agreements) the United States will be a party to the KBRA at the time of a Secretarial Determination under the KHSA, and obligated to implement the KBRA according to its terms.” We interpret this language as switching DOI and U.S. Government priorities from protecting fisheries and Indian trust

← Comment 3 cont.

resources to water delivery to Klamath Project irrigators (Schlosser 2011) and we strongly object to this change.

The DEIS/DEIR ignores the fact we would be excluded as no non-Parties from participating on Klamath Basin Coordinating Council (KBCC) committees, such as for fisheries restoration and water quality, for the 50 year life of the KBRA (Appendix D1). The QVIR has actively participated in government processes regarding Klamath River dam removal and Clean Water Act enforcement since 2004 and has knowledge and staff capacity that should qualify it for participation in the KBCC. We object to this discriminatory process and believe that eliminating participation by legitimate stakeholders, such as the federally recognized QVIR, in trust resource management oversight roles is illegal under the Federal Advisory Committee Act.

← Comment 4 - NEPA/CEQA

**Our third concern is that the government has included the Klamath Basin Restoration Agreement (KBRA) as a connected action to dam removal and we found that the KBRA potential was difficult to assess.** The document appears to be mostly a legal contract that lays out the nature of the agreement and describes limitations and requirements of the signers. It contains conditional statements that refer back onto other parts of the document making it extremely difficult to follow. More importantly, the details of the restoration programs are not described there. It appears that these plans will be developed according to the rules laid out in the KBRA. Again, since the QVIR was not invited to participate in the development of the KBRA, and are not signatory, they are not listed as a potential participant in coordinating committees that will likely develop various restoration plans. It is our perception that these restoration plans will include the entire Klamath Basin and the tributaries such as the Scott River and Shasta River. We believe we can contribute meaningfully to discussions, both from a scientific and an affected party perspective.

As non-participants, in the development of the KBRA, we are not able to determine how well the DEIS/DEIR addresses the cumulative impacts of the KBRA implementation as required by the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). For example, Table 4.2 lists bodies of water that are excluded from the cumulative effects—for example Upper Klamath Basin hydrology. Also, the cumulative effects section was difficult to read and get a clear sense of what the cumulative effects may be from KBRA implementation. We are unclear what the effects of subsidizing irrigation costs and associated intensive agricultural practices may be on long-term water quality trends. Is this in the best interests of the watershed? Is it the best scientific solution to the water pollution and fish disease problems that threaten the future of Klamath River salmon?

We wish to conclude by citing our Mission Statement:

“While on earth we must practice stewardship, protection, and enhancement of the air we breathe, the water we drink, the soil that supports us and the lives we cherish. It is our duty to protect and enhance these resources for the continued prosperity of the Quartz Valley Indian Tribe and our fellow brothers and sisters we share this earth with.”

While removal of the dams appears to offer benefits, particularly in removal of the barrier to fish, we fear that the current DEIS/DEIR avoids discussion of KBRA implementation impacts

*Quartz Valley Indian Reservation Klamath Dam Removal DEIS/DEIR Comments 12/30/11*

← Comment 4 cont.

that may be in conflict with restoring the ecological balance of the Klamath River. We are unable to clearly determine whether or not the companion actions in addition to dam removal would restore harmony to the basin, restore the sucker fish and the salmon and adequately address the water pollution that threatens the Klamath River. We would like to see that the DEIS/DEIR craft an ecologically-based approach (SER 2004) to restoring lakes and marshes in the upper basin as these are clearly connected to the flows downstream and are important to resolving the current water quality, and flow issues that are currently hurting the Klamath River.

Sincerely,

Sherrie Kelley  
QVIR Tribal Council Vice-Chairperson

## References

Department of Interior (DOI). 1995. Memorandum of Regional Solicitor, Pacific Southwest Region to Regional Director, Bureau of Reclamation Mid-Pacific Region Re Certain Legal Rights and Obligations Related to the U.S. Bureau of Reclamation, Klamath Project (July 25, 1995).

Federal Energy Regulatory Commission (FERC). 2007. Final Environmental Impact Report for the Klamath Hydroelectric Project, FERC License 2082-027, Operated by PacifiCorp. FERC, Washington D.C.

Nichols, K. and J.S. Foott. 2005. Health Monitoring of Juvenile Klamath River Chinook Salmon, FY 2004 Investigational Report. USFWS California-Nevada Fish Health Center, Red Bluff, CA.

Quartz Valley Indian Reservation. 2004. Federal Energy Regulatory Commission (FERC) Klamath Hydroelectric Project (KHP) Relicensing Process Additional Study Requests. Letter to Magalie R. Salas of April 22, 2004. QVIR, Ft. Jones, CA. 35 p.

Quartz Valley Indian Community. 2006a. Klamath Hydroelectric Project, FERC No. 2082-027, Comments and Recommended Terms and Conditions for PacifiCorp. Quartz Valley Indian Reservation, Ft. Jones, CA. 57 p.

Quartz Valley Indian Community. 2006b. Comments Concerning the Klamath River TMDL Approach and Progress to Date. Memo to the U.S. EPA and North Coast Regional Water Quality Control Board of August 15, 2006. Quartz Valley Indian Reservation, Fort Jones, CA. 35 p.

Quartz Valley Indian Community. 2008. Preliminary comments on Administrative Draft (Chapters 1-5) Staff Report for the Klamath River Basin Temperature, Dissolved Oxygen, and Nutrient Total Maximum Daily Loads. QVIR, Ft. Jones, CA. 30 p.

Quartz Valley Indian Community. 2010 Comments on Public Review Draft, Staff Report for the Klamath River Total Maximum Daily Loads (TMDLs) and Action Plan Addressing Temperature, Dissolved Oxygen, Nutrient and Microcystin Impairments in California, the Proposed Site Specific Dissolved Oxygen Objectives for the Klamath River and California, and the Klamath River and Lost River Implementation Plans. Submitted by Crystal Bowman. QVIR, Ft. Jones, CA. 20 p. (Appendix A: Higgins comments Re: Fruit Growers Supply (FGS) Habitat Conservation Plan (HCP) and Draft Environmental Impact Report.) (Appendix B: Comments on State Water Resources Control Board Resolution 2009-0064 Regarding U.S. Forest Service Management Oversight.)

Schlosser, T. P. 2011. Dewatering Trust Responsibilities: The New Klamath River Hydroelectric and Restoration Agreements. Washington Journal of Environmental Law & Policy. 36 p.

Society for Ecological Restoration (SER). 2004. The SER International Primer on Ecological Restoration. Society for Ecological Restoration International Science & Policy Working Group. SER, Tucson, AZ. [http://www.ser.org/content/ecological\\_restoration\\_primer.asp](http://www.ser.org/content/ecological_restoration_primer.asp)

Stocking, R.W. and J.L. Bartholomew. 2007. Distribution and Habitat Characteristics of *Manayunkia speciosa* and Infection Prevalence with the Parasite *Ceratomyxa Shasta* in the Klamath River, Oregon-California. *Journal of Parasitology* 93(1), 2007, pp. 78-88.

U.S. Ninth Circuit Court of Appeals. 1999. *Klamath Water Users Protective Association v. Patterson* (U.S. BOR). U.S. Ninth Circuit Court of Appeals (204 F.3d 1206).

**Comment Author** Kelley, Sherrie  
**Agency/Assoc.** Quartz Valley Indian Reservation  
**Submittal Date** December 30, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1230_096-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_LT_1230_096-2	Section 3.12 on the Quartz Valley Indian Reservation has been updated with the information submitted by the comment author. The Final EIS/EIR now more clearly acknowledges the traditionally used resources of the Quartz Valley Indian Reservation.	Yes
	Master Response TTA-1 Federal Trust Responsibility and the KBRA.	
IT_LT_1230_096-3	Master Response TTA-7 Tribal Involvement in Future Discussions of Water Management.	No
	Master Response TTA-1 Federal Trust Responsibility and the KBRA.	
IT_LT_1230_096-4	Master Response KHSA-1 Negotiations of KHSA and KBRA.	No
	Master Response N/CP-13 KBRA is Analyzed as a Connected Action.	
	Master Response N/CP-22 How KBRA was Analyzed.	
	The KBRA is a negotiated agreement and does not solve all water quality issues. The KBRA is a negotiated agreement that attempts to balance interests of fish and agriculture; this necessarily involves compromise on all sides.	

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MS. KELLY: Iyee que. My name is Janice Kelly,  
J-a-n-i-c-e K-e-l-l-y.

Comment 1 - Envr. Justice

I am representing the Resighini Rancheria. The  
Resighini Rancheria was excluded from participating in  
the development of the KHSA and the KBRA. We are  
concerned with the negative impacts that these Agreements  
have on tribal water and our fishing right claims. We  
believe that our exclusion is a violation of the federal  
trust responsibility and that it violates environmental  
justice laws and policies.

One of our main concerns is that each federally  
recognized tribe in the Klamath Basin should have  
sovereign authority to choose to -- to accept these  
deals, called Agreements, without any forced provisions  
like the one in Section 15.3.9 of the KBRA. Our water  
and fishing rights are very important to us. If the KBRA  
is passed, our Klamath River senior water rights will be  
compromised.

Comment 2 - FERC

We understand what is going on. We understand,  
for the sake of money and profit, there are those that  
may kill our river. We understand that we have been sold

out to you for the sake of money. We understand the lure  
of money, and we understand the lure of power. Think of  
what you propose to do for the sake of cheap electrical  
power.

We are not opposing dam removal. We support  
giving the authority back to the Federal Energy  
Regulatory Commission, where it belongs, back to a  
process where we are all equally allowed to participate  
from the beginning to the end. Follow the law.

After months of study and review, we support the  
no action alternative. Thank you.

**Comment Author** Kelly, Janice  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 27, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1027_047-1	<p>Inclusion in the Klamath Settlement Group required consent of all the parties then participating in that group. DOI is aware that a party exercised its right in the spring of 2007 and blocked the inclusion of the Resighini Rancheria in the Klamath Settlement Group talks. This action did not and does not preclude the Resighini Rancheria from meaningfully participating in the natural resources issues implicated by the KHSAs and KBRA. As described in Master Response KHSAs-1 Negotiation of KHSAs and KBRA, parties outside the Klamath Settlement Group had opportunities to give input regarding development of the KBRA during 2007-2010. At present, any party willing to support the KHSAs and KBRA as currently crafted may become a signatory to the agreement. If the KBRA is implemented, DOI will still have to consult on a Government-to-Government basis with all tribes that have an interest in fish and water in the Klamath Basin. So, there still will be tribal – federal discussion regarding how water management and fish issues should be handled outside of the KBRA. For additional information on Tribal Involvement in Future Discussions of Water Management see Master Response TTA-7.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA describes in detail how the KBRA is consistent with upholding federal trust responsibility.</p> <p>Also, to the extent that the Resighini Rancheria's "exclusion" complaint concerns the Klamath Facilities Removal EIS/EIR process, such a complaint would be unfounded. The Resighini Rancheria has been afforded all of the opportunities for public input and comment available under NEPA, CEQA, and the relevant implementing regulations, including the opportunity to submit comments on the Draft EIS/EIR to which the Lead Agencies are now responding. DOI has held many public meetings in the basin as described in Master Response GEN-16 Public Involvement and has consulted multiple times with all the basin tribes, including the Resighini Rancheria. The Resighini Rancheria is a cooperating agency for the EIS. However, the Resighini Rancheria does not have an absolute right to participate in the development of the proposed action and alternatives that are the subject of analysis in this EIS/EIR since the proposed action concerns potential decisions that would be made by the lead federal and state agencies.</p>	No
IT_MC_1027_047-2	Master Response FERC-1 FERC Process Status.	No

# The Modoc Nation

Government for the Modoc people of Southern Oregon and  
Northern California - *Moatokni maklaks*

IT\_LT\_1012\_001

Oct 12th, 2011

To whom it may concern:

The Modoc Nation (formerly known as the "Modoc Tribe"), a federally recognized native nation by virtue of the Lakes Treaty of 1864 (referred to in KBRA as the "Treaty of Council Grove of 1864") and the Klamath Tribe Restoration Act of 1986, hereby submits the following issues and comments that we would like for the federal government to address with respect to the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement (KBRA), both of which are inextricably linked and the former of which was signed by Ken Salazar, Secretary of the U.S. Department of Interior.

## **Background information necessary to understand and properly respond to these comments**

It must be understood that although both the KBRA and the KHSA refer to the "Klamath Tribes" as if it were a single entity. It is not. In fact, Section 1.7 of the KBRA titled "Definitions and Acronyms" recognizes the plurality of the so-called "Klamath Tribes" on with the following definition: "**Klamath Tribes** shall mean: the Klamath and Modoc Tribes and the Yahooskin Band of Snake Indians, parties to the Treaty of Council Grove of 1864." (KBRA, p. 9) At the time of the signing of both water agreements on February 18, 2010, the three aforementioned tribes had a single government, which ostensibly represented the interests and agreement of the three federally recognized tribes of which it was then composed: the Klamath Tribe, the Modoc Tribe, and the Yahooskin Band of Snake Indians. These three tribes are not the same people – they each have unique tribal identities, cultures, histories, ancestral homelands, values and, perhaps most pertinent to the two water agreements, conflicting and competing interests. The three tribes were forced onto a single reservation by the federal government in 1864, and within a few years the local Indian Agent appointed a Klamath man named Allen David to be "Chief" of the three tribes. The constant harassment of the Modoc Tribe at the hands of the Klamath Tribe, the failure of the U.S. government to provide food and supplies required under the 1864 Treaty (leading to the Modocs' eating of their horses to stave off starvation), and the Indian Agent's disrespect of Modoc sovereignty by putting a Klamath in a position superior to their own leaders – all contributed to the Modoc Indian War of 1872-73.

When settlers came to the Upper Klamath Basin, began fencing the land and putting cattle out to graze, many feared raids by Indians. The Modocs had lost access to country where they had hunted game and gathered edible plants, many were starving. Ranchers and farmers did not want to fight; authorities did not want to contend with further massacres or Indian uprising.

Our leader, Keintpoos, whom whites knew as Captain Jack, asked Judge Elisha Steele, whom President Abraham Lincoln had appointed to draw up a treaty. Judge Steele, however, lacked the authority to do this. He may have known that Congress had rejected treaties made with numerous California tribes in 1851 and 1852, allowing their lands to be taken without compensation or legal claim. Nonetheless,

## The Modoc Nation

Government for the Modoc people of Southern Oregon and  
Northern California - *Moatokni maklaks*

Judge Steele made an agreement with Captain Jack to establish a reservation in the Tule Lake area. In return, Modocs were to stop stealing livestock.

Back in Washington, D.C., the Office of Indian Affairs decided to negotiate a different treaty that would remove all of the Indians of the Upper Klamath Basin onto a reservation on the Oregon side of the border. Indian Superintendent J.W.P. Huntington convened over a thousand Indians at a place they called Council Grove, north of Upper Klamath Lake. In return for ceding their traditional territories—more than 20 million acres of south-central Oregon and northeastern California, including an expanse of high desert country to the east of the Klamath Basin—the Modoc Tribe, the Klamath tribe, and the Yahooskin Band of Northern Paiutes were to inhabit less than 2 million acres on Klamath lands. No whites except for Indian agency employees and Army personnel were supposed to live there. In addition, the Indians were to receive thousands of dollars' worth of supplies over the next fifteen years, after which they were expected to become self-supporting. However, supplies did not arrive for several years, until the Senate ratified the treaty. Even after the goods came, the Indian agent failed to distribute them fairly or fully. As a result, Captain Jack's band of Modocs left the reservation, and the Treaty of 1864 helped to bring about what it was supposed to avoid: an uprising, a massacre, and a full-scale war. Captain Jack, John Schonchin, Boston Charley, Black Jim were hung with black hoods on. Hanging is one of the worst deaths considered by our people because their last breath cannot return to the Creator, Great Spirit. Barncho and Slolux received life imprisonment at Alcatraz; I would imagine it was a short time before their death. This was a great injustice done to our people, who were lied to by the Government from the beginning and only wanted to live in peace with our own people.

Note: The Klamath Indians were never part of our tribe and were enemies much of the time.

For almost one hundred years, the Modoc Tribe has never accepted the legitimacy of the Klamath tribal government because each government was based upon a singularly flawed constitution that employed a one-person-one vote system to elect a single tribal "executive committee" or, as it is now called, "tribal council." Because the Klamath Tribe outnumbered the Modoc Tribe and the Yahooskin Band of Snake Indians by a ratio of at least ten to one, the latter two tribes are essentially disenfranchised. Even worse, the system fails to address or protect the separate tribal status of the component tribes. The result is dictatorial rule by the Klamath Tribe over the Modoc Tribe and the Yahooskin Band of Snake Indians. The Modoc Tribe and people have ignored and endured the Klamath dominated tribal government's well-known culture of corruption and oppression until; finally they could no longer do so.

### **Modoc Repudiation of the Klamath tribal government and the formation of a Modoc government named the Modoc Nation**

On November 20, 2008, some 15 months before the signing of the two water agreements, the Modoc Tribe began a long and arduous process of disentangling itself from the Klamath tribal government. On

## The Modoc Nation

Government for the Modoc people of Southern Oregon and Northern California - *Moatokni maklaks*

that day we drafted the *Declaration of the Rights of the Free and Sovereign People of the Modoc Indian Tribe (Mowatocknie Maklaksüm)*, the first declaration of rights issued by any native tribe or nation in the Americas to be based on the *Declaration of the Rights of Indigenous Peoples* enacted by the United Nations General Assembly in September 2007. We began circulating the Declaration and signature sheets for its ratification among the Modoc People. Public meetings were held on October 9, 2009 and January 29, 2010. The main point of this document is that the Modoc Tribe and people have the right to preserve their unique identity and culture through political and economic self-determination. We now have numerous enrolled citizens in our Nation who have proven Modoc ancestry. A website has been placed on the Internet at (<http://www.modoc-nation.blogspot.com>). You can also find us at The Modoc Nation on Facebook.

We presented our people with a constitution for their consideration and scheduled a gathering and election for June 19, 2010. We placed in two local weekly classified-ads papers one-quarter page ads that appeared every week during the month prior to the election. On the 19<sup>th</sup> of June the Modoc People gathered at the Lava Beds National Monument in northern California and, exercising our sovereignty as a federally recognized Indian tribe, changed our government by unanimously adopting a new constitution and electing a new government. We then issued a *Unanimous Declaration of the Modoc Nation*, a four-page document in which we set forth our reasons for repudiating all allegiance and dissolving all political ties to our former illegitimate government – the *de facto* confederation of three tribes known as the “Klamath Tribes,” described above. We then entered into joint declarations with two other federally recognized tribes, the Pit River Tribe and the Yahooskin Band of Snake Indians, in which each of those native governments formally recognized our new government as “the sole legitimate government” of the Modoc people.

### **Conflicting and competing interests, water agreements in contravention of Klamath Tribes Constitution**

Although Joe Kirk represented himself as the “authorized representative” of the three Klamath Tribes in the settlement negotiations, he was not authorized by the Modoc Tribe to represent our interests. In fact, during all the negotiations, we were never polled as to what our interests were or are, and we were all kept in the dark about the “horse-trading” and “back-room” deals that were taking place – even though the subject of those deals were Modoc ancestral lands and waters and hunting, fishing and gathering rights, which ended up being traded away for programs and deals that benefit the Klamath Tribe at the expense of the Modoc Tribe. It should be apparent to any reasonable person that such a process is undemocratic and unconscionable on its face. Accordingly, and for the reason that the agreements signed by Joe Kirk and voted on by the Klamath Tribes are a clear violation of the Tribes’ constitutional mandate to protect and preserve the waters of all three tribes for future generations, The Modoc Nation (formerly “Modoc Tribe”) does not recognize the validity of the Klamath Tribes General Council vote to approve the water agreements. Such vote was null and void as being in contravention of the Tribes’ Constitution and also for the reason that the voters of the three tribes were never adequately informed

## The Modoc Nation

Government for the Modoc people of Southern Oregon and  
Northern California - *Moatokni maklaks*

as to the contents of the two water agreements on which they were voting. Therefore, we repudiate both of the agreements and take the position that they are inapplicable and non-binding as to the Modoc Nation. But these are legal positions that we expect to result in litigation and/or congressional action, subjects not strictly relevant to our scoping comments.

### Geographical scope of the Modoc Nation's Interest

We have presented this background in order to present comments that apply to our people, The Modoc Nation, who are self-governed, not the Klamath people, who are still a part of the Klamath Tribes. Or the Modocs of Oklahoma, who have for reasons of logistics and time spent away from our people, have decided to stay in that location which the Government forced them to go.

We wish to address the issues "consideration of potential impacts on affected local communities and Tribes" (KHS § 3.3.1), our comments are directed to the potential environmental and cultural impacts of the two water agreements as they apply to Modoc ancestral homelands. For purposes of the two water agreements, this includes: all of the Klamath Basin, as that term is defined in KBRA § 1.7, pg. 9, with the exception of those portions that lie north of Modoc Point on Upper Klamath Lake and west of Yamsey Mountain, and those portions east of the Lost River drainage and south of the Medicine Lake Highlands and Mt. Shasta. Our ancestral lands specifically include, but are not limited to, for purposes of the two water agreements: all of the Sprague River valley east of the Junction of present day Lone Pine Road with the Sprague River Highway and all the drainage into the Sprague river north to Yamsey Mountain; all of the land east of Yamsey Mountain running to Winter Rim and including the Upper Sycan River, the Sycan Marsh, the Lower Sycan River limited to the drainage into those bodies of water; all land south of that just described, running through the Gerber Valley and Barnes Valley areas to the Lost River and all its drainage and tributaries; Clear Lake and its tributaries; the Tule Lake Basin and its drainage area to the south known as the Medicine Lake Highlands; the Lower Klamath Lake Basin and all its tributaries; Upper Klamath Lake south of Modoc Point and all its drainage from the Crest of the Cascade Mountain Range south of a line running west from Modoc Point; Link River; Lake Ewauna, the Klamath River reach that runs from Lake Ewauna to the mouth of Fall Creek and all of its drainage lands and tributaries to the north, including Spencer Creek and Fall Creek all the way up to Howard Prairie Reservoir on the north and Shovel Creek on the south; Long Lake and Round Lake; and all of the land between the aforesaid stretch of the Klamath River and Stukel Mountain. This list is not intended to be all-inclusive.

### **Spiritual and cultural concerns of the people of the Modoc Nation**

The Modoc people have lived, hunted, fished and gathered resources from our ancestral lands from time immemorial. Some archeologists hold that the Clear Lake area has villages that were continuously occupied for 14,000 years, and that these people, who originally hunted elephants, never left the region, making the Modoc people the oldest indigenous holders of any area in the United States. We have a very deep spiritual connection to the land and to its natural resources and to all of our relations: the

## The Modoc Nation

Government for the Modoc people of Southern Oregon and Northern California - *Moatokni maklaks*

plants and animals indigenous to our ancestral homeland. *Kumush*, our name for the Creator threw the bones of our first ancestors onto this land and said, "This shall be your land forever."

"Kumush and Isis traveled for a long time before they came to the river that is now called Lost River. Kumush made a basket and caught a salmon in it. Then he said: 'I want salmon always to be in this river, and many of them so people will have plenty to eat. . . The bones for the Modoc Indians he threw last and he said to them: 'You will eat what I eat, you will keep my place when I am gone, and you will be bravest of all.'" Jeremiah Curtin, *Myths of the Modocs*, (Boston: Little, Brown, and Company, 1912), pp. 11, 45. Taken from the firsthand accounts of Ko-a-lak'-ak-a in 1884, the oldest living woman of the Klamath or Modoc Tribe at the time.

It is our spiritual duty to protect our ancestral homeland, natural resources, plants and animals. Doing so in the proper way also ensures for our people not only spiritual harmony and balance, but also the possibility of sustained economic development and prosperity for all of our people. It is from this perspective that we submit these comments, and it is from this perspective that we hope the government agencies receiving these comments will address the issues we now raise.

Comment 1 - Proposed Project/Action

**A short list of issues The Modoc Nation (formerly "Modoc Tribe") would like to see addressed:**

1. Both the KBRA and KHSA make it clear that both the Keno Dam and Link River Dam will not be removed. Since the entire premise of both agreements is that the removal of all or a part of the four dams below Keno Dam is an action necessary to remove obstacles to fish runs, to restore health to the Klamath River, its tributaries and its habitat for the ultimate purpose of preserving and enhancing salmonid populations, logic would dictate that the same actions and purposes would apply to the Keno Dam and the Link River Dam.

Comment 2 - Fish

a) What impact will the continued existence of the Keno Dam, operated for the express purpose of providing "water levels upstream of Keno Dam for diversion and canal maintenance consistent with Contract #14-06-200-3579A executed on January 4, 1968, between Reclamation and PacifiCorp (then COPCO) and historic practice" (KHSA §7.5.4) have on the reintroduction of salmon into the streams and lakes of the Upper Klamath Basin that are in our ancestral lands described above? In other words, how will the salmon get past the Keno dam so that they can enter the upper reach of the Klamath River, the Lost River, the Sprague River and the Sycan River?

Comment 3a - ITAs

b) What impact upon the Modoc Nation's spiritual, cultural and economic interests and well-being can be expected if salmon are not able to get past the Keno dam and Link River Dam?

c) What benefits does either of the two water agreements provide to the people of The Modoc Nation to offset any adverse impacts just described? Please do not cite projects or land swaps that run to the benefit of the Klamath Tribe, such as the Mazama Tree Farm, as all of those take place north of our ancestral homelands, and we do not see how they benefit us, especially since we have severed all political relations with the Klamath tribal government as of June 19, 2010.

Comment 4 - ITAs

## The Modoc Nation

Government for the Modoc people of Southern Oregon and  
Northern California - *Moatokni maklaks*

Comment 3b - ITAs

2. What would be the environmental, ecological and biological impact on Modoc ancestral lands, particularly on Lower Klamath National Wildlife Refuge (LKNWR) and Tule Lake National Wildlife Refuge (TLNWR) and their respective plant and wildlife populations if the Keno Dam were removed to allow natural stream flows and fish passage?

Comment 5 - Keno

3. How can the separate study required of the Secretary of Interior with respect to the Keno Dam by KHSA § 7.5.1. be considered scientifically and methodologically sound when the decision as to the continued existence and operation of the dam in a manner designed "to provide water levels upstream of Keno Dam for diversion and canal maintenance consistent with Contract #14-06-200-3579A executed on January 4, 1968, between Reclamation and PacifiCorp (then COPCO) and historic practice" has been predetermined?

4. Section 9 of the KBRA provides an overview of a Klamath Basin Fisheries Program, the specific purpose of which is set forth in KBRA § 9.2.1.A., which reads as follows: "...provides for reintroduction of anadromous Species throughout their historic range above Iron Gate Dam, including tributaries to Upper Klamath Lake but excluding the Lost River sub-basin, and for reestablishment and maintenance of the ecological functionality and connectivity of Fish habitat." (Emphasis added). KBRA 9.2.3., which covers the geographic scope of the project, states in pertinent part: "*The Agreement is not intended and shall not be implemented to establish or introduce populations of salmon, steelhead, or Pacific lamprey in the Lost River or its tributaries or the Tule Lake Basin.*" (Emphasis added)

Comment 6 - KBRA

a) What environmental, ecological or biological diversity purpose is served by excluding the Lost River sub-basin, the Lost River or its tributaries or the Tule Lake Basin from the program for fisheries restoration and the reintroduction of species that were indigenous to those places prior to the construction of the Klamath Reclamation Project and the five dams on the Klamath River?

Comment 3c - ITAs

b) What impact will this provision have on the very deeply held and specific spiritual and cultural concerns of The Modoc Nation and its people, as set forth in the section preceding the listing of issues our Nation would like to see addressed.

Comment 7 - KBRA

c) What benefit or benefits does The Modoc Nation and its people receive under the two water agreements to offset this catastrophic and devastating spiritual, cultural and economic loss?

Comment 3d - ITAs

d) Why among all the tribes party to or affected by the two water agreements has the Modoc Tribe been selected as the only tribe to be deprived of the restoration of its native fisheries and the reintroduction of anadromous species? How can any reasonable person see this situation as fair and reasonable to The Modoc Nation and its people or expect them to merely accept this outrageous and intolerable injustice?

5. KBRA Section 1.2.3. **Sustainable Tribal Communities** provides: "Tribes have lived in the Klamath River Basin since time immemorial and are expected to continue to do so using sustainable resource-based economies. There are tribal fishing rights in various locations that have associated water rights for the fish to propagate and produce sufficient numbers for harvest. The Tribes, irrigators, and the United

# The Modoc Nation

Government for the Modoc people of Southern Oregon and Northern California - *Moatokni maklaks*

States have differed in administrative and judicial settings over the amounts of water needed for fish. This Agreement seeks to resolve these substantial differences and also to provide the Tribes with both sustainable natural resources and sustainable communities." (Emphasis added) KBRA Section 15.3.2.B.iii (Non-Use of Findings and Judgment/Decree), Section 15.3.3 (Assurances of Non-Interference with Klamath Reclamation Project Diversions by the Klamath Tribes, and Section 15.3.5 (Relinquishment and Release of Claims against the United States by the Klamath Tribes) all run to the effect that although the Modoc Nation retains its underlying treaty water, hunting, fishing, hunting and gathering rights, it is waiving its right to assert them in any way that will interfere with deliveries of water to irrigators through the Klamath Reclamation Project.

Comment 3e - ITAs

a) How can the above-referenced provisions of Sections 9 (discussed above) and Section 15 be reconciled to the stated goal of Section 1.2.3? In other words, how does The Modoc Nation sustain the natural resources of its ancestral lands, particularly those of the two National Wildlife Refuges, necessary build a sustainable community based on our traditional spiritual, cultural and economic values, when Section 15 deprives us of the right to protect those very resources and way of life through the assertion of claims either before regulatory agencies or the courts?

b) How does the provision set forth in KBRA §15.3.2.B.iii, which states: "... the Tribes and the United States shall not, directly or indirectly assert in any manner, water rights recognized for the Claims in the findings and order issued pursuant to ORS 539.130(1) or a judgment/decree issued under ORS 539.150(4) including in water rights or other contexts, that interferes with the diversion, use, and reuse of water for the Klamath Reclamation Project" improve or otherwise impact the environment, ecology or biological diversity of any of the lands in the Klamath Basin, especially those of our Modoc ancestral homelands in the Lost River Circle and the LKNWR and TLNWR?

c) KBRA § 15.3.3. provides in pertinent part, "The Klamath Tribes hereby provide interim Assurances as stated in Section 15.3.8.B, and conditional permanent Assurances that the Klamath Tribes will not assert: (i) tribal water or fishing rights theories or tribal trust theories in a manner, or (ii) Klamath tribal water or trust rights in the State of California, whatever they may be, in a manner, that will interfere with the diversion, use or reuse of water for the Klamath Reclamation Project that is not precluded by the limitation on diversions of water as provided in Appendix E-1 in any administrative context or proceeding, or any judicial proceeding, or otherwise . . ." (emphasis added)

Comment 3f - ITAs

i. What is the purpose of subparagraph (ii) other than to single out The Modoc Nation and people, who among the three tribes that formerly made up the Klamath Tribes (as stated above, The Modoc Nation on June 19, 2010 dissolved all political ties to the Klamath Tribes and formed its own government) is the only tribe to have ancestral lands situated in California?

Comment 8 - KBRA

ii. How does KBRA § 15.3.3. improve or otherwise impact the environment, ecology or biological diversity of any of the lands in the Klamath Basin, especially those of our Modoc ancestral homelands in the Lost River Circle and the LKNWR and TLNWR?

## The Modoc Nation

Government for the Modoc people of Southern Oregon and  
Northern California - *Moatokni maklaks*

Comment 9 - KBRA

d) How does the provision set forth in KBRA § 15.3.5.A.i. that requires the Klamath Tribes (including the Modoc Nation) to release of any and all claims we may have against the federal government "resulting from (a) water management decisions, including the failure to act, or (b) the failure to protect, or to prevent interference with, the Tribes' water or water rights, that relate to damages, losses, or injuries to water, water rights, land, or natural resources due to loss of water or water rights (including damages, losses, or injuries to hunting, fishing, gathering rights or other activities, due to loss of water or water rights)" improve or otherwise impact the environment, ecology or biological diversity of any of the lands in the Klamath Basin, especially those of our Modoc ancestral homelands in the Lost River Circle and the LKNWR and TLNWR?

Comment 10 - ITAs

e) How can the waiver of our rights to assert claims designed to protect and preserve the water we deem necessary to preserve and protect the land, waters, plants and wildlife that are essential to our spiritual, cultural and economic well-being not be construed constitute a severe adverse impact The Modoc Nation and its citizens?

Comment 11 - KBRA

f) What benefit or benefits does The Modoc Nation and its people receive in return for giving up the major rights enumerated in KBRA Section 15? Again, please address this issue directly with respect to The Modoc Nation and its people, not the "Klamath Tribes" in general.

Respectfully submitted,

Chief Greywolf, Jeff Kelley

The Modoc Nation

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Some parts were previously submitted on July 21<sup>st</sup>, 2010

**Comment Author** Kelley, Jeff  
**Agency/Assoc.** The Modoc Nation  
**Submittal Date** October 12, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1012_001-1	<p>Appendix A, Final Alternatives Report, from the Draft EIS/EIR describes the alternatives considered during development of the document. Alternatives 14 and 15, Full Removal of Five Dams and Full Removal of Six Dams, consider the removal of Keno Dam and Link River Dam in addition to the Four Facilities. Alternative 14 was not carried forward for more detailed analysis in the EIS/EIR because it would not avoid or lessen environmental effects of the Proposed Action. Alternative 15 was not carried forward for more detailed analysis in the EIS/EIR because it would not avoid or lessen environmental effects of the Proposed Action. Implementation of Alternative 15 would also not be likely to meet Endangered Species Act requirements or tribal trust water rights within Upper Klamath Lake.</p>	No
IT_LT_1012_001-2	<p>The Keno Dam is owned by PacifiCorp. The primary purpose of the Keno Dam is to maintain water levels in Keno Impoundment/Lake Ewauna for gravity delivery of water into irrigation canals. It has no hydroelectric capacity. The 20-mile Keno Reach of the Klamath River receives large loads of decaying organic matter (blue-green algae) from Upper Klamath Lake, producing extremely low dissolved-oxygen levels that persist in the summer and fall (EIS/EIR Section 1.1.3.2). All of the alternatives examined in the EIS/EIR retain the Keno facility because of the role it plays in regulating irrigation water and providing water to the U.S. Fish and Wildlife Service National Wildlife Refuge. With implementation of the KHSA in Alternatives 2 and 3, ownership of the Keno Dam would be transferred to the Department of Interior. Operations of the Keno facility under DOI would be consistent with current terms and conditions of operations (EIS/EIR Section 2.4.3.7; 3.2.4.3.2.8). Removal of the Keno Dam was considered, but was not carried forward as an Action Alternative because removal of the Keno facility would be inconsistent with the KHSA (EIS/EIR Section 2.3).</p> <p>Alternatives 2, 3, 4 and 5 would include seasonal salmon transport consistent with DOI and NOAA Fisheries Service fishway prescriptions. These include a measure to seasonally trap and haul fall-run Chinook salmon upstream and downstream around the Keno Impoundment. The prescriptions call for seasonal trap and haul operations from June 15 to November 15 when water quality conditions are not suitable for fish (dissolved oxygen concentration less than 6 mg/l or temperature above 20 degrees Celsius) (U.S. Department of the Interior 2007; National Fisheries Service 2007). Upstream operations would include construction of a collection and handling facility downstream of Keno Dam; these fish would be released upstream of Link River Dam (EIS/EIR Section 2.4.5.5). Downstream operations would include construction of a collection and handling facility at Link River Dam (EIS/R Section 2.4.5.5). These fish would be released downstream</p>	No

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Comment Code	Comment Response	Change in EIS/EIR
	<p>from Keno Dam. Low DO concentrations generally occur from July through October and could affect migration of fall Chinook adults. The Chinook expert panel did indicate that seasonally low DO concentrations in the Keno Reach would be an issue for migrating fall adult Chinook salmon (Goodman et al. 2011) but did not acknowledge fishway prescriptions in their report. Because of the timing of various life stages, this low DO would not significantly affect spring Chinook, steelhead, or the general outmigration of fall Chinook. If dams are removed, there would likely need to be a seasonal (Sept and October) "trap and haul" of fall Chinook adults around this 20 mile stretch of river. Depending on the speed and effectiveness of TMDL and KBRA implementation, this seasonal trap and haul above Keno would likely continue for a few decades, but it could be for a shorter period if successful engineering solutions for the problems in the Keno reach are implemented.</p> <p>DO problems are one of the items for which the KBRA seeks funding of engineering solutions.</p>	
IT_LT_1012_001-3	<p>The Klamath Tribes consist of the Klamath, Modoc, and Yahooskin Peoples. Although a faction of people of Modoc decent have declared independence from the Klamath Tribes and created the Modoc Nation the federal government does not recognize the Modoc Nation as a tribal government separate and distinct from the Klamath Tribes. The Klamath Tribes, whose stated mission is to protect, preserve, and enhance the spiritual, cultural, and physical values and resources of the Klamath, Modoc, and Yahooskin Peoples, negotiated and signed the KBRA as representatives of the Modoc People. It can be inferred that the spiritual and cultural concerns of the Modoc People were taken into account when the Klamath Tribes approved the KBRA.</p>	No
IT_LT_1012_001-4	<p>Projected changes associated with the KSD and KBRA would improve water quality and the Klamath River fishery. These projected changes are not related to any specific agreements with any specific tribes. Projected changes in water quality and the Klamath River fishery would likely benefit the Modoc Nation and improve its ability to acquire resources and engage in its traditional cultural practices.</p>	No
IT_LT_1012_001-5	<p>Although the KHSA calls for a separate study with respect to the transfer of Keno Dam, the Action Agencies have determined that the transfer of Keno Dam would best be addresses in context with the Proposed Action, instead of through a separate study. Therefore, the transfer of Keno Dam is analyzed in the EIS/EIR instead of a separate study. Section 7.5.1 of the KHSA specified that the separate study should address the following issues:</p>	Yes

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**Submittal Date** October 12, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>1 - Water Quality. Since February of 2010 when the KHSA was signed, the States of Oregon and California have finalized TMDL for the Klamath river in accordance with the Clean Water Act, and California Water Code Division 7, Chapter 4 Article 3 and OAR Chapter 340, Division 42, respectively. Section 3.2, Water Quality, of the EIS/EIR, describes the TMDLs in detail. The TMDLs will remain in effect following the transfer of ownership of Keno Dam. The transfer of ownership of Keno Dam is not intended to improve water quality, the FRP of the KBRA specifies that it will include, but may not be limited to, water quality improvements, permanent protection of riparian vegetation, measures to prevent and control excessive sediment inputs, and remediation of fish passage problems, among others. The Phase I Plan of the FRP will address management and reduction of organic and nutrient loads in and above Keno Impoundment/Lake Ewauna and in the Klamath River downstream (KBRA Section 10.1.2).</p>	
	<p>2 – Fish Passage. To protect fish from impaired water quality before the TMDLs take effect and actions under the FRP are implemented, anadromous fish will be trapped below Keno dam and transported to avoid the area of impaired water quality. This trap and transfer of fish will continue until the water quality conditions are sufficiently improved to support anadromous fish. Keno Dam currently has a functioning fish passage structure. Should the fish passage structure require remediation in the future, the remediation will be addressed through the FRP.</p>	
	<p>3 - Transfer of title to the Keno facility. Transfer of the Keno facility is addressed in an Agreement in Principle for the Transfer of Keno Dam (Reclamation and PacifiCorp, 2012.) between the U.S. DOI and PacifiCorp. This Agreement in Principle lays the foundation for a binding agreement for transfer of the facility should the Secretary of the Interior Make an Affirmative Determination regarding removal of the Four Facilities. Provided the Secretary makes an Affirmative Determination, the actual transfer would take place when the DRE provides notice to the Parties [to the KHSA] and to the Federal Energy Regulatory Commission that J.C. Boyle Facility Removal is ready to commence (KHSA, Section 7.5.2). .</p>	
	<p>4 – Landowner agreements. The disposition and continued fulfillment of landowner agreements are also addressed in the Agreement in Principle.</p>	
	<p>5 – Operation and maintenance of the Keno Facility. Following transfer, Reclamation will be responsible for future operations and maintenance of Keno Dam as described in the Agreement in Principle between PacifiCorp and Reclamation (Reclamation and PacifiCorp, 2012).</p>	

**Comment Author** Kelley, Jeff  
**Agency/Assoc.** The Modoc Nation  
**Submittal Date** October 12, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>6 - Maintaining the benefits that Keno Dam currently provides. In order to maintain the benefits that Keno Dam currently provided, it will be operated to maintain water levels upstream of Keno Dam to provide for diversion and canal maintenance consistent with Contract No. 14-06-200-3579A executed on January 4, 1968 between Reclamation and PacifiCorp (then California Oregon Power Company (COPCO)) and historic practice and subject to Applicable Law (KHSA, Section 7.5.4). Changes to the operation of Keno Dam which do not maintain these benefits, or the removal or replacement of the facility, is not a part of the Proposed Action and is therefore not analyzed within this EIS/EIR.</p>	
IT_LT_1012_001-6	<p>The geographic scope of the KBRA is limited to the main Project area that is supplied by UKL or the Klamath River. It does not include Lost River basin above Harpold Dam. The reintroduction of fish species to the Lost River Subbasin and the Tule River Subbasin as suggested by the comment author represents an alternative to the KBRA. Alternatives to the KBRA were not considered in this EIS/EIR.</p> <p>Master Response ALT-7 Elimination of KBRA without KHSA Including Alternative 16 - Dredge Upper Klamath Lake and Alternative 18 - Partition of Upper Klamath Lake from Detailed Study.</p>	No
IT_LT_1012_001-7	<p>The Klamath Tribes consist of the Klamath, Modoc, and Yahooskin Peoples. Although a faction of people of Modoc decent have declared independence from the Klamath Tribes and created the Modoc Nation the federal government does not recognize the Modoc Nation as a tribal government separate and distinct from the Klamath Tribes. The Klamath Tribes, whose stated mission is to protect, preserve, and enhance the spiritual, cultural, and physical values and resources of the Klamath, Modoc, and Yahooskin Peoples, negotiated and signed the KBRA as representatives of the Modoc People. It can be inferred that the spiritual and cultural concerns of the Modoc People were taken into account when the Klamath Tribes approved the KBRA.</p>	No
IT_LT_1012_001-8	<p>Through Section 15, the KBRA provides for an allocation of water to the Lower Klamath and Tule Lake National Wildlife Refuges and as such provide ecological benefits and support of biological diversity within the LKNWR and TLNWR. These effects are described in the EIS/EIR in Sections 3.3 and 3.5.</p>	No
IT_LT_1012_001-9	<p>The referenced section of the KBRA is one element of the agreement in which the Klamath Tribes would release claims for damages in exchange for other provisions of the KBRA including the removal dams on the Klamath River, a fisheries restoration</p>	No

**Comment Author** Kelley, Jeff  
**Agency/Assoc.** The Modoc Nation  
**Submittal Date** October 12, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1012_001-10	<p>program, water allocations for the LKNWR and TLNWR, etc. Potential effects on the ecology and biological diversity of the Klamath Basin are analyzed programmatically in the EIS/EIR because the implementation of many elements of the KBRA is unknown and not reasonably foreseeable at this time. The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance will be completed for the separate KBRA components in the future.</p> <p>The federal government's trust responsibility to Indian nations has long been recognized by the courts, by Congress, and by the executive branch. However, there is no single court decision, federal law, or Presidential proclamation that first identified this doctrine of trust responsibility.</p> <p>Most commentators have stated, as Professor Tsosie from Arizona State University wrote in 2003, that the roots of the trust doctrine "extend back to the earliest treaties between European governments and Indian nations," as well as similar treaties between the United States government and Indian nations. See Rebecca Tsosie, "The Indian Trust Doctrine After The 2002-2003 Supreme Court Term," 39 Tulsa Law Review 271, 272 (2003).</p> <p>The federal government has a responsibility to ensure that trust resources, such as water and fishing rights, and other associated rights are properly managed for the benefit of each federally recognized tribe. By definition, Indian Trust Resources cannot be sold, leased, or otherwise encumbered without approval of the United States. The federal government has the responsibility to safeguard fishing rights and to maintain any federally recognized water rights. Projected changes to the Klamath River as a result of the KHSA and KBRA would likely facilitate continuation of the non-federally recognized Modoc Nation's traditional cultural practices.</p>	No
IT_LT_1012_001-11	<p>The Klamath Tribes consist of the Klamath, Modoc, and Yahooskin Peoples. Although a faction of people of Modoc decent have declared independence from the Klamath Tribes and created the Modoc Nation the federal government does not recognize the Modoc Nation as a tribal government separate and distinct from the Klamath Tribes. The Klamath Tribes, whose stated mission is to protect, preserve, and enhance the spiritual, cultural, and</p>	No

<b>Comment Author</b>	Kelley, Jeff
<b>Agency/Assoc.</b>	The Modoc Nation
<b>Submittal Date</b>	October 12, 2011

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

physical values and resources of the Klamath, Modoc, and Yahooskin Peoples, negotiated and signed the KBRA as representatives of the Modoc People. It can be inferred that the spiritual and cultural concerns of the Modoc People were taken into account when the Klamath Tribes approved the KBRA.

IT\_MC\_1027\_048

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MR. KINNEY: Javier Kinney, J-a-v-i-e-r, middle initial I., last name K-i-n-n-e-y.

Good evening. My name is Javier Kinney. I currently serve as the Director for the Office of Self Governance for the Yurok Tribe. We appreciate the opportunity to share our comments today with you in regards to the enormous amount in the leadership of not only the Yurok Tribe but the various community members and community organizations that have been working in this process for quite some time.

I received my Bachelor of Arts degree in history and Native American studies from University of California at Davis, my Master of Arts degree in law and diplomacy from Fletcher School, Tufts University, and my Juris Doctorate from Suffolk University Law School. And one of the important things, and more importantly, I received a traditional education from many of the elders and the traditional people that our family derived from.

I'm currently a resident of Weitchpec, California. And, again, the ancestral villages in that community are important to and integral to everything that we do.

In regards to the traditional values and principles that have been passed down, as well as integrated into our everyday lives, the Yurok Tribe, as a contemporary tribal company, has needed to address and resolve issues that have not necessarily been produced by us. In many ways, our interests and the fishing rights of the Yurok people have been attempted to be divested from our communities.

My two children, ages 9 and 11, have continuously practiced their traditional fishing rights in and around our village areas. And the important value that is placed on that is not only encouraged but is lived out every day of our lives.

Comment 1 - Approves  
Dam Removal

In addition, the technical expertise that has been provided by the Yurok Tribe and, again, the leadership and the policy actions that have been recommended by the Tribe is why we are encouraging and providing the support for Alternative 2 and the removal of all four dams.

Again, there is many people in this room that have stood up and taken offense to that divestment of fishing rights, but, more importantly, the importance of having a balance of traditional culture, of traditional values, has sought to address and, again, prevent the further decrease in our tribal rights.

Lastly, again, there has been numerous attempts

over history to seek to extract the highest value of our natural resources, at the same time at the lowest cost. Those days are over. Our traditional people have continuously carried out their fishing rights, in not only fishing on the river in traditional ways but, in contemporary times, are continuing to carry out that important right.

Lastly, again, the technical expertise and the leadership by the Yurok Tribal Council will continue to fight not only for the collective vision of protecting the natural resources but also protecting the ways of life of our communities and the resources that are associated with that responsibility. The Yurok Tribe has made a commitment, not only as a tribal government, but, as you can see from the public scoping meetings, the communities are coming out in support of these actions.

Thank you very much, and I appreciate your time.

**Comment Author** Kinney, Javier  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_048-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

IT\_MC\_1020\_019

PUBLIC HEARING ON THE KLAMATH DAM  
 REMOVAL DRAFT EIS/EIR  
 ---o0o---  
 YREKA, CALIFORNIA  
 THURSDAY, OCTOBER 20, 2011

MR. GARY LAKE: Good evening, my name is Gary

Lake, L-a-k-e.

I'm a past councilman for the Karuk tribe, or

Karok or Kayrok, I'm not sure how they pronounce it

anymore, and also a past vice-chairman of the Shasta

People.

Comment 1 - Fish



And I believe in 1827, the Klamath Lake Indian  
guide that was for the Peter Skene Ogden party that was  
camped near what is presently known as J. C. Boyle Dam,  
their Indian guide told his party members that no salmon  
came past that point, which is presently that dam, the  
location of the J. C. Boyle Dam. This is historical fact.  
The Klamath River is a reverse watershed and is  
historically warm. While many cold water rivers might  
benefit from dam removal, the Klamath River will not.  
Let it be known, I was a councilman for the  
 Karuk tribe, and we were approached, repeatedly  
 approached, the council, by the Department of Natural  
 Resources -- Craig Tucker is a good friend, Lee Hillman --  
 and, um, basically, we were told that we could turn the  
 Coho salmon into a new spotted owl and we could run the

white man, the miners, and the Shastas off the Klamath  
River and steal back the land.

Comment 2 - Cultural Resources

Um, political correctness. You guys talk about  
all these other tribes but you never mention the Shasta  
people. 50 percent of the entire Klamath River is within  
the Shasta territory, and that's a fact. All the dams  
that are slated for removal are within Shasta territory.  
The Shasta territory will be split between two interloping  
tribes, the Karuk, Karok, whatever, and the Klamath, and  
it will basically exterminate the Shastas.  
If you look at all the stuff that the Karuk  
tribe and everybody else opposed then, they never mention  
anything about the Shasta people. It's Karuk this, Karuk  
that, tribal territory and everything.  
The bottom line is, they are socio-economically  
exterminating us, and you are a part of that and you will  
eventually have to deal with that, of course, as truth be  
told and history is told.  
Um, you know, I could say a bunch of other  
things, but the bottom line is this, you know, there's  
Mount Shasta, there's Shasta Lake, there's Shasta City,  
there's Shasta River. There's no Mount Karuk. There's  
Shasta Cola. There's no mountain -- you know, there's no  
Karuk Cola, you know, there's -- they are a supplement to

Treaty Q, and we all know they are not a treaty or a  
tribe, and they are being allowed, with basically, you  
guys' help, to exterminate the Shasta people. That is  
what I have to say.

You have to really think about that in the  
future because you and everybody else will be held  
accountable.

Thank you.

**Comment Author** Lake, Gary  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1020_019-1	<p>Historical distributions of anadromous fish are described in the Draft EIS/EIR in Section 3.3.3.1, Aquatic Resources. Historical records reviewed by Hamilton et al. (2005) and information obtained from archaeological sites analyzed by Butler et al. (2010) indicate that prior to the construction of Copco 1 Dam, Chinook salmon and steelhead spawned in the tributaries upstream of Upper Klamath Lake, including the Sprague, Williamson, and Wood rivers.</p> <p>The question regarding the historical distribution of salmon and steelhead above Iron Gate Dam was also addressed in proceedings before Administrative Law Judge Honorable Parlen L. McKenna who concluded that agencies had met their burden of proof on this issue (EIS 1.2.6.2, Federal Energy Commission Relicensing). Among other findings, Judge McKenna determined (Administrative Law Judge 2006) that:</p> <ul style="list-style-type: none"> <li>• 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).</li> <li>• Chinook salmon (both spring and fall-run) were abundant in the tributaries of the Upper Klamath Basin, including Jenny, Fall, and Shovel Creeks, as well as the Wood, Sprague, and Williamson rivers (FOF 2A-4, p. 12).</li> <li>• Steelhead trout utilized habitat in Spencer, Shovel, Fall, Camp, and Scotch creeks, and they were likely distributed as far upstream as Link River (FOF 2A-5, p. 12).</li> <li>• Coho salmon spawned in Fall Creek (FOF 2A-6, p. 12).</li> <li>• The record shows that those anadromous fish proximate to Iron Gate Dam are genetically most similar to those populations that existed in the Upper Klamath Basin prior to the construction of the dams (FOF 2A-22, p. 15).</li> </ul> <p>Additionally, the Federal Energy Regulatory Commission (Federal Energy Regulatory Commission 2007) concluded that anadromous fish occurred historically above Iron Gate Dam.</p> <p>The effect of dam removal on water temperature varies seasonally, and by river reach:</p> <ul style="list-style-type: none"> <li>• From the upstream end of J.C. Boyle Reservoir to Iron Gate Dam the reservoir drawdowns would allow tributaries and springs such as Fall, Shovel, and Spencer Creeks and Big Springs to flow directly into the mainstem Klamath River, creating patches of cooler water that could be used as</li> </ul>	No

**Comment Author** Lake, Gary  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1020_019-2	<p>temperature refugia by fish (Hamilton et al. 2011). Water quality conditions would also improve further downstream in the Hydroelectric Reach. From Copco 1 to Iron Gate Reservoir, removal of the Four Facilities would result in a 2-10 degree centigrade decrease in water temperatures during the fall months and a 1-2.5 degree centigrade increase in water temperatures during spring months (PacifiCorp 2004a, Dunsmoor and Huntington 2006, NCRWQCB 2010a, Perry et al. 2011; see also Section 3.2.4.3.2.1), an increase dissolved oxygen concentrations (PacifiCorp 2004b, NCRWQCB 2010; see also Section 3.2.4.3.2.4), and eliminate reservoir habitat that creates ideal conditions for seasonal nuisance and/or noxious phytoplankton blooms (see Section 3.4, Algae) (Draft EIS/EIR Section 3.3.4.3, p. 3.3-87).</p> <ul style="list-style-type: none"> <li>In the Lower Klamath River downstream of Iron Gate Dam the thermal lag formerly caused by water storage in reservoirs and the associated increased thermal mass would be eliminated in the lower Klamath River. This elimination would cause water temperatures to have natural diurnal variations and become more in sync with historical migration and spawning periods for Klamath River Chinook salmon, warming earlier in the spring, and cooling earlier in the fall compared to existing conditions (Stillwater Sciences 2009b; Hamilton et al. 2011). These changes would result in water temperature more favorable for salmonids in the mainstem (Draft EIS/EIR Section 3.3.4.3, p. 3.3-87).</li> </ul> <p>The comment, as written, provides an anecdotal account from 1 party in 1827 to support the argument that anadromous fish did not occur upstream of Iron Gate Dam. No evidence is provided to support the argument that water temperatures in the Klamath River would not benefit by dam removal.</p>	No
	<p>Master Response CUL-1 Shasta Nation Participation.</p> <p>Master Response CUL-2 Federal Recognition.</p>	

# Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1020\_032

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**  
KlamathSD@usbr.gov

**Website:**  
KlamathRestoration.gov

**Fax:**

Comment 1 - Approves of  
Dam Removal

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

**Name:** KRISTI LEWIS

**Organization:** HUPA TRIBE

**Title:** Human Being

**Address:** P.O. Box 1231 Hoopa Ca. 95544

**Email:** k24sl5@yahoo.com

**Comments:** I am a direct descendant

of Lucinda Griffith from the Karuk

tribe. I have spent many years

growing up on the Klamath River. I support

Alternative 2 - Full Facilities Removal of four

Dams to better preserve my family's culture.

We have depended on fish to feed our

family for lots of generations. It is important

that we extend these resources for future

generations.

**Public Disclosure:** It is not required that you submit personal information. If you decide to do so, please note that this information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Comment Author** Lewis, Kristi  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1020_032-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 26, 2011  
PUBLIC TESTIMONY  
ARCATA, CALIFORNIA

MR. MARSTON: Good evening. I'm Les Marston.

Comment 1 - ITAs

I'm the tribal attorney for the Resighini Rancheria.

And I'm here tonight to state that it's the position of the Resighini that the draft environmental document is inadequate and was prepared in violation of both NEPA and CEQA, for the following reasons: The Resighini have an off-reservation right to fish in the Klamath River. The Resighini, in the exercise of their right as part of the physical environment, you have to include a description of the physical environment in the document. If you don't include an adequate description, you can't assess the impacts.

There's no description, whatsoever, not even an acknowledgment that the Resighini have an off-reservation right to fish, let alone a description of how they exercise that right, the fishing stations and locations where they exercise that right. If you don't have a physical description of the environment, you can't assess the impacts. And so, the environmental document contains48 no analysis of the impacts from the project on the Resighini's off-reservation right to fish.

In addition, there's no description, whatsoever, of how the impacts from the project will affect the

cultural practices of the Resighini, based on that  
off-reservation fishing right. Likewise, there's no  
analysis -- because there's no description of the right  
or acknowledgment of the right, there's no analysis of  
what the cumulative impacts will be on the  
off-reservation fishing right.

And then, of course, if you don't acknowledge  
the right and you don't have any analysis of what impacts  
the project will have on the exercise of the right, you  
can't develop any mitigation measures. And, of course,  
the Environmental Impact Statement is void of any  
mitigation measurements designed to mitigate the impacts  
that the project will have on the Resighini's  
off-reservation right.

And just to illustrate, I'll give you one  
example. For example, you have no idea, because you  
haven't done -- acquired any information and you have  
done no analysis of the extent and nature of the right.

So, let's just say, hypothetically speaking, that  
Resighini fishermen, some of the Resighini fishermen,  
fish with spear and they're riffle fishermen and they<sup>49</sup>  
fish at critical riffles. And those are locations where  
the river will narrow out and become shallow. Okay? If  
dam removal increased flows and the increased flows  
happens to inundate a critical riffle at a location where  
a riffle fishermen has fished for, you know, the last  
decade or so, you have now just eliminated one of the

Resighini's fishing stations.

So, you've got -- your physical description is inadequate. Your impact of the -- your analysis of the impacts are inadequate. You have no analysis of the cumulative impacts, so that's inadequate. And you have no draft mitigation measures to address how the impacts are going to affect their right, including the cultural practices and how the cultural practices are related to their right.

So, it's our position that the Environmental Impact Statement is inadequate and in violation of applicable law. And I'll be submitting written comments.

MR. LYNCH: Thank you.

**Comment Author** Marston, Lester  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1026_064-1	Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.  Information on effects of the proposed action on the Resighini Rancheria is contained in section 3.12.3.4.	Yes

Law Offices Of

IT\_LT\_1026\_069

**RAPPORT AND MARSTON**

An Association of Sole Practitioners

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**CONFIDENTIAL**  
**MEMORANDUM**

**TO:** Richard Dowd, Chairman, and Members of the Resighini Tribal Council  
**FROM:** Lester J. Marston, Tribal Attorney  
**DATE:** September 15, 2010  
**SUBJECT:** The Right of Tribal Members to Fish Off of the Resighini Rancheria in the  
Klamath River  
Our File No. 98-9,8

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QUESTION

You have asked whether enrolled members of the Resighini Rancheria ("Tribe") have the right to fish in the Klamath River, at usual and accustomed fishing stations, located off of the Resighini Rancheria, free of State regulation and control and free from regulation and control by the Yurok Tribe.

OPINION

I am of the opinion that when Congress created the Old Klamath River Reservation, as enlarged by the Extension of the Reservation, it reserved to the Yurok Indians of the Klamath River Reservation and their descendants, including the Yurok Indians who are now members of the Tribe, the right to fish in that portion of the Klamath River located within the exterior bounds of the Old Klamath River and Extension Reservations free of State regulation and control. I am of the further opinion that only the Congress of the United States has the authority to extinguish or terminate their reserved fishing rights and that neither the creation of the Resighini Rancheria nor the enactment of the Hoopa-Yurok Settlement Act extinguished the fishing rights of the Yurok Indians of the Resighini Rancheria to fish in the Klamath River in the same manner and to the same extent that they fished in those portions of the Klamath River located within the Old Klamath River and Extension Reservation prior to the enactment of the Hoopa-Yurok Settlement

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**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**Page 2**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

Act. Finally, I am of the opinion that the fishing rights of the Yurok Indians from the Resighini Rancheria, to fish off of the Resighini Rancheria, at their traditional and customary fishing sites along or in the Klamath River, in the same manner and to the same extent that they fished immediately prior to the passage of the Hoopa-Yurok Settlement Act, is not subject to State regulation or control, nor subject to the regulation and control of the Yurok Tribe.

#### FACTS OF THE CASE

I am basing my legal opinion upon the facts that I have set forth below. The majority of the facts of this case are set forth in great detail in the memorandum dated October 4, 1993, to the Secretary of the Interior from the Solicitor, which I have hereby incorporated by this reference and attached hereto as if set forth here in full as **Exhibit A**. For your convenience in reading this memorandum, I will set forth a summary of the pertinent facts which I relied upon in rendering this opinion.

1. Since time immemorial, the fishery resources of the Klamath and Trinity Rivers have been a mainstay of the life and culture of the Yurok Indians residing there, including their lineal descendants who are members of the Yurok Indian Tribe.<sup>1</sup> See, *Mattz v. Arnett*, 412 U.S. 481, 487 (1973); *Blake v. Arnett*, 663 F.2d 906, 909 (9<sup>th</sup> Cir. 1981).

2. The Indians' heavy dependence on the salmon fishery for their livelihood has been well documented.<sup>2</sup> "The salmon fishery permitted the [Klamath-Trinity Basin] tribes to develop a quality of life which is considered high among native populations." AITS (1982) at 10. The salmon resource was the primary dietary staple of the tribes, and was the center of their subsistence economy. As the Court noted in *Blake v. Arnett*, 663 F.2d at 909, the fishery was "not much less necessary to the existence of the [Yurok] Indians than the atmosphere that they

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<sup>1</sup> Indians' reliance on fishing continues. As the Court noted in *United States v. Wilson*: "To modify Indians of the [pre-1988] Hoopa Valley Reservation, fishing remains a way of life, not only consistent with traditional Indian customs, but also as an eminently practical means of survival in an area which lacked the broad industrial or commercial base which is required to provide its population, Indian or otherwise, with predictable, full-time employment and income adequate to provide sufficient quantities and qualities of the necessity of life." *United States v. Wilson*, 611 F. Supp. 813, 818, n. 5 (N.D. Cal. 1985).

<sup>2</sup> See, e.g., *Anthropological Study of the Hoopa, Yurok, and Karuk Indian Tribes of Northwestern California: Final Report*, 10, 22, 67-68, 101-107 (American Indian Technical Services, Inc., January 1982) (prepared for the U. S. Department of the Interior) ("AITS (1982)").

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

Page 3

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

breathed," quoting *United States v. Winans*, 198 U.S. 371, 381 (1905).

3. During the pre-contact period, the salmon fishery also held significant commercial and economic value in Yurok and Hoopa cultures and economies. Both tribes appear to have held firm concepts of property rights associated with the fishery. Fishing rights were considered personal property and part of an individual's wealth. Rights to fishing sites could be owned privately, fractionally, or communally, and could be inherited, sold, or transferred to pay debts. AITS (1982) at 23, 49, 57, 72-73, 99, 105. Ownership of fishing rights gave owners the right to do what they wished with the fish taken, including sale or trade. Access to the fishery was the subject of trade and barter, and use of fishing sites not one's own might be paid for by providing a portion of the catch to the owner. Virginia Egan-McKenna, *Persistence with Change: The Significance of Fishing to the Indians of the Hoopa Valley Reservation in Northwestern California*, 74-75 (unpublished M.A. Thesis, University of Colorado (1983). Ownership and fishing rights associated with particular sites also may have given the owner control over downstream activities. *Id.*, at 69.

4. By the Act of March 3, 1853, 10 Stat. 238, the President was "authorized to make five military reservations from the public domain in the State of California or the territories of Utah and New Mexico, bordering on said State, for Indian purposes."

5. The Act of March 3, 1855, 10 Stat. 699, appropriated funds for "collecting, removing, and subsisting the Indians of California . . . on two additional military reservations, to be selected as heretofore . . . provided, That the President may enlarge the quantity of reservations heretofore selected, equal to those hereby provided for."

6. Pursuant to the authority granted to him by the Acts of March 3, 1853, and March 3, 1855, President Pierce issued an order on November 16, 1855, establishing the Klamath River Reservation. In the order, President Pierce stated: "Let the reservation be made, as proposed." I C. Kappler, *Indian Affairs - Laws and Treaties*, 817 (1904) (hereinafter "Kappler"). The Klamath River Reservation established by President Pierce encompassed "a strip of territory one mile in width on each side of the [Klamath] river, for a distance of twenty miles." Kappler, at 816. The Klamath River Reservation, as originally established by order of President Pierce, is depicted on the map entitled "Appendix to Opinion of the Court," which is hereby incorporated by this reference as if set forth here in full and attached hereto as **Exhibit B**. The lands comprising the Klamath River Reservation were occupied mostly by Yurok Indians, and the Reservation encompassed what is today the lower portion of the Yurok Reservation.

7. The original Hoopa Valley Reservation is a twelve-mile square extending six miles on each side of the Trinity River. The Superintendent of Indian Affairs for California

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**Page 4**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

located and proclaimed it in 1864, pursuant to legislation enacted that same year. The legislation authorized the President to set apart up to four tracts of land in California “for the purposes of Indian reservations, which shall be of suitable extent for the accommodation of the Indians of said state, and shall be located as remote from white settlements as may be found practicable, having due regard to the adaptation to the purposes for which they are intended.” Act of April 8, 1864, § 2, 13 Stat. 39, 40; see, Kappler at 815 (“1864 Act”). The Reservation was mostly inhabited by Hoopa Indians. Although Congress itself thereafter recognized the existence of the Hoopa Valley Reservation as early as 1868, it was not until 1876 that President Grant issued an Executive Order formally setting aside the Reservation “for Indian purposes, as one of the Indian reservations authorized . . . by Act of Congress approved April 8, 1864.” Kappler at 815.

8. Between 1864 and 1891, the legal status of the Klamath River Reservation as an Indian reservation came into doubt. Although the Klamath Reservation had been created pursuant to the 1853 statute, the subsequent 1864 Act limited to four the number of reservations in California, and contemplated the disposal of reservations not retained under authority of the 1864 Act. See, 1864 Act, § 3, 13 Stat. at 40. By 1891, the Round Valley, Mission, Hoopa Valley, and Tule River Reservations had been set apart pursuant to the 1864 Act. *Mattz v. Arnett*, 412 U.S. 481, 493-494 (1973). Still, the Department of the Interior continued to recognize that the Klamath Reservation was critical to protecting the Indians who lived there and for protecting their access to the fishery, and continued to regard it as a Reservation throughout the period from 1864-1891.

9. Finally, in 1891, in order to eliminate any doubt regarding the status of the Reservation, and to expand the existing Reservation to better protect the Indians living there from encroachment by non-Indian fisherman, President Harrison issued an Executive Order under the authority of the 1864 Act. The Order extended the Hoopa Valley Reservation along the Klamath River from the mouth of the Trinity River to the ocean, thereby encompassing and including the Hoopa Valley Reservation, the original Klamath River Reservation, and the connecting strip between. Thereafter, the original Klamath River Reservation and the connecting strip have been referred to jointly as the “Extension” or the “Addition,” because they were added to the Hoopa Valley Reservation in the 1891 Executive Order. Kappler at 815. The validity of the 1891 Extension (“Extension”) and the continuing existence of the area included within the original Klamath Reservation were subsequently upheld by the United States Supreme Court in the cases of *Donnelly v. United States*, 228 U.S. 243, *modified and rehearing denied*, 228 U.S. 708 (1913), and in *Mattz v. Arnett*, 412 U.S. 481 (1973).

10. By deed dated January 7, 1938, Gus Resighini deeded to the United States in trust all that real property situated in the County of Del Norte, which presently constitutes the Resighini Rancheria (“Rancheria”). The warranty deed from Gus Resighini to the United States

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

Page 5

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

(in trust) was recorded on November 1, 1938, with the Del Norte County Recorder's Office in Volume 56 of Deeds, pages 450-551.

11. The purchase of the Rancheria by the United States in trust was made under the authority of § 5 of the Act of June 18, 1934 (Indian Reorganization Act), 25 U.S.C. § 465, which authorized the Secretary of the Interior "to acquire through purchase, relinquishment, gift, exchange, or assignment, any interest in lands, water rights, or surface rights to land, within or without existing reservation, including trust or otherwise restricted allotments, whether the allottee be living or deceased, for the purpose of providing land for Indians.

12. By Proclamation dated October 21, 1939, the Secretary of the Interior, under the authority of § 7 of the Indian Reorganization Act, 25 U.S.C. § 463, declared the land purchased from Gus Resighini to be an Indian Reservation. The Proclamation described the land as containing approximately 228 acres, more or less. The 1973 survey map recorded by Richard B. Davis shows the Rancheria as containing 238.78 acres.

13. The Tribe is a federally recognized Indian tribe organized under the authority of the Indian Reorganization Act of 1934, under a written Constitution which was ratified by its members on February 20, 1975, and approved by the Secretary of the Interior on April 10, 1975. On June 3, 1998, the Tribe amended its Constitution; these changes were adopted by the General Council of the Tribe on June 3, 1998, and approved by the Secretary of the Interior on July 3, 1998.

14. All of the lands that comprise the Rancheria are located within the exterior boundaries of the original Klamath River Reservation and is located at Highway 101 and the Klamath River in Del Norte County, Northern California.

15. In 1998, Congress enacted the Hoopa-Yurok Settlement Act, which partitioned the extended Hoopa Valley Reservation into the present Hoopa Valley Reservation, consisting of the original twelve-mile square bisected by the Trinity River and established under the 1864 Act, and the Yurok Reservation, consisting of the area along the Klamath River within the Old Klamath River Reservation, including the 1891 Extension (excluding the Resighini Rancheria). Hoopa-Yurok Settlement Act of 1988, 25 U.S.C. § 1300i-1300i-11 (Sub. 1993).

16. Under the Hoopa-Yurok Settlement Act, Congress "recognized and established" each area as a distinct Reservation and declared that "[t]he unallotted trust land and assets" of each Reservation thereafter be held in trust by the United States for the benefit of the Hoopa Valley and Yurok Tribes, respectively. 25 U.S.C. § 1300i-1(b) & (c).

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**Page 6**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

17. The Tribe was recognized by the Secretary of the Interior as a federally recognized Indian tribe thirteen years before the establishment of the Yurok Reservation. The tribal governmental body of the Tribe is the Tribal Business Council and it has been in continuous operation since 1975.

18. Under Article I of the Tribe's Secretariially-approved Constitution, the jurisdiction of the Tribe, acting through its Tribal Council, extends to:

- (a) All land encompassing the ancestral territory of the Klamath River Tribe our people descended from, including all that area from Damnation Creek in the north, Little River Drainage Basin in the south, and from the Pacific Coast along the Klamath River from its mouth to the Bluff Creek Drainage in the east.
- (b) Notwithstanding the issuance of any patent, all lands, water, and other resources within the exterior boundaries of those lands constituting what is commonly known as the Resighini Rancheria purchased by the Secretary of the Interior on January 7, 1938, under the authority of the Wheeler-Howard Act, June 18, 1934;
- (c) All of the lands, water, and resources as may hereinafter be acquired by the Tribe, whether within or without said boundary lines, under any grant, transfer, purchase, adjudication, treaty, Executive Order, Act of Congress, or other acquisition;
- (d) All persons within any territory under the jurisdiction of the Tribe; and
- (e) All tribal members, wherever located.

19. From time immemorial to 1938, the ancestors of the Yurok Indians of the Tribe fished in the Klamath River within the Old Klamath River Reservation and Extension.

20. From 1938 to 1998, the members of the Tribe fished in the Klamath River within the Old Klamath River Reservation and Extension at traditional fishing sites located outside the boundaries of the Rancheria.

21. From 1998 to the present, members of the Tribe fished in the Klamath River within the Yurok Indian Reservation at traditional fishing sites located outside the boundaries of the Rancheria.

Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010

Page 7

RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River

#### LEGAL ANALYSIS

**A. Creation Of The Old Klamath River Indian Reservation And Of The Extension Reserved To The Yurok Indians Of The Reservation, Including The Yurok Indians Of The Resighini Rancheria, The Right To Fish On The Reservation.**

There is no doubt that when the Klamath River Reservation was created for Indian purposes, it reserved to the Indians of the Reservation, including the Yurok Indians who are currently members of the Resighini Rancheria, a federally reserved right to fish in the Klamath River.

To begin with, the People's broad claim that Yurok Indians enjoy no federally protected fishing rights in the Klamath River flies directly in the face of *all* of the recent federal and state decisions involving Yurok Indian fishing on the Hoopa Valley Reservation. As we have seen, in 1975, the California Court of Appeal specifically held in *Five Gill Nets*, *supra*, 48 Cal. App. 3d 454, *cert. denied*, (1976), 425 U.S. 907 [47 L.Ed.2d 757, 96 S.Ct. 1500], that state regulation of such on-reservation Indian fishing was preempted by the Indians' federally protected fishing rights; that holding, of course, is totally incompatible with the People's present contention that the Yurok Indians enjoy no federally protected fishing rights in the Klamath River. Similarly, more recent federal decisions have likewise expressly recognized that "[the] right to take fish from the Klamath River was reserved to the Indians when the Reservation was created." (*United States v. Eberhardt*, *supra*, 789 F.2d 1354, 1359; see, *Blake v. Arnett*, *supra*, 663 F.2d 906, 909; *Pacific Coast Fed. v. Secretary of Commerce* (N.D. Cal. 1980) 494 F. Supp. 626, 632-633.) And, of course, our *McCovey* decision also expressly held that the Yurok Indians possess federally reserved fishing rights in the Klamath River which were properly subject to federal regulation. (*McCovey*, *supra*, 36 Cal.3d at P. 534.).

*Mattz v. Superior Court*, 46 Cal.3d 355, 371 (1988).

Prior to the creation of the Resighini Rancheria, the Yurok Indians and their descendants who are members of the Resighini Rancheria, fished on the Klamath River within the Old Klamath River Reservation and Extension free of State regulation and control. In fact, both before and after the creation of the Resighini Rancheria, the Yurok Indians of the Resighini Rancheria fished on the Klamath River within the Old Klamath River Reservation and Extension at their usual and accustomed fishing stations pursuant to their federally reserved fishing right.

The Resighini Yurok's immunity from State law existed even though the State had been granted

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**Page 8**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

criminal jurisdiction over “Indian country” within California under Public Law 280, because that statute provides that it shall not “deprive any Indian of any Indian tribe, band, or community of any right, privilege, or immunity afforded under Federal treaty, agreement, or statute with respect to hunting, trapping, or fishing, or the control, licensing, or regulation thereof.” 18 U.S.C. § 1162(b).<sup>3</sup>

Moreover, in *Blake v. Arnett*, *supra*, 663 F.2d 909, the Ninth Circuit Court of Appeals expressly held that it didn’t matter that federally reserved fishing rights were created by statute, as opposed to a treaty. Since, as the Court acknowledged, “both treaties and statutes are the supreme law of the land.” *Id.*, at 909.

Likewise, State law cannot be applied to Indian hunting and fishing rights in “Indian country” by way of the Assimilative Crimes Act, 18 U.S.C. § 13. *Cheyenne-Arapaho Tribes v. Oklahoma*, 618 F.2d 665 (10<sup>th</sup> Cir. 1980).

Finally, California is also preempted from prohibiting the possession or sale of fish off of the Reservation by Resighini Yuroks who take the fish on the Old Klamath River/Extension Reservation.

After reviewing the comprehensive nature of the federal regulatory scheme governing Indian fishing on the Hoopa Valley Reservation, we concluded in *McCovey* that, as in *Mescalero*, [there] is little question that the exercise of State criminal jurisdiction in this area will “disturb and disarrange” the federal scheme. [Citation.] Concurrent jurisdiction by the State would supplant the present federal regulatory scheme with an inconsistent dual system.

*People v. McCovey*, 36 Cal.3d at 531; see, *Mattz v. Superior Court*, 46 Cal.3d 355 (1980), *cert. denied*, 489 U.S. 1078 (1989).

In short, it is now well-established that the Yurok Indians of the Resighini Rancheria have federally reserved fishing rights to fish on what is now known as the Yurok Indian Reservation, initially created in the nineteenth century when the lands they occupied were set aside as the Old Klamath River/Extension Reservations for “Indian purposes.” Numerous court decisions have recognized that the United States intended to reserve for the Indians the rights and resources necessary for them to maintain their livelihood. As the Ninth Circuit has stated, the right

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<sup>3</sup>The California Court of Appeal found that the Klamath River Reservation and the Extension was created by statute, within the meaning of the phrase “immunity afforded under Federal . . . statute,” *Arnett v. Five Gill Nets*, *supra*.

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

Page 9

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

includes “fishing for ceremonial, subsistence, and commercial purposes.” *United States v. Eberhardt*, 789 F.2d 1354, 1355 (9<sup>th</sup> Cir. 1986).

This federally reserved fishing right did not vest in the Yurok Indians of the Resighini Rancheria ownership of any fish, but a right to an opportunity to obtain possession of a portion of the resource, which can best be expressed by either the numbers of fish taken or an allocation of the harvestable resource. See, *United States v. Washington*, 520 F.2d 676, 687 (9<sup>th</sup> Cir. 1975), cert. denied, 423 U.S. 1086 (1976); see, also, *Puget Sound Gillnetters Ass'n v. United States District Court*, 573 F.2d 1123, 1129, n. 6 (9<sup>th</sup> Cir. 1978), vacated and remanded, *Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n*, 443 U.S. 658 (1979) (vacating judgments of the Ninth Circuit and State Supreme Court and remanding for further proceedings not inconsistent with the United States Supreme Court’s opinion).

Since time immemorial, the ancestors of the Yurok Indians of the Resighini Rancheria have fished in the Klamath River at their traditional and usual and accustomed fishing stations located in what is now the Yurok Indian Reservation. They fished in the Klamath River before the Old Klamath River Reservation and Extension were created, after the Old Klamath River Reservation and Extension were created, before the Yurok Reservation was created, and after the Yurok Reservation was created. They have fished pursuant to their aboriginal right and pursuant to their federally reserved fishing right, which was created when the Old Klamath River Reservation and Extension were created for the Yurok Indians for “Indian purposes.”

Having established that the Yurok Indians of the Resighini Rancheria have federally reserved rights that were reserved to them with the creation of the Klamath River Reservation and Extension, the question now becomes: Has Congress, through the enactment of subsequent legislation, extinguished or limited those rights?

**B. Absent An Act Of Congress Containing A Clear Congressional Intent To Terminate The Fishing Rights Of The Yurok Resighini Within The Yurok Reservation, The Yurok Resighini Retain The Right To Fish Off Of The Resighini Rancheria At Their Usual And Accustomed Fishing Stations On The Klamath River within the Yurok Reservation.**

It is well settled that federally reserved fishing rights cannot be extinguished in the absence of a clear indication of Congressional intent to that effect. *Menominee Tribe v. United States*, 391 U.S. 404 (1968); *United States v. Felter*, 752 F.2d 1505 (10<sup>th</sup> Cir. 1985).

The federal courts generally require that Congress make its intent to abrogate reserved fishing rights clear and unambiguous. *Minnesota v. Mille Lacs Band of Chippewa Indians*, 526 U.S.

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

Page 10

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

172, 202 (1999); *Menominee Tribe v. United States*, 391 U.S. 404, 413 (1968). In many cases, the Supreme Court has stated that Congress must make its intent to abrogate express through the use of “explicit statutory language.” *Washington v. Washington State Commercial Passenger Fishing Vessels Ass’n*, 443 U.S. 658, 690 (1979) (“[a]bsent explicit statutory language, we have been extremely reluctant to find congressional abrogation of treaty rights.”); *Menominee Tribe v. United States*, 391 U.S. 404, 413 (1960) (“[w]e find it difficult to believe that Congress, without explicit statement, would subject the United States to a claim for compensation by destroying property rights conferred in a treaty.”). In other cases, the Supreme Court has allowed a somewhat lesser standard, finding it sufficient if Congress’ intent is “clear and plain.” *United States v. Dion*, 476 U.S. 334, 338 (1986). In any case, however, the Court has provided that: “The intention to abrogate or modify a treaty is not to be lightly impugned to the Congress.” *Id.*, at 739. The “essential factor is clear evidence that Congress actually considered the conflict between its intended action on one hand and Indian treaty rights on the other, and chose to resolve that conflict by abrogating the treaty.” *Id.*, at 739-740 (1986).

These standards are consistent with general principles regarding Congressional intent to extinguish Indian property rights. *County of Oneida v. Oneida Indian Nation*, 470 U.S. 226, 247-248 (1985). Although the vast majority of cases dealing with extinguishment of Indian fishing rights arose in the context of treaty fishing rights, under the Supremacy Clause of the United States Constitution, there is no difference between a fishing right reserved by treaty and a fishing right reserved by statute. Therefore, the rationale applicable to the extinguishment of Indian fishing rights reserved by treaty applies equally well to Indian fishing rights reserved by statute.

We do not think that the distinction between a treaty and a statute have great significance. Before 1871, relations between the United States and Indians were frequently established by treaties with Indian nations which were held to be independent sovereign powers under the protection of the United States. [Citation omitted.] In 1871, Congress determined that “no Indian nation or tribe within the United States shall be acknowledged or recognized as an independent nation, tribe, or power with whom the United States may contract by treaty. . . .”, 25 U.S.C. § 71. However, first, both treaties and statutes are the supreme law of the land. Const. Art. IV, cl. 2. Second, the real power had lain with the United States alone long before 1871. Some at least of the treaties were the embodiment of orders imposed on Indians by the Executive. On occasion, the United States invented tribes and appointed their chiefs. [Citation omitted.] Third, the change from treaty to statute was at least in part a result of political infighting in Congress. The House was excluded from the treaty making process under Const. Art. II § 2, cl. 2, and it wished to have a clear say in Indian policies. [Citation

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

omitted.] Fourth, as regards Indians, there is no clear cut distinction between treaties and statutes, nor any clear division between what was done by treaty and what was done by statute. Both treaties and statutes were worded in a wide variety of ways, some explicitly granting fee simple interest to tribes, some explicitly granting only Indian title (a right of occupancy at the pleasure of the United States), some saying no more than that land was reserved for Indian occupancy, some expressly reserving or granting rights, some silent on the subject. [Citation omitted.] **For all of these reasons, we believe that whether the source of the right is in a treaty or in a statute is of little contemporary relevance.**

*Blake v. Arnett*, 663 F.2d 906, 909-910 (9<sup>th</sup> Cir. 1981)(Emphasis added).

Through enactment of the Four Reservations Act, Congress expressly authorized the President to create no more than four reservations within the State of California for "Indian purposes." Pursuant to that authority, the President created and set aside first, the Klamath River Reservation, and then the Extension, reserving to the Yurok Indians the right to fish in the Klamath River free of State regulation and control.

Once Congress reserved to the Resighini Yurok the right to fish in the Klamath River, on what is now the Yurok Reservation, the Resighini Yurok retain the right to continue to fish in the Klamath River free of State and Yurok Tribe regulation and control unless, or until, Congress, by enactment of subsequent legislation, extinguishes or terminates the right, by clear and explicit language.

**C. The Hoopa-Yurok Settlement Act Does Not Contain Express And Explicit Language Evidencing A Clear Congressional Intent To Extinguish The Resighini Yuroks' Right To Fish On Those Portions Of The Klamath River Lying Within the Yurok Reservation.**

In 1988, Congress Enacted the Hoopa-Yurok Settlement Act ("Act"), which partitioned the Hoopa Valley Reservation into the present Hoopa Valley Reservation and the Yurok Reservation. 25 U.S.C. § 1300i-1300i-11.

The Act provided that no constitutionally protected right had vested in any tribe or individual to the communal lands and other resources of the 1891 Reservation, and provided for a fair and equitable resolution of disputes relating to ownership and management of the 1891 Hoopa Valley Reservation. Pursuant to and in accordance with the Act, the 1891 Reservation was partitioned between the Hoopa Valley Tribe and the Yurok Tribe. The section of the 1891 Reservation

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**Page 12**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

known as "the Square" was established as the Hoopa Valley Reservation, and the section known as old "Klamath River Reservation" and "the Extension" was established as the Yurok Reservation. The Act also created a settlement fund initially comprised of funds derived from economic ventures occurring on the 1891 Hoopa Valley Reservation and supplemented by additional funds appropriated by Congress. Particular benefits of the Act, i.e., the provisions relating to the partitioning of the Reservation, potential expansion of the newly formed Reservations, and participation in the Settlement Fund, were conditioned upon the Tribe's adopting individual tribal resolutions, granting their consent to the partition of the 1891 Reservation and waiving potential claims that tribes may have against the United States.

Under the Act, a Settlement Roll was to be prepared of the "Indians of the Reservation" not already included as enrolled members of the Hoopa Valley Tribe; persons on the Settlement Roll were to choose from among Hoopa tribal membership, Yurok tribal membership, and non-tribal membership options, each of which include a payment of various amounts of compensation; the Yurok Tribe was to receive the remainder of the Settlement Fund after payment of the Hoopa Valley Tribe's proportional share and deduction of sums paid to individuals; and upon the enactment of a resolution waiving claims that the Yurok Tribe might have against the United States arising out of the Act. In addition, the Yurok Tribe was to become eligible for various benefits, including land acquisition authority, appropriations, governmental organization and other federal benefits and programs provided to Indian tribes.

The Act established procedures for the organization of the Yurok Tribe, for the development of the Settlement Roll, and for the distribution of the Settlement Fund. As part of the tribal organizational process, the Act provided for the election of a "interim council" having limited powers, including the adoption of a resolution waiving any claim the Yurok Tribe may have against the United States arising out of the Act and affirming tribal consent to the contribution of Yurok escrow money to the Settlement Fund, and for the use as payments to the Hoopa Tribe, and to individual Hoopa members, as provided in the Act.

Among the specific benefits of the Act purportedly conferred on the Yurok Tribe were the transfer to the Yurok Tribe to be held in trust certain federal lands in the Six Rivers National Forest within the boundaries of the Old Klamath River Reservation and Extension; addition of lands to the Yurok Reservation through consensual acquisitions, the expenditure of not less than \$5 Million Dollars for the purpose of acquiring lands or interest in lands for the Tribe, and appropriation to the Yurok Tribe of the remainder of the Settlement Fund after distribution to the Hoopa Valley Tribe and individuals on the Settlement Roll.

Of all of the provisions in the Act, only subsection (c), paragraph (1), contains any language that one could argue expresses a Congressional intent to extinguish Yurok Resighini off-reservation

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**Page 13**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

fishing rights. That section provides that, effective with the partition as provided in subsection (a), that portion of the Hoopa Valley Reservation known as "the Extension" shall be recognized as the Yurok Reservation and shall be a reservation for the Yurok Tribe.

But, that section does not contain the express and explicit language necessary to effectuate an extinguishment of the Yurok Resighini off-reservation fishing rights. There is nothing in the language of the section that is inconsistent with creating a reservation for the Yurok Tribe out of the Extension lands and, at the same time, preserving valid pre-existing rights of third parties to use the lands and waters constituting the new Yurok Reservation.

Congress's intent to preserve pre-existing third party rights in the newly created Yurok Reservation is clear from the language of the statute. First, subsection (c), paragraph (1), specifically provides that the creation of the new Yurok Reservation excludes "the lands of the Resighini Rancheria." Congress knew at the time that it was creating the Yurok Reservation, that the Resighini Rancheria or Reservation existed and would be located totally within the boundaries of the Yurok Reservation. By excluding the lands of the Resighini Rancheria from the Yurok Reservation, Congress intended that the creation of the Yurok Reservation would not extinguish or terminate the Resighini Rancheria or any rights that the Indians of the Resighini Rancheria had within the Yurok Reservation prior to the creation of the Yurok Reservation.

Other sections of the Act manifest a clear Congressional intent not to extinguish the rights of third parties to the lands and waters of the newly created Yurok Reservation, that had vested or been reserved prior to the creation of the Reservation. For example, paragraph (2) of the Act provides that, **subject to all valid existing rights**, all National Forest lands on the Yurok Reservation and about fourteen acres of the Yurok Experimental Forest shall be transferred to the Yurok Tribe in trust. Thus, paragraph 2 evidences a clear Congressional intent to convey lands to the Yurok Tribe as part of the Yurok Reservation, but to preserve valid existing rights, such as off-reservation Yurok Resighini fishing rights.

Probably the clearest expression of Congress's intent that the Act not terminate any pre-existing valid rights, including the right of the Yurok Resighini to fish in the Klamath River off of the Resighini Rancheria, is found in § 6 (d) of the Act. That section expressly provides that § 6 (d) is not a termination provision but, rather, merely offers a lump sum payment to persons on the Settlement Roll who wish to have no future interests or rights in the tribal, communal, or unallotted land, property, resources, or rights in the tribal, communal, or unallotted land, property, resources, or rights of the Hoopa Valley Reservation or the Yurok Reservation or the Hoopa or Yurok Tribes.

When the Yurok Resighini exercise their off-reservation right to fish in the Klamath River, they



**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

further submit that, although they were compensated for the Arapaho presence on the reservation in an amount equal to one-half the value of the land, including timber and mineral resources, [citation omitted], they were never compensated for the loss of their exclusive Treaty rights to hunt and fish.

We are not persuaded. The very principles of Indian law which dictate that the Shoshone have hunting and fishing rights notwithstanding the lack of an express Treaty provision dictate that the Arapaho have equivalent rights. The Arapaho have rights to the reservation derived from their status as occupants of the land confirmed by Congressional and Executive Acts. [Citation omitted.] The rights to hunt and fish are part of the tribe's larger rights of possession. See, *United States v. Winans*, 198 U.S. 371 (1905) ("the right to resort to the fishing places in controversy was a part of larger rights possessed by the Indians . . . which were not much less necessary to the existence of the Indians than the atmosphere they breathed."); [citation omitted]. Whether by Treaty or Congressional and Executive Acts, the Shoshone and the Arapaho have equal rights to hunt on the reservation. See, Cohen's Handbook, *supra*, at 449; see also, *Arizona v. California*, 373 U.S. 546 (1963) ("establishment of a reservation reserves water rights to Indians, whether the reservation was established by Treaty or by Executive Order.").

*Northern Arapaho Tribe v. Hodel*, 808 F.2d 741, 748 (10<sup>th</sup> Cir. 1987).

As an attribute of its inherent sovereignty, the Tribe retains the right to regulate the conduct of its members. *New Mexico v. Mescalero Apache Tribe*, 463 U.S. 324, 330 (1983). It follows that the Tribe can regulate the off-reservation exercise of reserved fishing rights by its members. See, *Settler v. Lameer*, 507 F.2d 231, 236 (9<sup>th</sup> Cir. 1974); *United States v. Michigan*, 471 F. Supp. 192, 274 (W.D. Mich. 1979), *affirmed as modified*, 653 F.2d 277 (6<sup>th</sup> Cir. 1981); *Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. Wisconsin*, 668 F. Supp. 1233, 1241 (W.D. Wis. 1987). Although tribes and states ordinarily possess concurrent authority to regulate the off-reservation tribal exercise of reserved fishing rights in the interests of conservation, effective tribal regulation of members off-reservation fishing rights will preclude concurrent state regulation. *United States v. Washington*, 520 F.2d 676, 686, n. 4 (9<sup>th</sup> Cir. 1975); *Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. Wisconsin*, 668 F. Supp. 1233, 1241-1242 (W.D. Wis. 1987); *Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. Wisconsin*, 707 F. Supp. 1034, 1055 (W.D. Wis. 1989) ("despite 'inadequacies' in tribal plan, tribes entitled to exclusive regulation of members' off-reservation fishing."). The principles that prohibit the State from regulating the Resighini Yuroks' off-reservation fishing applies equally as well to the Yurok Tribe. *Id.*

**Confidential Memorandum to Richard Dowd, Chairman,  
and Members of the Resighini Tribal Council  
September 15, 2010**

**Page 16**

**RE: The Right of Tribal Members to Fish Off of the Resighini Rancheria in the Klamath River**

The Yurok Tribe would retain the right to regulate the off-reservation fishing activities of Resighini Yuroks within the boundaries of the Yurok Reservation at any location other than the traditional and accustomed fishing stations of the Resighini Yurok. *United States v. Jackson*, 600 F.2d 1283 (9<sup>th</sup> Cir. 1979). That authority extends to the regulation of fishing by Resighini Yuroks on non-Indian fee lands located within the Yurok Reservation that are not the usual and accustomed fishing stations of the Resighini Yurok that they fished at prior to the creation of the Yurok Reservation. *Lower Brule Sioux Tribe v. South Dakota*, 711 F.2d 809, 827 (8<sup>th</sup> Cir. 1983); *cert. denied*, 464 U.S. 1042 (1984).

In addition, the federal government's plenary power over Indian affairs extends to the regulation of Indian fishing. The Secretary in the past has issued regulations governing Indian fishing on a few reservations, see 25 C.F.R. §§ 241 and 242, and has provided for identification of treaty Indians fishing off reservation, 25 C.F.R. § 249.

In fact, the Secretary has been held to be authorized under the trust power to ban commercial fishing by Yurok Indians on the Old Klamath River Reservation and Extension, and he need not show the kind of evident threat to conservation required for State regulation of reserved fishing. *United States v. Eberhardt*, 789 F.2d 1354 (9<sup>th</sup> Cir. 1986).

However, in the absence of regulation by the United States, the Tribe retains the exclusive right to regulate the off-reservation fishing rights of its members. *Settler v. Lameer*, 507 F.2d 231 (9<sup>th</sup> Cir. 1974).

#### CONCLUSION

Comment 1 -ITAs

In summary, the Yurok Indians of the Resighini Rancheria have the right to fish at all of their usual and accustomed fishing places in the Klamath River within the boundaries of what are now the Yurok Reservation in the same manner and to the same extent that they fished prior to the creation of the Yurok Reservation. The right of the Resighini Yurok to fish off of the Resighini Rancheria has never been extinguished by a subsequent Act of Congress and the Hoopa-Yurok Settlement Act does not manifest a clear Congressional intent to extinguish the Resighini Yuroks off-reservation fishing right. The right of the Resighini Yuroks to fish is subject to regulation by the Resighini Rancheria for all purposes and only by the Yurok Tribe and the State of California in order to conserve the fishing resources. However, neither the Yurok Tribe nor the State of California can regulate the Resighini Yuroks' off-reservation fishing rights on the Klamath River for conservation purposes, if the Resighini Rancheria is comprehensively regulating the right and have taken conservation of the resource into account in promulgating and enforcing its regulations.

LJM/cf

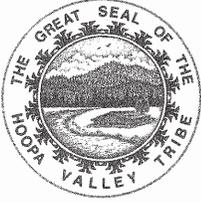
Enclosures: Exhibit A  
Exhibit B

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**Comment Author** Marston, Lester  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1026_069-1	Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.	No



## Hoopa Valley Tribal Council

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LEONARD E. MASTEN JR  
 CHAIRMAN

November 18, 2011

Via E-Mail to: [KlamathSD@usbr.gov](mailto:KlamathSD@usbr.gov)  
 and Overnight Delivery

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

Re: Comments of Hoopa Valley Tribe on DEIS/DEIR for Klamath Facilities Removal

Dear Ms. Vasquez:

The Hoopa Valley Tribe submits the following comments on the Department of the Interior and California Department of Fish and Game's Draft EIS/EIR regarding Klamath Facilities Removal (the "DEIS"). The Tribe has previously submitted comments, dated July 14, 2010, on the Department of Interior's Notice of Intent to Prepare an EIS/EIR (the "Scoping Notice"). The Tribe also submitted extensive comments on the cooperating agency draft of the DEIS dated June 22, 2011. The Tribe incorporates those prior comments by reference, because the DEIS fails to incorporate or adequately address the vast majority of the Tribe's comments.

### **Interest of the Hoopa Valley Tribe**

Since time immemorial, the fishery resources of the Klamath and Trinity Rivers have been the mainstay of the life and culture of the Hoopa Valley Tribe. The fishery was "not much less necessary to the existence of the Indians than the atmosphere they breathed." *Blake v. Arnett*, 663 F.2d 906, 909 (9th Cir. 1981) (quoting *United States v. Winans*, 198 U.S. 371, 381 (1905)). The salmon fishery is integral to the customs, religion, culture, and economy of the Hoopa Valley Tribe and its members. The lower twelve miles of the Trinity River and a stretch of the Klamath River flow through the Hoopa Valley Reservation.

The federal government established the Hoopa Valley Reservation in 1864. The Hoopa Valley Reservation is located in the heart of the Tribe's aboriginal lands; lands the Tribe has occupied since time immemorial. The Hoopa Valley Tribe has fishing and water rights in the Klamath River with a priority date of 1864, as recognized by the United States in the Memorandum from Solicitor of the Department of the Interior to the Secretary of the Interior (Oct. 4, 1993); and the Memorandum from Regional Solicitor, Pacific Southwest Region to the Regional Director, Bureau of Reclamation, Mid-Pacific Region (July 25, 1995) (collectively, "Solicitors' Opinions"); and by federal courts in, for example, *Parravano v. Babbitt*, 70 F.3d 539 (9th Cir. 1995). Congress has recognized and confirmed, for example in the Central Valley



Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 2

Project Improvement Act, Public Law 102-575, Section 3406(b)(23) (Oct. 30, 1992), that the United States has a federal trust responsibility to restore and maintain the fishery trust resources of the Hoopa Valley Tribe to specified standards. Those standards are recognized in federal law and have become a legal mandate. The Hoopa Valley Tribe's rights are unique. This is unlike the situation where several tribes signed a single treaty reserving rights in common. While other tribes in the Klamath Basin also have water and fishing rights, our rights are distinct in scope, derive from different authorities, and must be treated separately.

The fish and water resources of the Klamath River Basin have been severely and adversely affected by the federal authorization, construction, and operation of the Klamath Reclamation Project and the Klamath Hydroelectric Project upstream of the Hoopa Valley Reservation. The impacts associated with blocked fish passage, nutrient enrichment, loss of habitat, and inadequate instream flows due to the authorization, construction, and operation of the Klamath Reclamation Project and the Klamath Hydroelectric Project have contributed to the listing of the Southern Oregon/Northern California coast (SONCC) coho salmon and its critical habitat under the Endangered Species Act.

The Tribe has actively participated in all proceedings relating to the re-licensing of the Klamath Hydroelectric Project before the Federal Energy Regulatory Commission (FERC), and proceedings to enforce operation of the Klamath Reclamation Project in compliance with the Endangered Species Act and other applicable law. Protection of the Klamath and Trinity Rivers and the aquatic resources therein is of vital importance to the Hoopa Valley Tribe.

The Tribe participated in settlement negotiations leading to the Klamath Hydroelectric Settlement Agreement (KHSA) and Klamath Basin Restoration Agreement (KBRA). Although the Tribe favors the removal of the dams of the Klamath Hydroelectric Project for the purposes of improving water quality and restoring fish passage on the Klamath River, the Tribe did not sign, and enacted a resolution in opposition to the KHSA. The Tribe opposes the KHSA as drafted because it does not require the removal of any dams, but instead establishes an uncertain planning process that could potentially lead to commencement of dam removal in 2020 subject to the achievement of numerous contingent events that include, but are not limited to: (a) enactment of federal legislation; (b) California voter approval of a \$250 million bond package; (c) an affirmative determination by the Secretary of Interior that dam removal is in the public interest; and (d) separate concurrences by the states of California and Oregon that dam removal is in the public interest. To date, none of these contingencies have occurred.

The Tribe also opposes the KHSA because it suspends the FERC re-licensing proceeding, suspends the State of California and Oregon water quality certification proceedings, and permits the licensee PacifiCorp to continue operation of the Klamath Hydroelectric Project on terms of annual licenses until at least 2020. The KHSA also fails to provide for interim license measures that will bring the Project into compliance with current state, federal, tribal environmental laws, or applicable water quality standards, or that will adequately mitigate fishery impacts associated with operation of the Project.

Ms. Elizabeth Vasquez  
 November 18, 2011  
 Page - 3

The Tribe also did not sign, and enacted a resolution in opposition to, the KBRA because the KBRA conflicts with tribal sovereignty, violates trust duties owed to the Hoopa Valley Tribe by the United States, subordinates tribal water and fishing rights in favor of junior non-Indian irrigation interests without tribal consent, provides inadequate flows for the protection of tribal trust resources, offers a speculative and unfunded program for fishery restoration and water conservation, encourages unsustainable use of groundwater in the Upper Klamath Basin, fails to abate acute nutrient pollution problems and is not based on best available, peer reviewed science. The Tribe also objects to the linkage of the KHSA and the KBRA.

Here, as in all other proceedings related to protection of the Klamath and Trinity Rivers, the Tribe is committed to ensuring that the United States and its respective departments and agencies fulfill their duties to the Tribe and to the Klamath and Trinity Rivers in accordance with applicable law, including NEPA, the Endangered Species Act, Clean Water Act, Federal Power Act, and the federal government's trust responsibility to the Hoopa Valley Tribe.

### **Comments on Draft EIS/EIR**

I. **The DEIS Contains An Incomplete Evaluation of Alternatives, Fails to Evaluate the Impacts of the KBRA, and Ultimately Fails to Meet the Purpose of NEPA and CEQA to Facilitate Informed Decision-Making and Public Participation.**

The purpose of the NEPA and CEQA environmental review process is two-fold: "First, it places upon [the action] agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decision-making process." *Kern v. United States Bureau of Land Management*, 284 F.3d 1062, 1066 (9th Cir. 2002). *See also Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (NEPA "ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision."); *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1997) (same); *Columbia Basin Protection Ass'n v. Schlesinger*, 643 F.2d 585, 592 (9th Cir. 1981) ("[T]he preparation of an EIS ensures that other officials, Congress, and the public can evaluate the environmental consequences independently."). Ultimately, an EIS does not satisfy NEPA unless "its form, content, and preparation substantially (1) provide decision-makers with an environmental disclosure sufficiently detailed to aid in the substantive decision whether to proceed with the project in light of its environmental consequences, and (2) make available to the public, information of the proposed project's environmental impacts and encourage participation in the development of that information." *Trout Unlimited v. Morton*, 509 F.2d 1276, 1283 (9th Cir. 1974).

The DEIS here fails to meet the standards set forth above primarily through its failure to adequately disclose and evaluate the impacts associated with the KBRA. As the DEIS confirms, the KBRA is a connected and interdependent action. Yet, the DEIS does not adequately disclose the impacts of the KBRA. Nor does the DEIS consider or evaluate alternatives to the KBRA.

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 4

The DEIS misleads the public and the decision-makers to believe that the KBRA is an agreement that will result in fishery protection and environmental restoration. The DEIS continually makes the incorrect statement that the KBRA “limits” irrigation water diversions below levels currently allowed by law. In fact, the KBRA will result in inadequate (and unlawful) flows for fish at critical times of dry water years, will result in a historic termination of the United States responsibilities to Indian tribes in the Klamath basin, will turn Western water law on its head by subordinating senior tribal water rights to junior irrigation interests, and will support otherwise unsustainable consumptive agricultural practices through hundreds of millions of dollars in public subsidies. In addition, the DEIS fails to inform the public and the decision-makers that any benefits that could derive from the KBRA for fish are speculative at best, given the need for congressional authorization and appropriations of funding that are not likely to occur.

The Tribe believes that dam removal is necessary and in the public interest. Improvements in water quality, volitional fish passage, and a free-flowing Klamath River are critical to support the Tribe and the river that runs through its homeland. However, the benefits of dam removal will not be achieved if tied to the KBRA. The proposed action may lead to a river without dams, but with the KBRA it will also lead to a river without sufficient water in the river for fish at critical times of the year. The impacts of the KBRA’s guaranteed diversions and associated tribal trust violations will not be evaluated in subsequent NEPA processes. The public, the Governors, the Departmental decision-makers, and Congress need to be made fully aware of the consequences of, and alternatives to, the KBRA. The DEIS fails in that regard.

## II. The Purpose and Need Statement Should Delete Reference to Consistency with the KBRA.

CEQ Regulation 1502.13 requires that an EIS “briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.” As stated in the DEIS, the purpose and need statement “is a critical part of the environmental review process because it helps to set the overall direction of an EIS/EIR, identify the range of reasonable alternatives, and focus the scope of analysis.” Final Alternatives Report, p. 2-1.

The DEIS describes the purpose of the Proposed Action as follows: “to achieve a free flowing river condition and full volitional fish passage as well as other goals expressed in the KHSA and KBRA.” The need is described as: “to advance restoration of the salmonid fisheries in the Klamath Basin consistent with the KHSA and the connected KBRA.” The Department should delete the references to consistency with the KHSA and KBRA. This EIS is being prepared to inform the Secretary of the Interior and the Governors of the States of Oregon and California whether “Facilities Removal (i) will advance restoration of the salmonid fisheries of the Klamath Basin, and (ii) is in the public interest, which includes but is not limited to consideration of potential impacts on affected local communities and Tribes.” KHSA, Sec. 3.3.1; DEIS, p. ES-2. Consistency with the KBRA is not a factor in the Secretarial Determination or the Governors’ concurrence and should not guide the selection of alternatives here.

Ms. Elizabeth Vasquez  
 November 18, 2011  
 Page - 5

As the Tribe warned in its July 14 scoping comments, tying the purpose and need of the Proposed Action to KBRA implementation has resulted in an unreasonably narrow, and unlawful, alternatives analysis. As discussed in more detail below, an alternative that removes all four facilities without execution and implementation of the KBRA would achieve the purpose of “a free flowing river condition and full volitional fish passage” and would “advance restoration of the salmonid fisheries” and would be in the public interest. In addition, such an alternative would be feasible. However, by requiring consistency with the KBRA in the purpose and need statement, the Department was unable or unwilling to consider a no-KBRA alternative. *See* Final Alternatives Report, Section 2.3, Chapter 4 (establishing consistency with KBRA as factor for screening alternatives).

### III. The Alternatives Analysis Fails to Comply With Requirements of NEPA and CEQA.

The alternatives analysis is the “heart of the environmental impact statement.” 40 C.F.R. § 1502.14. The EIS must “rigorously explore and objectively evaluate all reasonable alternatives,” and “devote substantial treatment to each alternative . . . so that reviewers may evaluate their comparative merits,” including “reasonable alternatives not within the jurisdiction of the lead agency. 40 C.F.R. § 1502.14(a),(b),(c); *see also* 43 C.F.R § 46.420(c) (defining “range of alternatives”).

The CEQ publication “NEPA’s Forty Most Asked Questions” confirms that in establishing a reasonable range of alternatives, “the emphasis is on what is ‘reasonable’ rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative.” Question 2a. The CEQ publication adds that “an alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. . . . Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA’s goals and policies.” Question 2b.

For the reasons discussed below, the alternatives analysis in the DEIS is deficient:

#### A. The Description of the No-Action Alternative Is Inaccurate and Misleading and Does Not Facilitate Informed Decision-Making.

The alternatives analysis in an EIS is required to evaluate a No-Action Alternative. 40 C.F.R. § 1502.14(d). The No-Action Alternative is required to discuss both the existing conditions “as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved.” CEQA Guidelines Section 15126.6(e)(2). The DEIS states that “[f]or the purposes of this analysis, the No Action/No Project Alternative will continue current operations with the Four Facilities remaining in place and PacifiCorp operating under the current annual license.” DEIS, at ES-21. This is an inaccurate and misleading description of what would happen in the event of no-action, or a negative Secretarial Determination. As a result, the decision-makers and the public have not been presented with an accurate No-Action Alternative to compare with the other alternatives.

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 6

In the event of a negative Secretarial Determination or adoption of the “No-Action” alternative the FERC licensing process will resume. All events in the FERC licensing process have been completed except for the completion of the Section 401 water quality certification (which is currently contractually barred from completion under the KHSA). If the KHSA and KBRA terminate, the States would resume the certification process and a new FERC license would issue “in the foreseeable future.” Indeed, the California State Water Resources Control Board Resolution No. 2011-0038, adopted August 16, 2011, makes clear that the Water Board expects that the environmental review process here “will facilitate completion of the State Water Board’s 401 certification process for the relicensing proceeding should that become necessary because the Secretarial Determination does not occur by April 30, 2012.”

The Departments of Interior and Commerce have already prescribed final and binding conditions pursuant to Section 4(e) and 18 of the Federal Power Act (including volitional fishway prescriptions) which must be included in the new license. *Escondido Mut. Water Co. v. La Jolla Band of Mission Indians*, 466 U.S. 765 (1984) (FERC must include the Departments mandatory conditions and prescriptions); *City of Tacoma v. FERC*, 460 F.3d 53 (D.C. Cir. 2006) (same).

It is not correct that the Klamath Hydroelectric Project would continue operating on annual licenses, with no protective terms and conditions, for “the foreseeable future” in the event that the KHSA terminates. The foreseeable No-Action scenario is not perpetual operation of the Klamath Hydroelectric Project under a long-expired license. Instead, the foreseeable No-Action scenario is one in which the Klamath Project is re-licensed, subject to the Departments’ mandatory Section 4(e) and 18 conditions and fishway prescriptions, as well as any conditions imposed under the authority of Section 401 of the Clean Water Act for compliance with water quality standards of the States of Oregon and California, and the Hoopa Valley Tribe.

By failing to describe the reasonably foreseeable No-Action scenario, the DEIS artificially makes the proposed action (dam removal plus KBRA implementation) seem more attractive than it really is. A properly framed No-Action alternative would describe issuance of, and project operations under, a FERC license that provided volitional passage and compliance with state and tribal water quality standards. In addition, the KBRA and its guaranteed water diversions and tribal claim waivers would not occur. Thus, the Klamath Reclamation Project would continue to be managed in accordance with existing and future limitations on diversion required by the Endangered Species Act and other applicable law.

The problems associated with the No-Action Alternative, as currently framed, are evident in the discussion of water quality impacts. The evaluation of the No-Action Alternative, in Section 3.2’s discussion of water quality repeatedly states that the “continued impoundment of water at the Four Facilities under the No Action/No Project alternative would result in no change from existing conditions.” This statement rests on the erroneous premise that the Project would be allowed to continue operating out of compliance with state and tribal water quality standards. In fact, under a properly framed No-Action Alternative, the FERC process would resume and the States of Oregon and California, and the Hoopa Valley Tribe, would impose conditions on continued operation designed to ensure compliance with the applicable standards. Under

Ms. Elizabeth Vasquez  
 November 18, 2011  
 Page - 7

existing federal and state law, the Project could not be permitted to continue operating in a manner that violated the applicable water quality standards.

In summary, continued un-mitigated operation of the Klamath Hydroelectric Project is not likely, foreseeable, or reasonable if Facilities Removal fails to occur pursuant to the KHSA process. The No-Action Alternative should be modified to reflect the likely outcome of a resumption of the FERC licensing process.

B. Analysis of the Proposed Action Alternative Is Inadequate Because It Fails to Evaluate the Effects of the KBRA's Guaranteed Minimum Irrigation Diversions on the Fishery.

The Proposed Action is described as Facilities Removal (i.e., decommissioning and removal of Iron Gate Dam, Copco Dams 1 and 2, and J.C. Boyle Dam). The Department considers the KBRA to be connected to the Proposed Action; however, the DEIS and its supporting documents confirm that less water will be available for flows at Iron Gate Dam under the Proposed Action (i.e. Reclamation (2011), pages 6-9 and 6-10; Figure 1) but do not actually evaluate or disclose the adverse consequences to water flow and the fishery that will result from federal execution and implementation of the KBRA. Hydrology modeling in Reclamation (2011) shows that flows under the Proposed Action will be 200 - 400 cfs less than what would otherwise be available under the No Action alternative. Additionally, both the Proposed Action and the No Action alternative fall consistently short of the instream flow recommendations in Hardy et al. (2006), except during extremely wet hydrologic conditions (Figure 2). The DEIS must fully disclose to the decision-makers and to the public that dam removal tied to the KBRA will not achieve the goals of fishery restoration, because there will not be water of sufficient quantity and quality left in the river for the fish at critical times in dry water years.

Both before the KBRA and KHSA were signed, and throughout this NEPA process, the Hoopa Valley Tribe has urged that modeling be completed which compares the water flows needed for fish restoration to those projected to become available under the KBRA. For example, in Additional Modeling and Analytical Work Needed (February 5, 2008), the Hoopa Valley Tribe and others urged modeling "that will achieve modified Hardy II Iron Gate flow targets. . . . [and determine] the Project diversions allowable while meeting April 1 through September 30 Hardy II Iron Gate flow targets." The document further requested "a written procedure for operationalizing the Hardy II flows. . . . intended to help determine the amounts that will be available for diversion in time steps throughout the summer and winter months."

On June 16, 2009, Hoopa Tribal Fisheries Director, Mike Orcutt, wrote to Associate Deputy Secretary of the Interior, Laura Davis, urging the Department "to conduct the additional analyses discussed . . . to illuminate the feasibility of KBRA water management schemes . . . .in advance of final federal decision-making and before KBRA legislation is introduced in Congress." On July 2, 2009, Hoopa Tribal Chairman Leonard E. Masten also wrote to Associate Deputy Secretary of the Interior, Laura Davis, urging completion of modeling and noting that "[s]uch modeling was also requested in the February 5, 2008, list of studies that we previously sent you." In response, Associate Deputy Secretary Laura Davis, on September 11, 2009, reported that work had been done "to identify additional scientific analyses that may better

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 8

inform review of the draft KBRA.” Ms. Davis referred to the February 5, 2008, request and said “[o]ther issues will be addressed by additional modeling described above.” Nevertheless, the DEIS fails to disclose any modeling of implementation of the Hardy II flows recommended for fish restoration and does not examine how such flows could be operationalized to permit continued water diversions for the irrigation project.

The DEIS also misrepresents the facts, unsuccessfully attempting to claim the KBRA will be better for fish. For example, page 3.3-99 references Hetrick et al. (2009), citing that fall-run Chinook under “KBRA type flows showed the greatest benefits in years when production was low.” This summary conclusion in Hetrick et al. 2009 is stated in the Anadromous Fish Production section under PRE-DAM results. Modeling results for POST-DAM removal did not state the same result regarding the ratio of benefits to production in low production years (Hetrick et al. 2009).

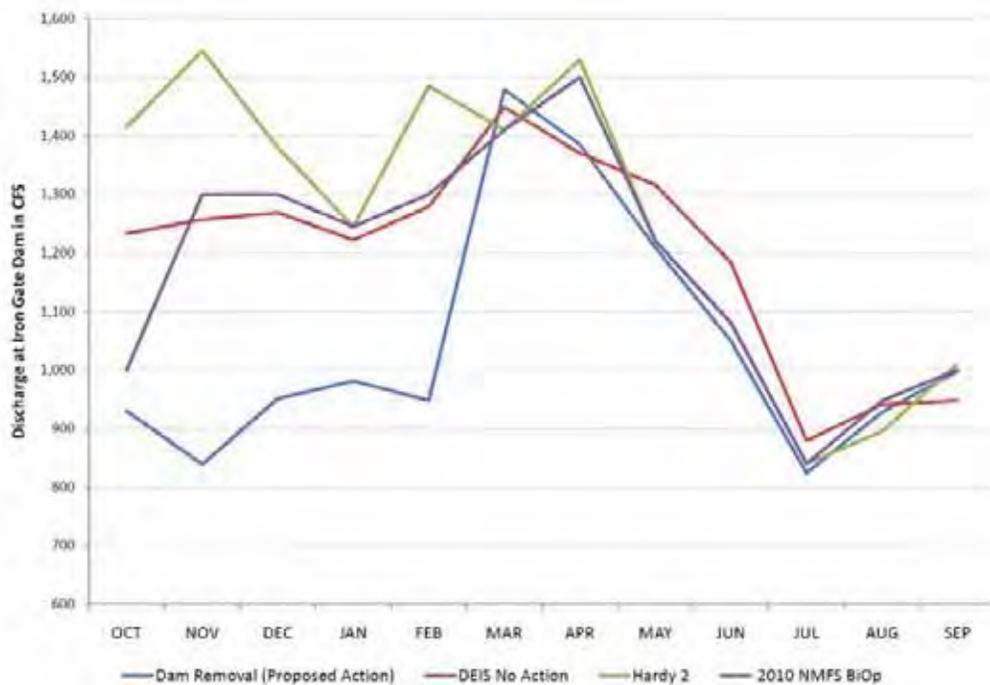


Figure 1. Comparison of 90% exceedance discharge at Iron Gate Dam for the DEIS Proposed Action, DEIS No Action, Hardy et al. (2006) and the NMFS Biological Opinion (2010). Note dry year Proposed Action flows are well below thresholds established in the NMFS Biological Opinion (2010) and Hardy et al. (2006) during most months, and especially during November through February. Chinook fry emerging beginning in December (Hardy et al. 2006) will be affected by insufferably low winter flows.

Ms. Elizabeth Vasquez  
 November 18, 2011  
 Page - 9

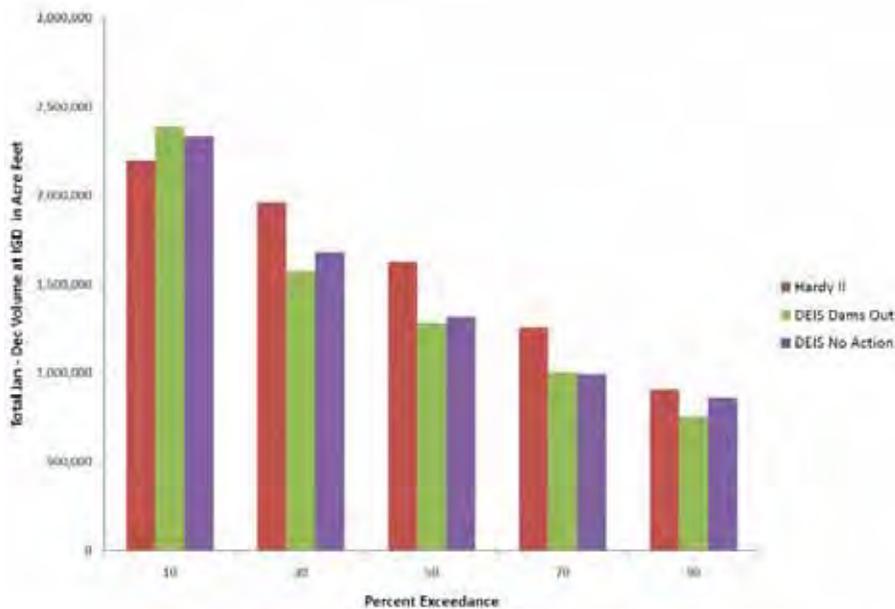


Figure 2. Hardy et al. (2006) Iron Gate Dam instream flow recommendation water volumes compared to both DEIS alternatives. Both the Proposed Action and No Action are well below Hardy et al. (2006) recommendations for instream fisheries needs in all exceedance year types except during extremely wet annual hydrologic conditions.

Throughout the DEIS, the effect of the KBRA Water Diversion “Limitation” is inaccurately described. For example, page ES-19 states that a key outcome of the KBRA is that the Klamath Reclamation Project’s water users have agreed to “accept reduced water deliveries.” At page 3.7-19, the DEIS states that “the Water Diversions Limitations program (KBRA Section 15.1) would reduce the availability of surface water for irrigation on Reclamation’s Klamath Project to 100,000 acre-feet less than the demand in the driest years to protect mainstem flows.” Similarly, page 3.8-20 states “Water Diversion Limitations would be implemented during dry years to increase flows for fisheries by reducing Reclamation’s Klamath Project Diversion up stream of approximately 100,000 acre-feet.”<sup>1</sup> Both of these statements are completely false. Not only is 100,000 acre-feet not reduced from current demand, the DEIS’s Proposed Action’s modeled water volume falls well below ESA requirements established in the 2010 National Marine Fisheries Service (NMFS) Biological Opinion (Figure 3) for dry water year types, requirements that limit diversions. A comparison of required versus available water volume totals for the January through December time period reveals water volumes established in the 2010 NMFS Biological Opinion would not be met in four out of six water year types (66%). None of the sections referring to the mythical 100,000 acre-feet or any other part of the DEIS,

<sup>1</sup> We find it unusual that the reference to this mysterious 100,000 acre feet water volume savings first appears in an earlier draft of Hetrick, et al. (2009) but is not included in the Final version of the same report.

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 10

reveals that the existing legal limitations in the applicable Biological Opinions independently prevent the Project from satisfying irrigation demand in dry years. The analysis of the KBRA flows in the DEIS appears to rely on irrigator water usage from years *prior to* BiOp implementation. The large irrigation diversions noted in the DEIS occurred prior to the BiOp and are illegal now under the ESA. The KBRA would change that by guaranteeing a minimum diversion for irrigators to the detriment, not the benefit, of fish.

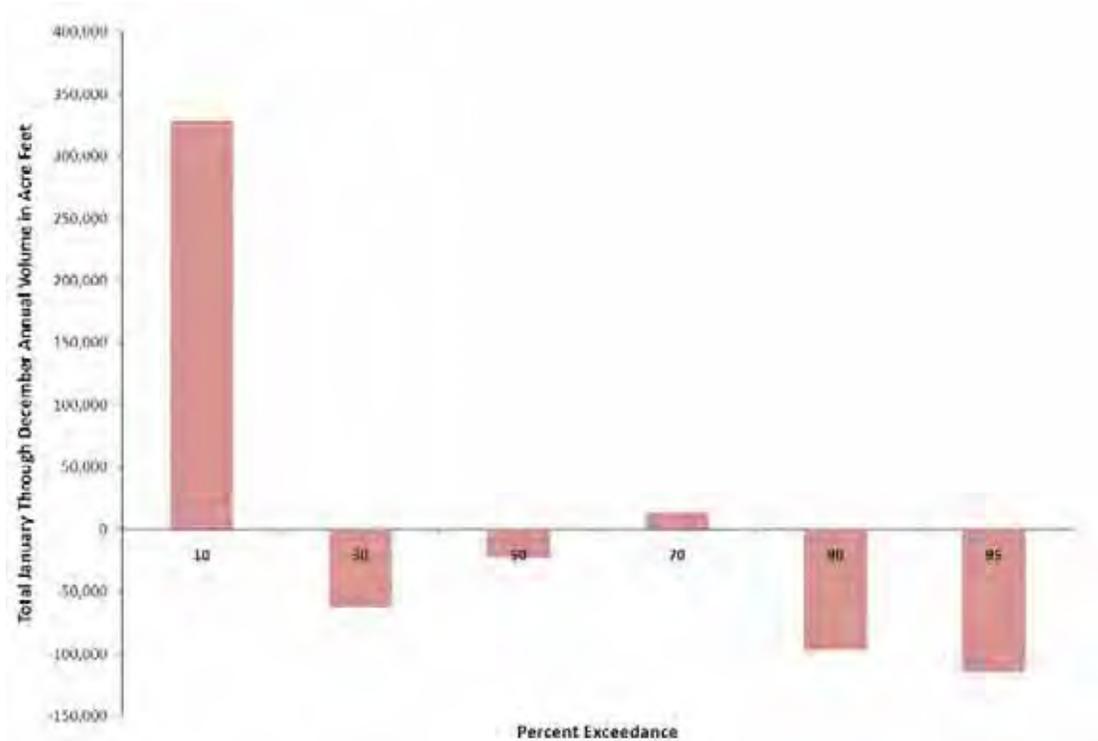


Figure 3. DEIS Proposed Action water volume<sup>2</sup> shortages when compared to volumes required to satisfy the 2010 NMFS Biological Opinion<sup>3</sup> for January through December volumes. Volumes are calculated from Iron Gate Dam releases.

The purported “limitation” on diversions in the KBRA is nothing of the kind and will actually work to negate benefits of dam removal. The purpose of the KBRA is not to limit diversions, but to guarantee a firm minimum amount of water for irrigation diversions that exceeds currently legal levels. Those diversions, which under the KBRA would be 330,000 to

<sup>2</sup> DEIS Proposed Action water volumes were calculated from exceedance tables presented in Appendix F of (Reclamation 2011).

<sup>3</sup> 2010 NMFS Biological Opinion water volumes were calculated from Table 18 of (NMFS 2010).

Ms. Elizabeth Vasquez  
 November 18, 2011  
 Page - 11

385,000 acre-feet per year, would trump the in-stream flow needs of fish and other aquatic organisms, especially in drier water years (Figure 4). DEIS hydrology model results indicate that the Proposed Action will result in a buffering of Agricultural Supply water volumes in dry years above what would otherwise be available. Meanwhile, the river suffers a penalty of a volume reduction that violates the 2010 NMFS Biological Opinion (Figure 3). While the DEIS states ESA compliance will continue, it fails to describe *how* this will be achieved given the clear shortage of water volume under the KBRA. The United States would be legally obligated to defend the irrigators' diversion rights against the interests of fish and Indian tribes in the Klamath Basin. The KBRA thus subordinates senior tribal rights to water for fish in favor of junior irrigation interests. In the case of the Hoopa Valley Tribe, this subordination occurs without the Tribe's consent – effectively terminating Interior's trust obligation to the Tribe in this context. The DEIS leaves the wrong impression that the KBRA limits irrigation diversions below the level that can lawfully occur under the existing BiOp.

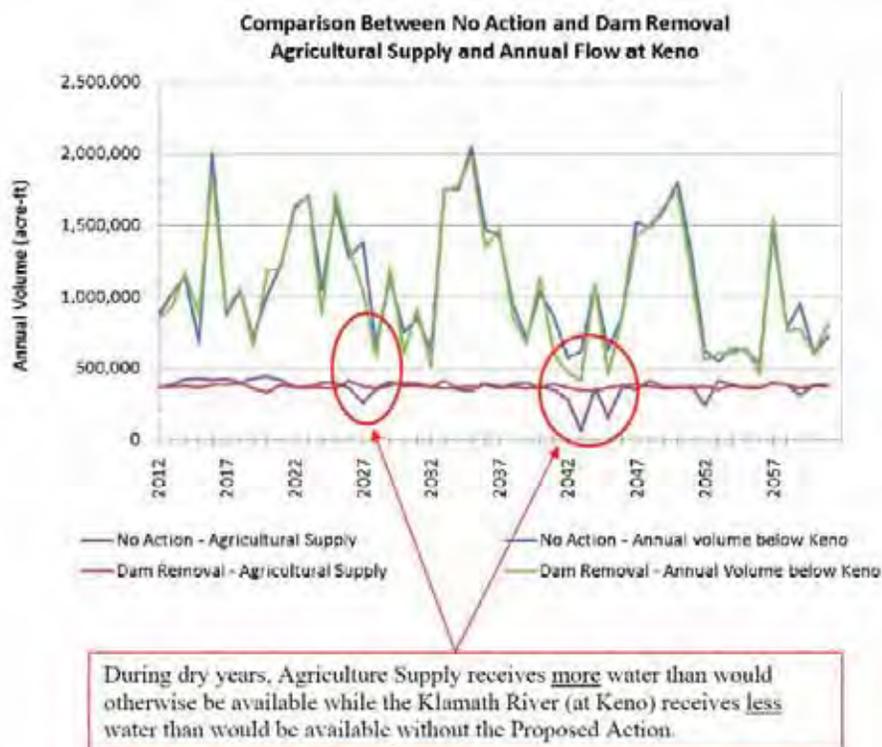


Figure 4. The DEIS Proposed Action favors Agricultural Supply in dry years, providing a guarantee of more water than would be available under the No Action Alternative, which includes the flow requirements established in the 2010 NMFS Biological Opinion. Conversely, the river is penalized by a decrease in available water under the Proposed Action. Adapted from Reclamation (2011), page 6-18. This modeling comparison does not indicate irrigation will be reduced by 100,000 acre feet from current demand, as erroneously represented in the DEIS (i.e. page 3.7-19).

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 12

Analysis of the KBRA's guaranteed diversions shows that water flows in the vicinity of Iron Gate Dam would frequently fail to meet the requirements of the NMFS Biological Opinion for protection of salmon in the mainstem Klamath River (Figure 3). The flows in the BiOp are those necessary to avoid placing the fish in jeopardy of extinction. The guaranteed diversion of 330,000 acre-feet for irrigators will, in 66% of water years, leave too little water in the Klamath River to meet the requirements of the Coho Salmon BiOp flow requirements (Figure 3). Flows under the KBRA (Appendix E-5) will fall to below 450 cfs if water years similar to 1992 occur in the next 50 years. During the massive fish die-off in 2002 (in which 70,000 adult salmon died), flows in the river were 750 cfs. (Guillen 2003, CDFG 2004).

The Department cannot avoid analyzing the impacts of the diversion limitations in this EIS. The commitments related to the diversion limitations will become binding once the Secretary of the Interior signs the KBRA. Since the Secretary will be bound to honor the water balance and diversion guarantees prescribed in the KBRA upon signing, there will be no point in the future at which to analyze the effect of the diversion guarantees under NEPA. The Secretary will lack discretion to not honor the diversion guarantees once the necessary conditions are met.

The Department must analyze the effect of the KBRA and its diversion guarantees now. The Department concedes that the KHSA and KBRA are interdependent. The Department cannot tout the benefits of dam removal while ignoring the harm that will result from the associated KBRA. Nor can the Department fail to examine the KBRA water diversion impacts by analyzing the KBRA at a "programmatic" level. Examination of the KBRA at a programmatic level does not excuse the Department from analyzing and disclosing the known impacts associated with the program. The minimum diversions guaranteed by the KBRA are known now, will be non-discretionary once the KBRA is executed, have significant impacts associated with them, and therefore must be evaluated now.

C. The Alternatives Analysis is Incorrect in Concluding The Proposed Action Will Result in a Positive Geomorphic Effect

Fluvial geomorphic function is critical for habitat creation and maintenance for rearing and spawning anadromous salmonids. Geomorphic function is also essential for naturally functioning physical processes (i.e. bar development, scour) in a dynamic river system. Reclamation (2011) cites the existing condition median bed mobilization flows for Slight and Significant Bed Mobilization flows as 9,800 and 15,900 cfs respectively (Table 1). That is, to significantly mobilize the bed of the Klamath River below Iron Gate Dam, a median flow of 15,900 cfs is required.

Slight Mobilization is defined by Reclamation (2011) as "a small, but measurable, sediment transport rate. Armor layer is only minimally disturbed and there may be flushing of sand to a depth of the  $D_{90}$ ." Reclamation (2011) also defines Significant Mobilization as "many particles are moving and there is a significant sediment transport rate. Sand is mobilized in the interstitial spaces of the bed and to a depth of twice the  $D_{90}$ . The armor layer is significantly disturbed. Given these definitions, we believe a Significant Mobilization is required in river downstream of Iron Gate Dam to recover geomorphic function and mitigate bed armoring caused by Iron Gate Dam, constructed in 1962. While the geomorphic effect of Iron Gate Dam clearly

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 13

extends beyond the first ten miles downstream, Table 1 includes only mobilization flows for the first ten river miles, for discussion purposes.

Reach	River Mile	Slight Bed Mobilization Flow (cfs)			Significant Bed Mobilization Flow (cfs)		
		Low	Median	High	Low	Median	High
Bogus Creek to Willow Creek	190.33-185.83	7,000	<b>9,800</b>	13,100	11,500	<b>15,900</b>	21,300
Willow Creek to Cottonwood Creek	185.23-182.95	7,700	9,800	13,100	12,500	17,200	22,900
Cottonwood Creek to Shasta River	182.95-179.17	5,900	8,400	11,300	9,700	13,800	18,400

Table 1. Bed mobilization flow requirements for the ten miles of river below Iron Gate Dam (Bogus Creek to the Shasta River). Mobilization flows reported in Reclamation (2011). River miles reported in Ayers (1999). Median discharge required for the first 4.5 miles downstream of Iron Gate Dam in bold for discussion purposes (see text).

The modeled hydrology for the period between 2011 and 2061 does not meet the flow threshold for a Significant Bed Mobilization flow (15,900 cfs) even once (Figure 5). As a result, the reaches downstream of Iron Gate Dam will suffer in their ability to recover from the harmful effects caused by sediment starvation and bed armoring over the past fifty years. Because neither the Proposed Action nor No Action Alternatives meet the geomorphic needs of the Klamath River downstream of Iron Gate Dam, additional flow management provisions will be required to ensure adequate geomorphic recovery. The additional coarse sediment provided by the upstream Iron Gate Reservoir will not be a benefit if there is not sufficient flow to mobilize it downstream over time.

Reclamation (2011) is incorrect when it concludes, “It is expected that the reach between Iron Gate and Cottonwood Creek will have improved habitat function under the Dam Removal Alternative than under the No Action Alternative.” Reclamation (2011) bases this future-condition geomorphic assessment off the Slight and not Significant Mobilization threshold. Given a Slight Mobilization event will do little more than flush sand (as defined by Reclamation), we find this conclusion to be in error.

Reclamation (2011) also asserts that the return period for future sediment mobilization flows will decrease – sediment is predicted to mobilize more frequently. We also find this conclusion incorrect. Reclamation’s (2011) model results for reach average  $D_{50}$  (coarse sediment) for the short distance between Iron Gate and Bogus Creek actually coarsens post-dam removal, while the Willow Creek to Bogus Creek reach does decrease in grain size slightly. The Cottonwood Creek to Willow Creek reach shows the greatest shift in grain size, but the Shasta to Cottonwood reach indicates no change in grain size. Given grain sizes for these reaches are not consistently (or significantly) trending downward, we find it dubious that the modeled return

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 14

period (for a Slight Mobilization event) would actually decrease, as predicted by Reclamation (2011) and the DEIS. Model results for the Significant Mobilization return period would have been far different, resulting in a longer return period likely only to be met during extreme flood conditions (i.e. 100-year floods).

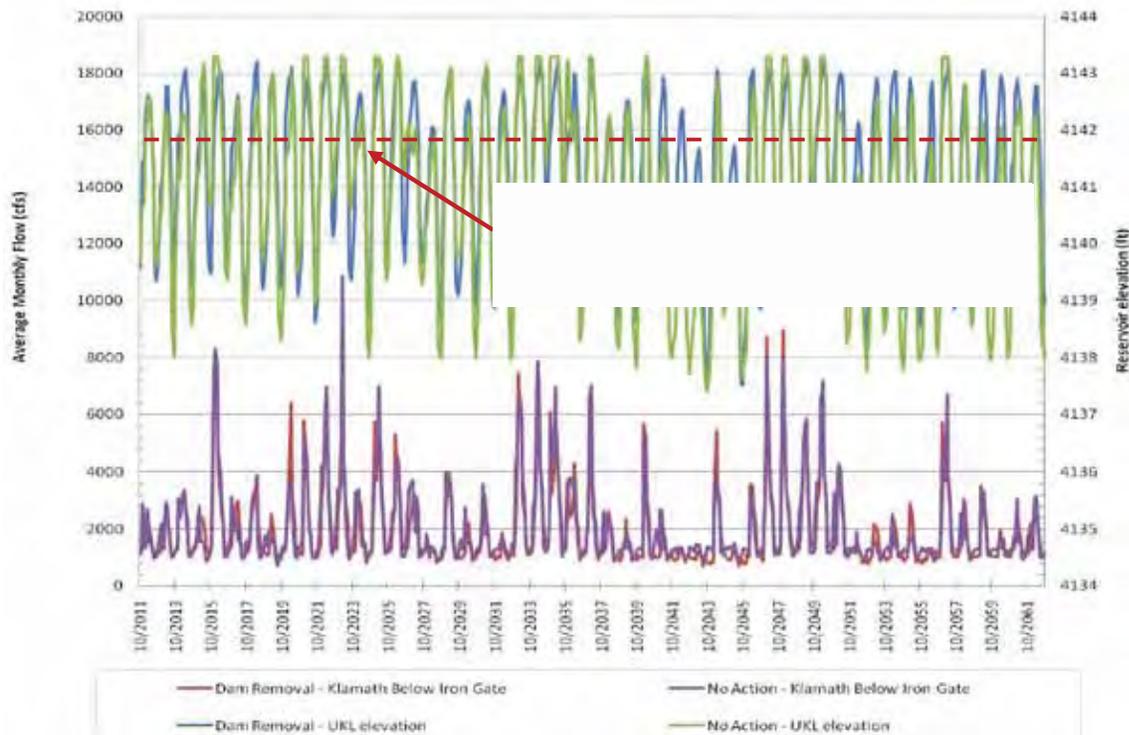


Figure 5. Modeled Iron Gate Discharge 2011-2061 contrasted with the median threshold (15,900 cfs) for Significant Bed Mobilization, which is never achieved. The low threshold for Significant Bed Mobilization (11,500 cfs) and the median threshold for Slight Bed Mobilization (9,800 cfs) is met only once in the fifty year forecast. Adapted from Reclamation (2011).

D. The Alternatives Analysis Is Inadequate Because It Fails To Evaluate A No-KBRA Alternative.

The EIS must evaluate an alternative of full Facilities Removal without execution or implementation of the KBRA. The omission of a Facilities Removal/No-KBRA alternative in the EIS renders it out of compliance with NEPA, because the No-KBRA alternative is both feasible and would be the alternative most likely to result in restoration of the fishery. Under this scenario, Klamath Hydroelectric Project dams would be removed, but diversions to the Klamath Reclamation Project would continue to be managed under currently applicable laws, such as the ESA, without the guaranteed diversions prescribed by the KBRA. The purpose of volitional

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 15

passage and a free flowing river would be achieved and the flows would continue to be managed for the fish first, and irrigation second.

It is clear that the failure to analyze a No-KBRA alternative violates NEPA and CEQA requirements. The No-KBRA is both a reasonable and a feasible alternative. The Department's own analysis concedes that the No-KBRA alternative would (i) remove dams to allow the river to flow freely; (ii) provide for full volitional fish passage; (iii) provide access to more of the watershed; (iv) create a free-flowing river, which would reduce quality concerns within existing reservoirs; and (v) is technically feasible. Final Alternatives Report, Section 4.2.8.

The DEIS contends that it is reasonable to not evaluate the no-KBRA alternative because that alternative "does not meet the purpose and need under NEPA." But, as stated above, it is improper to tie the KBRA to dam removal. The purpose of the EIS evaluation is to determine what is best for the fish and the health of the river. Agricultural subsidies and guaranteed irrigation diversions have little to do with that analysis. Also, the failure to evaluate a no-KBRA alternative deprives the decision-makers and the public of the information needed to determine if the no-KBRA alternative would better achieve the fishery and river-restoration goals, and without the need for \$1 billion in subsidies, fundamental changes in existing law, and termination of tribal trust interests. The need to evaluate a no-KBRA alternative is especially important in light of the fact that the KBRA and KHSA require Congressional authorizations. Evaluation in this EIS of dam removal without the KBRA and its associated problems would assist the decision-makers in determining the best course of action.

E. The Alternatives Analysis is Inadequate Because It Fails to Evaluate a Federal Takeover Alternative.

The EIS must evaluate an alternative in which the Secretary does not render a Determination pursuant to the terms of the KHSA, but rather exercises authority to takeover the Klamath Hydroelectric Project pursuant to Section 14 of the Federal Power Act, 16 U.S.C. § 807 and/or supplemental Congressional authorization. Like the dam removal/no-KBRA alternative, this alternative would achieve the goals of volitional fish passage, improved water quality, and a free-flowing river without the harmful consequences and expense of the KBRA. The Final Alternatives Report, Section 4.2.13, contends that the Federal Takeover alternative is not superior to the Proposed Action because dam removal would occur on generally the same time-frame under both alternatives. There is no support for this statement. The KHSA artificially delays commencement of dam removal until 2020 or later solely to benefit the private hydropower licensee that has been operating on the terms of an expired 1950's era-license since 2006. There is simply no justifiable basis to allow PacifiCorp to continue its unmitigated operation of the Klamath Project for another decade. A federal takeover alternative, similar to that successfully implemented on the Lower Elwha River in Washington State, could disregard the KHSA terms solely designed to benefit the private licensee and commence dam removal years earlier for the benefit of the river and its resources.

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 16

F. The Alternatives Analysis Is Inadequate Because It Fails to Evaluate, or Even Consider Evaluation of the Water Quality Improvement Strategy Alternative Recommended by the Tribe in Scoping, or Any Alternative That Will Ensure Compliance With Hoopa Valley Tribe Water Quality Standards.

In its July 2010 scoping comments, the Tribe recommended evaluation of a Dam Removal/Water Quality Improvement Strategy alternative that would replace the KBRA measures with an alternative approach consisting of refilling Lower Klamath Lake using Lost River winter water, somewhat expanding the footprint of Tule Lake, and restoring riparian zones along the entire lower Lost River and Keno Reach of the Klamath River. The Tribe's scoping comments referenced the Klamath Basin Tribal Water Quality Work Group comments on the Klamath River TMDL, found at <http://www.schlosserlawfiles.com/~hoopa/LostRiverTMDL.pdf>. The DEIS fails to address this proposed alternative or provide any explanation for why it was not evaluated.

The DEIS, as drafted, fails to evaluate any alternative that will result in full compliance with Hoopa Valley Tribe water quality standards. Section 3.2 notes the existence of applicable water quality standards enacted by the Hoopa Valley Tribe, but fails to adequately address whether the Proposed Action of dam removal with associated implementation of KBRA flows, (or some other alternative) will ensure compliance with the tribal standards. We attach an explanation, Patrick Higgins, "KHSAs and KBRA Likelihood of Meeting Hoopa Valley Tribe Klamath River Water Quality Standards" (October 6, 2011), which details this problem. In fact, certain statements in the EIS confirm that the Proposed Action will continue to result in violations of Hoopa standards. See page 3.2-103 (stating that Total Nitrogen (TN) levels will continue to exceed Hoopa objectives).

G. The Alternatives Analysis Is Inadequate Because It Fails to Evaluate Any Alternatives to the KBRA.

The proposed action assumes that the KBRA will be executed and implemented. The proposed action assumes that the KBRA is an interdependent component of a comprehensive program to restore the Klamath River. Yet, in addition to failing to consider an alternative in which dams are removed without the KBRA, the DEIS also fails to consider or evaluate any substantive alternatives to the KBRA. The execution of the KBRA, as argued throughout these comments, is a major federal action with significant known environmental impacts. The failure to fully evaluate the impacts of, and alternatives to, the KBRA is a violation of NEPA.

Assertions that the impacts of the KBRA will be evaluated at a later time are incorrect given the non-discretionary nature of many of those programs, such as the diversion guarantees. In addition, the proposed legislation attached as an Exhibit to the KBRA and KHSAs would exempt the KBRA execution from NEPA review. Of course, that legislation has not been enacted and thus the Department has a currently binding obligation to review the KBRA under NEPA. The public, Congress, and decision-makers in the Department must receive the benefit of a thorough alternatives analysis which considers the pros and cons of the KBRA and whether there are alternative approaches that would achieve the river restoration goals with less impact.

Ms. Elizabeth Vasquez  
 November 18, 2011  
 Page - 17

IV. The EIS Fails to Evaluate the Impacts of the Proposals for Legislation, Which Are An Express Prerequisite of the KBRA and KHSA.

NEPA requires that federal agencies prepare an environmental impact statement for “every recommendation or report on proposals for legislation . . . significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(C). In this case, the action being analyzed is specifically tied to and dependent upon enactment of federal legislation containing specific elements proposed by the Department and other parties to the KHSA and KBRA. Pursuant to Section 3.3.4 of the KHSA, the Secretary will be barred from rendering any determination on dam removal unless Congress first enacts “federal legislation, which . . . is materially consistent with Appendix E [of the KHSA].” Appendix E of the KHSA is entitled “Elements for the Proposed Federal Legislation” and contains a detailed list of specific proposed elements for legislation related to both the KBRA and the KHSA. Even if the Secretary determines that dam removal is clearly in the public interest, will restore fisheries, and provide for a free-flowing river, the Secretary cannot, consistent with the KHSA, make any public determination about the benefits of dam removal unless the proposed legislation is enacted.

There are significant environmental consequences that will flow from the enactment of the KHSA and especially the KBRA that require complete analysis in the EIS. Of most significance are the effects associated with the guaranteed minimum diversions of the KBRA, the impacts of the \$1 billion in subsidies that encourage unsustainable agricultural practices, impacts on the Trinity River Restoration Program, and the historic termination of tribal trust rights. Given that the enactment of the proposed legislation is a direct prerequisite to the Secretary’s determination in this proceeding, the EIS must fully evaluate the impacts associated with the proposals for legislation that would authorize implementation of the KHSA and KBRA.

The proposed legislation, and execution of the KBRA, would also undermine enforcement and compliance with the Endangered Species Act. Although the EIS repeatedly states that the KBRA programs, and the irrigation diversions by the Klamath Reclamation Project, would need to comply with the ESA, this is clearly inconsistent with the text of the KBRA, which is designed to constrain NMFS and USFWS ability to protect threatened and endangered species. *See* KBRA, Sections 21.3.1 and 22.4. The objective of the parties under the KBRA is that reductions in flows to irrigators below those prescribed in the KBRA “will be a last and temporary resort to prevent jeopardy under the [ESA].” KBRA, § 21.3.1.B.ii.c. This objective is plainly inconsistent with the science (which shows flow to be the most significant factor affecting fish health) and the law (which mandates that the agencies protect endangered and threatened species based on the best available science).

Since Congress is not limited by the terms of the KBRA and KHSA, an EIS that accurately and completely describes and evaluates the full suite of reasonable and feasible alternatives, including a dam removal/no-KBRA alternative and a federal takeover and decommissioning alternative, is critical.

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 18

V. The DEIS Fails To Adequately Evaluate and Disclose the Impacts of the KBRA, and Overstates Its Potential Benefits, Precluding Informed Public Participation and Decision-Making.

The DEIS states that the KBRA is a connected action requiring analysis under NEPA. It is true that the KHSA and KBRA have been drafted as interdependent components of a larger plan relating to Klamath Basin restoration. Although the DEIS states that the KBRA is a connected action, the DEIS then fails to adequately describe or evaluate its impacts. Even if the KBRA is evaluated at a more general, programmatic, level, the EIS still must evaluate those aspects of the KBRA that have known or foreseeable impacts, in addition to any components that will not be evaluated under NEPA in the future. Describing the KBRA as “programmatic” does not excuse the Department from actually evaluating the known impacts of the KBRA that are ripe for evaluation.

Some of the key elements of the KBRA that are not adequately described and evaluated are the minimum guaranteed water diversions, the potential impacts on the Trinity River Restoration Program, and the unconsented subordination and waiver of trust obligations relating to tribal water rights. There will not be any future NEPA analysis of the impacts of the guaranteed water diversions because implementation of those diversions will be non-discretionary; therefore, a full analysis must occur now prior to approval and execution of the KBRA. The DEIS also improperly assumes that the various fisheries restoration and other programs are likely to occur when, in fact, those programs depend entirely on funding from Congress that is unlikely to materialize. In summary, the impacts of the KBRA are either not evaluated or minimized, while the benefits of the KBRA are made to appear more certain than they actually are. The public and decision-makers need to be made aware that approval of the KBRA could result in a scenario in which dam removal occurs, but there is insufficient water left in the river for fish to survive and the promised programs for fisheries fail to materialize.

Due to the need for substantial Congressional appropriations, the purported benefits of the KBRA are highly speculative, especially in today’s political climate. The DEIS fails to adequately discuss the likely scenario in which the purported benefits from the KBRA are not achieved due to lack of Congressional funding. The KHSA and KBRA were signed in early 2010 and their implementation expressly depends on the enactment of federal legislation. Yet, we now approach the end of 2011 with no legislation. With good reason, there simply is not support from members of Congress to propose spending nearly \$1 billion on needless subsidies for unsustainable agricultural practices. Nor is there support in Congress to advance legislation that unilaterally terminates Indian trust obligations. The DEIS needs to more fully explain that the purported environmental benefits of the KBRA are highly speculative and may not ever occur to offset the impacts of the guaranteed diversions for irrigation.

Even if funding does occur, the DEIS fails to adequately explain that the KBRA does not contain any fish restoration goals. It establishes no target salmon sizes or harvest goals. The KBRA simply calls for funding without any definition of success. The failure to connect the funding to any defined performance measures is likely another obstacle to obtaining Congressional funding in the current economic and political environment.

Ms. Elizabeth Vasquez  
 November 18, 2011  
 Page - 19

Numerous sections of the EIS require additional comprehensive discussion of the impacts of the KBRA on water, aquatic resources, and tribal trust rights, especially including Sections 3.2 (water quality), 3.8 (water supply/water rights), 3.12 (tribal trust) and 3.16 (environmental justice). These sections fail to openly disclose the negative consequences that will result from the KBRA's guaranteed minimum diversions and un-consented subordination of tribal trust rights, presenting only a one-sided view of the KBRA to the public and decision-makers.

VI. The DEIS Fails To Disclose That Execution and Implementation of the KBRA Would Result in a Historic Termination of the United States Trust Relationship With Klamath Basin Indian Tribes With Respect to Protection of Reserved Water and Fishing Rights and Would Unlawfully Result in an Un-consented Subordination of Senior Tribal Water Rights to Junior Water Rights of Non-Indian Irrigators.

In the KBRA, the United States provides assurances, without the consent or approval of the Hoopa Valley Tribe, that the United States will not assert the Hoopa Valley Tribe's tribal water, fishing, or trust rights, in a manner that will interfere with the Klamath Reclamation Project's annual diversion of 330,000 acre-feet of water from the Klamath River (the "Assurances"). These Assurances in favor of the Klamath Reclamation Project, once effective, are permanent regardless of: (a) whether federal appropriations are provided for anticipated fishery restoration and reintroduction programs; (b) the success or failure of anticipated fishery restoration and water quality improvement efforts; (c) future effects of climate change, or other environmental conditions, on water quality and quantity in the Klamath River; (d) the future fishery harvest needs of the Hoopa Valley Tribe; or (e) other unknown or unforeseeable events.

The Assurances in the KBRA effectively terminate most of the United States' fiduciary obligations to the Hoopa Valley Tribe by permanently subordinating the Tribe's senior water and fishing rights in the Klamath River to junior non-Indian irrigation interests in the Upper Klamath Basin, regardless of future impacts on tribal trust resources, and without the consent or approval of the Hoopa Valley Tribe. The Assurances become permanent if the Klamath dam facilities are removed pursuant to an Affirmative Secretarial Determination.

Although this issue has been a highly publicized area of controversy, the Draft EIS fails to mention it. Section 3.12 purports to discuss impacts on tribal trust resources. Yet, that section says nothing about the fact that the United States, in the KBRA, has agreed to subordinate tribal water rights to junior irrigation interests. Section 3.12 asserts that the Hoopa Valley Tribe will be eligible for KBRA funding "upon becoming a party" but fails to mention that the Tribe would be required to enact claim waivers and take other acts inconsistent with its trust resources in order to obtain those "benefits." The DEIS fails to mention that the Tribal Council of the Hoopa Valley Tribe enacted a resolution in February 2010 that finds in relevant part:

WHEREAS: The Assurances in the *Klamath Basin Restoration Agreement* effectively terminate the United States' fiduciary obligation to the Hoopa Valley Tribe by permanently subordinating the Hoopa Valley Tribe's senior water and fishing rights in the Klamath River to junior non-Indian irrigation interests in the Upper Klamath Basin, regardless of future impacts on tribal trust resources, and without the consent or approval of the Hoopa Valley Tribe; and

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 20

WHEREAS: The Assurances in the *Klamath Basin Restoration Agreement* conflict with the National Congress of American Indians (NCAI) Resolution #PSP-09-051 (October 2009), and Affiliated Tribes of Northwest Indians (ATNI) Resolution #09-63 (September 2009) in which the NCAI and ATNI each resolved to oppose “any policy of the United States to terminate the rights of, or impose adverse consequences upon, a tribe that chooses to retain its water rights instead of settling on terms desired by the federal government”; and

WHEREAS: The *Klamath Basin Restoration Agreement* requires the Hoopa Valley Tribe, as a condition of the Tribe’s participation and receipt of funding and benefits in the Agreement, to relinquish and release claims against the United States relating to water management in the Klamath Basin and associated impacts on Hoopa Tribe water, fishing, and trust rights; and . . .

WHEREAS: The *Klamath Basin Restoration Agreement* thus conflicts with tribal sovereignty, violates trust duties owed to the Hoopa Valley Tribe by the United States; subordinates tribal water and fishing rights in favor of junior non-Indian irrigation interests without tribal consent; provides inadequate flows for the protection of tribal trust resources; offers a speculative and unfunded program for fishery restoration and water conservation; encourages unsustainable use of groundwater in the Upper Klamath Basin; and is not based on the best available, peer reviewed science; and . . .

NOW, THEREFORE BE IT RESOLVED: The Hoopa Valley Tribal Council, acting under its sovereign authority on behalf of the Hoopa Valley Tribe, hereby rejects, opposes, and disapproves of the *Klamath Basin Restoration Agreement* and the *Klamath Hydroelectric Settlement Agreement* . . . .

If the priority given by the KBRA to Klamath River surface diversions has the effect of preventing fish restoration (which is likely), the United States will not only be unable to protect Indian fishing rights under the terms of the KBRA, but it will be legally required to defend the irrigation interests against the tribes and trust resources. In other words, the United States would be enforcing the priority for water diversions even if that leaves too little water to restore the fish on which the Indian tribes rely. By contrast, under existing law “Reclamation is obligated to ensure that project operations not interfere with the Tribes’ senior water rights. This is dictated by the doctrine of prior appropriation as well as Reclamation’s trust responsibility to protect tribal trust resources. . . . Reclamation must, pursuant to its trust responsibility and consistent with its other legal obligations, prevent activities under its control that would adversely affect [the Tribes’ fishing] rights.” Memorandum of Regional Solicitor (July 25, 1995). The KBRA would preclude the trustee United States from preventing such adverse effects to tribal trust resources. The KBRA changes the tribal right (enforceable by the federal trustee) from a right to sufficient water to produce the fish on which the Tribes rely, into a right to water left over after diversion per Appendix E-1 of the KBRA, regardless of what the habitat results may be. The effect is thus similar to termination provisions such as the one for the Klamath Tribes of Oregon, which provided “statutes of the United States which affect Indians because of their status as Indians shall no longer be applicable to the members of the Tribes.” 25 U.S.C. § 564q(a). The

Ms. Elizabeth Vasquez  
 November 18, 2011  
 Page - 21

KBRA will abridge the Government-to-Government relationship between the United States and the Hoopa Valley Tribe.

In the DEIS, the public and decision-makers learn nothing about the impacts on Hoopa Valley Tribe's trust rights and resources. The Executive Summary asserts that there are no impacts to tribal trust flowing from the Proposed Action. This is patently false. The DEIS simply accentuates the "positives" in order to promote the KBRA and KHSR in accordance with the interests of the Department, while setting aside the anticipated termination and subordination of tribal trust rights. This also implicates environmental justice impacts. The failure to properly and fully disclose the impacts to the Tribe's rights results in an unlawfully deficient EIS.

VII. Conclusion.

The Tribe supports dam removal; however, the linkage of dam removal to the KBRA will result in non-achievement of the desired fish restoration goals. Thus, the Tribe requests that the EIS evaluate alternatives that do not include execution and implementation of the KBRA. We thank you for your consideration to these comments. We will continue to work with the Department to achieve a solution that will protect the Trinity River, restore the Klamath fishery, remove the dams of the Klamath Hydroelectric Project, and preserve Hoopa water and fishing rights.

Sincerely,

HOOPA VALLEY TRIBAL COUNCIL



Leonard E. Masten, Jr., Chairman

**Work Cited**

Ayres (1999). *Geomorphic and Sediment Evaluation of the Klamath River Below Iron Gate Dam*, Prepared for US Fish and Wildlife Service, Yreka, CA, Cooperative Agreement #14-48-0001-96XXX.

Reclamation (2011). *"Hydrology, Hydraulics and Sediment Transport Studies for the Secretary's Determination on Klamath River Dam Removal and Basin Restoration,"* Technical Report No. SRH-2011-02. Prepared for Mid-Pacific Region, U.S. Bureau of Reclamation, Technical Service Center, Denver, CO.

Ms. Elizabeth Vasquez  
November 18, 2011  
Page - 22

CDFG 2004. California Department of Fish and Game, "*September 2002 Klamath River Fish Kill: Final Analysis*, Northern California North Coast Region.

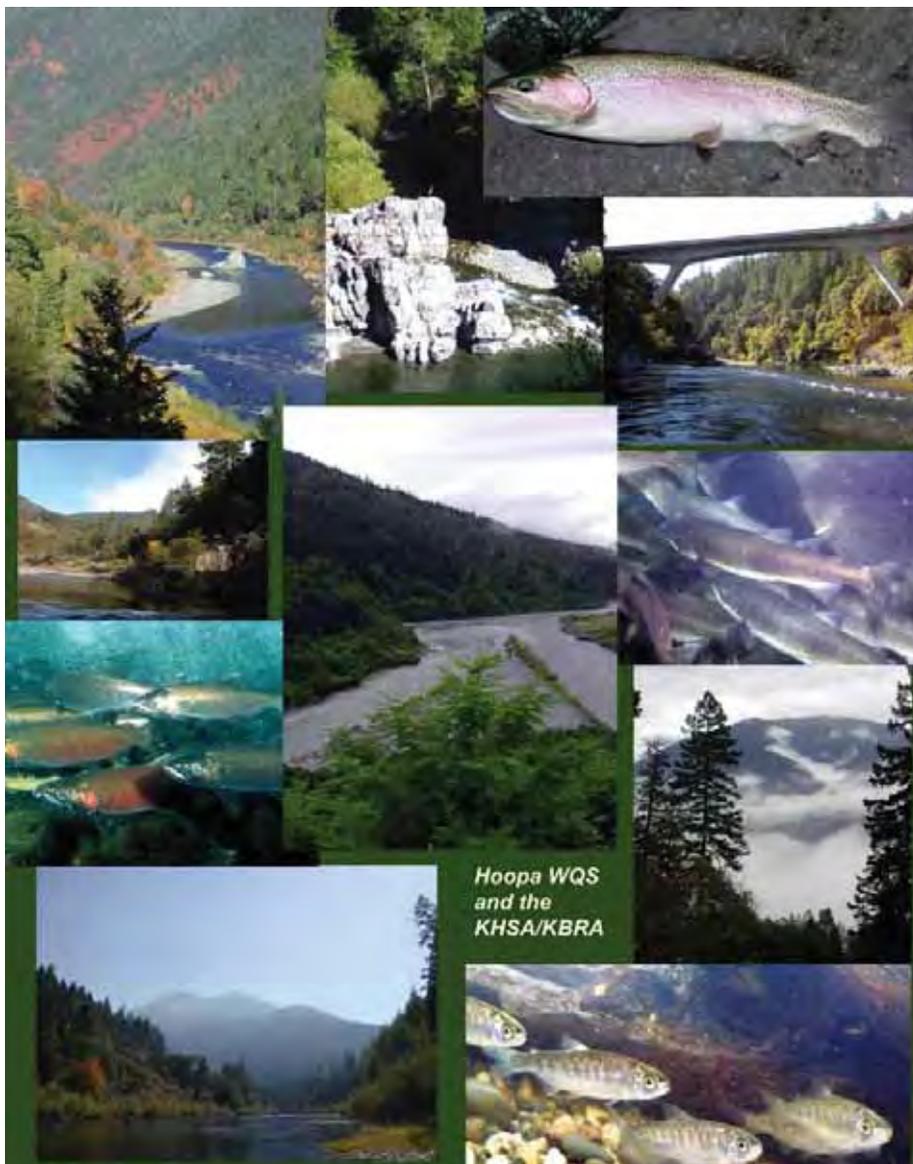
Guillen 2003. George Guillen, *Klamath River Fish Die-Off September 2002 Causative Factors of Mortality*, U.S. Fish and Wildlife Service Report No. AFWO-F-02-03

Hardy, T.B., R.C. Addley and E. Saraeva. 2006. *Evaluation of Instream Flow Needs in the Lower Klamath River: Phase II, Final Report*. Institute for Natural Systems Engineering, Utah State University, Logan. UT.

Hetrick, N.F., T.A. Shaw, P. Zedonis, and J.C. Polos. 2009. *Compilation of information to inform USFWS principals on technical aspects of the Klamath Basin Restoration Agreement relating to fish and fish habitat conditions*. U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office, Arcata Fisheries Technical Report Number TR2009-11, Arcata, California.

National Marine Fisheries Service, Southwest Region, March 2010, *Final Klamath Project Biological Opinion*, File Number 151422SWR2008AR00148.

## **KHSA and KBRA Likelihood of Meeting Hoopa Valley Tribe Klamath River Water Quality Standards**



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**Prepared for:  
Hoopa Tribal Environmental Quality Agency**

**October 6, 2011**

Patrick Higgins, Consulting Fisheries Biologist: *KHSA and KBRA Likelihood of Meeting Hoopa Valley Tribe Klamath River Water Quality Standards*

1

## Table of Contents

<b>Cover</b>	i
<b>Table of Contents</b>	ii
<b>Foreword</b>	1
<b>Origin of the KHSA and KBRA</b>	2-4
<b>KHSA and KBRA Actions Insufficient to Meet Hoopa TEPA WQS</b>	4-17
KHSA	
Fish Passage	
Thermal Problems Created by Iron Gate Reservoir	
Fish Disease Cycles	
Water Quality Stress	
Toxic Algae	
Keno Reservoir Operation	
KBRA	
Klamath KBRA Flows to Increase Water Quality Problems	
Lost River Flow Reduction Impacts Likely Under KBRA	
KBRA Nutrient Reduction Insufficient	
Pulse Flow Mitigation Measures	
<b>Potential Effectiveness of Klamath and Lost River TMDLs</b>	17-26
TMDLs Ignores Need for Marsh and Lake Ecosystem Function	
Technical Fix of Water Quality Problems is Experimental and Unlikely to Succeed	
TMDLs Rely on Voluntary Cooperation and Have No Timelines for Compliance	
Interim Measures for KHP Will Not Improve Reservoir or Lower Klamath River Water Quality Conditions	
Sucker “Beneficial Use” Recovery Required by TMDLs Unlikely Under KBRA	
<b>Ecological Restoration Approach to Restoring the Klamath River</b>	26-27
<b>Hoopa Valley Tribe Alternatives to KHSA/KBRA for Dam Removal</b>	27-28
<b>Conclusion</b>	28-29
<b>References</b>	30-39

## Foreword

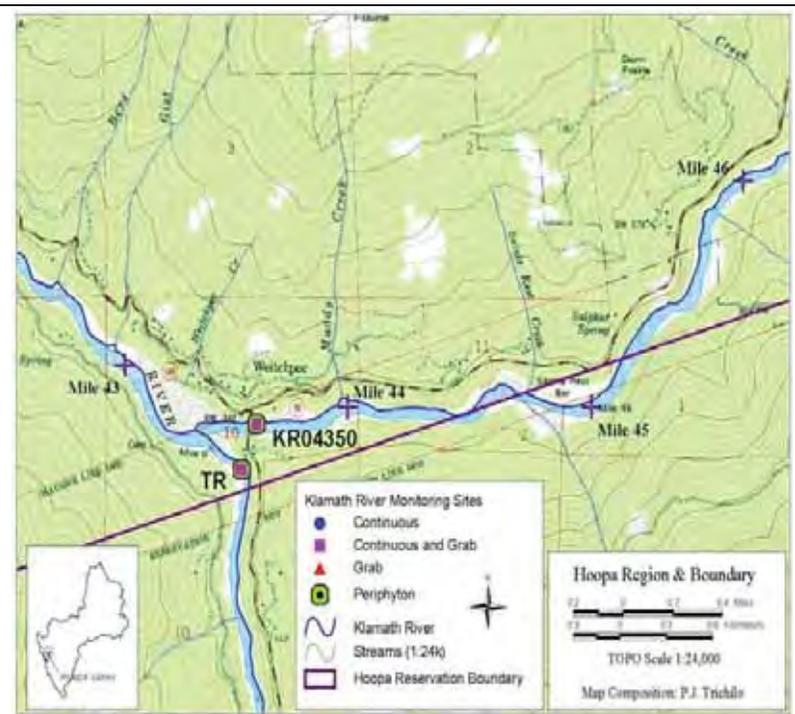
The purpose of this report is to provide the following information for the Hoopa Tribal Environmental Protection Agency (TEPA) in response to their request:

- Provide a clear over view of whether water quality management under the Klamath Hydropower Settlement Agreement (KHSA) and Klamath Basin Restoration Agreement (KBRA) will attain Hoopa Valley Tribe (2008) Klamath River Water Quality Standards (WQS),
- Provide recommendations for exercising the Hoopa Valley Tribe's WQS authority under the KHSA/KBRA water quality management process, and
- Identify options other than the KHSA/KBRA for the Hoopa Valley Tribe that achieve dam removal.

These are section headers in the report below, but sections on the origin of the KHSA/KBRA and using ecological restoration to attain Hoopa WQS are also included.

The Hoopa Indian Reservation includes a segment of the mainstem Klamath River just upstream of its confluence with the Trinity River (Figure 1 at right).

Hoopa Valley Tribe water quality authority that allows them to create water quality standards (WQS) for the Klamath River is based on U.S. EPA (2002) approval.



## Origin of the KHSA and KBRA

The KHSA is a negotiated settlement in lieu of following the Federal Energy Regulatory Commission (FERC, 2007) relicensing process for the Klamath Hydroelectric Project (KHP) (FERC #P-2082). The KHP is owned and operated by PacifiCorp and the company has pursued settlement because the outlook of their relicensing process did not look favorable (Brockbank 2010). The deposition of PacifiCorp Executive Vice President Dean Brockbank (2010) supplies much of the information in this section about the chronology of settlement talks (see also Alternatives for KHP Dam Removal).

PacifiCorp first announced its intention to relicense the KHP in December 2000 and held a series of public meetings before filing its Final License Application in February 2004. Table 1 provides a time line that chronicles steps in relicensing, other processes that have bearing on relicensing (i.e., 401 certification) and KHSA and KBRA development. Red highlights in the table indicate unfavorable components of relicensing of the KHP from PacifiCorp's perspective. In particular, PacifiCorp was apprehensive about obtaining necessary State water quality certification (SWRCB 2007) and the cost of fish passage facilities for Pacific salmon species mandated by the National Marine Fisheries Service (NMFS 2006).

PacifiCorp began informal settlement talks in October 2004 that became a "mediated" settlement in January 2005. The settlement process took over five years to complete and ironically PacifiCorp dropped out of talks in mid-2006 as other "stakeholders" crafted the KBRA. The Energy Policy Act of 2005 (Public Law 109-58) allowed entry into settlement at any time within the licensing process for PacifiCorp. This new law also allowed PacifiCorp to challenge NMFS' authority to require KHP fish passage but their challenge was rejected by an administrative law judge (McKenna, 2006). PacifiCorp's KHP license expired on March 1, 2006 and FERC has been issuing 1 year extensions since. The company reengaged with state and federal agencies regarding potential decommissioning through an Agreement in Principle (AIP) in July 2008 (CA, OR, USDOJ and PacifiCorp 2008) that was superseded by their signing the KHSA in February 2010. PacifiCorp is not a signatory to the KBRA, but all Parties signing the KBRA also signed the KHSA.

The creation of the KBRA involved dozens of meetings spanning several years, all behind closed doors with participants bound by a confidentiality agreement. Although the process involved several counties, Tribes, environmental organizations and government agencies, key participants were excluded from participation, including Del Norte County and the federally recognized Resighini Rancheria and the Quartz Valley Indian Reservation. The Hoopa Valley Tribe participated in the Settlement, but declined to sign the final KBRA or KHSA because they would require giving up water rights and the ability to take legal action to abate water quality problems to protect fisheries (KBRA 15.3.9). The KBRA and KHSA are arcane documents written by lawyers with tedious cross references and a myriad of contradictions. Ultimately important decisions regarding public trust and Indian Treaty Rights and Trust responsibilities are embodied in these documents that were made out of public view and excluded legitimate stakeholders.

**Table 1. Time Line for Klamath Settlement Process**

Process Steps	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
PacifiCorp Announces Intent to Relicense	=====												
PacifiCorp Holds Public Meetings		=====											
PacifiCorp Files Final License Application				=====									
FERC Scoping					=====								
PacifiCorp Begins Settlement Talks						=====							
PacifiCorp Mediated Settlement Talks							=====						
PacifiCorp License Expires								=====					
PacifiCorp Files 401 Certification Request									=====				
PacifiCorp Drops Out of Settlement										=====			
“Stakeholders” Continue w/o PacifiCorp											=====		
Federal Agencies Issue Terms & Conditions												=====	
PacifiCorp Challenges NMFS in Court													=====
Court Rules Against PacifiCorp													=====
FERC DEIS													=====
Federal Agencies Revise Terms & Conditions													=====
PacifiCorp Signs MOU w/ SWRCB													=====
FERC Issues FEIS													=====
NMFS/USFWS Final BiOps Issued													=====
KBRA Released													=====
PacifiCorp & Govt. in AIP													=====
CA Klamath TMDL Draft													=====
PacifiCorp Signs KHSA													=====
OR and CA Klamath/Lost TMDLs Final													=====
EIS/EIR Secretarial Decision Process (EIS/EIR)													=====
Secretarial Decision (Mar 2012)													=====

Patrick Higgins, Consulting Fisheries Biologist: *KHSA and KBRA Likelihood of Meeting Hoopa Valley Tribe Klamath River Water Quality Standards*

In April 2007 during the Settlement that preceded the KBRA, Klamath Project irrigators made an ultimatum with regard to their continuing participation; any Settlement would have to include farming in the Lease Lands of Tule Lake and Lower Klamath National Wildlife Refuges. Oregon Water Watch (OWW 2010) and Oregon Wild (OW) were expelled from Settlement talks because they would not agree to this condition. Talks continued without OWW and OW, but their expulsion sent a clear message and restricted subsequent consideration of viable ecological restoration options under the KBRA.

Although the KBRA is separate from the KHSA and deals with issues largely unrelated to KHP relicensing, the agreements are intertwined due to KBRA (7.2.1 C) and KHSA (8.1) “severability” clauses that state that neither can be implemented separately. Therefore, both the KHSA and KBRA are discussed below with regard prospects of meeting Hoopa TEPA (2008) WQS. The *Klamath River and Lost River Total Maximum Daily Load (TMDL)* (NCRWQCB 2010) and *Upper Klamath and Lost River TMDL and Water Quality Management Plan* (ODEQ 2010) are integral to improving water quality, so their potential to improve conditions is also considered.

### **KHSA and KBRA Actions Insufficient to Meet Hoopa TEPA WQS**

The KHSA has to do with dam decommissioning and pollution associated with KHP operation while the KBRA would deal with fishery restoration and potential remediation of water quality problems. Both the KHSA and KBRA will require federal authorizing legislation, including \$1 billion or more in funding. Legislation has not been passed. Pollution associated with KHP dam operation will continue under the KHSA until 2020, but there is also a question as to whether measures taken under the KBRA after dam removal will be sufficient to abate nutrient pollution and meet Hoopa TEPA (2008) WQS. Interim Measures to abate water quality problems under the KHSA are pertinent to the Klamath River TMDLs and are discussed in that section below. Table 2 lists beneficial uses recognized by the NCRWQCB (2007) *Basin Plan* and Hoopa TEPA (2008) and their likelihood of being met under the KBRA/KHSA before and after 2020.

**Table 2. Likelihood of meeting Klamath River beneficial uses under the North Coast Basin Plan (NCRWQCB 2007) or Hoopa TEPA (2008) WQS before and after 2020 under the KBRA/KHSA. Green indicates beneficial uses are restored and red indicates that they are not.**

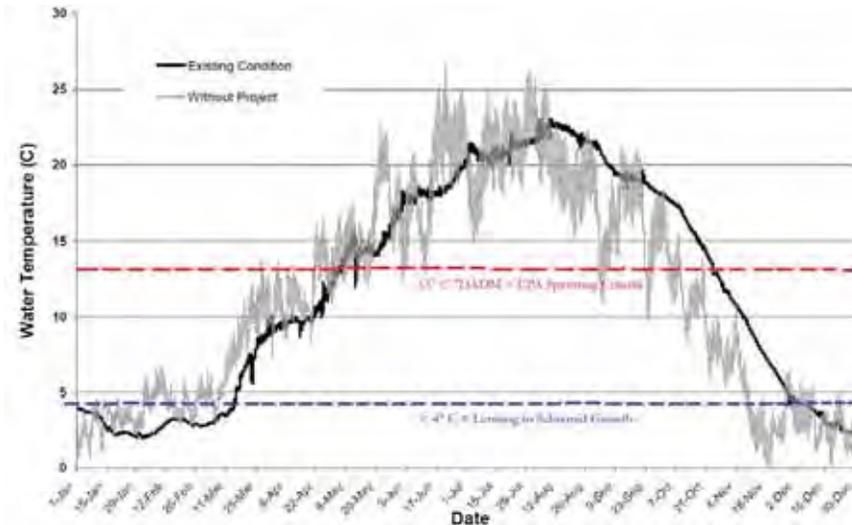
<b>Beneficial Use</b>	<b>Key</b>	<b>Before 2020</b>	<b>After 2020</b>
COLD	Cold freshwater habitat		
SPAWN	Fish spawning		
MIGRATION	Fish migration		
RARE	ESA and CESA Fish		
COMM	Commercial & Sport Fishing		
FISH	Subsistence Fishing		
CUL	Cultural Use		
REC-1	Recreational Contact		
REC-2	Recreational Boating		

## KHSA

The KHSA does not directly call for KHP dam removal but rather sets up a March 2012 Secretary of Interior Decision as to whether decommissioning is in the public interest and will benefit the environment, including Klamath River native fish species. A major effect of the KHSA is to delay the 401 processes of California (PacifiCorp 2008, SWRCB 2008) and Oregon that had the potential to force expeditious dam decommissioning (Brockbank 2010), if either State withheld certification. The serious nuisances caused by KHP reservoirs is justification for swift dam removal (SWRCB 2007), but instead under the KHSA the project will operate until 2020 on a year to year extension of its 1956 FERC license (Brockbank 2010). Numerous problems have been identified with regard to KHP operation that lead to major negative impacts on salmonids and other beneficial uses (Hoopa TEPA 2008), and to a large extent these cannot be mitigated without dam removal (SWRCB 2007, FERC 2007).

Fish Passage: Fish passage for anadromous species is considered as part of the COLD beneficial use according to the SWRCB (2007), and migration for Pacific salmon species (MIGR) will continue to be blocked until at least 2020 under the KHSA and KBRA (see Alternatives for Dam Removal). Coho salmon that are affected by the KHP are listed as Threatened under the federal Endangered Species Act (ESA); therefore, the RARE beneficial use is also compromised. The impediment to migration also continues to compromise the commercial and sport fishing beneficial use (COMM) and tribal subsistence fisheries (FISH).

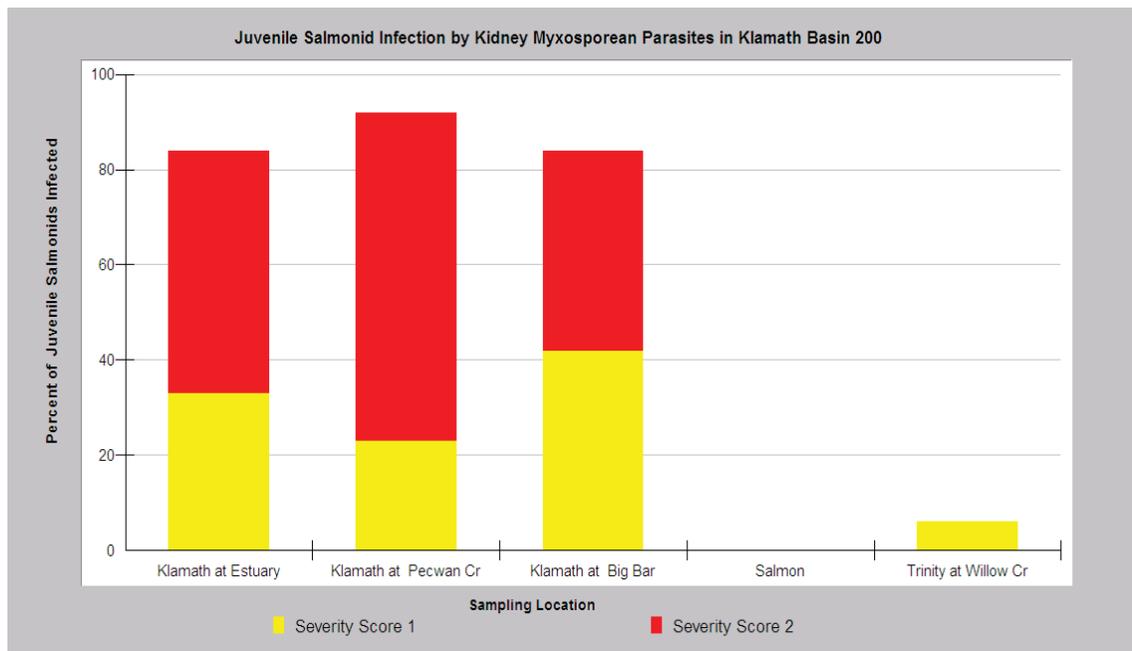
Thermal Problems Created by Iron Gate Reservoir: The mass of water within Iron Gate Reservoir creates thermal problems that delay Chinook salmon spawning (SPAWN) in fall and impair juvenile rearing conditions (COLD) in spring. This will continue until drawdown of the reservoir or Iron Gate Dam removal. Klamath River fall temperatures remain above suitable for spawning three weeks later than if the river were free flowing (Figure 4). The KBRA Chinook Expert Panel (Goodman et al. 2011) noted high “pre-spawning mortality documented in the mainstem river may be related to high water temperature and moderately low dissolved oxygen”, which are both side effects of reservoir operation. Increased fall water temperatures and associated stress are also likely to reduce fecundity. Fry from eggs laid later in the season emerge later in spring and their growth is then suppressed by artificially depressed Klamath River temperatures. Smaller fry migrate more slowly as the Klamath River water temperature rises and water quality becomes adverse. With their resistance compromised by water quality related stress, these fish also face much greater exposure to the disease organisms (see below). The thermal lag at Iron Gate appears to have shifted spawn timing of fall Chinook later and the losses of juveniles are sometimes in the hundreds of thousands (USFW 2001, Nicholas and Foott 2005). While temperature effects of Iron Gate Reservoir do not extend downstream to the Hoopa Reservation, maintaining Iron Gate Dam through 2020 leads to unacceptably high risk to the Klamath River fall Chinook population. Continued depressed Chinook populations blocks attainment of commercial and sport fishing (COMM) and tribal subsistence fishing (FISH) beneficial uses.



**Figure 2. Temperatures below Iron Gate Dam (bold) versus without dam scenario (grey). Warmer fall temperatures create a three week lag for suitability of spawn timing and rearing temperatures remain below optimal for a month. Reference thresholds from U.S. EPA (2003).**

Fish Disease Cycles: One of the main impediments to restoring COLD, COMM, RARE and FISH beneficial uses of Pacific salmon in the Klamath River, particularly Chinook salmon and coho salmon, is the extremely high prevalence of disease organisms below Iron Gate Dam (Foott et al. 2003, Stocking and Bartholomew 2004, Nichols and Foott 2005, Nichols and True 2007, Nichols et al. 2008, Bartholomew 2008, Stocking et al 2006, Stone et al. 2007). Two myxozoan disease organisms, *Ceratomyxa shasta* and *Parvicapsula minibicornis*, are endemic to the Klamath River and the Pacific salmon species have co-evolved with them and have developed substantial resistance. However, nutrient enrichment from the Upper Klamath Basin and from within Iron Gate Reservoir sets up conditions that cause extraordinarily high production of disease organisms that can overwhelm otherwise healthy fish (Nichols and Foott 2005).

The green algae species *Cladophora* is recognized as an indicator of nutrient pollution and there are areas below Iron Gate Dam where this species is dominant (Stocking et al. 2006). A polychaete worm, *Manayunkia speciosa*, which thrives in *Cladophora* beds also serves as an intermediate host for the deadly diseases. Fall Chinook spawning is concentrated below Iron Gate Dam and adults carry myxospores that cause a vicious cycle as *M. speciosa* captures them and then releases actinospores when Chinook juveniles are migrating downstream (Stocking et al. 2006, Bartholomew 2008). Stocking et al. (2006) concluded that actinospores remain viable during the 5 days required for water to pass from Iron Gate Dam to the Klamath estuary. Therefore, it is likely that disease problems will continue for fish migrating through the Hoopa Reservation portions of the Klamath River until at least 2020. Disease effects can extend downstream of the Trinity River and there indications of major impacts to juvenile Chinook from that river (Figure 3); therefore, Hoopa Valley Tribe Trinity River fish harvest is also directly impacted.



**Figure 3.** Chart shows the percentage of juvenile salmonids infected by kidney myxosporean parasites. High severity (2) score indicates likely mortality. While Trinity River infection is low, Pecwan and estuary high disease incidence suggests Trinity fish are becoming infected. Most of the juvenile salmonids sampled were Chinook salmon. Data from Foott et al. (2003).

Water Quality Stress: Fish susceptibility to disease is a function of cumulative stress caused by multiple water quality factors (Hoopa TEPA 2008). In addition to temperature, impairment below Iron Gate Dam can include elevated pH, algal toxins and dissolved ammonia as well as depressed dissolved oxygen (D.O.), all of which are linked to KHP dam operation (SWRCB 2007, FERC 2007). These conditions will continue to cause impairment until at least 2020 as a result of KHP operation and lack of attainment of the COLD, FISH, COMM, and RARE beneficial uses. The manifestation of nutrient pollution and associated problems for fish health may remain after dam removal, but that prospect is more fully explored under the KBRA section below.

Toxic Algae: Kann (2006) found the toxic algae species *Microcystis aeruginosa* to be prevalent within Copco and Iron Gate reservoirs but in low abundance or absent from the outlet of Upper Klamath Lake to below J.C. Boyle Reservoir within the Klamath Project. The SWRCB (2007) points out that there is little chance for remediation of toxic algae in the lower two KHP reservoirs before 2020; therefore, NCRWQCB (2011) staff do not recommend PacifiCorp carry out Interim Measures within the reservoirs aimed at treating algae problems (see TMDL discussion).

Kann and Corum (2009) found evidence of *Microcystis* downstream at Orleans and samples from the Yurok Reservation indicate it is present downstream to the estuary (Yurok 2009). Kann (2008) also reported bioaccumulation of microcystin toxin in Iron Gate Hatchery Chinook salmon juveniles. Yellow perch from Copco and Iron Gate

Reservoirs and mussels downstream of the KHP had such high levels due to bioaccumulation that they would pose a human health risk, if consumed. Emerging epidemiological evidence suggests that the substance BMAA (beta-methylamino-L-alanine) that is prevalent in toxic blue-green algae species may be linked to neurological disorders, such as Amyotrophic Lateral Sclerosis (ALS) (Lou Gehrig's disease), Parkinson's disease and Alzheimer's disease (Caller et al. 2009). Impairment of Hoopa Reservation waters on the Klamath River from toxic algae will continue through at least 2020 with the recreational (REC-1) beneficial use compromised and ceremonial use (CUL) in certain seasons inadvisable.

Keno Reservoir Operation: The KHSA (7.5.4, 7.5.5) stipulates that the U.S. Bureau of Reclamation (BOR) will assume ownership of the Keno Reservoir and will continue to operate it in the same way that PacifiCorp has since 1968. Keno Reservoir has major problems with seasonal anoxia (Deas and Vaughn 2006, Sullivan et al. 2009, 2010) and riparian marsh restoration needed to combat this problem will, therefore, be prevented. Historically a lava bedrock sill at the location of Keno Dam caused the Klamath River to back up and form a vast connected wetland with Lower Klamath Lake. Diking off of wetlands and farming up to the margin of the reservoir has disrupted river processes that could otherwise assist with nutrient processing and reduction, similar to the findings of Bernot and Dodds (2005). Dredging of the reservoir to increase water storage capacity circa 1968 likely contributed to a decreased ability for ecological function and an increased propensity for anoxia.

Goodman et al. (2011) call attention to persistent problems of prolonged anoxia in Keno Reservoir (Figure 4) that they believe will not be alleviated under the KBRA. Figure 5 shows a map from PacifiCorp (2004) of riparian vegetation of the Keno Reservoir just above Keno Dam and Figure 6 is an aerial photo of the same area showing the pattern of land use. Continuing this land use and pattern of operation of Keno Reservoir under the KHSA will prevent improved ecosystem function by riparian marshes that could otherwise assist with clean up of nutrient pollution (Lytle 2000, Mayer 2005).

The ODEQ (2010) TMDL found that the suspended load from Upper Klamath Lake is a major driver of anoxia in Keno Reservoir; however, they also found the waste load from the Straits Drain to be a major source of pollution. ODEQ (2010) provided a schematic of flow diversions from the Klamath River and flow contributions to Keno Reservoir (Figure 7). Waste water from the Klamath Straits Drain in August 2002 constituted 48% of flows to the reservoir, which is similar to NRC (2004) findings. The Lost River and Tule Lake were originally a sink and did not discharge into the Klamath River; therefore, the high level of nutrients contributed by them today help push the river past the tipping point where ecosystem processes are insufficient for the river to clean itself. This results not only in anoxia within the Keno Reservoir but also in very adverse water quality impacts in the lower Klamath River.

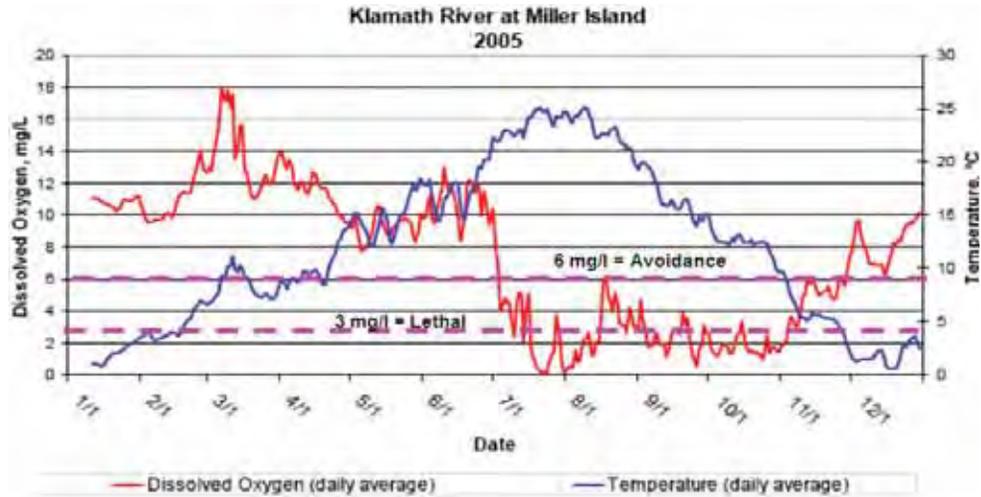


Figure 4. This chart shows fluctuations of water temperature and dissolved oxygen in Keno Reservoir in 2005 with lethal levels extending from July through October. Taken from Goode et al. 2011 where it appears as Figure 4. Threshold reference annotations added based on WDOE (2002).

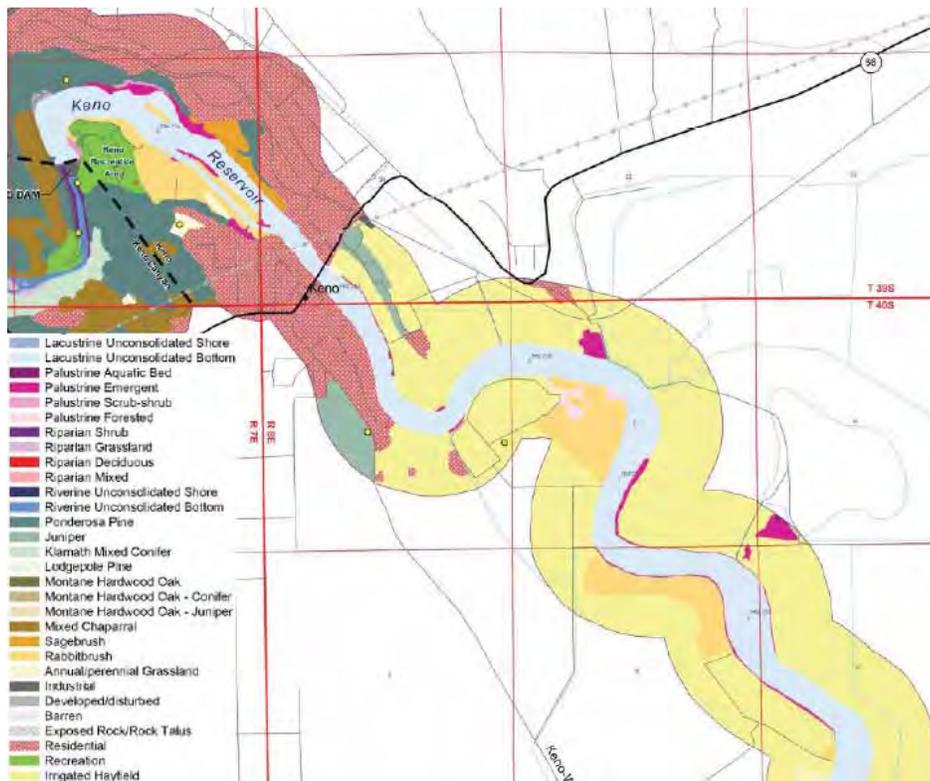


Figure 5. Keno Reservoir riparian vegetation map from PacifiCorp (2004) showing irrigated hayfields right up to the margin with no marsh buffer to help absorb nutrients and to provide other ecosystem services.



Figure 6. Aerial photograph of Keno Reservoir with Keno Dam below center and the old Lower Klamath Lake bed in the distance (red oval).

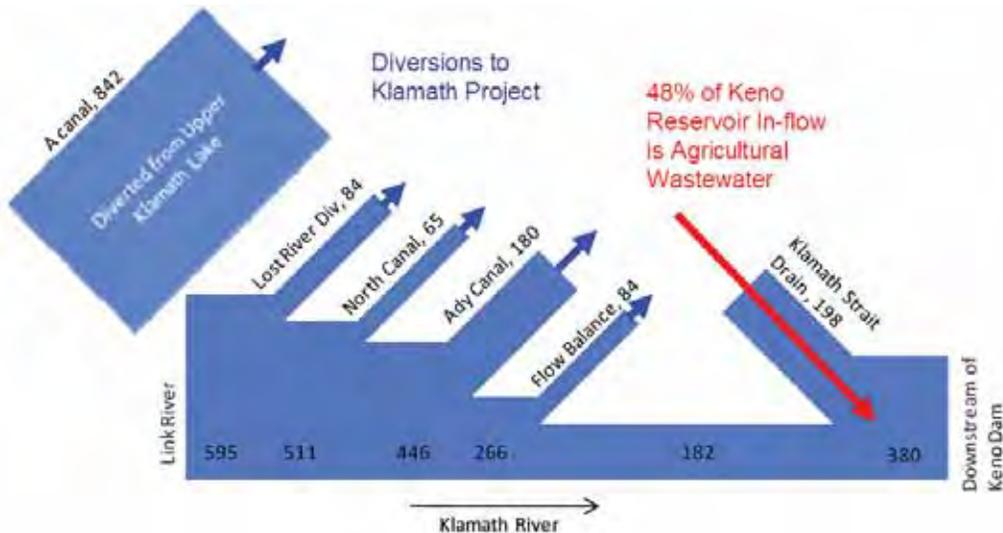
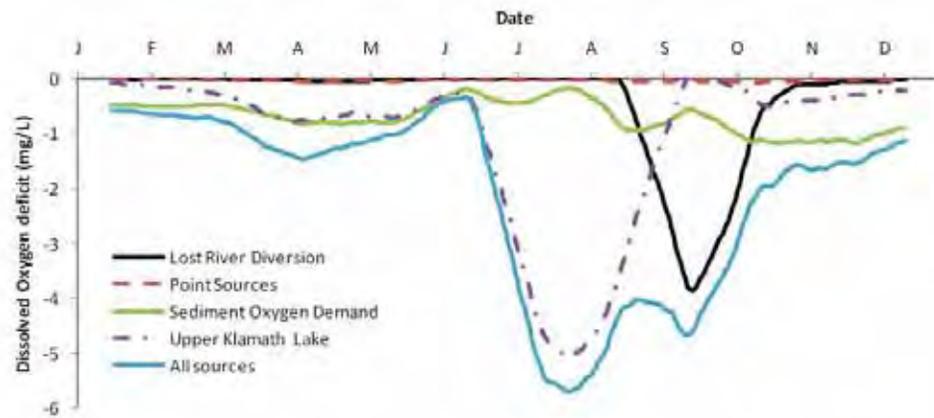


Figure 7. Average daily flow in August 2002 into the Klamath Project and Keno Reservoir. From ODEQ (2010) where it appears as Figure 2-21.

Agricultural discharges from the Lost River through the Lost River Diversion (LRD) canal are known to occur in winter (Deas and Vaughn 2006); however, ODEQ (2010) also found substantial nutrient contributions from that source in summer and fall of 2000 and 2008. ODEQ (2010) model runs of D.O. depletion in Keno Reservoir (Figure 9) show that the contributions from the LRD in September and October 2008 had substantial impacts in addition to discharges from the Klamath Project through the Straits Drain.

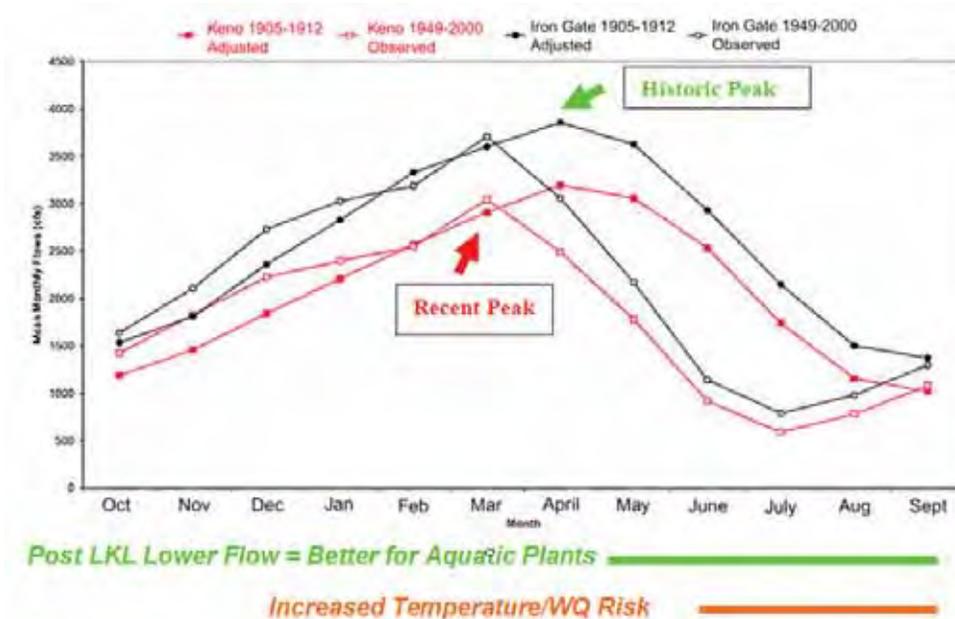


**Figure 8.** This chart is taken from ODEQ (2010) and shows model results of the D.O. deficits in Keno Reservoir by month in 2008 with a substantial contribution from the LRD Canal in fall, which likely extended conditions lethal to salmonids for two months.

### **KBRA**

The KBRA does not have a water quality plan and has a very broad and ill defined strategy for clean up of nutrient pollution in the Upper Klamath Basin (Dunne et al. 2011, Goodman et al. 2011). Flows under the KBRA (Appendix E-5) will drop further from historic norms (Dunne et al. 2011), which will cause water pollution and fish health problems to persist or even worsen (Goodman et al. 2011). Lost River surface flows are likely to also be reduced under the KBRA resulting in direct impacts to ESA listed suckers and increased nutrient concentrations in waste discharges sent to the Keno Reservoir. The greatest KBRA effect on water quality, however, is that it guarantees continued agricultural land use over vast areas, including sites critically needed for ecological restoration. Major subsidy for maintaining low cost power for Upper Basin water users is also part of the KBRA, when the footprint of agriculture might otherwise shrink due lack of profitability (Jaeger 2004) helping to lower water demand and nutrient pollution.

**Klamath River KBRA Flows to Increase Water Quality Problems:** The KBRA convened Expert Panels (Dunne et al. 2011, Goodman et al. 2011) to judge the sufficiency of action in restoring conditions favorable for different fish species in the Klamath Basin. The Coho Salmon and Steelhead Expert Panel (Dunne et al. 2011) expressed concern that there would be no consideration under the KBRA of trying to restore historic flows in the Klamath River. Before the Klamath Project was created, Lower Klamath Lake (LKL) would fill in winter and then augment Klamath River flows from May through July (Weddell 2000). Dunne et al. (2011) charted flows before and after Klamath Project construction to show the departure from historical patterns (Figure 9). A return to historic flows would reduce water temperature and nutrient concentrations, which in turn would reduce algae blooms and fish diseases. Figure 9 is annotated to show where departures from the natural flow regime of the Klamath River since the construction of the Klamath Project increase water temperatures and water quality problems as well as

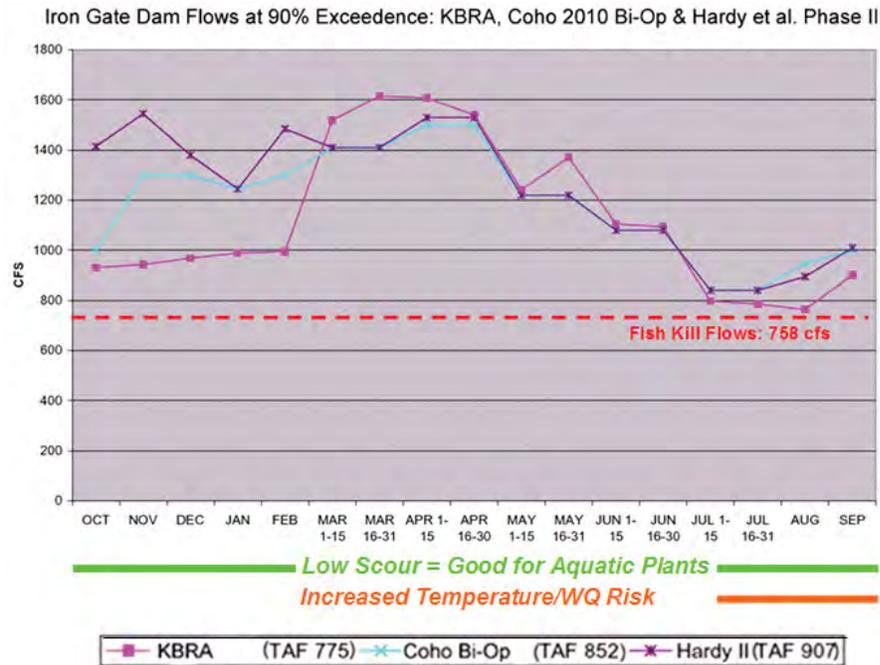


**Figure 9. Chart of historic seasonal flows versus those after the construction of the Klamath Project and the disconnection of Lower Klamath Lake. Annotations include historic and recent peaks as well as periods likely to increase algal growth, temperature and nutrient pollution (WQ) added. Taken from Dunne et al. (2011) where it occurs as Figure 3.**

promoting conditions that favor growth of algae beds. Continued agricultural activity in the Lower Klamath National Wildlife Refuge (LKNWR) under the KBRA forecloses the option of refilling the lake and increasing spring and early summer flows; instead KBRA flows will depart even further from historic norms.

Flows under the KBRA will be less than those called for under the Klamath Project operations NMFS (2010) Biological Opinion (B.O.) for coho salmon and Hardy et al. (2006). Figure 10 shows Klamath River flows at Iron Gate Dam for the 90% exceedance (very dry) water year with the KBRA WRMS R32 model run, the NMFS (2010) Biological Opinion (B.O.) flows and minimums recommended in the Hardy et al. (2006) Phase II study (Hoopa Tribe Fisheries Department 2011). Annotations once again show periods when very low flow conditions will foster increased algae growth and trigger more adverse water quality. Algae build up has the potential to be most injurious during prolonged droughts when there is insufficient water for flushing flow releases in spring.

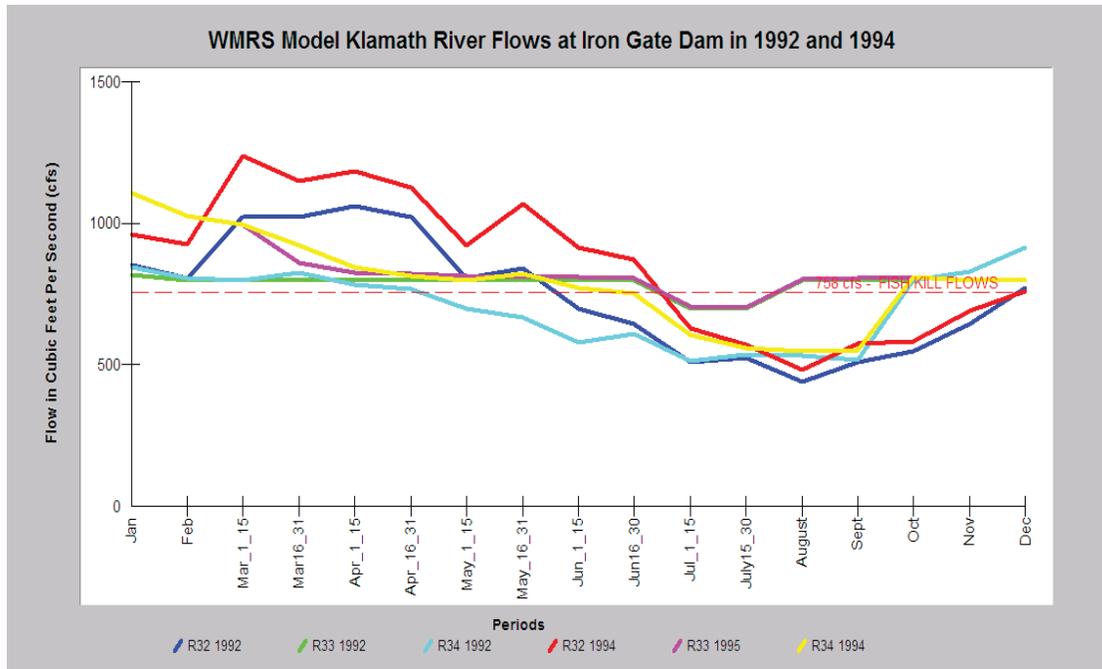
Table 3 captures KBRA model (Appendix E-5) projections for Klamath River flows at the location of Iron Gate Dam Flows during extreme drought years similar to 1992 and 1994. Flows could fall as low as 442 cubic feet per second (cfs) (Figure 11) while the adult salmon kill of September 2002 was triggered by flows of 758 cfs (Guillen 2003, CDFG 2003). Reduced flow decreases the volume of water which in turn increases water temperature and nutrient concentration. Although the KBRA states that the Drought Plan would define higher flows for fish needs, the draft Drought Plan circulated in May 2011 does not have alternative levels to those in Appendix E-5 (Resighini Rancheria 2011a).



**Figure 10.** Flows at Iron Gate Dam in a 90% exceedance flow year comparing the KBRA WMRS R32 model flows, NMFS (2010) BO flow levels and Hardy et al. (2006) Phase II. Data from the Hoopa Fisheries Department. Reference is USGS Iron Gate September 2002 fish kill flow release.

**Table 3.** KBRA WRMS model flow simulations at Iron Gate Dam for years similar to 1992 and 1994 under KBRA flow allocations. R32 = primary run. R33 = with additional storage. R34 = with additional storage and climate change. Yellow indicates lower than September 2002 fish kill flows (758 cfs).

Period	R32_1992	R32_1994	R33_1992	R33_1995	R34_1992	R34_1994
Jan	854	959	819	1106	846	1106
Feb	809	928	800	1025	809	1025
Mar_1_15	1022	1239	800	996	800	996
Mar_16_31	1021	1151	800	860	826	924
Apr_1_15	1063	1184	800	824	786	847
Apr_16_31	1022	1125	800	821	767	813
May_1_15	807	924	800	813	701	798
May_16_31	843	1069	800	812	668	823
Jun_1_15	698	913	800	811	581	773
Jun_16_30	646	873	800	809	610	753
Jul_1_15	509	629	700	706	515	607
Jul_15_30	524	574	700	705	537	561
August	442	485	800	804	533	548
Sept	512	577	800	808	519	552
Oct	549	582	800	811	800	811
Nov	647	690	829	800	829	800
Dec	774	762	914	800	914	800



**Figure 11. KBRA WRMS model run for flows at the location of Iron Gate Dam in years of Extreme Drought, with similar Upper Klamath Lake in-flow to 1992 and 1994. Data from KBRA (E-5, Tables 2, 4, 6).**

Moving flows further away from their historic range of variability poses greater risk due to processes described in the FERC (2007) Final Environmental Impact Statement (FEIS) for the KHP relicensing:

“Over time, the overall limitations on water availability and dynamic hydrographs contribute to conditions that result in a channel that becomes stable and prone to other undesirable consequences to water quality and aquatic resources.”

Although nutrient concentrations are reduced by greater water volume (Asarian et al. 2010), the KBRA (Section 25.1.4) states that increasing flows will be the last option for improving water quality:

“The Parties shall support all reasonably available alternative or additional water quality measures before considering any action for the purpose of water quality compliance that would reduce water supplies beyond the limitations provided in this Agreement.”

Restricted Klamath River flows under the KBRA in and of themselves substantially lower chances of attaining Hoopa TEPA (2008) WQS, especially during drought or extreme drought years even after dams are removed.

Lost River Flow Reduction Impacts Under KBRA: The KBRA will likely reduce surface flows in the Lost River, which will have a direct impact on Lost River and shortnose suckers but will also increase nutrient concentrations in Straits Drain and LRD waste water sent to Keno Reservoir. The KBRA provides substantial resources that allow irrigation districts to bind together and create an On-Project Plan for water and power. This publicly funded document may not undergo public review and yet it will govern Lost River flows for the life of the KBRA. Lost River surface and groundwater have been used to make up for Klamath River shortfalls since 2001 through the U.S. Bureau of Reclamation (BOR) water bank. According to USGS (2005) “Water bank activities have resulted in an approximately eight-fold increase in ground-water pumping in the vicinity of the Klamath Valley and Tule Lake sub-basins.” Gannett et al. (2007) measured water table drops from 2001-2004 of greater than 15 feet in the lower Lost River in California and stated that this was likely reducing surface flows. California State agencies and Siskiyou County do not actively manage groundwater and are not likely to prevent future adverse Lost River drought impacts. Increased nutrient concentrations in tail waters sent to Keno reservoir will promote continuing acute water pollution there with radiating negative impacts downstream.

KBRA Nutrient Reduction Insufficient: The U.S. EPA (2000) notes that “restoration should reestablish in so far as possible the ecological integrity of degraded aquatic ecosystems.” A restored system would meet the following criteria: “Its key ecosystem processes, such as nutrient cycles, succession, water levels and flow patterns, and the dynamics of sediment erosion and deposition, are functioning properly within the natural range of variability” (U.S. EPA 2000). As noted above, the KBRA will cause flows to depart further from their historic range of variability and the amount of functioning marsh and area of shallow lakes that formerly helped improve water quality will remain at just a fraction of their historic extent.

Dunne et al. (2011) pointed out that the KBRA has no assured strategy for reducing nutrient pollution (emphasis added):

“Experience from other locations where eutrophication is a major problem suggests that, at a minimum, drastic reductions in loading from the watershed must accompany local amelioration. These reductions must account for the apparently high natural nutrient inputs from the local watersheds, and the unavoidable leakage occurring in watersheds heavily altered for urban and agricultural use. *Thus, it would be premature to conclude that any problems caused by these blooms, including low dissolved oxygen, will be substantially reduced by KBRA*” (p. 39).

Goodman et al. (2011) urge consideration of more extensive wetland and lake restoration to recover the Klamath River’s limnological balance:

“Evaluate reductions in irrigated agriculture for lands draining to UKL and the Lost River for their feasibility to reduce summer and fall nutrient additions from those waters. Consider managing the refuges to further emphasize their benefits

for fish and wildlife, which can be in contrast to their agricultural objectives.”  
(Page 12, Section 2.1)

Goodman et al. (2011) also express doubt that problems with extremely low D.O. in Keno Reservoir will be resolved by KHSA and KBRA measures and as result that “a fully self-sustaining run of Chinook salmon to the upper basin is unlikely” even with KHP dam removal.

Asarian et al. (2010) project that available nitrogen at the location of Iron Gate Dam after removal of KHP reservoirs will increase in the months of July through September by 45-58%. Asarian et al. (2010) note that nutrient assimilation of periphyton and macrophytes will increase in the Klamath River below the location of Iron Gate Dam in response to increased nitrogen availability and state that “These increased retention rates downstream would then partially offset the effects of increased Iron Gate load on nitrogen concentrations in reaches farther downstream.” The problem is that the process of photosynthesis associated with assimilating a 50% increase in nitrogen will continue to cause water quality perturbations that create stressful conditions for salmonids and disease rates similar to those experienced in the recent past (Halstead 1997, USFWS 2001, Nichols and Foott 2005).

Goodman et al. (2011) acknowledged the potential significance of the increased nutrient load in the Lower Klamath River:

“Releasing these excessive amounts of nutrients to the Klamath River in the absence of the four lower dams means that the river, versus the reservoirs, will process the nutrients, perhaps in the form of excessive *Cladophora* biomass or increased periphyton production down river. These changes could elevate pH, lower night time dissolved oxygen, and cause gas supersaturation during afternoons in local areas.”

The FERC (2007) FEIS also poses the same hypothesis as Goodman et al. (2011) with regard to nutrient surpluses and fish disease risk:

“Continued high nutrient levels in the Klamath River that create ideal colonization conditions for *Cladophora*, at sites with favored flow and substrate conditions, would enable the host polychaete to become reestablished, and *C. shasta* and *P. minibicornis* would likely continue to pose a serious threat to downstream salmon for the foreseeable future.”

As pointed out in the Fish Disease Cycles section above, no matter where the new fish disease node is below Keno Reservoir after dam removal, actinospores will be viable and increase exposure to *C. shasta* and *P. minibicornis* downstream to the estuary even after dam removal. Thus, Hoopa TEPA (2008) WQS beneficial uses will not likely be met and the Hoopa Valley Tribe will also likely continue to suffer fisheries losses both at Klamath River and Trinity River fishing sites.

Pulse Flow Mitigation Measures: The NMFS 2010 Biological Opinion for the Klamath Project envisions using strategic pulse flows to prevent algae build up. One of the few accomplishments of the biological opinion was a pulse flow release for one day of 5000 cfs in February 2011, which was an attempt to scour algae beds. However, no data on bedload movement was conducted so the effectiveness of this particular pulse flow is unknown. Since 2011 is very wet, it is very likely that algae and disease problems would be delayed by natural conditions and associated juvenile salmonid mortality likely to be modest. As pointed out above, the most severe water quality problems will arise during drought or extreme drought, particularly when there are several dry years in a row (e.g., 1986-1992), when excess water for flushing flows will not be available. There are no hard requirements within the KBRA or its associated Drought Plan for such flow releases.

### **Potential Effectiveness of Klamath and Lost River TMDLs**

Unfortunately both the California (NCRWQCB 2010) and Oregon (ODEQ 2010) TMDLs have very little chance of success in abating nutrient pollution in the course of the 50 year KBRA and KHSAs. A fundamental flaw in both is their lack of recognition of the need to restore ecosystem function of the lakes and marshes of the Upper Klamath in order to help the Klamath River clean itself. Both TMDLs assume that incremental reduction of non-point source pollution from each farm field will eventually solve the problem, but their models do not account for the fact that nitrogen fixing blue-green algae can make up for any reduction unless ecosystem services suppress its growth. Both over-rely on voluntary measures for implementation and neither has expected compliance dates for meeting water quality standards. As noted above, the KBRA provisions that continue Lease Land farming on Tule Lake NWR and Lower Klamath NWR and support continued full use of the 200,000 acre Klamath Project through power subsidy essentially block TMDL implementation because they do not allow reduction of nutrient contributions and water demand. They also block strategic restoration of marshes and lakes needed for water storage and filtration.

### **TMDLs Ignores Need for Marsh and Lake Ecosystem Function**

Conversion of marsh land around Upper Klamath Lake has augmented phosphorous for aquatic plant growth and caused nitrogen to become potentially more limiting. However, the nitrogen fixing blue-green algae *Aphanizomenon flos aquae* colonized Upper Klamath Lake (UKL) and can transform nitrogen gas from the air into a form usable by plants. Research indicates that mild acids from decaying material within marshes causes the cells of blue-green algae, including *A. flos-aquae*, to break down when exposed to sunlight (ASR/WRC 2005, WRC 2009). Blue-green algae species were not present in UKL before the 20<sup>th</sup> Century (Bradbury et al. 2004, Eilers et al. 2001) likely because marsh ecosystem function suppressed them. PacifiCorp (2004) estimates that nitrogen exiting UKL is on the order of 2.5 times higher than water entering. In other words, UKL has been transformed from an ecosystem that helps clean up water to one that is a major engine for nutrient pollution. ODEQ (2010) TMDL does not recognize the need to reverse these processes and does not address restoring riparian function in the Keno

Reservoir reach to help improve water quality, the importance of which is discussed above.

Agricultural water supply from Upper Klamath Lake through the A Canal continually inoculates the Lost River and Tule Lake with *A. flos-aquae* and marsh complexes there need to be re-expanded to stifle its growth. Neither the U.S. EPA (2008) Lost River TMDL or the NCRWQCB (2010) Klamath and Lost River TMDL implementation recognize the need for these restored ecosystem functions and processes. The KBRA guarantees water delivery and continued agricultural use of the Lease Lands within the TLNWR (15.1.2 B i) and LKNWR (15.1.2 B i), which constitutes 21,000 acres (Figure 12) and is the only such arrangement on any wildlife refuge in the nation. Tule Lake was originally 110,000 acres whereas Tule Sump occupies between 10,000-14,000 acres and Lower Klamath Lake was 95,000 acres and is now only 4,000 to 7,000 acres depending on the water year (Figures 13-14). This essentially blocks ecological recovery of both areas; therefore, confounds successful abatement of pollution.

Dam removal will help ecosystem function of the Klamath River in the restored KHP reach, including elimination of toxic algae. However, the huge excess of nutrients from Keno Reservoir will continue to overwhelm the river's capacity for assimilation causing major algae blooms downstream. As noted above, this has consequences for fish diseases as well as exceedance of water quality standards. Lower Klamath River recovery also requires that flows and ecosystem function of the Shasta and Scott rivers also be restored, but conditions there have not improved since adoption of those TMDLs (Higgins 2011).

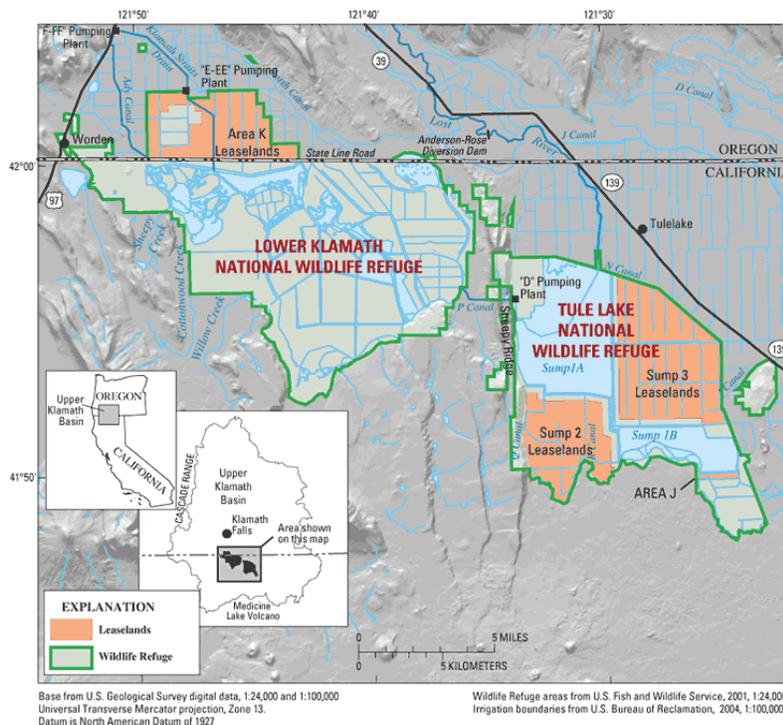


Figure 13. USFWS and BOR map of TLNWR and LKLNWR Lease Lands occupy 21,000 acres.

Patrick Higgins, Consulting Fisheries Biologist: *KHSA and KBRA Likelihood of Meeting Hoopa Valley Tribe Klamath River Water Quality Standards*



Figure 13. Historic map of Tule Lake and Lower Klamath Lake from Oregon Wild website at [www.oregonwild.org/waters/klamath/klamath-photos-and-maps/interactive\\_maps](http://www.oregonwild.org/waters/klamath/klamath-photos-and-maps/interactive_maps)



Figure 14. Aerial photo of Tule Lake and Lower Klamath Lake from Oregon Wild website.

The Tule Lake basin also has the highest use of pesticides in Siskiyou County (Figure 15) with up to 7,500 pounds per acre in use within the TLNWR on the Lease Lands.

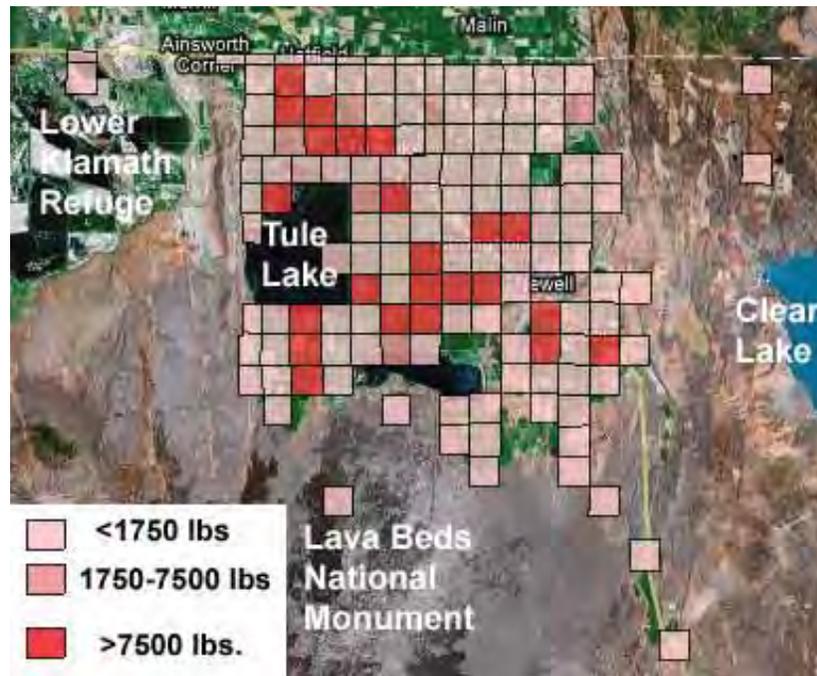


Figure 15. Tule Lake pesticides in pounds per year, including within the TLNWR Lease Lands adjacent to Tule Lake. Data from CA Department of Pesticide Regulation (DPR).

Recent studies have shown that even low levels of some chemicals can be injurious to coho salmon when acting together (Laetz et al. 2009). The KHSA and KBRA do not even mention the topic of pesticides but high contributions to the Keno Reservoir reach could be another factor that could impede Upper Basin salmon recovery. Laetz et al. (2009) found combinations of diazinon, malathion, chlorpyrifos, carbaryl and carbofuran in many Pacific Northwest rivers and exposing coho salmon juveniles to equivalent levels in a lab induced mortality. All of these chemicals are used in Siskiyou County where in 2007 an estimated 1,287,800 pounds of pesticides were applied to 187,595 acres, most of them within the Klamath Basin (CDPR 2008). Conversion to organic farming techniques needs to be pursued as part of any final settlement, especially on Lease Lands if farming there continues.

### **Technical Fix of Water Quality Problems is Experimental and Unlikely to Succeed**

The NCRWQCB (2010) frames the strategy for nutrient pollution as follows:

“Explore engineered treatment options such as treatment wetlands, algae harvesting, and package wastewater treatment systems to reduce nutrient loads to the Klamath River and encourage implementation of these options where feasible.”

These technical approaches to nutrient pollution all require intensive capital investments for implementation and also have substantial on-going costs for electricity for water pumping or purification. It is very unlikely with the current budget crisis that funds will be available for construction and availability of capital for operation and maintenance in the future casts doubt on the ability of this approach to succeed. Furthermore, harvest of algae at the outlet of Upper Klamath Lake in perpetuity makes far less sense economically than abating algae blooms through ecological restoration. Similarly, operating a waste water treatment plant at the Keno Reservoir is not cost-competitive with reducing nutrient loads by eliminating farming on the TLNWR and LKNWR and expanding marshes to clean the water.

Meyer (2005) found that water passed through the LKNWR marsh complex had a 55-77% reduction in total nitrogen (N) and 19-51% reduction in total phosphorous with permanent wetlands having a much greater retention rate than seasonal wetlands. Lytle (2000) assessed the potential for use of a treatment wetland to reduce nutrient loads from the Klamath Straits Drain:

“With an estimated wetland treatment area ranging between 1,633 and 3,114 acres, according to the Kadlec and Knight Model, the wetland could achieve a 61% reduction in total P concentration (0.41 to 0.16 mg/L) and a 90% reduction in total nitrogen including NH<sub>3</sub>-N.”

The problem with operation of such a treatment wetland is that it requires a flow rate of 70-130 cubic feet per second, which would require additional water storage. Thus, even operation of a treatment wetland at the Straits Drain would require expansion of Lower Klamath Lake or Tule Lake, both of which are blocked by the KBRA. The report from Lytle (2000) remains in draft and there has been no action with regard to its implementation.

### **TMDLs Rely on Voluntary Cooperation and Have No Timelines for Compliance**

Both the California (NCRWQCB 2010) and the Oregon (ODEQ 2010) TMDLs are overly reliant on voluntary measures for compliance. TMDLs from both States lack any projections for when water quality compliance will occur or when beneficial uses will be fully restored. The Final KHP EIS (FERC 2007) expressed the following concern with regard to potential for success of TMDLs in the Upper Klamath to remediate pollution:

“The TMDL program relies on voluntary involvement for loads identified from non-point sources; therefore, nutrient load reductions to the allocated size may not be fully realized as farmers and ranchers choose between converting portions of their land to best management practices or maximizing their property’s agricultural potential.” (3.3.2.3)

ODEQ (2010) states the TMDL “does not attempt a timeline addressing the many ongoing and voluntary efforts.”

The prospect of enforcement in Oregon is more remote than in California because ODEQ (2010) must delegate authority for implementation to designated management agencies (DMAs). The lead DMA is the Oregon Department of Agriculture (ODA), which is charged with both promoting agriculture and regulation of agricultural activities that affect water quality. Other DMAs include the U.S. BOR and irrigation districts. A program that relies on polluters to oversee abatement of pollution has a very low likelihood of success.

### **Interim Measures for KHP Will Not Improve Reservoir or Lower Klamath River Water Quality Conditions**

PacifiCorp has complied with Section 6.3.2 of the KHSA and submitted a TMDL implementation plan to the NCRWQCB. Appendix C and D of the KHSA lay out the 21 Interim Measures and they are reflected in PacifiCorp's (2011) *Plan for Implementing Management Strategies and Water Quality-Related Measures*. The NCRWQCB (2010b) response to the proposed measures states that in-reservoir actions will not abate nutrient pollution or toxic algae problems there. The PacifiCorp (2011) actions pursuant to TMDL implementation relevant to this report are as follows.

*Interim Measure 2* requires that PacifiCorp provide \$500,000 per year for coho salmon habitat restoration or acquisition, but these measures will have small water quality benefits and will target projects below the KHP. The improvement of cold water refugia at the mouths of Klamath River tributaries is very laudable and worthwhile, but it does not fully mitigate impacts of the operation of KHP dams as PacifiCorp (2011) claims: "The thermal refugia actions to be implemented under the Coho Enhancement Fund will mitigate the continuing effect of the reservoirs on water temperature during the interim period." This measure will help coho salmon, but the major impact to fall Chinook of reservoir operation described above will remain huge as long as Iron Gate Dam remains. Also, increased flows in the Shasta and Scott rivers is needed to restore coho salmon habitat there, which has much greater potential to increase carrying capacity for these fish (Higgins 2011)

*Interim Measure 3* calls for turbine venting at Iron Gate Dam to improve dissolved oxygen (D.O.) levels that may improve lower Klamath River conditions within a short distance of the dam. Even if such measures were implemented, excess nutrients from the reservoir will continue to be released that stimulate profuse algae growth leading to D.O. sags stressful for salmonids downstream, when algae respire nocturnally.

*Interim Measure 5* calls on PacifiCorp to consult with agencies and tribes and to carry out experiments with different flow levels in fall and early winter to benefit salmonids. In February 2011 5,000 cfs was released for one day under the theory that such a peak would increase scour and potentially reduce algae beds. These short term events are aimed at offsetting potential problems from low fall and winter flows planned under the KBRA as described above. No experimental design is in place, so whether this isolated action had any benefit is unknown.

*Interim Measure 10* requires that PacifiCorp provide \$100,000 to hold a conference “that focuses on the design and implementation of nutrient and organic matter reduction projects. The conference should assess the appropriateness and feasibility of various centralized pollutant removal technologies, including wetland treatment systems, wastewater treatment systems with energy recovery capabilities, aquatic plant harvesting, as well as agricultural best management practices” (NCRWQCB 2010). Planning for this event has been restricted to Parties to the KBRA and KHSA.

*Interim Measure 11* is entitled Interim Water Quality Improvements, but there will be no significant improvements to Lower Klamath River that result. PacifiCorp is to spend \$250,000 a year on one or more of the following: 1) developing a water quality accounting framework, 2) constructing pilot treatment wetlands for evaluation, 3) assessing in-reservoir water quality control techniques, and 4) improving J.C. Boyle D.O.

The NCRWQCB (2011) is asking that PacifiCorp increase resources to fully develop the water quality accounting framework that will help evaluate TMDL implementation, which is good. In lieu of reservoir projects, the NCRWQCB staff recommends pilot projects for nutrient reduction that could be expanded and implemented under the KBRA. While treatment wetlands have the potential to reduce nutrient contributions (Lytle 2000), they are unlikely to be able to offset continuing high contributions of nutrients (see Ecological Restoration).

The KHSA would set up an Interim Measures Implementation Committee (IMIC) to work with PacifiCorp comprised only of signatories or “Parties” to the settlements. The committee would also appoint and oversee a Fisheries Technical Working Group and a Water Quality Technical Working Group. These processes would prevent involvement of the Hoopa Tribe and other legitimate stakeholders who did not sign onto the KHSA and KBRA. The Hoopa Tribe has used government-to-government consultations and Freedom of Information Act requests to try to keep abreast of activities within the IMIC. Exclusion of the Hoopa Tribe and other non-Parties will lead to a continuing bias against any solutions to water quality problems that require more land retirement or higher flows than agreed to in the KBRA.

### **Sucker “Beneficial Use” Recovery Required by TMDLs Unlikely Under KBRA**

Both the Lost River and shortnose suckers are endemic to the lower Lost River, Tule Lake and Lower Klamath Lake and they are, thus, both considered beneficial uses under the Clean Water Act and the Lost River TMDL (U.S. EPA 2008). Both species have been extirpated in Lower Klamath Lake (LKL)(USFWS 2001b). The NRC (2004) recommended consideration of refilling LKL to re-establish sucker populations to reduce regional extinction risk and to improve ecological function of the Klamath River. As noted above, this option is precluded by KBRA provisions that guarantee farming in the lake bed and the LKNWR Lease Lands. Therefore, this aspect of TMDL implementation is not likely to occur within the 50 year life of the program.

Shortnose suckers are no longer present in the lower Lost River (Delineas et al. 1996). Although there is an adult population of Lost River suckers in Tule Lake, there is no viable spawning habitat for them in the lower Lost River (Delineas et al. 1996, Shively et al. 2000). The source population for Tule Lake may be partially supplied by Upper Klamath Lake larvae entrained in the A Canal (Scoppettone et al. 1995), and colonists will likely decrease as fish screens are improved. Consequently, with no ability to reproduce and a diminishing source of colonists, the Tule Lake Lost River sucker population is also likely to be lost over time. Marsh and lake restoration in the lower Lost River, Tule Lake and LKL basins would not only allow re-establishment of sucker populations to lessen species extinction risk, it would help attain algae suppression and nutrient reduction that will likely prove elusive otherwise.

## **Ecological Restoration Approach to Restoring the Klamath River**

An ecosystem based approach to resolving Klamath River water quality impairment is in keeping with current best-science principles: “Management of the freshwater habitat of Pacific salmon should focus on natural processes and variability rather than attempt to maintain or engineer a desired set of conditions through time” (Bisson et al. 2009). Major Upper Klamath Basin anthropogenic alteration and reengineering have overwhelmed ecosystem function and caused the Klamath River to develop acute water pollution. Ecosystem services that stifle algae blooms, absorb nutrients and provide water storage need to be regained, which will then allow Pacific salmon and sucker species recovery. The U.S. EPA (2000) gives similar guidance with regard to restoration:

- “Restoration strives for the greatest progress toward ecological integrity achievable within the current limits of the watershed, by using designs that favor the natural processes and communities that have sustained native ecosystems through time.
- Restoring the original site morphology and other physical attributes is essential to the success of other aspects of the project, such as improving water quality and bringing back native biota.”

Despite naturally high phosphorous levels because of volcanic activity in its headwaters, the Klamath River was known as the “river of renewal” because of its ability to clean itself (NCRWQCB 2010). Marshes filtered run off, trapped nutrients and suppressed blue-green algae as described above. Lower Klamath Lake acted as the water storage system capturing winter flows and releasing them in late spring. The river bed itself, in a free-flowing condition, helped capture nitrogen from the water and release it back into the atmosphere similar to processes described by Sjödin et al. (1997). None of these ecological functions can be substituted for through technical fixes.

The Klamath River has passed its tipping point in terms of nutrient balance due to several changes:

- Changes within Upper Klamath Lake leading to *A. flos-aquae* domination,
- Blocking the connection to Lower Klamath Lake and drying it up,
- Pollution of the Lost River and Tule Lake and artificial connection to the Klamath River in the Keno Reservoir, and
- Keno Reservoir reach alteration that stopped denitrification and added to eutrophication.

The goal of ecological restoration as applied to the Klamath River is not to return the watershed to pristine conditions but rather to take strategic actions to restore the natural balance so that beneficial uses as defined by the Clean Water Act can be attained. If the natural system is restored to a level where its ecosystem processes clean the water, then it will be largely powered by gravity and far less expensive than technological fixes.

Studies are needed that go beyond those of Lytle (2000) and Mayer (2005) to determine quantitatively how strategic, large scale marsh and lake restoration would reduce water demand, increase water storage and resolve nutrient pollution as a result of improved ecosystem function. The current state of knowledge would suggest priorities include re-establishment of a marsh perimeter around Upper Klamath Lake, restoring the riparian marsh in the Keno Reservoir and in the lower Lost River, and expansion of Tule Lake and Lower Klamath Lake. The KBRA has hundreds of millions of dollars earmarked for restoration, which could be used for acquisition of wetlands for restoration. However, the obvious solution is to restore wetland and lake functions in TLNWR and LKNWR since there are 21,000 acres of wetlands there in public ownership. Costs of easements and acquisitions for areas in addition to the Lease Lands would be one time investments that lead to ecosystem function that has modest or no need for on-going maintenance.

### **Hoopa Valley Tribe Alternatives to KHSA/KBRA for Dam Removal**

The two most promising avenues for promoting KHP dam removal are to return to the FERC relicensing process and by pressing for a speedy decision by the California SWRCB regarding 401 certification.

The Hoopa Valley Tribe challenged continuing operation of the KHP on a year to year basis without implementation of mitigation measures (HVT vs. FERC 2010). While the challenge was rejected (U.S. Court of Appeals District of Columbia 2010), trying to re-initiate the FERC licensing process should provide benefits with regard to promoting decommissioning. PacifiCorp felt imminent KHP decommissioning and loss of their power generating facility was a possibility under the relicensing process (Brockbank 2010):

“Throughout these negotiations, the federal government and the states of Oregon and California have expressed a strong policy preference that PacifiCorp’s dams on the Klamath River be removed.”

If the KHP relicensing process re-opens, NMFS’ (2006) fish passage requirements at dams will be part of terms and conditions. Administrative Law Judge Parlen McKenna

(2006) upheld NMFS authority and PacifiCorp (2008) estimates that fish passage at all KHP dams would cost \$267 million, which is far more than project revenue justifies. This will likely throw the project into the “uneconomic” category. Brockbank (2010) explains PacifiCorp’s options: “The applicant may accept the uneconomic license, decommission and remove the facility, or pursue litigation and challenge the mandatory conditions.”

The California SWRCB (2008) suspended the 401 certification process after entering into an Agreement in Principle with PacifiCorp and subsequently signing the KHSA. The Hoopa Valley Tribe (2011a) pointed out that the most recent SWRCB Resolution (2010-0024), which held the KHP 401 process in abeyance, required federal KBRA/KHSA legislation be enacted by May 17, 2011, which it was not. Therefore, the SWRCB should re-start its 401 certification process. Oregon and northern California environmental groups (Cascadia Wildlands et al. 2011) and the Resighini Rancheria (2011d) also made similar requests to the SWRCB, which is likely to consider the matter at its August 2011 meeting.

If the relicensing and 401 process restart, the SWRCB will likely prevent FERC from issuing a new KHP license by withholding 401 certification because water pollution problems associated KHP reservoirs cannot be remedied (SWRCB 2006). The inability of PacifiCorp to acquire a new license would also force abandonment and decommissioning.

Hoopa TEPA (2008) WQS for the Klamath River must be considered by the SWRCB in the 401 certification process. When the 401 process is reopened, the Hoopa Valley Tribe should continue to provide the SWRCB with evidence that shows the need for immediate removal of KHP dams due to toxic algae problems and alarming continuing impacts to salmon resources, particularly in drier years.

## **Conclusion**

There is substantial concern that the lack of nutrient reduction at the source in the Upper Klamath Basin under the KBRA will cause a failure to remediate water quality problems even after dam removal (Dunne et al. 2011, Goodman et al. 2011). The chances that Hoopa WQS standards will be met appear low and all fisheries-related beneficial uses will continue to be compromised under the KBRA even after dams are removed. As noted above, a rigorous testing and reporting program to measure compliance with Hoopa WQS will be essential.

There is urgent need for action in promoting an ecologically sound restoration alternative. Current conditions have lead to a fish kill of 33,000-70,000 adult Chinook salmon (CDFG 2004) and the level of mortality of juvenile Chinook salmon in some recent years has had an equivalent impact (Nichols and Foott 2005). High levels of fish disease threaten the existence of remnant runs of spring Chinook and coho salmon and these problems are not likely to be remedied either before dam removal or afterward. Continuing operation of the KHP without mitigation poses high risk to these at-risk fish

populations and insufficient actions under the KBRA to abate nutrient pollution virtually assure the extirpation of these species before 2062.

A critical consideration is the urgent need for action given short term climate regime known as the Pacific decadal oscillation cycle (Hare et al. 1999, Collison et al. 2003) that affects Pacific salmon species:

“If current patterns prevail, with shifts in the PDO occurring every 20 to 30 years (Hare et al. 1999), the next negative shift in the PDO for California is likely to occur in the 2015 to 2020 timeframe ..... If fresh water habitats have not recovered by that time, the fish will simultaneously face both degraded freshwater habitats and an unproductive ocean. The result could shift the stocks to endangered status or result in extinctions” (Collison et al. 2003).

This suggests that dam removal needs to be in advance of 2020 for the highest potential of success. Toxic algae from reservoirs will also continue to pose unacceptably high health risk for recreational or ceremonial use of the Klamath River until at least 2020, and this condition in and of itself should be sufficient cause for speedy KHP dam decommissioning.

“We must restore impaired ecosystems if we are ever to regain the natural capital necessary to prevent continued economic and social decay and to approach economic and ecological health and sustainability” (Society for Ecological Restoration 2004).

## References

- Aquatic Scientific Resources (ASR) and Wetland Research Consortium (WRC). 2005. Preliminary Research on *Aphanizomenon flos-aquae* at Upper Klamath Lake, OR: Investigations to Set Direction for Research of Factors with Potential for Influencing *Aphanizomenon* Growth at Upper Klamath Lake. Funded by the United States Department of the Interior, Purchase Order Number 1448-10181-04-M360 (KY). USFWS, Klamath Falls, OR. 158 p.
- Asarian, E. J. Kann, and W. Walker. 2010. River Nutrient Loading and Retention Dynamics in Free-Flowing Reaches, 2005-2008. Final Technical Report to the Yurok Tribe Environmental Program, Klamath, CA. 59pp + appendices.  
[http://www.klamathwaterquality.com/documents/asarian\\_et\\_al\\_2010\\_klam\\_nutr\\_dynami\\_cs\\_final\\_report\\_revised.pdf](http://www.klamathwaterquality.com/documents/asarian_et_al_2010_klam_nutr_dynami_cs_final_report_revised.pdf)
- Bartholomew, J. 2008. *Ceratomyxa shasta* 2007 Study Summary. Prepared for Klamath River Fish Health Symposium. Funded by BOR and OR sea Grant. Department of Microbiology, OSU, Corvallis, OR. 13 p.  
[http://www.klamathwaterquality.com/documents/Bartholomew\\_2008.pdf](http://www.klamathwaterquality.com/documents/Bartholomew_2008.pdf)
- Bernot, M. J. and W. K. Dodds. 2005. Nitrogen retention, removal, and saturation in lotic ecosystems. *Ecosystems* 8:442-453. Available online at:  
<[http://www.biol.vt.edu/faculty/webster/linx/linx2pdfs/bernot%20and%20dodds%20eco\\_systems%202005.pdf](http://www.biol.vt.edu/faculty/webster/linx/linx2pdfs/bernot%20and%20dodds%20eco_systems%202005.pdf)> Accessed 01 March 2007.
- Bisson, P. A., J. B. Dunham, and G. H. Reeves. 2009. Freshwater ecosystems and resilience of Pacific salmon: habitat management based on natural variability. *Ecology and Society* 14(1): 45. [online] URL: <http://www.ecologyandsociety.org/vol14/iss1/art45/>
- Bradbury, J.P., S.M. Colman and R.L. Reynolds. 2004. The history of recent limnological changes and human impact on Upper Klamath Lake, Oregon. *Journal of Paleolimnology* 31: 151–165, 2004.
- Brockbank, D.S. 2011. Testimony regarding benefits of the Klamath Hydropower Settlement Agreement for PacifiCorp rate payers versus the Federal Energy Regulatory Commission relicensing process. Dean S. Brockbank, Vice President and General Counsel of PacifiCorp Energy, Portland, OR. 25 p.  
[http://www.psc.state.ut.us/utilities/electric/10docs/10035124/70688Direct Testimony of Dean Brockbank.doc](http://www.psc.state.ut.us/utilities/electric/10docs/10035124/70688Direct%20Testimony%20of%20Dean%20Brockbank.doc)
- California, Oregon, US DOI and PacifiCorp (CA, OR, DOI, PacifiCorp). 2008. Agreement in Principal (to Negotiate Dam Removal). 11/13/2008. Agreement signed by all Parties. 32 p.
- Patrick Higgins, Consulting Fisheries Biologist: *KHSA and KBRA Likelihood of Meeting Hoopa Valley Tribe Klamath River Water Quality Standards*

Caller, T., H. Farrar, J. Doolin, B. Harris and E. Stommel. A spatial analysis of ALS in New England: relationship to toxic cyanobacteria blooms. Informa Healthcare, Amyotrophic Lateral Sclerosis, Supplement 1; 10: 137-141.  
[www.mndassociation.org/document.rm?id=1686](http://www.mndassociation.org/document.rm?id=1686)

Cascadia Wildlands, Center for Biological Diversity, Environmental Protection Information Center, Lane County Audubon, Oregon Wild, Salem Audubon Society, Umpqua Watersheds, Inc., and WaterWatch of Oregon. 2011. Letter to SWRCB Clerk Jeanine Townsend re: Klamath Basin conservation organizations request the Board exercise its regulatory authority to take action on the Klamath Hydroelectric Project. May 10, 2011. 3 p.

Collison, A., W. Emmingson, F. Everest, W. Hanneberg, R. Martston, D. Tarboton, R. Twiss. 2003. Phase II Report: Independent Scientific Review Panel on Sediment Impairment and Effects on Beneficial Uses of the Elk River and Stitz, Bear, Jordan and Freshwater Creeks. Performed under contract to the North Coast Regional Water Quality Control Board, Santa Rosa, CA. 95 p.

Deas, M.L. and J. Vaughn. 2007. Characterization of Organic Matter Fate and Transport in the Klamath River below Link Dam to Assess Treatment/Reduction Potential. Prepared for the U.S. Bureau of Reclamation, Klamath Falls, OR. 167. p.  
[http://www.klamathwaterquality.com/documents/ DEAS\\_Keno%20Wetlands%20Project%20Report%209-30-06a.pdf](http://www.klamathwaterquality.com/documents/DEAS_Keno%20Wetlands%20Project%20Report%209-30-06a.pdf)

Dileanis, P. D., S. E. Schwarzback, and J. Bennett. 1996. Detailed study of water quality, bottom sediment, and biota associated with irrigation drainage in the Klamath Basin, California and Oregon, 1990-92. U.S. Geological Survey, Water-Resources Investigations Report 95-4232. Sacramento, CA. 77 pp.  
[http://www.krisweb.com/biblio/klamath\\_usgs\\_dileanisetal\\_1996.pdf](http://www.krisweb.com/biblio/klamath_usgs_dileanisetal_1996.pdf)

Dunne, T., G. Ruggerone, D. Goodman, K. Rose, W. Kimmerer, and J. Ebersole. 2011. Draft Scientific Assessment of Two Dam Removal Alternatives on Coho Salmon and Steelhead. KBRA Expert Panel produced with assistance from PBSJ, Portland, OR. 149 p.

Eilers, J., J. Kann, J. Cornett, K. Moser, A. St. Amand, and C. Gubala. 2001. Recent Paleolimnology of Upper Klamath Lake, Oregon. Submitted to the U. S. Bureau of Reclamation, Klamath Falls, Oregon by JC Headwaters, Inc., Roseburg, Oregon. 44 p.

Federal Energy Regulatory Commission (FERC). 2007. Final Environmental Impact Report for the Klamath Hydroelectric Project, FERC License 2082-027, Operated by PacifiCorp. FERC, Washington D.C.

- Foot J.S., R. Harmon, and R. Stone. 2003. FY2002 Investigational report: Ceratomyxosis resistance in juvenile chinook salmon and steelhead from the Klamath River. U.S. Fish & Wildlife Service California – Nevada Fish Health Center, Anderson, CA.
- Gannett, M.W., Lite, K.E. Jr., La Marche, J.L., Fisher, B.J., and Polette, D.J. 2007. Ground-water hydrology of the upper Klamath Basin, Oregon and California. U.S. Geological Survey Scientific Investigations Report 2007-5050, 84 p.
- Goldman, C.R. and A.J. Horne. 1983. Limnology. McGraw-Hill, Inc. New York. 464 pp.
- Goodman, D., M. Harvey, R. Hughes, W. Kimmerer, K. Rose, and G. Ruggerone. 2011. Scientific Assessment of Two Dam Removal Alternatives on Chinook Salmon. Final June 3, 2011. Funded by U.S. Fish and Wildlife Service but produced with assistance from Atkins Company, San Diego, CA. 172 p.
- Guillen, G. 2003. Klamath River fish die-off, September 2002: Report on estimate of mortality. Report number AFWO-01-03 . U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office. Arcata, CA. 35 pp.
- Goldman, C.R. and A.J. Horne. 1983. Limnology. McGraw-Hill, Inc. New York. 464 pp.
- Halstead, B. G. 1997. Memorandum to Bruce Gwynne of the California North Coast Regional Water Quality Control Board concerning water quality in the Klamath River. Unpublished letter of 23 September 1997. US Fish and Wildlife Service. Coastal California Fish and Wildlife Office. Arcata, CA. 14 p.
- Hardy, T.B., R.C. Addley and E. Saraeva. 2006. Evaluation of Instream Flow Needs in the Lower Klamath River, Phase II, Final. Prepared for: U.S. Department of the Interior, Bureau of Reclamation, Klamath Falls, OR by the Institute for Natural Systems Engineering, Utah Water Research Laboratory, USU, Logan, UT.
- Hare, S. R.; Mantua, N. J.; Francis, R. C. 1999. Inverse production regimes: Alaska and the west coast Pacific salmon. Fisheries, Vol. 24 (1): 6-14.
- Higgins, P.T. 2011. Comments on the KBRA Coho Salmon and Steelhead Expert Panel Draft Report for the Resighini Rancheria. Patrick Higgins, Consulting Fisheries Biologist, Arcata, CA. 14 p.
- Hoopa Valley Tribe Environmental Protection Agency (HVTEPA). 2008. Water Quality Control Plan Hoopa Valley Indian Reservation. Approved September 11, 2002, Amendments Approved February 14, 2008. Hoopa Tribal EPA. Hoopa, CA. 285 p. [www.klamathwaterquality.com/documents/Final\\_Hoopa\\_WQCP\\_20080311-5083\(18890575\).pdf](http://www.klamathwaterquality.com/documents/Final_Hoopa_WQCP_20080311-5083(18890575).pdf)

Hoopa Valley Tribe v. FERC. 2010. On Petition for Review of Orders of the Federal Energy Regulatory Commission. Case # 09-1134, U.S. Court of Appeals for the District of Columbia.

Hoopa Tribal Fisheries Department. 2011. Chart and data on projected flows under the KBRA. Provided by Robert Franklin, Hydrologist. HVTFD, Hoopa, CA.

Hoopa Tribal Fisheries Department. 2011a. Letter to SWRCB Clerk Jeanine Townsend from Chairman Leonard Masten re: Hoopa Valley Tribe's Request to Take Action on the Application for the Klamath Hydroelectric Project (P-2082), April 13, 2011. HVT, Hoopa, CA. 6 p.

Kann, J. 2006. Microcystis aeruginosa Occurrence in the Klamath River System of Southern Oregon and Northern California. Report for the Yurok Tribe Environmental Program and Fisheries Department, Klamath, CA by Aquatic Ecosystem Sciences, Ashland, OR. 26 p.

Kann, J. 2008. Microcystin Bioaccumulation in Klamath River Fish and Freshwater Mussel Tissue: Preliminary 2007 Results. Aquatic Ecosystem Sciences LLC, Ashland, OR. 48 pp.  
[http://karuk.us/dnr/pdf/wqdocuments/2008\\_Karuk\\_Toxic\\_Cyanobacteria\\_summary.pdf](http://karuk.us/dnr/pdf/wqdocuments/2008_Karuk_Toxic_Cyanobacteria_summary.pdf)

Kann, J. and S. Corum. 2009. Toxigenic Microcystis aeruginosa bloom dynamics and cell density/chlorophyll a relationships with microcystin toxin in the Klamath River, 2005-2008. Aquatic Ecosystem Sciences LLC. and Karuk Tribe Department of Natural Resources, Orleans, CA. 46 pp.  
[www.klamathwaterquality.com/documents/2009/2008\\_Karuk\\_Toxic\\_Cyanobacteria\\_summary.pdf](http://www.klamathwaterquality.com/documents/2009/2008_Karuk_Toxic_Cyanobacteria_summary.pdf)

Kier Associates. 1991. Long Range Plan for the Klamath River Basin Conservation Area Fishery Restoration Program. Klamath River Basin Fisheries Task Force. Yreka, CA.  
[http://www.krisweb.com/biblio/gen\\_usfws\\_kierassoc\\_1991\\_lrp.pdf](http://www.krisweb.com/biblio/gen_usfws_kierassoc_1991_lrp.pdf)

Kier Associates. 1999. Mid-term Evaluation off the Klamath River Basin Fisheries Restoration Program. Prepared for the Klamath River Basin Fisheries Task Force. Sausalito, CA.  
[http://www.krisweb.com/kriskootenai/krisdb/html/krisweb/biblio/gen\\_usfws\\_kierassoc\\_1999\\_klamev.pdf](http://www.krisweb.com/kriskootenai/krisdb/html/krisweb/biblio/gen_usfws_kierassoc_1999_klamev.pdf)

Laetz, C., D. Baldwin, T. Collier, V. Hebert, J.D. Stark, and N. Scholz. 2009. The Synergistic Toxicity of Pesticide Mixtures: Implications for Risk Assessment and the Conservation of Endangered Pacific Salmon. Environmental Health Perspectives, No. 3, Vol. 117, 348-353.

- Lytle, M. 2000. Water Quality Data Review and Wetland Size Estimate for the Treatment of Wastewaters from the Klamath Straits Drain. Draft Technical Memorandum. July 28, 2000. United States Bureau of Reclamation, Klamath Project Office, Klamath Falls, OR. 15 p.
- Mayer, T.D. 2005. Water Quality Impacts of Wetland Management in the Lower Klamath National Wildlife Refuge, Oregon and California, USA. *Wetlands* 25: 697-712.
- Mooney, H., A. Lariguaderie, E. Elmquist, O. Hoegh-Guldberg, S. Lavorel, G.M. Mace, M. A. Palmer, R. Scholes, T. Yahara. 2009. Biodiversity, climate change, and ecosystem services. *Current Opinion in Environmental Sustainability* 1:46-54.
- National Marine Fisheries Service (NMFS). 2010. Operation of the Klamath Project between 2010 and 2018. File Number 151422SWR2008AR00148. March 15, 2010. NMFS SW Region, Arcata, CA. 236 p.
- McKenna, P.L. 2006. Appeal of National Marine Fisheries Service and Department of Interior requirement for fish passage facilities by PacifiCorp. Judgment by Administrative Law Judge Hon. Parlin McKenna. Docket # NMFS 2006-01. Decision rendered 9/29/06. 74 p.
- National Marine Fisheries Service (NMFS). 2006. Comments, Recommended Terms and Conditions, and Preliminary Prescriptions for the Klamath Hydroelectric Project, FERC Project # 2082. Letter to Magalie Salas, FERC Secretary, from Rodney McGinnis, NMFS SW Regional Director. March 24, 2006. NMFS, Long Beach, CA. 161 p.
- National Research Council (NRC). 2004. Endangered and threatened fishes in the Klamath River basin: causes of decline and strategies for recovery. Committee on endangered and threatened fishes in the Klamath River Basin, Board of Environmental Toxicology, Division on Earth and Life Studies, Washington D.C. 424 pp.
- National Research Council (NRC). 2008. Hydrology, Ecology, and Fishes of the Klamath River Basin. National Academy Press, Washington D.C. 272 p.
- Nichols, K. and J.S. Foott. 2005. Health Monitoring of Juvenile Klamath River Chinook Salmon, FY 2004 Investigational Report. USFWS California-Nevada Fish Health Center, Red Bluff, CA.
- Nichols K. and K. True. 2007. FY 2006 Investigational Report: Monitoring incidence and severity of *Ceratomyxa shasta* and *Parvicapsula minibicornis* infections in juvenile Chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*Oncorhynchus kisutch*) in the Klamath River, 2006. U.S. Fish & Wildlife Service California-Nevada Fish Health Center, Anderson, CA.

- Nichols K., K. True, R. Fogerty and L. Ratcliff. 2008. FY 2007 Investigational Report: Klamath River Juvenile Salmonid Health Monitoring, April-August 2007. U.S. Fish & Wildlife Service California – Nevada Fish Health Center, Anderson, CA. 20 p.
- North Coast Regional Water Quality Control Board (NCRWQCB). 2006. Action Plan for the Shasta River Watershed Temperature and Dissolved Oxygen Total Maximum Daily Loads. North Coast Regional Water Quality Control Board, Santa Rosa, CA.
- North Coast Regional Water Quality Control Board (NCRWQCB). 2007. Water Quality Control Plan for the North Coast Region. NCRWQCB, Santa Rosa, CA. 201 p.
- North Coast Regional Water Quality Control Board (NCRWQCB). 2010. Action Plan for the Klamath River TMDLs Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin Impairments in the Klamath River in California and Lost River Implementation Plan. NCRWQCB, Santa Rosa, CA.
- North Coast Regional Water Quality Control Board (NCRWQCB). 2010a. Review Comments KHSA Implementation Proposed Activities. Memo from NCRWQCB staff Clayton Creager to Tim Hemstreet and Linda Prendergast of PacifiCorp. 9/16/2010. NCRWQCB, Santa Rosa, CA. 3 p.
- Oregon Department of Environmental Quality (ODEQ). 2010. Upper Klamath and Lost River Subbasins Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WPMP). December 2010. ODEQ, Portland, OR. 231 p.
- PacifiCorp. 2004. Final License Agreement for the Klamath River Hydroelectric Project, FERC #2082. PacifiCorp, Portland, OR.
- PacifiCorp. 2008. Alternative to the Joint USFWS and NMFS Preliminary Fishways Prescriptions. PacifiCorp, Portland, OR. 124 p.
- PacifiCorp. 2011. Draft Plan for Implementing Management Strategies and Water Quality-Related Measures. Report to the NCRWQCB, Santa Rosa, CA. PacifiCorp, Portland, OR.
- Palmer, M.A. 2010. Water Resources: Beyond Infrastructure. *Nature* 467:534-535.
- Perkins, D., J. Kann, and G.G. Scopettone. 2000. The role of poor water quality and fish kills in the decline of endangered Lost River and shortnose suckers in Upper Klamath Lake. U.S. Geological Survey, Biological Resources Division Report Submitted to U.S. Bureau of Reclamation, Klamath Falls Project Office, Klamath Falls, OR, 97603 -- Contract 4-AA-29-12160.

Quartz Valley Indian Community. 2006. Recommended Terms and Conditions for the Klamath Hydroelectric Project (FERC #2082-027). Filed with FERC on March 29, 2006. Prepared with assistance from Kier Associates, Blue Lake, CA. 57 p.  
[http://www.klamathwaterquality.com/documents/QVIC\\_terms\\_conditions\\_Mar\\_2006.pdf](http://www.klamathwaterquality.com/documents/QVIC_terms_conditions_Mar_2006.pdf)

Quartz Valley Indian Community. 2006. Scoping Comments on Shasta River Basin Agricultural Coho Salmon Incidental Take Permit. Submitted to CDFG, Region 1 by QVIR. ITP filed with CDFG. 20 p.  
[http://www.klamathwaterquality.com/documents/2009/Shasta\\_TMDL\\_ActionPlan\\_Comments\\_QVIR.pdf](http://www.klamathwaterquality.com/documents/2009/Shasta_TMDL_ActionPlan_Comments_QVIR.pdf)

Redding Searchlight. 2011. Lawmakers push to keep four hydro dams running, cite need for electricity. 2/26/2011. By Dillon Darling. Redding, CA.  
<http://www.redding.com/news/2011/feb/26/push-onto-keep-4-dams-running/>

Resighini Rancheria. 2004. Memo re: Total Maximum Daily Load (TMDL) analysis for, and the proposed de-listing of the Upper Lost River from California's 303(d) list. From Chairman Frank Down to Catherine Kuhlman, NCRWQCB Executive Director. Resighini Rancheria, Klamath, CA. 9 p.  
[www.klamathwaterquality.com/documents/Resighini\\_Upper%20Lost%20Comments.pdf](http://www.klamathwaterquality.com/documents/Resighini_Upper%20Lost%20Comments.pdf)

Resighini Rancheria. 2011a. Comments on the Klamath Basin Restoration Agreement Draft Drought Plan. Submitted April 15, 2011. Resighini Rancheria, Klamath, CA. 22 p.

Resighini Rancheria. 2011b. Comments on the KBRA Chinook Expert Panel Draft Report. Submitted May 10, 2011. Resighini Rancheria, Klamath, CA. 8 p.

Resighini Rancheria. 2011c. Request for Reinitiation of 401 Certification Process Related to the Application for the Relicensing of the Klamath Hydroelectric Project (P-2082). Letter from RR Tribal Council Chair Rick Dowd to Jeanine Townsend, State Water Resources Control Board. 5 p.

Resighini Rancheria. 2011d. Comments on the Biological Aspects of the Draft KHSA/KBRA Cultural Resources Report. Submitted May 25, 2011. Letter from RR Tribal Council Chair Rick Dowd to Dale Morris of BIA. 8 p.

Scoppettone, G.G., S. Shea, and M.E. Buettner. 1995. Information on Population Dynamics and Life History of Shortnose Suckers (*Chasmistes brevirostris*) and Lost River Suckers (*Deltistes luxatus*) in Tule and Clear Lakes. National Biological Service, Reno Field Station, Reno, NV.

Shively, R.S., A.E. Kohler, B.J. Peck, M.A. Coen, and B.S. Hayes. 2000. Water quality, benthic macroinvertebrate, and fish community monitoring in the Lost River sub-basin, Oregon and California, 1999. Report of sampling activities in the Lost River sub-basin conducted by the U.S. Geological Survey, Biological Resources Division, Klamath Falls, OR. 96 p.

Siskiyou Daily News. 2011. Congressman McClintock speaks on Klamath, delta issues to House. March 3, 2011. Siskiyou Daily News, Yreka, CA.

Sjodin, A.L., W.M. Lewis Jr., and J.F. Saunders III. 1997. Denitrification as a component of the nitrogen budget for a large plains river. *Biogeochemistry* 39: 327–342. Available online at: <<http://cires.colorado.edu/limnology/pubs/Pub139.pdf>> Accessed 2006 12 February.

Society for Ecological Restoration (SER). 2004. The SER International Primer on Ecological Restoration. Society for Ecological Restoration International Science & Policy Working Group. SER, Tuscon, AZ. [http://www.ser.org/content/ecological\\_restoration\\_primer.asp](http://www.ser.org/content/ecological_restoration_primer.asp)

State Water Resources Control Board. 2007. Additional Information Needs for Water Quality Certification on Relicensing of the Klamath Hydroelectric Project (FERC Project No. 2082). Memo to Cory Scott, PacifiCorp Project Manager from SWRCB Engineer Elizabeth Lawson. February 26, 2007. SWRCB, Sacramento, CA. 15 p.

State Water Resources Control Board. 2010. Request for Abeyance in Processing the Water Quality Certification Application of the Klamath Hydroelectric Project. SWRCB Resolution 2010-0049. May 18,2010. SWRCB, Sacramento, CA. 4 p.

Stocking, R.W. and J.L. Bartholomew. 2004. Assessing links between water quality, river health and Ceratomyxosis of salmonids in the Klamath River system. Department of Microbiology, Oregon State University, Corvallis, OR. 5 p. (81 Kb)

Stocking, R. W., R. A. Holt, J. S. Foott and J. L. Bartholomew. 2006. Spatial and temporal occurrence of the salmonid parasite *Ceratomyxa shasta* (Myxozoa) in the Oregon-California Klamath River Basin. *Journal of Aquatic Animal Health*. 18: 194-202.

Stocking, R.W. and J.L. Bartholomew. 2007. Distribution and Habitat Characteristics of *Manayunkia speciosa* and Infection Prevalence with the Parasite *Ceratomyxa Shasta* in the Klamath River, Oregon-California. *Journal of Parasitology* 93(1), 2007, pp. 78-88. U.S. Bureau of Reclamation (U.S. BOR). 2005. Natural Flow of the Upper Klamath River. U.S. BOR, Klamath Falls, OR. 115 p. Available online at: <[http://www.usbr.gov/mp/kbao/docs/undepleted\\_klam\\_fnl\\_rpt.pdf](http://www.usbr.gov/mp/kbao/docs/undepleted_klam_fnl_rpt.pdf)>

Stone, R., J.S. Foott, and R. Fogerty. 2007. Comparative susceptibility to infection and disease from *Ceratomyxa shasta* and *Parvicapsula minibicornis* in Klamath River basin juvenile Chinook, Coho and Steelhead populations. USFWS California Nevada Fish Health Center FY2006 Investigational Report. Red Bluff, CA. 14 p.

Sullivan, A.B., Deas, M.L., Asbill, J., Kirshtein, J.D., Butler, K., and Vaughn, J., 2009, Klamath River water quality data from Link River Dam to Keno Dam, Oregon, 2008: U.S. Geological Survey Open File Report 2009-1105, 25 p.

Sullivan, A.B., D.M. Snyder, S.A. Rounds. 2010. Controls on biochemical oxygen demand in the upper Klamath River, Oregon. *Chemical Geology* 269:12-21.

U.S. Court of Appeals for the District of Columbia. 2010. *Hoopa Valley Tribe v. FERC*. On Petition for Review of Orders of the Federal Energy Regulatory Commission. Case # 09-1134. Ruling issued 12/28/2010. 8 p.  
[www.cadc.uscourts.gov/internet/opinions.nsf/C7585D5D3D6A338885257807005C6E8B/\\$file/09-1134-1285059.pdf](http://www.cadc.uscourts.gov/internet/opinions.nsf/C7585D5D3D6A338885257807005C6E8B/$file/09-1134-1285059.pdf)

U.S. Environmental Protection Agency (EPA). 2000. Principles for the Ecological Restoration of Aquatic Resources. EPA841-F-00-003. Office of Water (4501F), United States Environmental Protection Agency, Washington, DC. 4 pp.  
<http://www.epa.gov/owow/wetlands/restore/principles.html#1>

U.S. Environmental Protection Agency. 2002. Letter from Alexis Strauss, Director Water Division, approving the Hoopa Valley Indian Reservation Water Quality Control Plan. U.S. EPA Region 9, San Francisco, CA. 9 p.

U.S. Environmental Protection Agency. 2008. Lost River, California Total Maximum Daily Load: Nitrogen and Oxygen Demand to Address Dissolved Oxygen and pH Impairments. U.S. EPA R 9, San Francisco, CA.

U.S. Fish and Wildlife Service (USFWS). 1993. Lost River (*Deltistes luxatus*) and Shortnose (*Chasmistes brevirostris*) Sucker recovery plan. Prepared by Kevin Stubbs and Rolland White. Portland, OR. 80 pp.

U.S. Fish and Wildlife Service (USFWS). 2001a. Biological Assessment of the Klamath Project's Continuing Operations on the Endangered Lost River and Shortnose Sucker. USFWS, Klamath Falls, OR. 112 p.

U.S. Fish and Wildlife Service (USFWS). 2001b. Biological/Conference Opinion Regarding the effects of Operation of the Bureau of Reclamation's Klamath Project on the on the Endangered Lost River (*Deltistes luxatus*) and Shortnose sucker (*Chasmistes brevirostris*) and Threatened Bald Eagles (*Haliaeetus leucocephalus*) and Proposed Critical Habitat for the Lost River/Shortnose Suckers. USFWS, Klamath Falls, OR.

U.S. Fish and Wildlife Service (USFWS). 2001c. Juvenile salmonid monitoring on the mainstem Klamath River at Big Bar and mainstem Trinity River at Willow Creek, 1997-2000. Annual report of the Klamath River Fisheries Assessment Program. Arcata Fish and Wildlife Office, Arcata, CA.

U.S. Fish and Wildlife Service (USFWS). 2008. Formal Consultation on the Bureau of Reclamation's Proposed Klamath Project Operations from 2008-2018. USFWS Klamath Basin Office, Yreka, CA. 233 p.

U.S. Geological Survey (USGS). 2005. Assessment of the Klamath Project Pilot Water Bank: A Review from a Hydrologic Perspective. Prepared under contract to the U.S. Bureau of Reclamation, Klamath falls, OR. By the USGS Oregon Water Science Center in Portland, OR. 98 p.

Van Kirk, R. and S. Naman. 2008. Relative effects of Climate and Water Use on Base-flow Trends in the Lower Klamath Basin. *Journal of American Water Resources Association*. August 2008. V 44, No. 4, 1034-1052.

Weddell, B.J. 2000. Relationship Between Flows in the Klamath River and Lower Klamath lake Prior to 1910. Performed for the U.S. Department of the Interior, Fish and Wildlife Service Klamath Basin Refuges, Tulelake, CA. B.J. Weddell, Ph.D., Pullman, WA. 15 p.

Wetland Research Consortium (WRC). 2009. Final Report: Use of Aquatic and Terrestrial Plant Decomposition Products for the Control of *Aphanizomenon flos-aque* at Upper Klamath Lake, Oregon. Prepared for: U. S. Fish and Wildlife Service Klamath Basin Ecosystem Restoration Office, Klamath Falls, OR. 75 p.

Wilkie, M.P and C.M. Wood. 1995. The adaptation of fish to extremely alkaline environments. *Comparative Biochemical Physiology*. Vol 113B, No. 4, p 665-673.

Yurok Tribe Environmental Program. 2009e. Final 2008 Klamath River Blue-Green Algae Summary Report. By Ken Fetcho. Yurok Tribe Environmental Program, Klamath, California. 26 p.



## Hoopa Valley Tribal Council

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LEONARD C. MASTEN JR.  
CHAIRMAN

July 14, 2010

Ms. Tanya Sommer  
Bureau of Reclamation  
2800 Cottage Way  
Sacramento, CA 95825

and to [KlamathSD@usbr.gov](mailto:KlamathSD@usbr.gov)

Re: Comments of Hoopa Valley Tribe on Notice of Intent to Prepare an Environmental Impact Statement/Environmental Impact Report on the Klamath Hydroelectric Settlement Agreement Secretarial Determination

Dear Ms. Sommer:

The Hoopa Valley Tribe submits the following comments in response to the Department of Interior's ("Department") Notice of Intent to Prepare an Environmental Impact Statement/Environmental Impact Report ("EIS") regarding the Klamath Hydroelectric Settlement Agreement ("KHSA") Secretarial Determination (the "Scoping Notice").

### I. Interest of the Hoopa Valley Tribe

Since time immemorial, the fishery resources of the Klamath and Trinity Rivers have been the mainstay of the life and culture of the Hoopa Valley Tribe. The fishery was "not much less necessary to the existence of the Indians than the atmosphere they breathed." *Blake v. Arnett*, 663 F.2d 906, 909 (9th Cir. 1981) (quoting *United States v. Winans*, 198 U.S. 371, 381 (1905)). The salmon fishery is integral to the customs, religion, culture, subsistence, and economy of the Hoopa Valley Tribe and its members. The lower twelve miles of the Trinity River and a stretch of the Klamath River flow through the Hoopa Valley Reservation.

The federal government established the Hoopa Valley Reservation in 1864. The Hoopa Valley Reservation is located in the heart of the Tribe's aboriginal lands; lands the Tribe has occupied since time immemorial. The Hoopa Valley Tribe has fishing and water rights in the Klamath River with a priority date of 1864, as recognized by the United States in the Memorandum from Solicitor of the Department of the Interior to the Secretary of the Interior (Oct. 4, 1993); and the Memorandum from Regional Solicitor, Pacific Southwest Region to the Regional Director, Bureau of Reclamation, Mid-Pacific Region (July 25, 1995) (collectively, "Solicitors' Opinions"); and by federal courts in, for example, *Parravano v. Babbitt*, 70 F.3d 539 (9th Cir. 1995). Congress has recognized and confirmed, for example in the Central Valley Project Improvement Act, Public Law 102-575, Section 3406(b)(23) (Oct. 30, 1992), that the United States has a federal trust responsibility to protect the fishery trust resources of the Hoopa Valley Tribe. The Hoopa Valley Tribe's rights are unique. This is unlike the situation where several tribes signed a single treaty reserving rights in common. While other tribes in the



Ms. Tanya Sommer  
July 14, 2010  
Page - 2

Klamath Basin also have water and fishing rights, our rights are distinct in scope, derive from different authorities, and must be treated separately.

The fish and water resources of the Klamath River Basin have been severely and adversely affected by the federal authorization, construction, and operation of the Klamath Reclamation Project and the Klamath Hydroelectric Project upstream of the Hoopa Valley Reservation. The impacts associated with blocked fish passage, nutrient enrichment, loss of habitat, and inadequate instream flows due to the authorization, construction, and operation of the Klamath Reclamation Project and the Klamath Hydroelectric Project have contributed to the listing of the Southern Oregon/Northern California coast (SONCC) coho salmon and its critical habitat under the Endangered Species Act.

The Tribe has actively participated in all proceedings relating to the re-licensing of the Klamath Hydroelectric Project before Federal Energy Regulatory Commission (FERC), and proceedings to enforce operation of the Klamath Reclamation Project in compliance with the Endangered Species Act and other applicable law. Protection of the Klamath and Trinity Rivers and the aquatic resources therein is of vital importance to the Hoopa Valley Tribe.

The Tribe participated in settlement negotiations leading to the Klamath Hydroelectric Settlement Agreement (KHSA) and Klamath Basin Restoration Agreement (KBRA). Although the Tribe favors the removal of the dams of the Klamath Hydroelectric Project for the purposes of improving water quality and restoring fish passage on the Klamath River, the Tribe did not sign, and enacted a resolution in opposition to the KHSA. The Tribe opposes the KHSA as drafted because it does not require the removal of any dams, but instead establishes an uncertain planning process that could potentially lead to commencement of dam removal in 2020 subject to the achievement of numerous contingent events that include, but are not limited to: (a) enactment of federal legislation; (b) California voter approval of a \$250 million bond package; (c) an affirmative determination by the Secretary of Interior that dam removal is in the public interest; and (d) separate concurrences by the states of California and Oregon that dam removal is in the public interest. The Tribe also opposes the KHSA because it suspends the FERC re-licensing proceeding, suspends the State of California and Oregon water quality certification proceedings, and permits the licensee PacifiCorp to continue operation of the Klamath Hydroelectric Project on terms of annual licenses until at least 2020. The KHSA also fails to provide for interim license measures that will bring the Project into compliance with current state, federal, tribal environmental laws, or applicable water quality standards, or that will adequately mitigate fishery impacts associated with operation of the Project.

The Tribe also did not sign, and enacted a resolution in opposition to, the KBRA because the KBRA conflicts with tribal sovereignty, violates trust duties owed to the Hoopa Valley Tribe by the United States, subordinates tribal water and fishing rights in favor of junior non-Indian irrigation interests without tribal consent, provides inadequate flows for the protection of tribal trust resources, offers a speculative and unfunded program for fishery restoration and water conservation, encourages unsustainable use of groundwater in the Upper Klamath Basin, fails to abate acute nutrient pollution problems and is not based on best available, peer reviewed science. The Tribe also objects to the linkage of the KHSA and the KBRA.

Here, as in all other proceedings related to protection of the Klamath and Trinity Rivers, the Tribe is committed to ensuring that the United States and its respective departments and agencies fulfill their duties to the Tribe and to the Rivers in accordance with applicable law,

Ms. Tanya Sommer  
July 14, 2010  
Page - 3

including NEPA, the Endangered Species Act, Clean Water Act, Federal Power Act, and the federal government's trust responsibility to the Hoopa Valley Tribe.

II. Comments on Scoping Notice

A. Description of Proposed Action

The Scoping Notice describes the Proposed Action as "a determination, pursuant to the KHSA, as to whether removal of the four lower dams on the Klamath River to achieve a free-flowing condition and allow full volitional passage of fish is in the public interest, will advance restoration of the salmonid fishery and is consistent with statutory obligations and tribal rights."<sup>1</sup>

The definition of the Proposed Action should be revised to read as follows: "an Affirmative Determination that removal of the four lower dams on the Klamath River to achieve a free-flowing condition and allow full volitional fish passage is in the public interest, will advance restoration of the salmonid fishery and is consistent with statutory obligations and tribal rights." The question is not only whether the Secretary will make a determination, but what that determination should be. The purpose of this NEPA analysis is to guide the Secretary's determination. To be useful, the EIS should compare the consequences of an Affirmative Determination favoring dam removal with other alternatives.

The Department should also clarify whether it intends to analyze the Proposed Action (i.e., an Affirmative Determination favoring dam removal) under the assumptions: (a) that the Secretary will execute and authorize implementation of the KBRA and (b) that Congress will provide full or partial appropriations for funding that is required to fulfill the terms of the KBRA. This clarification is necessary in order to conduct a meaningful alternatives analysis. The Department must make this clarification in order to establish a clear baseline proposed action to compare with other alternatives, such as an alternative that encompasses an Affirmative Determination favoring dam removal without KBRA execution.

The Department should also clarify whether it intends to analyze the Proposed Action using alternative approaches to fish restoration. As discussed in part D, below, the EIS should evaluate addressing the acute water quality problems in the Keno Reservoir Reach. A proposal that includes refilling Lower Klamath Lake and expanding Tule Lake to improve fisheries conditions and water quality should be included.

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<sup>1</sup> The Hoopa Valley Tribe has cautioned that the Department's description of the Proposed Action is misleading in its emphasis on the Secretarial Determination. This is because, as discussed in these comments, the proposal is connected to harmful 50-year water allocation agreements and inadequate and unfunded provisions of the KBRA.

Ms. Tanya Sommer  
 July 14, 2010  
 Page - 4

B. Description of Purpose and Need

The Scoping Notice describes the purpose of the Proposed Action as follows: "to advance restoration of the salmonid fisheries in the Klamath Basin [sic] that is in the public interest, and is consistent with the KHSA and the KBRA." The Department should delete the clause that reads "and is consistent with the KHSA and the KBRA." The purpose of the Proposed Action is solely to advance restoration of the salmonid fisheries in the Klamath Basin in a manner that is in the public interest. Consistency with the KBRA is not a factor in the Secretarial Determination.

Section 3.3.1 of the KHSA requires only that the Secretary determine whether "Facilities Removal (i) will advance restoration of the salmonid fisheries of the Klamath Basin, and (ii) is in the public interest, which includes but is not limited to consideration of potential impacts on affected local communities and Tribes." Requiring the purpose of the Proposed Action to be consistent with the KBRA could unreasonably narrow the scope of the alternatives analysis. For example, one reasonable alternative to consider in this EIS is an Affirmative Determination supporting dam removal, but without execution or implementation of the KBRA. The Department's NEPA analysis should not assume (for all alternatives) that Congress will approve the KBRA or direct the Secretary to sign the KBRA, or that the Secretary will ultimately execute and implement the KBRA. The scope of this EIS must be broad enough to analyze alternatives that are not dependent on approval of the KBRA, in whole or in part.

C. Alternatives Analysis

The alternatives analysis is the "heart of the environmental impact statement." 40 C.F.R. § 1502.14. The EIS must "rigorously explore and objectively evaluate all reasonable alternatives," and "devote substantial treatment to each alternative . . . so that reviewers may evaluate their comparative merits," including "reasonable alternatives not within the jurisdiction of the lead agency. 40 C.F.R. § 1502.14(a),(b),(c); see also 43 CFR 46.420(c) (defining "range of alternatives").

The CEQ publication "NEPA's Forty Most Asked Questions" confirms that in establishing a reasonable range of alternatives, "the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative." Question 2a. The CEQ publication adds that "an alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. . . . Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies." Question 2b.

In addition, each alternative should make clear that the Secretary will continue to carry out the Trinity River Restoration Program, as required by existing law.

The Hoopa Valley Tribe requests analysis of the following reasonable alternatives in the EIS:

1. No Action Alternative: The No Action Alternative in this proceeding should evaluate the consequences of the Secretary failing to make any determination under the KHSA. In that event, the KHSA would be terminable under Section 8.11 and key provisions of

Ms. Tanya Sommer  
July 14, 2010  
Page - 5

the KBRA, such as the guaranteed diversions and claim waivers would not become effective. Parties would likely withdraw from the KBRA under Sections 15.3.4.C and 7.5 of that Agreement. The likely result of No Action would be the resumption of the FERC re-licensing proceeding, conclusion of the State of Oregon and California Section 401 water quality certification proceedings, imposition of Section 18 and Section 4(e) conditions under the Federal Power Act, and management of the Klamath Reclamation Project in accordance with existing and future limitations on diversion required by the Endangered Species Act and other applicable law.

2. Proposed Action Alternative – Affirmative Determination With KBRA Implementation: As discussed above, the Proposed Action Alternative should evaluate the consequences of an Affirmative Determination in favor of dam removal. The Proposed Action Alternative should also examine the effects of executing and implementing the KBRA, because as the Agreements are currently drafted, the rendering of an Affirmative Determination is a prerequisite to implementation of KBRA provisions. The lack of restoration goals and standards in the KBRA must inform the description of those effects. Also, when analyzing the KBRA, the EIS must consider the likelihood that the KBRA will not be fully funded by Congress. The EIS should evaluate the implications of an under-funded or unfunded KBRA on the restoration objectives of that agreement. The EIS should evaluate and compare the environmental consequences of a KBRA that is 100% funded, 66% funded, and 33% funded. In addition, the EIS should evaluate the environmental consequences of a KBRA that is funded solely from existing appropriations.<sup>2</sup> To be clear, the Proposed Action Alternative will not necessarily be the same as the Preferred Alternative – particularly in light of the negative consequences/impacts of the KBRA.

3. Affirmative Determination Without KBRA Implementation: The EIS should evaluate an alternative scenario in which the KBRA is not approved by Congress, executed by the Secretary, or implemented, but the Secretary still renders an Affirmative Determination in favor of dam removal. Under this scenario, the Secretary would render a determination in favor of dam removal, but diversions to the Klamath Reclamation Project would continue to be managed under currently applicable laws, such as the ESA, without the guaranteed diversions prescribed by the KBRA.

4. Negative Determination Alternative: The EIS should evaluate the environmental consequences of a Negative Determination. Under the structure of the KHSA and KBRA, a Negative Determination would likely have the same result as the No Action Alternative or No Determination Alternative discussed above.

5. Federal Power Act Takeover and Decommissioning Alternative: The EIS should evaluate an alternative in which the Secretary does not render a Determination pursuant to the terms of the KHSA, but rather exercises authority to takeover the Klamath Hydroelectric Project pursuant to Section 14 of the Federal Power Act, 16 U.S.C. § 807 and/or supplemental Congressional authorization. Under this alternative, the Secretary, on behalf of the United States, would acquire the facilities of the Klamath Hydroelectric Project from PacifiCorp and

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<sup>2</sup> The Hoopa Valley Tribe has been advised by the House of Representatives' Natural Resources Committee staff that the Interior Department has identified as available from existing appropriations only 25% of funds called for by the KBRA.

Ms. Tanya Sommer  
 July 14, 2010  
 Page - 6

would commence the decommissioning and removal of the facilities as soon as possible, but no later than June 30, 2015.

6. Affirmative or Negative Determination with Water Quality Improvement Strategy: The EIS should evaluate an alternative in which the Secretary does not render a Determination based upon the inadequate terms of the KBRA, but by incorporating the modified approach recommended below: refilling Lower Klamath Lake using Lost River winter water, somewhat expanding the footprint of Tule Lake, and restoring riparian zones along the entire lower Lost River and Keno Reach of the Klamath River. For further information, please see the Klamath Basin Tribal Water Quality Work Group comments on the Klamath River TMDL process, found at <http://www.schlosserlawfiles.com/~hoopa/LostRiverTMDL.pdf>.

#### D. Scope of EIS – Evaluation of KBRA

The Scoping Notice states that "the potential impacts of any connected actions, including any actions under the KBRA, will be analyzed." The Tribe agrees that this EIS must analyze the impacts of actions resulting from execution of the KBRA. The KHSAs and KBRA have been drafted as interdependent components of a larger plan relating to Klamath Basin restoration. See, e.g., KBRA Section 8.2.2 (discussing relationship between KHSAs and KBRA). An Affirmative Determination by the Secretary is not only a first step towards dam removal under the KHSAs, but it is a necessary prerequisite to implementation of key provisions of the KBRA, including the controversial guaranteed diversions and waivers/subordination of tribal rights. When determining whether to render an Affirmative Determination, the Secretary must be fully aware of the environmental consequences associated with the execution and implementation of the KBRA. The consequences of the KBRA should be evaluated as part of the Proposed Action Alternative. In analyzing the KBRA, the following issues should be addressed in the EIS:

##### 1. Impacts to Trinity River Restoration Program

The EIS should evaluate whether and/or how execution and implementation of the KBRA could adversely impact the Trinity River Restoration Program. Implementation of the KBRA will cost over \$1 billion for fiscal years 2012-2022. Available information indicates that much of this funding will come from the reprogramming of existing Departmental funds rather than new appropriations from Congress. See, e.g., KBRA Section 4.1.1 (committing parties to support reprogramming of existing funds to implement KBRA). The EIS must analyze whether execution and implementation of the KBRA will likely result in the redirection of existing restoration funds for Klamath and Trinity River programs towards KBRA programs designed to benefit irrigation interests. The EIS must analyze the consequences of redirecting Trinity River restoration funds to KBRA programs that primarily benefit irrigation and farming interests.

The EIS must also evaluate the impacts to the Klamath and Trinity River fishery that will result from the guaranteed diversions allowed to the Klamath Reclamation Project by the KBRA. Specifically, the EIS should evaluate whether implementation of the KBRA and its guaranteed diversion of 330,000 acre-feet for the Klamath Reclamation Project will result in flows harmful to the health of the Klamath fishery, resulting in decreased Klamath stocks and increased harvest pressures on Trinity river fish stocks.

The EIS must evaluate the consequences of implementing a KBRA that has no quantified fish restoration goals; that permanently guarantees the Klamath River has too little

Ms. Tanya Sommer  
July 14, 2010  
Page - 7

water for natural fish populations to be restored, let alone be maintained in harvestable quantities, and that limits all harvest on Klamath-origin stocks forcing those fisheries to target Trinity-origin fish.

## 2. Implications of Inadequate Appropriations to Fund KBRA Measures

Many of the purported environmental benefits of the KBRA are speculative and entirely dependent on future funding, either through new appropriations or the reprogramming of existing Department funds. It is not reasonably certain that Congress will authorize or appropriate funds to fulfill the KBRA. See, e.g., KBRA Section 2.2.2 (noting need and uncertainty of federal appropriations); Section 7.2.1 (acknowledging possibility of inadequate funding to implement KBRA provisions). The EIS must analyze the consequences of an executed KBRA that is under-funded by Congress – in other words, an agreement that results in the guaranteed diversions for the Klamath Reclamation Project, but that fails to result in the anticipated environmental benefits which are entirely dependent on speculative funding. See CEQ Forty Most Asked Questions, Question 18 (requiring good faith effort to address uncertain effects of a decision).

The EIS should analyze the implications of an under-funded KBRA on the purported fishery restoration objectives. The EIS should evaluate and compare the environmental consequences of a KBRA that is 100% funded, 66% funded, and 33% funded. In addition, the EIS should evaluate the environmental consequences of a KBRA that is funded solely from existing appropriations. The issue of KBRA funding is relevant in this EIS, because if the restoration concepts of the KBRA cannot be achieved due to lack of sufficient appropriations, the need for an Affirmative Secretarial Determination calling for prompt dam removal will be even more imperative. The Secretary must be aware of the possible lack of sufficient funds to carry out the KBRA, and the consequences of insufficient funding on the purported restoration objectives.

## 3. Unconsented Subordination and Waiver of Tribal Water Rights

In the KBRA, the United States provides assurances, without the consent or approval of the Hoopa Valley Tribe, that the United States will not assert the Hoopa Valley Tribe's tribal water, fishing, or trust rights, in a manner that will interfere with the Klamath Reclamation Project's annual diversion of 330,000 acre-feet of water from the Klamath River (the "Assurances"). These Assurances in favor of the Klamath Reclamation Project, once effective, are permanent regardless of: (a) whether federal appropriations are provided for anticipated fishery restoration and reintroduction programs; (b) the success or failure of anticipated fishery restoration and water quality improvement efforts; (c) future effects of climate change, or other environmental conditions, on water quality and quantity in the Klamath River; (d) the future fishery harvest needs of the Hoopa Valley Tribe; or (e) other unknown or unforeseeable events.

The Assurances in the KBRA effectively terminate the United States' fiduciary obligation to the Hoopa Valley Tribe by permanently subordinating the Tribe's senior water and fishing rights in the Klamath River to junior non-Indian irrigation interests in the Upper Klamath Basin, regardless of future impacts on tribal trust resources, and without the consent or approval of the Hoopa Valley Tribe. The Assurances become permanent only if the Klamath dam facilities are removed pursuant to an Affirmative Secretarial Determination. The unconsented waiver of tribal

Ms. Tanya Sommer  
 July 14, 2010  
 Page - 8

water rights must be considered in the EIS' evaluation of tribal trust obligations, and the sections on socioeconomics and environmental justice.

4. Evaluation of an Alternative or Additional Approach to Fish Restoration Focused on Water Quality

A key issue that the KBRA and KHSR avoid is the acute water quality problem in the Keno Reservoir reach of the Klamath River and its linkage to the Lost River, Tule Lake and Lower Klamath Lake. The Keno Reservoir exhibits anoxic conditions for up to five weeks a year (Deas and Vaughn, 2007). This reach lies immediately below Lake Ewauna, the City of Klamath Falls and the outlet of Upper Klamath Lake. The nitrogen fixing bacteria *Aphanizomenon flos-aquae* took over Upper Klamath Lake after marshes that maintained pH balance were filled. The resulting nitrogen fixation causes acute nutrient pollution that then feeds the Link River and is also pumped through the A-Canal into the Lost River basin to irrigate the Klamath Project. High pH and water temperature also create a substantial conversion of ammonium ions to dissolved ammonia that can be lethal to fish species. Water from Tule Lake is pumped directly through Sheepy Ridge and into the Klamath Straits Drain and the Keno Reservoir in summer.

Even if the Klamath Hydroelectric Project dams below Keno Dam are removed, acute water quality problems in the Keno Reservoir reach are likely to confound lower Klamath River recovery unless alternative strategies are incorporated. The nutrient pollution problems below Iron Gate Dam that create stressful or toxic conditions for Pacific salmon will persist but the location of problems will move. Similarly, the ideal conditions for the deadly fish pathogen *Ceratomyxa shasta* and its polychaete host *Manayunkia speciosa* will similarly relocate upstream to reaches below Keno Reservoir.

The winter water flushed from the Lost River into the Klamath River and the Keno Reservoir should instead be used to refill Lower Klamath Lake. This could serve as a major water supply source. Current practices shunt winter Lost River water into the Klamath River (Deas and Vaughn 2007) when it is not needed and in turn this practice contributes to Keno Reservoir pollution. Work on the Lower Klamath Lake Wildlife Refuge by Mayer (2005) found that wetlands have very high nutrient retention capacity, indicating that refilling the lake and restoring surrounding marshes could play a major role in abating Klamath River pollution. Tule Lake nutrient filter and buffer capacity also needs to be restored through expansion of a healthy marsh ecosystem to maintain the necessary pH balance to help prevent *A. flos aquae* blooms. Similar buffers also need to be established along the Lost River and the Keno Reservoir reach of the Klamath River, if water quality problems are to be reversed.

Refilling Lower Klamath Lake and expanding Tule Lake were not considered in Klamath Settlement discussions. Leaving the Klamath Project at 200,000 acres, including allowing lease land farming adjacent to Tule Lake and in the bed of Lower Klamath Lake for the next 50 years, makes little sense for fish restoration. It may be better to shrink the footprint of farming and expand wetlands and riparian zones that can promote water quality objectives.

E. Issues for Evaluation

The EIS should analyze the following issues and questions to assist with selection of a Preferred Alternative:

Ms. Tanya Sommer  
July 14, 2010  
Page - 9

1. Water Quality

- How does the current existence of the Klamath Hydroelectric Project ("Klamath Project") dams, and the associated reservoirs, impact water quality in the Klamath River?
- How does the current operation of the Klamath Project dams, including minimum flows, and ramping, impact water quality in the Klamath River?
- Whether and/or how applicable water quality standards, including those found in the Hoopa Valley Tribe's water quality control plan, could be achieved with the Klamath Project dams in place?
- How does the current existence and operations of the Klamath Reclamation Project dams impact water quality in the Klamath River?
- How will the guaranteed diversion of 330,000 acre-feet provided in the KBRA impact water temperatures in the Klamath River?

2. Hydrology

- How will the guaranteed diversion of 330,000 acre-feet provided in the KBRA impact flows in the Klamath River downstream of the Reclamation Project?
- What specific level of flow is anticipated to be available for fish if the guaranteed diversion of 330,000 acre-feet is implemented?
- How would removal of the Klamath Project dams affect the flow regime in the Klamath River?
- How is climate change expected to change or impact Klamath River flows?

3. Air Quality

- To what extent do the reservoirs behind the Klamath Project dams contribute to greenhouse gas emissions?

4. Biological Resources

- Whether removal of Klamath Project dams would result in increased habitat for all life functions of Klamath fish stocks, and how will such access to additional habitat benefit Klamath fish stocks?
- Whether removal of Klamath Project dams is likely to reduce incidence of disease in Klamath fish stocks?
- Would removal of Klamath Project dams have a positive impact on food supply for Klamath fish stocks?
- Would removal of Klamath Project dams result in additional sediment supply for spawning?
- Would anticipated benefits associated with removal of Klamath Project dams result in increased abundance of Klamath fish stocks?
- How will implementation of the KBRA and its guaranteed diversions for the Klamath Reclamation Project impact Klamath fish stocks?
- What regulatory process will be used to implement the harvest restrictions required in the KBRA to protect fish stocks introduced above Iron Gate Dam?

Ms. Tanya Sommer  
 July 14, 2010  
 Page - 10

- Will implementation of the KBRA and its guaranteed diversions for the Klamath Reclamation Project result in flows necessary to achieve the Ecological Base Flows as described in "Evaluation of Instream Flow Needs in the Lower Klamath River" (2006) by Hardy, Addley and Saraeva?
- Whether the KBRA and its guaranteed diversions can be implemented in a manner consistent with the Endangered Species Act?
- How is climate change expected to impact fishery resources of the Klamath River?

5. Tribal Trust Obligations

- How does federal licensing, and continued permission to operate, the Klamath Project impact the Hoopa Valley Tribe's established rights to water and fish in the Klamath and Trinity Rivers?
- Would an Affirmative Determination favoring dam removal be consistent with the United States' fiduciary trust obligation to protect the Hoopa Valley Tribe's fishing rights in the Klamath and Trinity Rivers?
- How does execution of the KBRA and the unconsented subordination of Hoopa Valley Tribe senior water rights to junior irrigation interests comport with the United States' fiduciary trust obligations to the Tribe and its members?

6. Socioeconomics and Environmental Justice

- Will removal of Klamath Project dams result in increased abundance of Klamath fish stocks and increased opportunities for harvest by tribal fishermen?
- Will implementation of the KBRA and the reduced flows for fish reduce abundance of Klamath fish stocks and increase pressures on Trinity River harvests?
- What specific socioeconomic benefits will result to the Hoopa Valley Tribe and its members from the execution of the KBRA?
- What impacts will result from the anticipated reprogramming of funds from existing programs relating to Klamath and Trinity River restoration to Upper Basin irrigation and farming interests?
- Is the unconsented subordination of the Hoopa Valley Tribe's reserved water rights consistent with principles of environmental justice?

Thank you for your consideration to these comments on the Department's Scoping Notice. We look forward to working towards a solution that will protect the Trinity River, restore the Klamath fishery, remove the dams of the Klamath Hydroelectric Project, and preserve Hoopa water and fishing rights.

Sincerely,

HOOPA VALLEY TRIBAL COUNCIL



Leonard E. Masten, Jr., Chairman

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-1	The Lead Agencies responses to Hoopa Valley Tribe comments on the Draft EIS/EIR and any revisions to the EIS/EIR generated by those comments are included in this Final EIS/EIR. Additionally comments received from the Tribe and other Cooperating Agencies on the Cooperating Agency Draft EIS/EIR were considered during development of the Draft EIS/EIR released on September 22, 2011. Many of the comments received from the Cooperating Agencies generated changes in the Draft EIS/EIR.	No
IT_LT_1118_084-2	Master Response TTA-1 Federal Trust Responsibility and the Klamath Basin Restoration Agreement (KBRA).	Yes

**FUNDING**

National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) are planning processes partly used to inform decisionmakers on whether to proceed with a project. Full funding is not a requirement to initiate NEPA or CEQA.

**KBRA PROGRAMMATIC**

For purposes of CEQA, relevant parts of the KBRA analysis are programmatic, as described in Section 15168 of the CEQA Guidelines. This decision was made because many of its component elements have not been specified to a degree where the associated impacts would be reasonably foreseeable for purposes of this environmental analysis. The parties recognize that future project-specific analysis may be required for various components of the KBRA as they become more clearly defined and if an Affirmative Determination is identified. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis.

Thus, out of an abundance of caution, and to ensure full transparency, the CEQA Lead Agency, California Department of Fish and Game (CDFG), has agreed to consider significance determinations for those portions of the KBRA elements located within California consistent with CEQA Guideline Section 21080(b)(14) of the Public Resources Code, and CEQA Guidelines Section 15277 in a programmatic fashion. The CEQA Lead Agency recognizes that in the event subsequent analysis is deemed appropriate, it would be required to consider any feasible

**Comment Author** Masten, Leonard  
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**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
	<p>alternatives, mitigation measures, and any other elements required by CEQA as the basis for any approval of such KBRA project or phase in accordance with existing law.</p> <p>Master Response N/CP-22 How KBRA Was Analyzed.</p> <p><b>Ground water use in the Upper Klamath Basin</b></p> <p>EIS/EIR Section 3.7 noted the KBRA provisions for groundwater monitoring and prevention of adverse groundwater effects. The KBRA analysis presented in Section 3.7 has been revised in this EIS/EIR to add clarity on the interaction of any short-term changes in groundwater pumping and the KBRA's provisions prohibiting adverse groundwater effects.</p> <p>Master Response GRO-1 Groundwater Use.</p> <p><b>Fails to abate acute nutrient pollution problems</b></p> <p>Draft EIS/EIR Section 3.2.4.3.2.10 KBRA (p. 3.2-125 to 3.2-132) presents a programmatic analysis of potential KBRA effects on water quality. Several projects under KBRA would help to decrease nutrient loading to Upper Klamath Lake, which is particularly important since the Upper Basin possesses soils that are naturally high in phosphorus. Human activities in the Upper Basin, including wetland draining, agriculture, ranching, logging, and water diversions have altered seasonal stream flows and water temperatures, increased concentrations of nutrients (nitrogen and phosphorus) and suspended sediment in watercourses, and degraded other water quality parameters such as pH and dissolved oxygen (Draft EIS/EIR Section 3.2.3.1 Existing Conditions Water Quality) (see in particular p. 3.2-19).</p> <p>Research published in peer reviewed journals demonstrates that although levels of naturally occurring phosphorus are elevated in Upper Klamath Lake, historical land use activities in the Upper Klamath Basin resulted in increased nutrient loading to the lake, subsequent changes in its trophic status, and associated degradation of water quality (Bradbury et al. 2004, Coleman et al. 2004, Eilers et al. 2004) (see Draft EIS/EIR [Appendix] Section C.3, p. 3-20).</p> <p>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 California and Oregon total maximum daily loads (TMDLs). Additional detail on the interaction of the TMDLs</p>	

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**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-3	<p>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 the Klamath Hydroelectric Settlement Agreement (KHSA), KBRA, and TMDL and National Park Service (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><b>Linkage between KHSA and the KBRA</b></p> <p>As noted in EIS/EIR Chapter 1, the federal Lead Agency is analyzing the KBRA as a connected action. NEPA defines connected actions as those actions that are closely related or cannot or would not proceed unless other actions are taken previously or simultaneously (40 CFR 1508.25(a)(1)(ii)). Some actions or component elements of the KBRA are independent obligations and thus have independent utility from the KHSA, but the implementation of several significant elements of the KBRA package would be different, if the determination under the KHSA is not to pursue full dam removal. 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.</p> <p>Master Response ALT-4 Elimination of Alternative 8 – Dam Removal Without KBRA from Detailed Study.</p> <p><b>Best Available Science</b></p> <p>Master Response GEN – 3 Best Available Science.</p> <p>Because this comment addresses several different issues, the response is grouped by the various topics addressed in the comment. Subheadings refer the reader to the sections of the comment.</p> <p><b>Meet Purpose of NEPA and CEQA:</b></p> <p>The KBRA is analyzed as a connected action. NEPA defines connected actions as those actions that are closely related or cannot or would not proceed unless other actions are taken previously or simultaneously (40 CFR 1508.25(a)(1)(ii)). Some actions or component elements of the KBRA are independent obligations and thus have independent utility from the KHSA, but the implementation of several significant elements of the KBRA package would be different, if the determination under the KHSA is</p>	Yes

**Comment Author** Masten, Leonard  
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**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>not to pursue full dam removal (see Table 1-1). Recognizing that implementation of many elements of the KBRA are unknown and not reasonably foreseeable at this time, the connected action analysis is being undertaken at a programmatic level. The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future.</p> <p>Both NEPA and CEQA include provisions that the draft environmental review analyze a reasonable range of alternatives that meet most of the purpose and need/project objections, and are potentially feasible (40 CFR § 1502.14; 43 CFR § 46.420(b); Pub. Resources Code, sec. 21002; CEQA Guidelines, sec. 15126.6(a), (c), (f)). Alternatives should be limited to ones that avoid or substantially lessen the Proposed Action's significant environmental effects (CEQA Guidelines secs. 15126.6(a), (c), (f), sec. 15204(a); EIS/EIR, Section 2.3). The Lead Agencies are not required to consider all conceivable alternatives to the Proposed Action. (Pub. Resources Code, § 21091(d)(2)(B); CEQA Guidelines, sec. 15126.6(a); sec. 15204(a). Nor are the Lead Agencies required to analyze an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative. (CEQA Guidelines, sec. 15126.6(f)(3). The Lead Agencies developed a list of 18 preliminary alternatives that were screened down to five. These five alternatives were analyzed in the EIS/EIR because they best meet the NEPA purpose and CEQA objectives, minimize negative effects, and are potentially feasible (EIS/EIR, Section 2.3). (A full description of the alternatives and the rationale for screening the alternatives is presented in Appendix A, the Alternatives Formulation Report).</p> <p>The purpose of the NEPA and CEQA environmental review process is to disclose to decision makers and the public the significant environmental effects of a Proposed Action or project (40 CFR Section 1502.1). In this case, the Proposed Action is the removal of the Four Facilities from the Klamath River. While the KBRA is a connected action, it is not the Proposed Action.</p>	

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Comment Code	Comment Response	Change in EIS/EIR
	<p>There are some components of the KBRA that would occur without an Affirmative Determination on dam removal. These elements are described and analyzed in the EIS/EIR under the No Action/No Project Alternative. Furthermore, while it is technically possible that other elements of the KBRA could be implemented without an Affirmative Determination on dam removal, implementation of many of those actions would not occur because many of its provisions, in particular those related to diversion limitations and associated flows in the lower Klamath and lake levels in Upper Klamath lake, are predicated on the ecological benefits of removing Klamath dams. Guessing which provisions might be implemented and which might not without an Affirmative Determination on dam removal would be speculative and is beyond the scope of this EIS/EIR.</p> <p><b>Analysis of KBRA:</b></p> <p>The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment.</p> <p>The KBRA does not waive tribal rights. The tribes that are parties to the KBRA would agree to not exercise their water rights, but they would not waive them. Federal executive orders require government-to-government consultation with federally recognized tribes on decisions that could affect tribes and those consultations would continue including with tribes that are not parties to the KBRA.</p> <p>Implementation of programs under the KBRA would improve the timing of flows in the Klamath River to more closely mimic natural conditions and would better maintain the elevation of Upper Klamath Lake. Potential effects of proposed programs on fish are discussed Sections 3.3.</p> <p>KBRA was negotiated and signed by a diverse array of over 40 parties with an interest in resolving Klamath Basin issues including the allocation of water between in-river uses and water diversions for irrigation. Under full implementation of the KBRA, tribes that are parties to the agreement would agree to not exercise their senior water rights within the basin and to relinquish claims for natural resources damages (KBRA Section 15) in exchange for increases in fisheries (dam removal and fisheries habitat restoration programs).</p>	

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	Master Response GEN-3 Best Available Information.	
	Master Response GEN-16 Public Involvement.	
	Master Response AQU-9 Minimum Flows for Fish.	
	Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.	
	Master Response N/CP-13 KBRA Analyzed as a Connected Action.	
	Master Response N/CP-22 How KBRA Was Analyzed.	
IT_LT_1118_084-4	Master Response N/CP-26 KHSA and KBRA Settlement Parties.	No
	Master Response ALT-7 Elimination of KBRA and KHSA Including Alternatives 16 - Dredge Upper Klamath Lake and 18- Partition of Upper Klamath Lake from Detailed Study.	
IT_LT_1118_084-5	<p>The Lead Agencies have received the following statement from the California State Water Resources Control Board on the Draft EIS/EIR's No Action/No Project Alternative: "For the CEQA No Project alternative, the EIS/EIR correctly states that the appropriate alternative is existing conditions and what would reasonably be expected to occur if the Proposed Action is not approved. If the Proposed Action is not approved, the facilities would operate under the current license for an unspecified period of time, and the water quality certification process for the Commission's relicensing proceeding would continue. Because federal agencies have set mandatory conditions requiring modifications to the hydroelectric facilities, it is reasonable to anticipate that the relicensing process would result in structural differences from the current configuration. The State water quality certification agencies and the Commission have not yet issued their decisions. These decisions could obviate the need for some of the modifications required by the federal agencies' mandatory conditions. The water quality certification agencies and the Commission also have authority to deny approval of Reclamation's Klamath Project. Accordingly, the ultimate result of the Commission's relicensing proceeding is uncertain."</p> <p>The Lead Agencies believe that the No Action/No Project Alternative accurately forecasts the future conditions that would be reasonably expected to occur in the foreseeable future without the project. The State Water Resources Control Board and the Federal Energy Regulatory Commission are independent agencies with the authority to approve or deny approval of PacifiCorp's new</p>	No

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-6	<p>license. Assuming that they would approve or deny the license would be highly speculative at this time. Additionally, the timeframe in which a new license would be approved or denied is unknown. Therefore, the Lead Agencies feel that the foreseeable future without the Proposed Action is the continuation of current operations under the terms of an annual license.</p> <p>Until such time as a new license is approved or denied, the Klamath Hydroelectric Project would continue to operate under terms of FERC's annual licenses and water quality issues would continue as described in Section 3.2 Water Quality in the Draft EIS/EIR.</p> <p>The EIS/EIR also includes Alternative 4, Fish Passage at Four Dams, which includes information from the <i>United States Department of the Interior and National Marine Fisheries Service Modified Prescriptions for Fishways and Alternatives Analysis Pursuant to Section 18 and Section 33 of the Federal Power Act for the Klamath Hydroelectric Project</i> (FERC Project No. 2082) (DOI 2007; NOAA Fisheries Service 2007) and from the <i>Modified Terms and Conditions and Prescriptions for Fishways</i> filed pursuant to Sections 4(e) and 18 of the Federal Power Act (DOI 2007). These fishway prescriptions and mandatory conditions were developed during the FERC relicensing process. This alternative was analyzed as an alternative under the EIS/EIR in order to better inform the public and decision makers on the effects of actions that would be expected to happen under that alternative, and the analysis of that alternative provides the public and decision makers a basis for comparison with the effects of actions under other alternatives.</p> <p>The comment specifically questions the description of the No Action/No Project Alternative related to water quality, which is discussed in:</p> <p>Master Response WQ-22 TMDLs and the No Action/No Project Alternative (and Alternative 4).</p> <p>Masters Response WQ-4C Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Master Response AQU – 9 Minimum Flows for Fish.</p> <p>The KBRA contains an agreement to limit diversions to Reclamation's Klamath Project in exchange for certain assurances among the parties in the Oregon water rights adjudication process and with respect to the exercise of certain tribal water rights. A description of the Programmatic Measures under KBRA is also provided in Section 2.4.3.9 of the EIS/EIR. Among other things,</p>	Yes

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
	<p>the Water Resources Program of the KBRA requires development of a plan for Reclamation's Klamath Project to align water supply and demand in order to meet the diversion limits (see KBRA Section 15.2). Before implementation of this plan, the KBRA provides for consultation under Section 7 of the ESA to consider the effects on listed species and designated critical habitat, including the SONCC ESU of coho salmon and its critical habitat, that would result from implementation of the plan and diversion limits (see KBRA Section 22.1.2).</p>	
	<p>Master Response AQU – 11E NOAA Fisheries Service BO, ESA and KBRA Water Management.</p>	
	<p>The Hardy (2006) Phase II flow recommendations do not consider physical, biological, and chemical alterations to the Klamath system resulting from dam removal. The anticipated future changes to the system that would occur under the KHSA and KBRA led Hardy (2008) to conclude that future flow releases as described in the KBRA was a logical extension of the Hardy Phase 2 Flow recommendations, balancing multiple needs, including those of anadromous salmonids. Improved water quality and water temperature conditions, restoration of sediment transport processes, potential reductions in disease, restored access to thermal refugia and instream habitats upstream are all factors that led Hardy (2008) to conclude "that the threshold flow at which significant concerns over thermal and disease factors will drop well below 1,000 cfs to something on the order of 700 to 800 cfs." Consistent with these findings the Federal Team incorporated minimum base flows of 800 cfs into the KBRA flow simulations during the period from October through February (Reclamation 2012d, Appendix E). Base flows of 800 cfs would provide greater than 75 percent of the currently available Chinook salmon spawning habitat from the R-Ranch study site downstream to the Brown Bear study site in every year (Hardy et al.2006) and flow levels of this magnitude should be adequate allow adult coho salmon to migrate freely upstream. However, under real time flow management that is envisioned by the KBRA incorporation of variable flows during the spawning season would increase spawning habitat above what would be provided under a static flow condition.</p>	
	<p>Results of this hydrology modeling analysis indicate that the average monthly flows at Iron Gate are generally similar between the No Action Alternative and Alternatives 2 and 3. The exceptions to this are the months of October to December, where the average flows are about 200 to 400 cfs less under Proposed Action than</p>	

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>under the No Action Alternative, and in April, where the flows are about 300 cfs higher under Alternatives 2 and 3 than under the No Action Alternative. The comment fails to specify that the reduction in flows under Alternatives 2 and 3 is only relevant for the months from October through December.</p> <p>The annual flow at Keno Dam is generally similar between the two alternatives except for the few driest years on record. In these dry years, the agricultural supply is reduced under the No Action Alternative, whereas the agricultural supply is much less severely impacted under Alternatives 2 and 3; therefore, more flow is released to the Klamath River under the No Action Alternative than under Alternatives 2 and 3. At Iron Gate Dam from July through November, the flows are commonly around 800 cfs under Alternatives 2 and 3 during these extremely dry years whereas the flows are more commonly between 1,000 and 1,300 cfs under the No Action Alternative. However, under Alternatives 2 and 3 a more natural thermal regime would exist eliminating the current thermal shift caused by the presence of the dams. Sediment transport would be restored and additional spawning habitat would be available to adult anadromous salmonids upstream of Iron Gate Dam and anadromous salmonids would also have access to additional thermal refugia.</p> <p>Reclamation (2012d) also found that the 50 percent exceedance flows (normal years) under Alternatives 2 and 3 are about 5 to 15 percent greater for the months of April and June to August and about 15 to 20 percent less for the months of October to December. The 90 percent exceedance flows (dry years) are similar for the two alternatives from March to September, but for the months of October to February, the No Action Alternative 90 percent exceedance flows are about 20 to 30 percent larger (290 to 360 cfs larger).</p> <p>During February and March the modeled KBRA simulated flows at the 90% exceedance are less than the 2010 BO flow simulation in February, are greater in March, and are similar in April. The KBRA simulations are very similar to Hardy Phase II flows (slightly lower or higher) from May through September. For the KBRA flow simulation (Reclamation 2012d, Appendix E) minimum base flows equal to the Ecological Base Flow (EBF) levels recommended by Hardy (2006) were incorporated into Alternatives 2 and 3 hydrologic simulation for the periods from March through June, and from August through September to insure adequate protection of anadromous fish during dry water years. Flow targets that were a component of the WRIMS Run 32 Refuge model described in Hetrick et al. (2009) were also adjusted as described in Appendix E of Reclamation (2012d) to reduce the threat of a fish</p>	

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
	<p>kill similar to the one that occurred in 2002. Those adjustments included reducing the target from 921 to 840 cfs for July 1 to 15, increasing the target from 806 to 840 cfs for July 16 to 31, increasing the target from 895 to 1,110 cfs in August, and increasing the targets from 1,010 to 1,110 cfs in September.</p> <p>These flow targets exceed those recommended by Hardy Phase II for years with exceedences greater than 75 percent. In general, KBRA flow simulations and WRIMS Run 32 Refuge flow simulations have similar seasonal flow patterns with the exception of drier water years when flows during August and September tend to be slightly higher under the KBRA simulation.</p> <p>The comment claims that the EIS/EIR also misrepresents the facts, unsuccessfully attempting to claim the KBRA would be better for fish. As an example, the comment points out that the findings of Hetrick et al. (2009) are discussed in the Pre Dam Removal section of their report and that the modeling results for POST-DAM removal did not state the same result regarding the ratio of benefits to production in low production years.</p> <p>The modeling results for Chinook salmon production presented in Hetrick et al. (2009) were conducted by USGS Fort Collins Science Center using the Systems Impact Assessment Model (SIAM). SALMOD provides the fish production estimates within the SIAM framework and included that section of the Klamath River from Iron Gate Dam downstream to the confluence of the Scott River. SIAM was run using several water management scenarios that were under consideration during the negotiation of the KHSA and KBRA agreements. Three of the water management scenarios that were run through the model included the WRIMS Run-32 Refuge, Hardy Phase II, and historic flows at Iron Gate for the period from 1961 through 2000. The results, which are first discussed in the Pre Dam Removal section of the report, indicated that Chinook salmon production is improved under WRIMS Run-32 Refuge (45%) and Hardy Phase II (50%) relative to historic flows in drier water years (see Table V-2; Hetrick et al. 2009). As mentioned previously, KBRA hydrologic results are generally similar to WRIMS Run-32 Refuge flows with exception to the incorporation of minimum base flows (EBF) in spring and increases to the flow targets during late August and September.</p> <p>In the Post Dam Removal section of the report, Hetrick et al. (2009) state that "Adult spawning and juvenile rearing habitat gains above IGD, as provided under the Agreements, are in addition to gains that would result below IGD in response to</p>	

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
	<p>implementation of the KBRA's water allocation. Based on analyses presented previously, we conclude that the production potential of fall Chinook salmon would significantly improve prior to dam removal in years resembling low and average historical production years in response to implementing the water allocation proposed in the KBRA. In years where modeled historical production was high, potential for improvement under both Run-32 Refuge and Hardy et al. (2006a) Phase II flow schedules was consistently low as habitat availability modeled in SALMOD was at or near the maximum values (Figure V-4). With the removal of Klamath River dams, this habitat-induced bottleneck to production would be greatly reduced, creating opportunity to increase production over that experienced in historically high production years. In general, gains in habitat availability and associated production potential that would occur as a result of removal of the Klamath River dams, including the reestablishment of spring Chinook and coho salmon and steelhead in the upper basin, far exceed gains that could be achieved below IGD through manipulation of flows alone." The reference to Hetrick et al. (2009) has been corrected in the EIS/EIR to more accurately reflect their findings.</p> <p>The comment, in the title for Figure 1, states that Chinook fry emerging in December (Hardy et al. 2010) would be affected by insufferably low winter flows. The life stage periodicities presented in Table 15 in Hardy et al. (2010) do not show Chinook salmon fry to be present in the Klamath River during the month of December.</p> <p>The National Research Council (2004) found that in the main stem Klamath River Chinook salmon alevins emerge from early February through early April. Consistent with the findings of the National Research Council (2004), Section 3.3 of the EIS/EIR describes the timing for Chinook salmon fry emergence from early February through early April.</p> <p>In response to the concern that the effect of the KBRA Water Diversion "Limitation" is inaccurately described in the Draft EIS, text in the EIS/EIR has been modified to more accurately describe this program. To clarify, the water diversion limitations described in the KBRA are limitations on the amount of water that may be diverted from the Klamath River to Reclamation's Klamath Project. The KBRA does not contain minimum guaranteed diversions. Depending on the March 1 Natural Resources Conservation Service 50 percent exceedance forecast for net inflow to Upper Klamath Lake during the period April 1-September 30, the allowable diversions vary up to the specified amounts.</p>	

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
	<p>There are many steps that must occur before the water diversion limitations and the various assurances are made permanent. KBRA Section 15.3.4 describes the milestones that need to happen before the Secretary of the Interior can publish a Notice making the United States' assurances permanent. These steps are described in the EIS/EIR in Figure 2- 14 found in Section 2.4.3.9 and they include the passage of authorizing legislation, funding for fisheries programs, tribal programs, and various measures to increase storage in Upper Klamath Lake and water use retirement programs.</p> <p>Master Response AQU-11 A,B NOAA Fisheries Service BO, ESA and KBRA Water Management.</p> <p>The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment. The current NOAA Fisheries Service 2010 Biological Opinion has been developed for current operating conditions with dams in place. Comparisons of flow simulations between the Proposed Action Alternative and the No Action Alternative are not appropriate since the environmental conditions between these two alternatives differ substantially. Comparisons of total annual volumes of water that are predicted to result from any alternative is not an effective method to evaluate the effect of instream flows on the life history needs of salmonids because it is the magnitude, distribution and frequency of flows throughout the year that affect salmon, not volumes of water provided.</p> <p>If KBRA legislation is enacted by Congress and certain Federal agencies become parties to the KBRA, 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 Endangered Species Act (ESA), when implementing the KBRA (see, for example, KBRA Sections 2.1, 2.2, and 7.4.3). Section 22.5 of the KBRA specifically clarifies that the KBRA does not supercede NOAA Fisheries Service and USFWS' obligations under the ESA and related regulations. Section 22.5 of the KBRA provides, "By entering into this Agreement, NOAA Fisheries Service and USFWS are not prejudging the outcome of any process under the ESA and NOAA Fisheries Service and USFWS implementing regulations, and NOAA Fisheries Service and USFWS expressly reserve the right to make determinations and take actions as necessary to meet the requirements of the ESA and implementing regulations." In addition, the KBRA specifically describes processes that are</p>	

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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

available and would be used by parties to comply with requirements under the ESA (see, for example, KBRA Sections 22.1 and 22.2).

The comment states that: "Flows under the KBRA (Appendix E-5) will fall to below 450 cfs if water years similar to 1992 occur in the next 50 years." The Modeled KBRA Hydrology that is described in Reclamation (2012d) and used in the analysis for the Proposed Action Alternative in the EIS/EIR and are not identical to the KBRA hydrology found in Appendix E5 of the KBRA. The text on p. 2-20 of the EIS/EIR had been corrected to read "Operation of Reclamation's Klamath Project and the related river flows, measured at the United States Geological Survey gauge downstream from Iron Gate Dam, would be according to the hydrologic model outputs in Reclamation (2012d)." Flows under the Proposed Action Alternative include minimum based flows equal to the Ecological Base Flow (EBF) levels recommended by Hardy (2006) for the periods from March through June, and from August through September to insure adequate protection of anadromous fish during dry water years. In addition, flow targets were increased above those EBF flows recommended by Hardy (2006) from 895 to 1,110 cfs in August, and from 1,010 to 1,110 cfs in September to further reduce the likelihood of another adult fish kill similar to the one that occurred in 2002. As a result of these changes daily flows at Iron Gate never drop below 950 cfs in September in the driest water years. In addition, under KBRA there is anticipated to be additional operational flexibility to optimize water use through the development of a drought plan and implementation of real time water management through the Technical Advisory Team's management of environmental water.

#### **KBRA**

The KBRA is analyzed as a connected action to KHSA. NEPA defines connected actions as those actions that are closely related or cannot or would not proceed unless other actions are taken previously or simultaneously (40 CFR 1508.25(a)(1)(ii)). Some actions or component elements of the KBRA are independent obligations and thus have independent utility from the KHSA, but the implementation of several significant elements of the KBRA package would be different, if the determination under the KHSA is not to pursue full dam removal (see Table 1-1). Recognizing that implementation of many elements of the KBRA are unknown and not reasonably foreseeable at this time, the connected action analysis is being under taken at a programmatic level. The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-7	<p>smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with federal laws such as the Clean Water Act and the Endangered Species Act.</p> <p>Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with ESA or CESA. Reclamation's Klamath Project level actions and decisions would continue to be made in compliance with existing laws and regulations.</p> <p>Master Response N/CP-13 KBRA Analyzed as a Connected Action.</p> <p>Master Response N/CP-22 How KBRA Was Analyzed.</p>	No
	<p>Three different sediment mobilization analyses were performed using three different conditions: 1) Current Conditions 2) Future No Action Conditions 3) Future Conditions under the Proposed Action.</p>	
	<p>Table 5-7 and Table 5-8 in Reclamation (2012d) contain the mobilization flows for "slight" and "significant" mobilization under the current conditions. The mobilization flows for various reaches after dam removal is given in Figure 9-79. The slight mobilization flow decreases from approximately 10,000 cfs in the reach from Bogus Creek to Cottonwood Creek to 6,000 to 7,000 cfs after dam removal. The return period of slight mobilization in these reaches would decrease from 4 years to approximately 2 years. The return period for the significant mobilization period decreases from 10 to 12 years under current conditions to approximately 4 years after dam removal. Dam removal is expected to increase significantly the mobilization of the bed material downstream from Iron Gate from Bogus Creek to the Shasta River. Downstream from Shasta River there would be essentially no effect of dam removal on bed mobilization.</p>	
	<p>The decrease in mobilization flow is because the bed material size decreases after dam removal. Since the construction of Copco I in 1920s and especially since the construction of Iron Gate dam in the 1960s, the Klamath River below these dams has been deprived of sand and gravel supply. After the supply of sand and gravel was stopped, the river flows gradually depleted the bed of sand and gravel and left the larger cobbles and boulders in the bed. When the gravel and sand supply resumes after dam removal, the bed would be replenished with sand and gravel.</p>	

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-8	<p>The comment author stated that they do not believe that the bed material sizes would become smaller upon dam removal. The only support given for this conclusion is that the simulation results for one reach (Iron Gate to Bogus Creek) did not show bed material fining and therefore the other reaches should not be finer. Reaches respond differently and that is why reaches are analyzed separately. More importantly, the reach from Iron Gate to Bogus Creek is only 0.5 miles and there are only 4 cross sections that represent this reach. The other reaches are 2.7 miles or longer. Therefore, the Iron Gate to Bogus Creek reach is a small portion of the simulated river and therefore may not be representative of the entire river. To extrapolate a small variation in a small reach to a much larger reach is not reasonable.</p> <p>PacifiCorp (2004) reached a similar conclusion to Reclamation (2012d) regarding the change in bed material after dam removal. In PacifiCorp's (2004) Water Resources appendix (p. 6-19 ), PacifiCorp estimated that the median bed material size without dams would be 34 mm, which is somewhat smaller than the estimate in Reclamation (2012d), which ranged between 40 to 55 mm for the reach between Bogus Creek to Shasta River.</p>	No
IT_LT_1118_084-9	<p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p> <p>Master Response ALT-3 Elimination of Alternative 13 - Federal Takeover of the Klamath Hydroelectric Project from Detailed Study, describes in detail the reasons that the Federal Takeover Alternative (Alternative 13) was not carried forward for more detailed analysis in the EIS/EIR. Additionally, Alternative 13 would fail to resolve some of the long-standing problems related to water supply in the Klamath Basin (see Chapter 10). Alternative 13 would fail to achieve many of the long-term environmental benefits related to implementing the KBRA, which include benefits to water quality, algae, flood hydrology, groundwater, recreation, and aquatic resources. (See EIS/EIR, Sections 3.2, 3.3, 3.4, 3.6, 3.7, 3.20.)</p>	No
IT_LT_1118_084-10	<p>The comment author suggests that the Lead Agencies consider water quality improvement alternatives other than the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study, dam removal contemplated under the KHSA cannot be implemented without implementing the KBRA. Therefore, an alternative that would implement a restoration project other than the KBRA is not</p>	No

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-11	<p>feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect to yield the same benefits as full implementation of the KBRA.</p> <p>The comment's assertion that "Section 3.2 notes the existence of applicable water quality standards enacted by the Hoopa Valley Tribe, but fails to adequately address whether the Proposed Action of dam removal with associated implementation of KBRA flows, (or some other alternative) will ensure compliance with the tribal standards" is incorrect. Draft EIS/EIR Section 3.2.4.3 includes consideration of whether Hoopa Valley Tribe water quality objectives would be met under both the No Action/No Project Alternative and the Proposed Action for nutrients, dissolved oxygen, pH, chlorophyll-a and algal toxins (see p. 3.2-58 to 3.2-71 and 3.2-100 to 3.2-118). 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.</p> <p>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 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>	No
	<p>The comment author suggests that the EIS/EIR should include restoration alternatives other than the KBRA. The Lead Agencies recognize that restoring the Klamath Basin is a complicated process and that there are several approaches that can be taken towards restoration. But as explained more fully in Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study, dam removal contemplated under the KHSA cannot be implemented without implementing the KBRA. Therefore, an alternative that would implement a restoration project other than the KBRA is not feasible. Also as explained in Master Response ALT-4, KBRA as it is contemplated in the actual agreement is a whole program and one cannot implement some KBRA components but not others and still expect it to yield the same benefits as full implementation of the KBRA.</p>	

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-12	<p>The comment also requests an evaluation of the KBRA under NEPA. The EIS/EIR does fully evaluate the environmental impacts under NEPA and CEQA at a programmatic level. There would be many discretionary actions associated with the KBRA; even if legislation is passed to provide authorization, there are many points where the government would provide funding or permits or federal agencies would take actions. The Lead Agencies cannot speculate on what Congress would pass; therefore, the evaluation is based on the best currently available information.</p> <p>The comment author is correct in noting that the EIS/EIR is not a legislative EIS. However, 40 CFR § 1506.8 only requires a legislative EIS for legislation that is proposed by the Executive Branch of government to Congress. In this instant, both S. 1851 and H.R. 3398 were introduced into their respective chambers of Congress by members, duly elected by their constituents.</p> <p>The EIS/EIR indeed, does, evaluate the impacts of the Proposed Action, as well as action alternatives and a No Action/No Project Alternative.</p>	No
IT_LT_1118_084-13	<p>There are many programs within the KBRA that are intended to improve in-stream flows and provide environmental water for fisheries support. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with applicable laws including NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be evaluated for compliance with existing laws and regulations and include opportunities for public review and comment.</p> <p>The KBRA does not constrain NOAA Fisheries Service and USFWS; rather it requires them to consider whether all of the programs that are intended to increase water supply in Upper Klamath Lake have been implemented and to consider other alternatives to support flows before requiring further reductions in diversions to Reclamation's Klamath Project. The KBRA does not require regulatory agencies to act inconsistently with best available science or with applicable laws.</p> <p>KBRA Section 22.1.2 requires Reclamation, at an appropriate time, to reinitiate consultation under Section 7 of the ESA on the effect of operation of Reclamation's Klamath Project.</p>	No

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-14	<p>Master Response AQU-9 Minimum Flows for Fish.</p> <p>Section 2.2.12 of the KBRA states that neither the KBRA nor the Trinity River Restoration Program (TRRP) shall affect the other. It does not subordinate TRRP to KBRA.</p> <p>Master Response GEN-1 Interplay between Trinity River Restoration Program and KBRA</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>Implementation of the water diversion limitations would occur through the On-Project Plan that is yet to be developed. Approval of this plan for use on Reclamation's Klamath Project would require compliance with NEPA at such future time as the plan is developed.</p> <p>Many fisheries restoration activities are currently underway and, in fact, are included in the No Action/No Project Alternative.</p> <p>The KBRA analysis in this EIS/EIR is programmatic, as described in Section 15168 of the CEQA Guidelines. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. Under the programmatic EIR approach, future projects or phases may require additional, project-specific environmental analysis including an evaluation of compliance with federal laws such as the Clean Water Act and the Endangered Species Act. Consequently, appropriate NEPA compliance would be completed for the separate KBRA components in the future.</p> <p>There are some components of the KBRA that would occur without an Affirmative Determination on dam removal. These elements are described and analyzed in the EIS/EIR under the No Action/No Project Alternative. Furthermore, while it is technically possible that other elements of the KBRA could be implemented without an Affirmative Determination on dam removal, implementation of many of those actions would not occur because many of its provisions, in particular those related to diversion limitations and associated flows in the lower Klamath and lake levels in Upper Klamath lake, are predicated on the ecological benefits of removing Klamath dams. Guessing which provisions might be implemented and which might not without an Affirmative Determination on dam removal would be speculative and is beyond the scope of this EIS/EIR.</p>	Yes

**Comment Author** Masten, Leonard  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-15	<p>Under the KBRA, fish restoration goals and harvest limits would be developed in future fish restoration and fisheries reintroduction plans that are yet to be drafted. Speculating on what those plans may or may not contain when they are drafted is beyond the scope of the analysis for the EIS/EIR.</p> <p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action.</p> <p>Master Responses TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>Master Response AQU-9 Minimum Flows for Fish.</p> <p>Master Response KBRA-4 Proposed Legislation.</p> <p>Section 3.16 of the EIS/EIR addresses Environmental Justice issues including effects on tribes within the Klamath Basin. Section 3.12 specifically addresses effects on Tribal Trust responsibilities.</p>	No
IT_LT_1118_084-16	<p>The Notice of Availability of the Draft EIS/EIR published September 21, 2011, stated Purpose and Need statement had changed since publication of the Notice of Intent to prepare an EIS/EIR, which included the notice of public scoping in the <b>Federal Register</b> on June 14, 2010 (75 FR 33634). To provide further clarification regarding the need for action: "These changes are not substantive and do not warrant consideration of additional alternatives. The proposed action is to remove the four lower PacifiCorp dams on the Klamath River. The need for the proposed action is to advance restoration of the salmonid fisheries in the Klamath Basin consistent with the KHSA and the connected KBRA. The purpose is to achieve a free-flowing river condition and full volitional fish passage as well as other goals expressed in the KHSA and KBRA. By the terms of the KHSA, the Secretary would determine whether the Proposed Action is appropriate and should proceed. In making this determination, the Secretary would consider whether removal of the four facilities would advance the restoration of the salmonid fisheries of the Klamath Basin, and is in the public interest, which includes, but is not limited to, consideration of potential impacts on affected local communities and Tribes."</p>	

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**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-17	<p>Alternatives 4 and 5 do not include analysis of KBRA; however, the Lead Agencies included these alternatives in this analysis because they have the potential to minimize some types of environmental effects or help create a reasonable range of alternatives for consideration by decision-makers.</p> <p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA.</p> <p>The Notice of Availability of the Draft EIS/EIR published September 21, 2011, stated Purpose and Need statement had changed since publication of the Notice of Intent to prepare an EIS/EIR, which included the notice of public scoping in the <b>Federal Register</b> on June 14, 2010 (75 FR 33634). To provide further clarification regarding the need for action: "These changes are not substantive and do not warrant consideration of additional alternatives. The proposed action is to remove the four lower PacificCorp dams on the Klamath River. The need for the proposed action is to advance restoration of the salmonid fisheries in the Klamath Basin consistent with the KHSA and the connected KBRA. The purpose is to achieve a free-flowing river condition and full volitional fish passage as well as other goals expressed in the KHSA and KBRA. By the terms of the KHSA, the Secretary would determine whether the proposed action is appropriate and should proceed. In making this determination, the Secretary would consider whether removal of the four facilities would advance the restoration of the salmonid fisheries of the Klamath Basin, and is in the public interest, which includes, but is not limited to, consideration of potential impacts on affected local communities and Tribes."</p> <p>Alternatives 4 and 5 do not include analysis of KBRA; however, the Lead Agencies included these alternatives in this analysis because they have the potential to minimize some types of environmental effects or help create a reasonable range of alternatives for consideration by decision-makers.</p> <p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA.</p>	No
IT_LT_1118_084-18	<p>Master Response GEN-3 Range of Alternatives Considered.</p> <p>Master Response N/CP-18 Process to Select Alternatives for Detailed Analysis.</p> <p>1. NEPA's Forty Most Asked Questions from CEQ include a discussion of the No Action Alternative. It describes what should be included for different types of projects, including projects involving federal decisions on proposals for projects, which is</p>	No

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**Agency/Assoc.** Hoopa Valley Tribe  
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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>relevant for this Draft EIS/EIR. “No action’ in such cases would mean the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward.”</p> <p>Under the Alternative 1 as described in the EIS/EIR Section 2.4.2, PacifiCorp would need to obtain a long-term operating license from the Federal Energy Regulatory Commission (FERC) to replace the existing annual license. PacifiCorp would continue the relicensing proceedings with FERC to obtain the required long-term operating license. Until that unknown time, PacifiCorp would continue to operate under an annual license. The No Action/No Project Alternative, as described, is the most reasonable assumption of future conditions. Among the action alternatives, Alternative 4: Passage at Four Dams, as described in Final EIS 2.4.5, describes a scenario where KHSA terminates and the requirements for fish passage as set forward by the prior FERC relicensing proceedings are implemented.</p> <p>2. The Proposed Action, Alternative 2, analyzes facilities removal consistent with the KHSA and analyzes KBRA as a programmatic connected action.</p> <p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action</p> <p>Master Response N/CP-22 How KBRA Was Analyzed.</p> <p>3. Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p> <p>4. Among the action alternatives, Alternative 4: Passage at Four Dams and Alternative 5: Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate describe a scenario where KHSA terminates and the requirements for fish passage as set forward by the prior FERC relicensing proceedings are implemented.</p> <p>5. Master Response ALT-3 Elimination of Alternative 13 - Federal Takeover of the Klamath Hydroelectric Project from Detailed Study.</p> <p>6. Master Response ALT- 7 Elimination of KBRA without KHSA Including Alternatives 16 – Dredge Upper Klamath Lake and Alternative 18 - Partition of Upper Klamath Lake from Detailed Study</p>	

**Comment Author** Masten, Leonard  
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**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-19	<p>Master Response ALT-4 Elimination of Alternative 8 - Dam Removal Without KBRA from Detailed Study.</p> <p>Master Response N/CP-13 KBRA is Analyzed as a Connected Action</p> <p>Master Response WQ-22 TMDLs and the No Action/No Project Alternative (and Alternative 4).</p> <p>The TMDLs are designed to be compatible with the Hoopa Valley Tribe's water quality control plan. Attainment of the TMDLs would meet applicable standards; however implantation and timing are unknown. To date, no proposed action has been identified by PacifiCorp to achieve the temperature allocations assigned to Copco 1 and Iron Gate reservoirs.</p>	No
IT_LT_1118_084-20	<p>Master Response GEN-27-Interplay between Trinity River Restoration Program (TRRP) and KBRA.</p> <p>For this analysis the best available information from the KBRA agreement and subsequent updates to KBRA Appendix 2E were used to evaluate socioeconomic effects in Section 3.15 Socioeconomics. Ultimately funding of KBRA would be determined by congressional action and therefore any scenario where the KBRA is partially funded is too speculative to be included in this analysis. In making the Secretarial Determination, cost (and available funding for implementation) would be considered when making the Determination on whether or not the Proposed Action is in the public interest.</p> <p>Master Response ALT-8 Inclusion of Alternatives Solely Based on Cost.</p> <p>Master Response AQU-5 Will Benefit all Salmonids.</p> <p>Master Response AQU-26 Increased Abundance for Harvest and Tribes.</p> <p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries.</p>	No

**Comment Author** Masten, Leonard  
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**Submittal Date** November 18, 2011

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Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-21	<p>used to evaluate socioeconomic effects in Section 3.15 Socioeconomics. Ultimately funding of KBRA would be determined by congressional action and therefore any scenario where the KBRA is partially funded is too speculative to be included in this analysis. In making the Secretarial Determination, cost (and available funding for implementation) would be considered when making the Determination on whether or not the Proposed Action is in the public interest.</p> <p>Master Response 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 TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>Master Response AQU-26 Increased Abundance for Harvest and Tribes.</p> <p>Master Response AQU-5 Will Benefit all Salmonids.</p> <p>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality and Anticipated KHS/KBRA Improvements.</p> <p>Master Response AQU-8 Climate Change, Fisheries, Predator Control, Reintroduction.</p> <p>Master Response AQU-24 Chinook Climate Change and Marine Survival.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries.</p> <p>Master Response TTA-7 Tribal Involvement in Future Discussions of Water Management.</p> <p>Environmental Justice effects to Indian Tribes have been analyzed in Section 3.16 Environmental Justice. The impact of Alternatives 2 and 3 were found to be beneficial in the long-term to Indian Tribes because of potential improvement to Klamath Basin fisheries and water quality.</p>	Yes

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**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-22	<p>Effects to Tribal Trust resources have been analyzed in Section 3.12 Tribal Trust. The impact of Alternatives 2 and 3 were found to be beneficial in the long-term to Tribal Trust because of long-term benefits to water rights, aquatic resources, and terrestrial resources.</p> <p>Effects to reserve rights have been analyzed in Section 3.8 Water Rights/Water Supply.</p> <p>Master Response 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 WQ-4 A, C, D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Master Response WQ-22 TMDLs and the No Action/No Project Alternative (and Alternative 4).</p> <p>Appendix C in Vol. II of the EIS/EIR provides details of water quality in Reclamation's Klamath Project study area. As stated in Section C.3.1.3, "[a] recent study on nutrient cycling the Lower Klamath National Wildlife Refuge indicates that refuge wetland management is simultaneously reducing nutrient loads and increasing the proportion of bioavailable P in wetland outflows, which then enter the Klamath River through the Klamath Straits Drain (RM 240.5) (Mayer 2005)." Appendix C was updated in response to comments with the following: "Although variability in the historical phosphorus and nitrogen data is high, due to the varying numbers of samples collected per location (as noted above), the relatively high nutrient and organic matter concentrations in the Keno Impoundment just downstream from the Klamath Straits Drain indicate that inputs from the Lost River Basin via Klamath Straits Drain and the Lost River Diversion Channel have been an important historical source of nutrients to the Upper Klamath River. More recently collected data agree with this trend (Mayer 2005, Lytle 2000; see also Sullivan et al. 2009, et al. 2011; Kirk et al. 2010, as referenced in Section C.4.1.3)." See also Master Response WQ-16 regarding land use practices and water quality.</p>	No
IT_LT_1118_084-23	<p>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality and Anticipated KHSA/KBRA Improvements.</p> <p>Master Response WQ-15 Klamath Dams Do Not Supply Cool Summertime Water to Downstream River Reaches.</p>	No

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**Submittal Date** November 18, 2011

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-24	<p>Master Response WQ-27 Nutrient Retention With Dams, Nutrient Release Without Dams, and Periphyton.</p> <p>Master Response WQ-4C and D Hydroelectric Project Impacts to Water Quality &amp; Anticipated KHSA/KBRA Improvements.</p> <p>Master Response WQ-22 TMDLs and the No Action/No Project Alternative (and Alternative 4).</p> <p>The TMDLs are designed to be compatible with the Hoopa Valley Tribe's water quality control plan. Attainment of the TMDLs would meet applicable standards; however implantation and timing are unknown. To date, no proposed action has been identified by PacifiCorp to achieve the temperature allocations assigned to Copco 1 and Iron Gate reservoirs.</p>	No
IT_LT_1118_084-25	<p>There are two "Klamath Projects" within Reclamation's Klamath Project study area. The Klamath Hydroelectric Project (KHP) located in Oregon and California is owned by PacifiCorp, a private entity, and regulated by the FERC. The four facilities proposed for removal are part of this "Klamath Project". The Bureau of Reclamation's Klamath Project is the other "Klamath Project", and consists of water storage and delivery facilities, located above the KHP in Modoc, Siskiyou, and Klamath Counties</p> <p>All facilities are required to comply with the Clean Water Act, as administered by the States of Oregon and California. As described in Water Quality Section 3.2.2, these States have approved TMDLs for segments of the Klamath River, to improve water quality in the Klamath River.</p> <p>Master Response WQ-4A, C, and D Hydroelectric Project Impacts to Water Quality and Anticipated KHSA/KBRA Improvements.</p> <p>Master Response WQ-16 Upper Klamath Basin Historically Productive but Land Use Exacerbates Problem.</p>	No
IT_LT_1118_084-26	<p>The 330,000 acre-feet diversions are included in the hydrologic and hydraulic modeling efforts used to evaluate different alternatives in this EIS/EIR. The evaluation of flow effects in the Klamath River is influenced by a variety of actions including among others ESA and interim operation of Klamath Hydroelectric Project; the hydrology and hydraulic modeling took all these factors into account.</p>	No

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	Master Response WQ-19 Water Temperature Models and General Predictions.	
	Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management.	
IT_LT_1118_084-27	The 330,000 acre-feet diversions are included in the hydrologic and hydraulic modeling efforts used to evaluate different alternatives in this EIS/EIR. The evaluation of flow effects in the Klamath River is influenced by a variety of actions including among others ESA and interim operation of Klamath Hydroelectric Project; the hydrology and hydraulic modeling took all these factors into account.	No
	Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management.	
IT_LT_1118_084-28	Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management.	No
IT_LT_1118_084-29	In the Section 3.10 Greenhouse Gases/Climate Change on Draft EIS/EIR page 3.10-9, a description of potential flow effects from climate change is included. The results of the hydraulic, hydrologic and sediment studies conducted to support this document show that the climate change scenarios are not sufficiently refined to determine effects to peak flows and therefore it is difficult to determine if climate change would have an impact on flood risk or geomorphology. The EIS/EIR goes on to describe the likely scenarios given the ambiguous model results.  Generally, if the future climate is wetter and with a faster snowmelt runoff during the spring, then peak flows would likely increase as well. However, if the climate is drier, faster snowmelt may result in peak flows that are not substantially higher (Reclamation 2012d).  Master Response AQU-8 Climate Change, Fisheries, Predator Control, Reintroduction.  Master Response AQU-24 Chinook Climate Change and Marine Survival.  Master Response HYDG-3 Minimum Flows in the Klamath River  Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management.	No

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1118_084-30	<p>Section 3.10 Greenhouse Gases/Global Climate Change describes in detail the effects of dams and the associated reservoirs remaining in place in the analysis of Alternative 1, Alternative 4, and Alternative 5.</p> <p>If all four dams and reservoirs remain in place, methane would be released from the reservoirs. Since the dams would remain in place, methane from the impounded water would continue to be emitted. Methane emissions from the reservoirs would range from 4,000 to 14,000 Metric Ton Carbon Dioxide Equivalent.</p>	No
IT_LT_1118_084-31	Master Response AQU-25 Habitat Upstream of Iron Gate Dam	No
IT_LT_1118_084-32	<p>Master Response AQU-27 Disease.</p> <p>Master Response AQU-28 FERC Conclusions for Disease.</p>	No
IT_LT_1118_084-33	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 Section 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.	No
IT_LT_1118_084-34	Master Response AQU-20 Bedload Sediment and Fish Habitat.	No
IT_LT_1118_084-35	Master Response AQU-23 Evaluation of Dam Removal and Restoration and Anadromy (EDRRA) Model.	No
IT_LT_1118_084-36	Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management.	No
IT_LT_1118_084-37	While the Federal and State authorities to restrict fish harvests during implementation of the Phase I Reintroduction Plan are clearly established, the specific tools that the regulatory agencies would utilize for these restrictions have not been specified. As such the Lead Agencies did not speculate in this EIS/EIR on what tools the regulatory agencies would utilize.	No

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<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. 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 Endangered Species Act.</p> <p>Since the management of salmon considers many 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>	
IT_LT_1118_084-38	Master Response AQU-11 NOAA Fisheries Service BO, ESA and KBRA Water Management.	No
IT_LT_1118_084-39	Master Response AQU-11: NOAA Fisheries Service BO, ESA and KBRA Water Management	No
IT_LT_1118_084-40	Master Response AQU-8 Climate Change, Fisheries, Predator Control, Reintroduction.	No
	Master Response AQU-24 Chinook Climate Change and Marine Survival.	
IT_LT_1118_084-41	Master Response TTA-3 Federal Trust Responsibilities and Fisheries.	Yes
	The No Action/No Project effects on Hoopa Valley Tribe's established rights to water and fish in the Trinity would be No Change from existing conditions.	
IT_LT_1118_084-42	Master Response TTA-1 Federal Trust Responsibility and the KBRA.	Yes

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Comment Code	Comment Response	Change in EIS/EIR
IT_LT_1118_084-43	<p>Master Response AQU-26 Increased Abundance for Harvest and Tribes</p> <p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p>	Yes
IT_LT_1118_084-44	<p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries.</p> <p>Master Response AQU-5 Will Benefit all Salmonids.</p>	No
IT_LT_1118_084-45	<p>Master Response AQU-26 Increased Abundance for Harvest and Tribes.</p> <p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries.</p> <p>Master Response AQU-5 Will Benefit all Salmonids.            With an increase in Klamath fish stocks, there would not be an increase of fishing pressure on Trinity River fish.</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. 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 Endangered Species Act. Since the management of salmon considers many 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>	No

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	<p>Master Response GEN-27-Interplay between Trinity River Restoration Program (TRRP) and KBRA.</p> <p>Master Response AQU-26 Increased Abundance for Harvest and Tribes.</p> <p>Master Response TTA-3 Federal Trust Responsibilities and Fisheries.</p>	
IT_LT_1118_084-46	<p>Draft EIS/EIR Section 3.15 p. 65 Socioeconomics describes effects on the Hoopa Valley Tribe. Additionally the Economics and Tribal Summary Technical Report for the Secretarial Determination on Whether to Remove Four Dams on the Klamath River in California and Oregon has information on the socioeconomic effects on the Hoopa Valley Tribe (Reclamation 2012c).</p>	No
IT_LT_1118_084-47	<p>Master Response GEN-27-Interplay between Trinity River Restoration Program (TRRP) and KBRA.</p> <p>Master Response COST-1 Cost Estimate</p> <p>For this analysis the best available information from the KBRA agreement and subsequent updates to KBRA Appendix 2E were used to evaluate socioeconomic effects in Section 3.15 Socioeconomics. Ultimately funding of KBRA would be determined by congressional action and therefore any scenario where the KBRA is partially funded is too speculative to be included in this analysis.</p>	No
IT_LT_1118_084-48	<p>Environmental Justice effects to Indian Tribes have been analyzed in Section 3.16 Environmental Justice. The impact of Alternatives 2 and 3 were found to be beneficial in the long-term to Indian Tribes because of potential improvement to Klamath Basin fisheries and water quality.</p> <p>Effects to Tribal Trust resources have been analyzed in Section 3.12 Tribal Trust. The impact of Alternatives 2 and 3 were found to be beneficial in the long-term to Tribal Trust because of long-term benefits to water rights, aquatic resources, and terrestrial resources.</p> <p>Effects to reserve rights have been analyzed in Section 3.8 Water Rights/Water Supply.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p>	Yes

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
	Master Response TTA-3 Federal Trust Responsibilities and Fisheries.	

IT\_MC\_1027\_049

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

My name is Raymond Mattz. I guess I put "Ray Mattz" down on paper. R-a-y M-a-t-t-z.

I'm a Yurok, and I have been involved with fishery all my life. I'm 68 years old. And I went to the Supreme Court and won the fishing rights back on the lower 40 miles. And I have seen a lot of things happen on the river. I have seen when they logged. I was a young man then. And they --

I was saying, you know, the winch work and logging, when I was a kid, you know, they did a lot of damage on the river, lots, and still affect us now.

When I was a kid, there was so much water. You know, we would go down and swim in it. And you couldn't swim in the eddies because the bark would be filled up. Every eddy was that way on the lower part of that river.

And, you know, the fish is taking the blame all the time, you know. You know, like the candlefish, they are gone now. They're extinct. They're gone. And, in my opinion, when you put the dam on the Trinity River and they took the winter flow high water away from us, the candlefish came in at wintertime, when the river is high,

bank to bank. And you don't get bank to bank no more.

You know, and I went up in the -- when Kennedy was swearing that dam in, I was about that far away, where you guys are, standing by him. I seen him. You know, and so, I kept a close tab on that, you know, and seven years later, the cows had just arrived, after that dam got filled. And it moved down the line, you know.

The troll boats. Poor Ronnie Paris (phonetic spelling) -- she was a biologist -- me and her was going to the PMC meetings. And I asked for -- or I had the 15,000 statement, and they gave it to us, and that stopped the troll boats out in the ocean. The troll boats had the -- they stopped them, and they got different areas they can fish in. They still got them areas now.

And I see what's doing the most damage is the algae. It's killing more fish than the logging, the troll boats. And, you know, people has got to look at that.

Our river is the only one that has got wild fish in it still. Look at the Sacramento, all hatchery fish. They were shut down, because they didn't have no fish come back. And people got to look at it -- you know, that amount of jobs you showed up on the screen earlier, that don't mean nothing to having wild fish in your river. You should be proud if you got wild fish in your

river still, because there aren't very many places in this world that has got wild fish, especially this Pacific Coast, you know.

And I get pretty upset with the whole program, you know, with you showing up there the jobs that are going to be lost up in the Upper Basin. You know, you got to look at the big picture, in my opinion, and the big picture is having wild fish in the Klamath River.

Thank you.



Comment 1 - Approves of  
Dam Removal

**Comment Author** Mattz, Raymond  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_049-1	EIS/EIR Section 3.3, Aquatic Resources, evaluates the effects to fisheries of the Proposed Action and alternatives.	No

**Klamath Settlement**  
EIS/EIR PROCESS

## Speaker Card

Please fill out this card and hand it to someone with a name tag if you would like to make a verbal comment of up to three minutes. Your verbal comments will be recorded by a court reporter. All recorded verbal comments, along with written comments, received by November 21, 2011, will become part of the official record. Verbal and written comments are weighted equally. To submit written comments, see reverse side of this card.

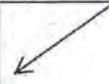
**Name (please print)** Ashley N. McAllister  
**Representing** Karuk medicine people / council members wife

**Notes:** It is humbling to see such a mighty giant reconsider its use on this land. I am thankful for that and hope to see a happier, healthier river with the dam removal.

\*Please read the speaker guidelines on the back side of this card

IT\_MF\_1025\_043

Comment 1 - Approves of Dam Removal



**Comment Author** McAllister, Ashley  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 25, 2011

---

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1025_043-1	Master Response GEN-1 Comment Included as Part of Record.	No

# Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1020\_034

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**  
KlamathSD@usbr.gov

**Website:**  
KlamathRestoration.gov

**Fax:**  
(916) 978-5055

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

**Name:** Crispen K. McAllister

**Organization:** Karuk Tribe

**Title:** Council member

**Address:**

**Email:** cmcallister@karuk.us

**Comments:** We are so thankful and humbled to see this breath of history, with its hope of a healthier future. Thank you

for helping the river, <sup>the</sup> land and the people with your support in DAM removal. Yootva (thank you)

Comment 1 - Approves of Dam Removal

**Public Disclosure:** It is not required that you submit personal information. If you decide to do so, please note that this information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Comment Author** McAllister, Crispen  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1020_034-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

## Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1025\_028

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**

KlamathSD@usbr.gov

**Website:**

KlamathRestoration.gov

**Fax:**

(916) 978-5055

12-2-2011  
All comments on the Draft EIS/EIR must be received by November 21, 2011

(Please print legibly)

Name: Skyler McNeal

Organization: Member of the Karuk Tribe

Title: Youth Council co-Chair

Address: Coit Lewis Dr. Eureka CA 95501

Email: walfmneal@yahoo.com

Comments: Comment 1 - Approves of Dam Removal

I Believe the Dam's Should  
be Removed to bring back  
the Original Flow of the Klamath River.  
I know as a youth from the Karuk  
tribe that I'm not getting the education  
that I need traditionally because the  
Dam's have stoped Salmon Runs and  
made the Runs of the Salmon very poor.  
I also hear alot of people talk about Real  
Estate Values going down from the Dam  
Removal, That's not the only Reason Real Estate  
Is Down every were!!! And you can't live and  
Survive of of your Real Estate Value, you need  
the Salmon and all the animals that depend  
on the River to ~~survive~~ survive and live  
on. Thank you for listing to me and My  
Opinions.

**Public Disclosure:** It is not required that you submit personal information. If you decide to do so, please note that this information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Comment Author** McNeal, Skyler  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 25, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1025_028-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

Jeff Mitchell (Highlights)

Terry (2)  
10/19/11

IT\_LT\_1019\_072

**Name & Introduction**

Jeff Mitchell Tribal Councilman  
KTNT Member

Comment 1 - Approves of  
Dam Removal

**“I am here and I support the findings of the Draft EIS/EIR & Agreements”**

The Klamath Agreements represent an incredible achievement given that troubled history.

- **LOCAL SOLUTIONS.** The Klamath Agreements put many decisions regarding restoration back in the hands of those who live and work in the Basin without usurping the authority of State or local government. The States of California and Oregon, Indian tribes, counties, irrigators and conservation and fishing entities have worked tirelessly for many years to resolve their conflicts at the local level

Many have asked the question What are the

- **TRIBAL OBLIGATIONS & CONTRIBUTIONS TO THE AGREEMENTS?**

The Agreements are a compromise by all parties. For the Klamath Tribes after much analysis it is our considered opinion that the pros outweigh the cons and the Agreements create a win-win-win plan for the Tribes and the Klamath Basin.

- Not to exercise of senior water rights that may interfere with specified agricultural diversions.
- Support for “Interim Measures” for management of hydro project and mitigation for water quality problems pending dam removal.
- Settle 40 years of water rights litigation over Basin water uses.
- Assist in developing “regulatory assurances” to benefit water diverters as anadromous species are reintroduced.

Comment 1 cont.

#### **BENEFITS Received**

- Revitalized fisheries resulting from dam removal and reliably funded, long-term habitat restoration.
- Revitalized fisheries mean restored spiritual, economic and physical wellbeing.
- Greater participation in resource management decisions; tribal agencies better funded to enable participation.
- Klamath Tribes reacquire a portion of their homeland lost to Termination; forest related jobs for Indians and non-Indians.

#### **COST OF DOING NOTHING**

- Continued fishery declines, probably to extinction; tribal economies even worse than currently, with no solutions in sight.
- Loss of livelihoods, cultural identity, spiritual well-being, financial foundations. • Historical resource conflicts will multiply and intensify.
- Continued costly and contentious litigation.
- Inability to work toward resource restoration.

#### **CONCLUSION**

I appreciate the opportunity to provide my comments and reiterate my support for Alternative 2 or at a minimum Alternative 3, full or partial dam removal and for the enactment of legislation to effectuate and implement the KBRA and KHSA. Without a doubt it will be a blessed day when the salmon and steelhead return to the waters of the Klamath Tribes and the C'waam populations are once again healthy.

**Comment Author** Mitchell, Jeff  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 19, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1019_072-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

**Klamath Falls Hearing - 10-18-2011**

---o0o---

STATEMENT PROVIDED BEFORE PUBLIC HEARING

(Directly to Court Reporter)

MR. JEFF MITCHELL: Good evening. My name is Jeff Mitchell, M-i-t-c-h-e-l-l.

I'm a member of the Klamath

Tribe. I represents Klamath Tribe as a member of Klamath

Tribal Council.

First thing I want to say is that one thing we can

all agree upon is that water is life and life is water.

Comment 1 - Approves of Dam Removal

On behalf of the Klamath Tribes I'm here to support

the findings of the draft EIS, EIR and subsequent

agreements.

Generally the draft EIS/EIR confirms that the KBRA,

KHSA are good for the Klamath Tribe and Klamath Basin as a

whole. The reports and studies clearly demonstrate that

the removal for privately owned dams, dams owned by the

KHSA party, nonetheless, will, one, advance restoration of

our sacred Klamath Basin salmonid fisheries and, two, is

in the public interest and specifically in the interest of

the Klamath Tribes.

The agreements represent a light at the end of the

tunnel. The draft EIS studies and reports bear out

proactive local solutions that dynamic and diverse

coalitions can and will work, of which dam removal is just one piece of the solution.

The Klamath agreements represent the best alternative of the status quo of continued conflict.

Supporters of and parties to the agreements reject the status quo in favor of a lasting and durable solution

Comment 2 - Approves of Dam Removal

to the ongoing Klamath crisis. Accordingly, we support Alternative 2 and at a minimal Alternative 3 for full or partial removal of the lower dams of the Klamath River.

This is the best way to return our salmon and steelhead to the Klamath homelands. And one thing I wanted to say is no action is not a viable action.

Comment 3 - ITAs

The Klamath Tribes believe that the present and future of the KBRA and KHSA will provide for the restoration of treaty resources. The agreement attempts to effectuate the treaty of 1864 by restoring the ecological functionality and connectivity of restoring the fish habitat and re-establish and maintain naturally sustainable and viable populations of fish due to full capacity of restored habitats. They provide for the full participation and harvest opportunities for fish species.

In conclusion, I appreciate the opportunity to provide my comments and reiterate my support for Alternative 2 and at a minimum Alternative 3, full or

partial dam removal for the enactment of legislation due to effectuate the implementation of the KBRA and KHSA. Without a doubt it will be a blessed day when salmon and steelhead return to the waters of the Klamath Tribes and the populations are healthy once again. Last thing I want to say is let's bring the salmon home. Thank you.

**Comment Author** Mitchell, Jeff  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 18, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1018_004-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_MC_1018_004-2	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_MC_1018_004-3	Master Response GEN-1 Comment Included as Part of the Record.	No

**PUBLIC HEARING ON THE KLAMATH DAM**

---o0o---  
CHILOQUIN, OREGON  
OCTOBER 19, 2011  
---o0o---

MR. JEFF MITCHELL: Good evening. My name is Jeff Mitchell, M-i-t-c-h-e-l-l. I'm a member of the Klamath Tribal Council. I'm also a member of Chiloquin City Council. So on behalf of both entities I want to welcome everybody here night.

I'm here and I support the findings of the Draft EIS/EIR Agreement.

Comment 1 - Approves Dam Removal

Comment 2 - KBRA

I want to share a few comments with you and those comments first being that Klamath agreements, in my opinion, represent an incredible achievement given the troubled history of the Klamath Basin. My reasons for saying that are that one of the biggest things that came out of this whole process is that it started here locally with local solutions.

Klamath agreements put many decisions regarding restoration back into the hands of those who live and work in the Basin, without usurping the authority of the state and the local government, the states of California, Oregon, Indian tribes, counties, irrigators, conservation, fishing entities. We have all worked tirelessly for many years to resolve our conflicts at a local level.

## Comment 3 - ITAs

Last night, and over the last few years we've had many people ask the question to the tribes, what are the tribal obligations and contributions to these agreements? And I want to share some of those contributions with you tonight.

First I want to say that the agreements are compromised by all parties. For the Klamath Tribes, after much analysis it is our considered opinion that the pros and cons, the pros outway the cons; and the agreements create a win-win plan for the tribes in the Klamath Basin. In addition, the Klamath Tribes, we agreed not to exercise our senior water rights that might interfere with specific agricultural diversions.

The Klamath Tribes agreed to support interim measures for management of hydro project and mitigation for water quality problems pending dam removal.

The Klamath Tribes agree to settle 40 years of water rights litigation in the Basin over water uses.

The Klamath Tribes agree to assist in developing regulatory assurances to benefit water diverters as anadromous fisheries are reintroduced.

## Comment 4 - ITAs

I want to talk briefly about some of the benefits that we believe are going to be received.

First, the revitalization of fisheries resulting

from dam removal that are reliably funded will receive

long term habitat restoration.

Will receive revitalized fisheries as a means to

restore spiritual, economic and physical well-being.

Will have regular participation and resource

Comment 5 - KBRA

management decisions. Tribal agencies will be better

funded to be able to participate in future processes.

The Klamath Tribes will reacquire a portion of our

homeland that was lost during termination. Forest-related

jobs for tribal members and non-Indians will come from

that land being reacquired.

Comment 6 - General/Other

What's the cost of doing nothing? Big cost.

First, the continued fishery declines, probably to

extinction. Tribal economies will continue to worsen than

they are currently. And we probably won't have any

solutions in sight.

There will be loss of livelihoods, cultural

identities, spiritual well-being, financial foundations

will continue to erode.

Historical resource conflicts will probably

multiply and intensify. And continued costly and

contentious litigation will go on. And there will be an

inability to work towards resource restoration.

In conclusion, you know, I appreciate the

opportunity for being able to provide my comments here.

I want to reiterate my support for Alternative 2 or  
at a minimum Alternative 3 for full and partial dam  
removal and for enactment of legislation to effectuate and  
implement the KBRA, KHSa. Without a doubt it will be a  
blessed day when salmon and steelhead return to the waters  
of the Klamath Tribes and the C'waam populations are  
healthy once again.

Thank you.

**Comment Author** Mitchell, Jeff  
**Agency/Assoc.** The Klamath Tribes  
**Submittal Date** October 19, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1019_012-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1019_012-2	This project is intended to resolve long-standing water conflicts in the Basin by restoring fisheries and supporting local economies. The local solutions were certainly a key to its successful development.	No
IT_MC_1019_012-3	Master Response GEN-1 Comment Included as Part of the Record.	No
IT_MC_1019_012-4	Master Response GEN-1 Comment Included as Part of the Record.	No
IT_MC_1019_012-5	The United States believes the KBRA and KHSA provide the best opportunity to restore the Klamath Basin and its fishery.  Reference: General Response AQU-26: Increased Abundance for Harvest and Tribes.	No
IT_MC_1019_012-6	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

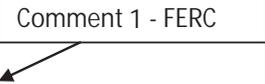
IT\_WI\_1113\_080

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From: [s.morty1965@yahoo.com](mailto:s.morty1965@yahoo.com)[SMTP: S.MORTY1965@YAHOO.COM]  
Sent: Monday, November 14, 2011 5:28:56 AM  
To: BOR-SHA-KFO-KlamathSD; [werner@wrinkledog.com](mailto:werner@wrinkledog.com)  
Subject: Web Inquiry: Klamath Dam removal project Auto forwarded by a Rule

Name: Sheila Mortenson  
Organization: Shasta Indian Nation

Subject: Klamath Dam removal project

Comment 1 - FERC



Body: I support Alternative 4. Don't remove the dams but add fish passage to the dams. Leave the tribal sites intact. I support clean energy.

**Comment Author** Mortenson, Sheila  
**Agency/Assoc.** Shasta Indian Nation  
**Submittal Date** November 13, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_WI_1113_080-1	<p>Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose of Dam Removal.</p> <p>The effects of each Alternative in regard to providing fish passage are disclosed in Section 3.3 (Aquatic Resources) as well as Section 4.4.2 of the EIS/EIR. The effects of each Alternative in regard to tribal burial sites are disclosed in Sections 3.13 and 4.4.12.</p> <p>Master Response GHG-1 Green Power.</p>	No

IT\_MC\_1027\_053

KLAMATH DAM REMOVAL  
 DRAFT EIS/EIR HEARING  
 OCTOBER 27, 2011  
 PUBLIC TESTIMONY  
 KLAMATH, CALIFORNIA

MS. MYERS: Iyee que. Hello. My name is Georgiana Myers. Georgiana, G-e-o-r-g-i-a-n-a. Myers, M-y-e-r-s. I'm going to try to make it through this without crying. I'm eight months pregnant, so that happens, like, at the drop of a hat.

In a few weeks, I will give birth to my first son, and I am excited, to say the least. My family comes from upriver, but my son's father and his family come from down here. Fishing is one of the greatest traditional practices that his father and I can pass on to him.

We made the decision to live on the Reservation, to work for our Tribe, and to raise our family and to raise our son amongst his family, amongst his people, and, most importantly, close to his river.

Comment 1 - Approves  
of Dam Removal

I have traveled all over. I've been to Omaha.

I've been to Grenada. I've been to Portland, like, three times, Sacramento probably five. I've even asked the richest man in the world to please un-dam the Klamath and help restore it.

Some people say that dam removal is an attack on rural America. How can they say this and be serious?

The indigenous people of the Klamath are the ones who are still and were being attacked. Klamath River people have always been here, and we will remain.

Today our river looks pretty good. The scenery up and down the river can sometimes mask the toxic water, the sick fish, the water levels that are too low and much too warm. But those of us that live here know that our river is sick, and those of us that feel connected to it in a way that we cannot explain feel its pain.

Like my Chairman said before me, we know that this river is our lifeline, not just for today or for the next fishing season but forever. My son will learn how to fish, eel, and gather from the river. We will never stop. We have no other choice but to continue our way of life so that our people will remain Yurok.

Thank you.

**Comment Author** Myers, Georgiana  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_053-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1020\_036

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**  
KlamathSD@usbr.gov

**Website:**  
KlamathRestoration.gov

**Fax:**  
(916) 978-5055

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

**Name:** Melissa S. Myers  
**Organization:** People of the Yurok Tribe  
**Title:** People advocat  
**Address:** Yurok Res. Hwy 1169 WRET Hupa  
Ca 95546  
**Email:**  
**Comments:** Please Hear Our Plea.  
I am reall.

Dear Mr. Gordon Leppig,

Comment 1 - Approves of Dam Removal

Please read through our Comments and request to UNDam The Klamath. I know our river looks ~~so beautiful~~ clean and pretty but underneath and along the banks has thick green algae blooming all year growing and over taking our whole river bank. It's gross. During the summer our river is sick. Our whole Nation is sick. Please help keep America healthy. UNDam The Klamath. Indians need your help. Please.

**Public Disclosure:** It is not required that you submit personal information. If you decide to do so, please note that this information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Comment Author** Myers, Melissa  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1020_036-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

IT\_LT\_1026\_068



## Hoopa Valley Tribal Council

P.O. Box 1348 • Hoopa, California 95546  
PH: (530) 625-4211 • Fax: (530) 625-4594  
website: www.hoopa-nsn.gov



LEONARD E. MASTEN JR  
CHAIRMAN

October 3, 2011

Senator Jeff Merkley  
313 Hart Senate Office Building  
Washington, D.C., 20510-3705

Re: Draft Klamath Basin Community and Economic Recovery Act of 2011; meeting request

Dear Senator Merkley:

← Comment 1 -ITAs

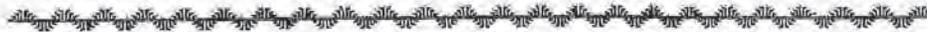
The bill you have drafted to authorize the Klamath water rights settlement provides for the unilateral subordination of our Tribe's rights in Klamath River water and the anadromous fish that originate in that river. If enacted, the bill will terminate the Federal trust responsibility for our rights and curtail the associated Federal authority to protect and enforce them.

The bill will also adversely affect the Tribe's rights to fish in the Trinity River, the largest tributary and source of Klamath River fish. Those rights are based on a legal framework that the Tribe has spent decades in developing and enforcing. The capstone of that framework is the Trinity River Mainstem Fishery Restoration Record of Decision that Congress specifically authorized the Secretary and the Tribe to adopt. It is our 20<sup>th</sup> Century Treaty with the United States. Our stewardship of the fishery resources of the Trinity and Klamath River system is well-recognized and has been publicly commended by Senator Feinstein. We cannot accept legislation that will impair those treaty commitments.

The proposed settlement arose from the desire of water claimants who are subject to the jurisdiction of the Oregon courts to resolve a costly general stream adjudication. The parties in Oregon were so occupied with that goal that they failed and then refused to design a settlement whose reach was limited to parties in Oregon and protected the rights of those in California. During the negotiations, the Tribe repeatedly identified the destructive outcomes to our rights in various drafts of the settlement agreement and offered solutions to avoid them. Our efforts were to no avail. The parties know that; that is why you are being asked to have Congress impose an outcome that the courts lack the authority to bring about.

The draft bill would take Federal Indian policy back down a path the Federal government abandoned more than 50 years ago. We find this both offensive and unacceptable and will oppose the bill if it is introduced in its current form. We request an opportunity to meet with you before you proceed any further with this legislation.

The Hoopa Valley Tribe has a long record, through administrative, legislative, and judicial action, of defense of our rights in the Klamath and Trinity Rivers. We will not rest until



Honorable Jeff Merkley  
 October 3, 2011  
 Page - 2

our rights are secured. Congress has formally acknowledged that the degrading U.S. policies of the past, based on exercising power to unilaterally strip tribes and Indian people of rights that are protected by treaties and agreements with the United States, brought dishonor to the Nation and were inconsistent with the obligations of the Nation to Native American people, as trust beneficiaries. This proposed legislation seems to be a resurrection of discarded plenary powers of the Nation--once again forced upon Native people. We strongly urge that you give serious consideration to the probable adverse reaction that will come from Indian Country to any legislative proposal that reopens the historic wounds of failed U.S. Indian policies against Native people.

The following provides details of our concerns with the bill:

Comment 2 - KBRA

1. Section 101's approval of the KBRA ratifies the "intent that the Trinity River Restoration Program not adversely affect" the KBRA (p. 16). This subordination of the goals of the TRRP to the funding requirements and low water flows of the KBRA will delay the Trinity restoration goals far into the future and could lead to failure of the program itself. For example, most of the fall Chinook salmon that died in the 2002 fish kill in the lower Klamath were of Trinity River origin.
2. Section 101's approval of the KBRA will impose on the Basin a KBRA that has no quantified fish restoration goals (p. 37); that permanently guarantees the River has too little water for natural fish populations to be restored, let alone be maintained in harvestable quantities (p. 52-55); and that limits all harvest (p. 44) on Klamath-origin stocks forcing those fisheries to target Trinity-origin fish.
3. Section 101's approval of the KBRA requires KBRA signatories to support securing a Biological Opinion under the Endangered Species Act that approves the flow regime in the KBRA (p. 149). This puts the cart before the horse by attempting to predetermine the scientific analysis required by the ESA of the biological effects of the KBRA on fisheries.
4. Section 101(b) and (c) distinguish between signing and implementing the Klamath Basin Restoration Agreement ("KBRA"), with signing exempted from an environmental impact statement. But signing the commitments in the KBRA, particularly the water diversion provisions of Appendix E-1, has huge impact. We expect legislation to require full NEPA compliance on all of the KBRA commitments, including water diversions by the Klamath Irrigation District, changing the Project purposes, continuing commercial farming of refuges, reallocating federal revenues, etc.
5. Section 101(d) should also expressly require compliance with section 3406(b)(23) of the Central Valley Project Improvement Act, Pub. L. 102-575, and with the Trinity River Basin Fish and Wildlife Management Reauthorization Act of 1995, Pub. L. 104-143.

Honorable Jeff Merkley  
October 3, 2011  
Page - 3

Comment 3 - KBRA

6. Section 104 evidently authorizes appropriations of up to \$800 million for fiscal years 2012-2027 pursuant to Appendix C-2. In the KBRA negotiation, the federal agencies also promised to reallocate appropriated funds to cover some of those costs, a process which directly threatens the under-funded Trinity River Restoration Program. The remaining costs in the draft Act present a major budget problem.

Comment 4 - KBRA

7. Section 105's approach to project purposes sharply contrasts to the Central Valley Project Improvement Act, Pub. L. 102-575, which made fish and wildlife restoration a project purpose that is coequal to irrigation. This legislation subordinates the fishery to irrigation and refuge water deliveries. Furthermore, section 104(d) changes existing legal requirements that water development be based on the "user pay" principle by approving that mitigation of impacts will be borne by the U.S. taxpayer, instead of the water developers.

Comment 5 - KBRA

8. Section 105(d) includes direct spending obligations that would require cuts in other programs to offset new spending. This section also conflicts with President Obama's announcement of a three-year freeze on discretionary spending.

Comment 6 - KBRA

9. Section 106(a) recognizes a bargain and exchange (consideration) for the Klamath Tribe's settlement as a basis for authorizing the Klamath Tribes to make "commitments" in the KBRA. There is no such similar provision for the non-signatory California tribes; the United States would unilaterally declare that the tribes are satisfactorily compensated. Congress has not acted toward tribes in this manner in more than half a century since it abandoned the tribal termination policy of the 1950s.

10. Section 106(c) provides that many of the actions required to occur before the United States compromises its trust duties are output in nature (spend money) rather than outcome oriented (restore fish). Thus waivers could occur without any assurance that the restoration has taken place. The Office of Management and Budget has long evaluated federal programs on the basis of their outcomes. The waivers should not be effective for the United States, or for tribes choosing to grant them, until restoration has occurred.

11. Section 106(f) authorizes the unilateral and unconsented waiver by the United States of rights and benefits on behalf of the Hoopa Valley Tribe as set out in the 1995 and 1997 Interior Department Solicitor's opinions on Klamath River water rights. It would approve limitation of the United States' trust responsibility to protect Hoopa fisheries. In Section 106(f) the United States, as trustee for all federally recognized tribes of the Klamath Basin (including Hoopa), would be required to allow diversions of Klamath River water in Oregon and other commitments under the KBRA, notwithstanding the resulting adverse effects on our rights and other interests in California.

Honorable Jeff Merkley  
 October 3, 2011  
 Page - 4

Comment 6 cont.- KBRA

12. Sections 106(h)(1)(C), (F), (G), and (2) and (3) suggest an even broader waiver by the United States that would proscribe Klamath River claims in California that are inconsistent with the federal assurances to the Klamath Project and other federal commitments in the KBRA.
13. Section 106(j) gives funding priority to Party Tribes at the expense of other Tribes.
14. Section 106(l) purports to protect non-party tribes but its language is specific to "the authority of" non-signatory tribes. It does not protect against loss of the existing trust duty of the United States to protect those tribes' water and fishing rights. Since the intent of the bill is to ratify the KBRA and authorize and direct the United States to sign it, the United States' rights as a trustee would be limited to rights retained under the Restoration Agreement. As a result, if the priority given by the KBRA to Klamath River surface water diversions of 378,000 acre-feet per year has the effect of preventing fish restoration, then not only will the United States be unable to protect Indian fishing rights, it will be moved to the other side of the "v." In other words, the United States would be enforcing the priority for water diversions even if that leaves too little water to restore the fish on which the Indian tribes rely. By contrast, under existing law "Reclamation is obligated to ensure that project operations not interfere with the Tribes' senior water rights. This is dictated by the doctrine of prior appropriation as well as Reclamation's trust responsibility to protect tribal trust resources. . . . Reclamation must, pursuant to its trust responsibility and consistent with its other legal obligations, prevent activities under its control that would adversely affect [the Tribes' fishing] rights." Memorandum of Regional Solicitor (July 25, 1995). This would be changed by KBRA and subsection (l) would not preserve the trustees' duty to prevent such adverse effects.

The KBRA makes this elimination of federal trust responsibility explicit for all Basin tribes, signatories or not. For example, in section 15.3.9:

The United States, acting in its capacity as trustee for the Federally-recognized tribes of the Klamath Basin, hereby provides . . . Assurances that it will not assert: (i) tribal water or fishing right theories or tribal trust theories in a manner, or (ii) tribal water or trust rights, whatever they may be, in a manner that will interfere with the diversion . . . of water for the Klamath Reclamation Project that is . . . provided in Appendix E-1.

Congressional ratification of this KBRA provision changes the tribal right (enforceable by the federal trustee) from a right to sufficient water to produce the fish on which the Tribes rely, into a right to water left over after diversion per Appendix E-1, regardless of what the habitat results may be. It is thus similar to termination provisions such as the one for the Klamath Tribes of Oregon, which

Honorable Jeff Merkley  
October 3, 2011  
Page - 5

← Comment 6 cont.

provided "statutes of the United States which affect Indians because of their status as Indians shall no longer be applicable to the members of the Tribes." 25 U.S.C. § 564q(a). This bill would abridge the Government-to-Government relationship between the United States and the Hoopa Valley Tribe.

Comment 7 - KBRA

15.

Section 108(b)(1) and section 203(c) appear to prevent nonparties to the Agreements from enforcing any protections of their interests, or the public interest, found in the bill.

Comment 8 - KBRA

16.

Title II would terminate Federal Energy Regulatory Commission jurisdiction over certain Klamath River dams and specially authorize their removal. But the existing FERC licensing process provides a mechanism that, in appropriate cases, leads to dam removal. E.g., FERC Project No. 2342. There is no need for new, or further circumscribed, authority.

Comment 9 -  
KHSA

17.

Section 206 and the Klamath Hydroelectric Settlement Agreement ("KHSA") authorize PacifiCorp to avoid compliance with Clean Water Act requirements before dams are removed, if ever (p. 41). Further, title II of the draft Act, is unlikely to produce dam removal, because of the many contingencies in the KHSA (p. 20-21, 62-65).

Please let me know when we can meet with you at your earliest convenience. Thank you for your attention to this matter.

Sincerely,  
HOOPA VALLEY TRIBAL COUNCIL



Byron Nelson, Jr., Vice-Chairman

Enclosure

cc: Sen. Dianne Feinstein  
Sen. Barbara Boxer  
Hon. Mike Thompson  
Hon. Dale Kildee  
Hon. Greg Walden  
Secretary Ken Salazar  
Attorney General Eric Holder

**Comment Author** Nelson, Byron Jr.  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1026_068-1	<p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>Master Response GEN-27 Interplay Between Trinity River Restoration Program (TRRP) and KBRA.</p>	No
IT_LT_1026_068-2	<p>These comments would appear to be on a proposed bill that may not accurately reflect the KBRA rather than on the EIS/EIR analysis of the KBRA.</p> <p>For example:</p> <ol style="list-style-type: none"> <li>1. Section 2.2.12 of the KBRA states that neither the KBRA nor the Trinity River Restoration Program shall affect the other. It does not subordinate TRRP to KBRA.</li> <li>2. Under the KBRA, fish restoration goals and harvest limits would be developed in future fish restoration and fisheries reintroduction plans that are yet to be drafted. Speculating on what those plans may or may not contain when they are drafted is beyond the scope of the analysis for the EIS/EIR.</li> <li>3, 4, and 5. The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they will be made in compliance with existing laws and regulations including opportunities for public review and comment. Consultation under ESA for various elements of the KBRA does not presume that there will be approval of any particular flow regime. The KBRA is analyzed in this EIS/EIR programmatically. The KBRA includes programs that would undergo detailed development and analysis in the future. The KBRA analysis, however, is programmatic, as described in Section 15168 of the CEQA Guidelines, because the details of this plan are unknown and not reasonably foreseeable at this time. A program-level document is appropriate when a project consists of a series of smaller projects or phases that may be implemented separately. These programs would likely undergo detailed development and analysis in the future. Therefore, it is anticipated additional NEPA and CEQA analyses for the suite of actions contained in KBRA will be tiered as appropriate to this EIS/EIR.</li> </ol>	No
IT_LT_1026_068-3	<p>These comments would appear to be on a proposed bill that may not accurately reflect the KBRA rather than on the EIS/EIR analysis of the KBRA. Section 2.2.12 of the KBRA states that neither the KBRA nor the Trinity River Restoration Program shall affect the other.</p>	No

**Comment Author** Nelson, Byron Jr.  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1026_068-4	<p>These comments would appear to be on a proposed bill that may not accurately reflect the KBRA rather than on the EIS/EIR analysis of the KBRA.</p> <p>The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with applicable laws including NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment.</p>	No
IT_LT_1026_068-5	<p>These comments would appear to be on a proposed bill that may not accurately reflect the KBRA rather than on the EIS/EIR analysis of the KBRA.</p> <p>The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with applicable laws including NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they would be made in compliance with existing laws and regulations including opportunities for public review and comment.</p>	No
IT_LT_1026_068-6	<p>The Klamath Agreements were negotiated and designed to resolve longstanding legal disagreements over the use of natural and water resources in the Klamath Basin. This is what occurred in the negotiations over PacifiCorp's Klamath Hydroelectric Project, as well as the related Klamath Basin Restoration Agreement. The Federal Government often times has a vested interest in resolving litigation as well. In this case, the Federal Government made the calculated decision that the KHSR and KBRA would purport with its responsibility to act in the best interest the public and tribal trust.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p>	No
IT_LT_1026_068-7	<p>These comments would appear to be on a proposed bill that may not accurately reflect the KBRA rather than on the EIS/EIR analysis of the KBRA.</p> <p>The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with applicable laws including NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they will be made in compliance with existing laws and regulations including opportunities for public review and comment.</p>	No

**Comment Author** Nelson, Byron Jr.  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1026_068-8	<p>These comments would appear to be on a proposed bill that may not accurately reflect the KBRA rather than on the EIS/EIR analysis of the KBRA.</p> <p>The KBRA does not supersede existing laws or regulations and does not exempt any actions from compliance with applicable laws including NEPA, CEQA, ESA, or CESA. As plans and programs are developed under the KBRA, they will be made in compliance with existing laws and regulations including opportunities for public review and comment.</p>	No
IT_LT_1026_068-9	Master Response KBRA-4 Proposed Legislation.	No

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MR. NORRIS: Good evening. It's Josh Norris,  
J-o-s-h N-, as in Native, o-r-r-i-s. I got to gather my  
thoughts here after that.

So, after hearing about the possibility of dam  
removal, about, oh, five years ago or so, of course my  
gut reaction was that I was all for it. Yes, take down  
all the dams as soon as possible. Restore our fisheries.  
Restore our clean water, our ceremonies, our traditions,  
our people's health, and our livelihood, our economy.

Comment 1 -  
Approval of Dam  
Removal

But I'm also the kind of person who likes to  
make an informed decision, so I have looked at the issue  
of dam removal and how it has affected communities in  
other locations. And I have not yet seen any reason to  
keep dams up. I have not found one instance of  
decommissioned dam removal where the community regretted  
the decision, where the water quality worsened, or  
conditions worsened or the economy worsened. There's  
just simply no case.

So, the only reason that I can think of that  
there is any resistance to this at all is just good  
old-fashioned thinking that came from the era of the '20s  
and '30s, where, I mean, these were economic development

projects that helped get the country back on its feet.

And it did provide a good percentage of the power that was needed. But that's no longer the case. 3 percent of the power provided is negligible. It can be -- it can be made up just through simple energy conservation.

So, I think, you know, if there is any resistance, it's because of sort of these old-fashioned ideas that said something to the effect of, you know, "Why let this water just flow down and go to waste down at the ocean?"

We're in a new era now, and the new project is removing these dams. I see it as beneficial to our economy, in the same way that building them was.

And I also want to reiterate that this is a long-term project, that these Agreements and our plans for the future need to be ongoing. And I'll be in it for the long haul.

Thank you.

**Comment Author** Norris, Josh  
**Agency/Assoc.**  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_051-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

IT\_MC\_1027\_044

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MR. O'ROURKE: All right. Thomas O'Rourke,  
Chairman of the Yurok Tribe, T-h-o-m-a-s O apostrophe  
R-o-u-r-k-e.

You know, they would ask to me what the  
Klamath River means to me and to our people. The  
Klamath River is our lifeline. You know, it is like our  
heart, that the Klamath River is sick, it's in despair.  
And everyone knows that when something becomes sick, like  
your heart, a vital organ, that everything else fails  
behind it.

Our dams serve as incubators to what we call  
blue-green algae. I'm not quite sure how to pronounce  
the science word for it.

So, anyway, you know that our people suffer in  
many ways from the dam, and the main reason for it is  
water quality. Our neighbors up the river are deprived  
from an essential food to their health. Everyone knows  
that salmon help to prevent diabetes and other illnesses  
and sicknesses. And they are deprived from something  
that The Creator put there for them in the beginning.

You know that certain times a year now, that our  
river -- the algae becomes so toxic that we can't enter

the water. Our salmon are not fit to be eaten, and so that we have to quit fishing and harvesting.

Our people depend on these fish for our livelihood, for our health. And we have since the time of beginning, time immemorial. We have been here. We have always used the river. We have always fished and fed our families.

We are still very dependent upon these salmon for our livelihood, for our health, for our subsistence, for our ceremonies. We depend on them. And each year, year by year, our fish dwindle, and our river becomes more sick. And so that I believe that the dam removal is the first big positive step in revitalizing, restoring the health to the river, water quality.

When something is well and thrives, everything that depends on it thrives, also. It is a main lifeline to an ecosystem, a major ecosystem that effects many other ecosystems around us. All right. When one ecosystem this major fails, many other ecosystems around it begin to fail. And so, the animals that depend on the fish and the other resources, water resources, species, when it becomes extinct, then they become extinct. An ecosystem become desert. And so that little by little we are going that way.

Well, this is what that means to our people. We were put here as caretakers, in the beginning, of the

water and the river and the resources.

And it's not just this small portion. You know, we work with our neighbors up and down the river. We work together to manage in a responsible way, to utilize in a responsible manner.

Every year, there was as much as there was the year before. We had systems to count the fish through what we call weirs. We call them weirs now. And so that we were able to monitor the fish that went up the river.

We had ceremonies that didn't allow us to fish until our neighbors caught fish up the river. We had different methods of management that worked, thousands and thousands of years. And they will continue to work if we are allowed once again to practice these methods of management, through collaboration with many different agencies, traditional knowledge, western science, what we say modern science, through collaboration of different agencies and entities.

Comment 1 - Approves  
of Dam Removal

I believe that, by working together, we can once again become successful, and "successful" being the restoration of the Klamath River. I believe, to even begin that success, that the dams need to be removed to begin to restore the quality back, the water quality, that will sustain salmon runs for the length of the Klamath River and the upper regions.

I believe that we were entrusted, as the first

caretakers on the river, to make sure that our neighbors  
had fish, and so, we work hard to achieve that objective,  
that goal. And we will continue to work, because it is  
our lifeline and our livelihood.

Thank you.

**Comment Author** O'Rourke, Thomas  
**Agency/Assoc.** Yurok Tribe  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_044-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

Comment 1 - Approves  
of Dam Removal

MR. OLIVER: Hello. My name is Merk Oliver. I

want you to know that I'm here to ask these people to  
take down the dams, because they are no good for our  
river or for anybody else. And for the life of me, I  
can't understand, from my own heart, that -- why it is so  
hard for you people to see that those dams are no good  
for us, for anybody. They're poisoning the water.  
They're poisoning everything.

They're even poisoning the fish, the sturgeon  
and eel, candlefish, everything. They're even poisoning  
people with those dams.

I've got pictures to prove that you can see all  
the green water up there. But you people, how come you  
can't see that and do something about that? Because --  
maybe it's because you've been so used to being against  
certain people. And it's no good to be like that.

You've got to be honest with yourself that the  
dams were no damn good. And I hope you can see to it  
that they are taken down. There's nothing -- I can't  
understand. How come we have to -- we won the suit. How  
come we have to wait for another ten years for these to  
come down? And it's not right, the way you people are

Comment 2 -  
Alternatives

going about your business.

Thank you.

**Comment Author** Oliver, Merk  
**Agency/Assoc.**  
**Submittal Date** October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_056-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No
IT_MC_1027_056-2	Master Response ALT-3 Elimination of Alternative 13 - Federal Takeover of the Klamath Hydroelectric Project from Detailed Study.	No

IT\_MC\_1026\_061

KLAMATH DAM REMOVAL  
 DRAFT EIS/EIR HEARING  
 OCTOBER 26, 2011  
 PUBLIC TESTIMONY  
 ARCATA, CALIFORNIA

MR. ORCUTT: Yeah. For the record, my name is Mike Orcutt, spelled O-r-c-u-t-t. And my position is the fisheries director for the Hoopa Valley Tribe.

And I really wasn't going to say much tonight, but I would -- someone put my name in, a council member, so I work for her, so the --

The role that I played has been one in which I've been involved with restoration. I'm one of the original members of the Klamath Task Force. I continue to be involved with the Trinity Management Council. I frequently represent the Tribe there. I was a party -- excuse me -- a participant in all the settlement discussions. Comment 1 - General/Other

So, my only couple of comments are that, you know, that the Tribe, unfortunately, because of media and all these different things and forces that are coming to bear -- it is very unfortunate that throughout the process I think we were very, very clear on what we wanted; we simply wanted adequate acknowledgment, analysis, and protection of Trinity River restoration.

The Tribe went against some pretty large forces in the San Joaquin Valley and the hydropower industries that exist in the Central Valley to secure, by law now,

restoration of the Trinity River. And so, from day one,  
that was our stated goal.

There are provisions in the -- both in the  
Agreement and in the legislation that Hayley referenced.  
But, again, a lot of that is what we call the law of the  
river for Trinity.

And I have just a couple of points there that I  
think are very important. The lion's share of fall  
Chinook are produced in the Trinity River. We fought  
hard and long to try to get an analysis of the  
composition in the fish kill, but we did an analysis that  
shows that a good number of those fish were destined for  
the Trinity River. And, in fact, our harvest was one of  
the lowest on record that year.

The lion's share of spring run Chinook in the  
Basin today -- everybody talks about reintroduction of  
fish into the Upper Klamath. The lion's share of  
Trinity River -- are produced in the Trinity River and,  
to a lesser degree, in the South Fork Trinity River.  
But, by and large, the fish that are caught that are  
spring-raised fish are destined to enter into the  
Trinity River. The lion's share of steelhead are  
Trinity River origin fish.

Trinity River hatchery, on occasions, produces  
30,000 Coho salmon. They're not listed, but,  
nonetheless, they're a major component of resources in  
the Basin.

So, I would say this, in closing, that I saw  
some articles about the workshop last week and about the  
balancing of the Klamath. I would make the following  
observation, that the Klamath River is in a perpetual  
balance ecologically. Two years ago, it was drastic  
reductions in project deliveries. They freed up some  
water. And what did they look for for a safety guard,  
safety net? It was the Trinity River water and --

MS. JONES: Thank you, Mr. Orcutt.

MR. ORCUTT: -- specifically the 50,000 acre  
feet that is owed to Humboldt County. And our comments  
are in the back. Thank you.

**Comment Author** Orcutt, Mike  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

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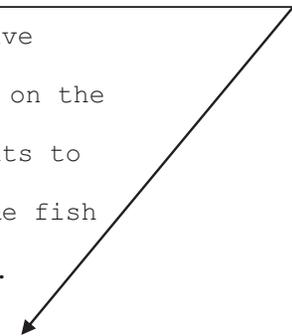
<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1026_061-1	Master Response GEN-27 Interplay between Trinity River Restoration Program (TRRP) and KBRA.	No

IT\_MC\_1026\_063

KLAMATH DAM REMOVAL  
 DRAFT EIS/EIR HEARING  
 OCTOBER 26, 2011  
 PUBLIC TESTIMONY  
 ARCATA, CALIFORNIA

MS. REDNER: My name is Barbara Redner,  
 R-e-d-n-e-r. I am Klinkit (phonetic spelling) from the  
 Raven House.

Comment 1 - Approves of Dam Removal



I'm married to a Redwood Creek Indian. We have  
 no fishing rights on the Klamath. I am dependent on the  
 well-being of the people that have fishing rights to  
 provide salmon for me. As an elder, they bring me fish  
 on a regular basis. I am grateful for that.  
I believe that the Klamath River should be  
returned to a wild river, in its entirety; not the four  
dams that you propose but the entire river.

When we were here before, we took care of this  
 land. When you signed the treaties, you guaranteed us  
 our right to keep this land, in perpetuity, in its  
 natural state. That's not been done.

Comment 2\_- Fish

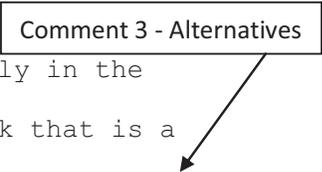


Not only are the tribal rights being infringed  
upon by this act, but the salmon's rights are being  
imposed upon. There is nothing in this act, the part  
that you are proposing tonight, that guarantees that the  
salmon will be restored.

You claim -- and I am sorry that you have gone  
to all this work, with nothing to show that the salmon  
will be protected, because there is significant

agricultural runoff from the Upper Klamath, and that --  
those chemicals flow downstream. They don't stop at  
the -- at that -- I don't know what that dam is called  
upriver. But it doesn't stop there. It continues to go  
downriver. And it continues to go all the way to the  
ocean.

Comment 3 - Alternatives



And it affects all of the fish, not only in the  
river but clear to the ocean. And I think that is a  
travesty. And I firmly believe that the dams all the way  
up the Klamath River should be done away with, and I do  
not believe that any of the alternatives that you have  
proposed don't account for any of that.

And with that, thank you for your time.

MR. LYNCH: Thank you.

**Comment Author** Redner, Barbara  
**Agency/Assoc.** Redwood Creek Tribe  
**Submittal Date** October 26, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1026_063-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No
IT_MC_1026_063-2	<p>Master Response AQU – 5 Will Benefit all Salmonids.</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>Master Response AQU – 7 Expert Panel Uncertainty Likelihood of Success.</p> <p>Master Response AQU – 23 Evaluation of Dam Removal and Restoration Anadromy (EDRRA) Model.</p> <p>Master Response AQU – 16 Benefits to Coho.</p> <p>Master Response AQU – 21 NRC Dam Removal Help Coho.</p> <p>Master Response AQU – 31 Thermal Lag and Diel Temperatures.</p> <p>Master Response WQ-4 Hydroelectric Project Impacts to Water Quality Anticipated KHSA/KBRA Improvements.</p>	No
IT_MC_1026_063-3	<p>Appendix A, Final Alternatives Report, from the Draft EIS/EIR describes the alternatives considered during development of the document. Alternative 15, Full Removal of Six Dams, considers the removal of Keno Dam and Link River Dam in addition to the Four Facilities. Alternative 15 was not carried forward for more detailed analysis in the EIS/EIR because it would not avoid or lessen environmental effects of the Proposed Action. Implementation of Alternative 15 would also not be likely to meet Endangered Species Act requirements or tribal trust water rights within Upper Klamath Lake.</p>	No

PUBLIC HEARING ON THE KLAMATH DAM  
REMOVAL DRAFT EIS/EIR  
---o0o---  
YREKA, CALIFORNIA  
THURSDAY, OCTOBER 20, 2011

MR. RON REED: My name is Ron Reed, R-o-n R-e-e-d.

I'm a Karuk tribal member. My Karuk name is

Macatha (phonetic), given to me by a medicine person from

the Karuk people.

Comment 1 - ITAs

My people resided at Tee Yuke Curo (phonetic)

for thousands of years, hundreds of generations.

I live, right now, at Catamean (phonetic), the

center of the world, the Karuk people, above our fishery,

a fishery that isn't very healthy.

I, and the Karuk people, are much like what

somebody said about the Coho, we were not recognized in

this basin. In 1979, we became federally recognized, so

we are now recognized, and now we can spread the word

about how the Karuk people have lived in the Klamath River

Basin for a very long time.

We took care of the resources in this basin for

a very long time, and the great creator of all things, of

all of us here, told us how to manage this land. It

wasn't by damming up the dams, not by cutting off our

relations: World renewal, all the relations we depend on,

is us, our way of life.

The things that we are taught by our elders,  
that do not happen today, have a lot to do with social  
responsibility. Sure, you see a lot of atrocities  
happening to Karuk people before now and now and maybe in  
the future. But, then, we need to fix this problem. We  
can fix it in a sustainable away.

And in the beginning of this process, I came  
into the room and I felt like I had a lot of enemies.  
Since then, across the line, we let our issues be known.  
We have shaken hands, we have introduced our kids to one  
other, we are trying to make the things good here.  
Sustainable process, sustainability, you show  
me sustainable process in this world and I don't have to  
question it.

The Karuk people have a sustainable way about Comment 2 - Fish  
us and you need to listen to us. The Karuk people have  
been here, much like the Coho. The Coho has been in our  
language just as long as our people have been on this  
basin. There is a great story about the Coho and the  
turkey buzzard, it goes way back. People can laugh,  
people can laugh, it's the truth. Comment 3 - ITAs

It's not that we have been here for two, three,  
four generations; we have been here for thousands of  
years, and our people need to be recognized.

This is the first time in a natural resources management forum that the Karuk people have been able to address our issues and concerns the way the Karuk people need to address our issues and concerns.

We went to Scotland to fight this animal. They sold it. We are coming here, we went to Warren Buffett.

We'll go anywhere, this is our way of life.

The people do not teach me the things now and I'll not be able to teach my children the same things, these traditional pathways, the social responsibilities that God has given us, the same things that are in the constitution, we are human beings, we have a say-so in this world.

So I say we can fix this problem. In the beginning, I wanted to do away with agriculture, I wanted to do away with all these different things that I was opposed to. Now there's a sustainable process that we need to address together, and we can address this together so we can all continue our culture, our traditional values that all of us -- that encompass all of us. We can do all of this together if we do it right.

**Comment Author** Reed, Ron  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_016-1	Master Response GEN-1 Comment Included as Part of the Record.	No
IT_MC_1020_016-2	Master Response GEN-1 Comment Included as Part of the Record.	No
IT_MC_1020_016-3	Master Response GEN-1 Comment Included as Part of the Record.	No

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 25, 2011

PUBLIC TESTIMONY  
ORLEANS, CALIFORNIA

MR. REED: Good evening. I'm Ron Reed,  
R-o-n R-e-e-d. I'm a Karuk tribal member. I come from a  
traditional family.

I think I have told you folks everything I could  
probably possibly tell you about the importance of the  
river. The river is a way of life. World renewal imbeds  
the river as its life.

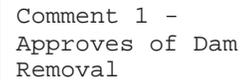
The health of the people run parallel to the  
health of the river. And I do -- and that's the Karuk  
people, or the indigenous people. It runs to the health  
of all the river-ing communities in all this great  
Klamath River Basin.

World renewal ceremonies represent the  
connection between the Karuk people, the Yurok, the Hupa,  
and other tribes, as well, the value of the importance of  
working together. We have one opportunity in a lifetime.

Taking the dams out of the Klamath River is huge.

The Karuk people, we have been federally  
recognized by the federal government since 1979. And  
it's the first time we've been able to talk about federal  
water policy. I think we have displayed the importance

Comment 1 -  
Approves of Dam  
Removal



of the river to us.

Today I speak from -- by way of traditional family, but I also speak for the practitioners and the people who walk before us but, more importantly, the people who walk after us. We have one opportunity in a lifetime to do what somebody else said, to right a lot of wrongs.

I'm a grandfather. I'm a husband. I'm a father. I'm a son. I'm a grandson. And those are the things that are most important to me in this world, is my family, which is directly connected to world renewal, which is directly connected to the river. How are we supposed to connect the next generation to our way of life, if we do not have the resources necessary to be who we are?

There's not much more to say, except for there's a lot of traditional knowledge that has been thrown at you folks, and I think that it can be taken -- it could be taken in the western science world and be not only acknowledged, but, also, we need to know how -- we need to understand the natural resource management that made this great Basin this great Basin.

We have an opportunity to fix the wrongs and make it right. The other night in Yreka, it was very contentious, but they are very passionate with the culture and tradition that they live, they know. But we

cannot forget about the people on the river. You cannot  
forget about the Karuk people because we do not have a  
reservation, we don't have fishing or hunting or  
gathering rights, but we, we breathe the air, we live off  
the earth, and we depend on this great river to be who we  
are.

And we don't want to become the next endangered  
species. We are already threatened. We need a way of  
life. It depends on this river. If we don't get that,  
we're -- we are exactly where we're at today; we don't  
know. A lot of goods, a lot of bads about the dam  
relicensing. The dams have to come out.

World renewal concepts stretch from the top of  
the Basin to the mouth, unimpeded. Our message goes to  
the Great Creator, and that river needs to run free.

Thank you very much.

MR. LYNCH: Thank you, Ron.

**Comment Author** Reed, Ron  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 25, 2011

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Comment Code	Comment Response	Change in EIS/EIR
IT_MC_1025_042-1	<p>Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.</p> <p>The United States believes the KBRA and KHSAs provide the best opportunity to restore the Klamath Basin and its fishery. (See EIS/EIR Sections 3.12, Tribal Trust Assets and Section 3.13, Cultural and Historical Resources).</p> <p>General Response AQU-26 Increased Abundance for Harvest and Tribes.</p>	No

**Karuk Community Health Clinic**  
64236 Second Avenue  
Post Office Box 316  
Happy Camp, CA 96039  
Phone: (530) 493-5257  
Fax: (530) 493-5270

# Karuk Tribe



## Administrative Office

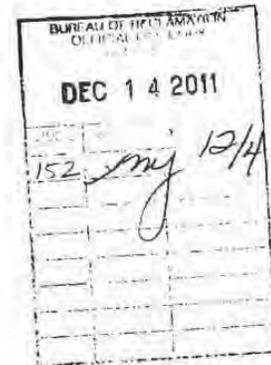
Phone: (530) 493-1600 • Fax: (530) 493-5322  
64236 Second Avenue • Post Office Box 1016 • Happy Camp, CA 96039

**Karuk Dental Clinic**  
64236 Second Avenue  
Post Office Box 1016  
Happy Camp, CA 96039  
Phone: (530) 493-2201  
Fax: (530) 493-5364

December 10, 2011

Elizabeth Vasquez  
Bureau of Reclamation  
U.S. Department of the Interior  
2800 Cottage Way  
Sacramento, CA 95843

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



**RE: Comments on Klamath Secretarial Determination Cultural Resources Report**

Ayukii Ms. Vasquez and Mr. Leppig:

The Karuk Tribal Historic Preservation Office appreciates the opportunity to comment on the *Secretarial Determination Cultural Resources Report* for Klamath Facilities Removal, released November 19, 2010. This report is designed to comply with the National Historic Preservation Act (NHPA) and the National Environmental Policy Act (NEPA).

Specifically, Section 106 of NHPA requires that:

*The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertakings shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.*

National Register eligible resources must possess both significance and integrity, and must meet one or more of four criteria defined as a) association with events and broad historical patterns, b) associated with historically important persons, c) embodying distinct artistic or architectural characteristics, and d) potentially yielding important prehistoric or historic data. Criteria A has been broadly defined to include Traditional Cultural Properties and Ethnographic Landscapes, and is further discussed in National Register Bulletin 38 (Parker and King 1998).

Classification	ENV-3.00
Project	12
Control No.	12-12-12
Folder I.D.	1160435
Date Input & Initials	12/14/2011 AD

SCANNED

NHPA amendments and implementing regulations strengthen Native American consultation in the Section 106 process; THPO duties include “advise and assist” activities associated with Federal and other agency implementation of their historic preservation responsibilities. Within this framework, the Karuk THPO offers the following comments:

**Comment #1:** The Karuk THPO strongly concurs with the identification of the entire length of the Klamath River as a “riverscape” Gates (2003) and King (2004), which is potentially eligible as an ethnographic landscape for inclusion in the National Register of Historic Places. This office however does not concur with the recommendation that “removal of dams could have an adverse effect on the Klamath River TCP or riverscape as identified by Gates (2003) and King (2004) and other sites associated with traditional cultural practices of the Klamath Tribes, Shasta, Karuk, Hoopa, and Yurok that could be eligible for inclusion on the NRHP.” The removal of the dams is specifically designed to restore health to the riverscape and its contributing elements. Therefore, the cultural resources report should recognize the perspective that the Project could enhance and preserve the TCP eligible for the National Register.

Comment 1 -  
Cultural Resources

**Comment #2:** This office acknowledges that dam removal has the potential to expose cultural resources and archaeological sites inundated by the reservoirs associated with dam construction. These prior adverse effects were unmitigated and likely have resulted in either silt overlay or exposure of cultural materials through erosion. It will be imperative to incorporate provisions in any MOA or Programmatic Agreement that provide resources for site identification and mitigation of adverse effects due to potential looting, erosion, and invasive, noxious weeds.

Comment 2 -  
Cultural Resources

**Comment #3:** Methodology should have included a records search at the Northwest Information Center in Rohnert Park. This CHRIS IC houses the records of Karuk cultural sites in Humboldt County. The NCIC does not contain site records and surveys for areas within Karuk aboriginal territory. Also, Section 3.2.5 (Yurok) has several inaccurate references and appears to confuse “Karuk” and “Yurok” throughout this section.

Comment 3 - Cultural Resources

**Comment #4:** According to Deur (2004) the Klamath Tribe is concerned about access to the Link River TCP, and the potential impacts of the Project on this access. These Tribal concerns should be identified and evaluated in consultation with tribal representatives, and appropriate mitigation measures developed as part of Programmatic Agreement or site specific Memorandum of Agreement. This office recognizes that culture is process and changing practices are no less authentic, traditional, or important to those who value them.

Comment 4 - ITAs

In conclusion, the Karuk THPO is impressed with the thoroughness and quality of the *Secretarial Determination Cultural Resources Report* for Klamath Facilities Removal. This office is also confident that identified effects can be successfully resolved using the regulatory framework of Section 106 of NHPA and best practices of Cultural Resources Management. It is imperative that the resources to achieve these results be incorporated in the final Project agreement(s) and implementation.

The Karuk Tribal Historic Preservation Office appreciates the commitment and hard work of your agencies and individuals in developing the studies and documents for restoration of the Klamath River and ecosystem. I look forward to working with you on this very important project.

Yootva,



Hélène Rouvier  
Tribal Historic Preservation Officer  
Karuk Tribe

**Comment Author** Rouvier, Helene  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** December 14, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1214_092-1	The Lead Agencies acknowledge that the comment author believes that the river could be eligible as a riverscape (cultural landscape or traditional cultural property) and that the removal of the dams will restore the health of the riverscape. EIS/EIR Section 3.13, Cultural and Historic Resources, identifies potential impacts within the area of potential effect which would include these sections of riverscape, potential adverse effects may occur to sites associated with the riverscape. Mitigation Measure CHR-3 would specifically address these effects through additional consultation under the NHPA Section 106 as applicable.	No
IT_LT_1214_092-2	The Lead Agencies acknowledge that Yurok TCP may be adversely affected under the No Action Alternative. However, under this alternative compliance with Section 106 of the NHPA would apply for federal actions not related to removal of the dams or the proposed affirmative alternatives. The tribal trust section of the Draft EIS/EIR however does address effects on the Klamath River resultant from past and present dam operations.  EIS/EIR Section 3.13, Cultural and Historic Resources, acknowledges that the affirmative alternatives have the potential to adversely affect historic properties and addresses this in Mitigation Measures CHR-1, CHR-2, CHR-3, and CHR-4. Additional consultations with ACHP, SHPO, tribes, and other interested parties under NHPA Section 106 will lead to a Programmatic Agreement of Memorandum of Agreement to resolve adverse effects with mitigation measures.	No
IT_LT_1214_092-3	The Norwest Information Center records were searched and EIS/EIR Section 3.13, Cultural and Historic Resources was updated to add in these sites. Changes were made to correct the use of "Karuk" and "Yurok" in Section 3.2.5 of the Draft EIS/EIR.	Yes
IT_LT_1214_092-4	The Draft EIS/EIR addresses potential impacts to cultural resources. The potential for vandalism of exposed sites was considered and is addressed in Mitigation Measure CHR-2 through the development of management plans and discovery plans, through consultations under the NHPA Section 106, as applicable. In addition, Shasta people would be included in the additional consultations under NHPA Section 106 for each mitigation measure.	No

IT\_WI\_1107\_075

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From: MAILER-DAEMON  
Sent: Monday, November 07, 2011 4:57:06 PM  
To: BOR-SHA-KFO-Klamathsd; werner@wrinkledog.com  
Subject: Web Inquiry: Klamath Dams Draft EIS/EIR Auto forwarded by a Rule

Name: Helene Rouvier  
Organization: Karuk Tribe

Subject: Klamath Dams Draft EIS/EIR

Comment 1 - Approves of Dam Removal

Body: I would like to extend my support for "Alternative 2" - full dam removal. This will help to restore the Klamath River and Region both ecologically and economically. Dam removal will support the return of healthy fish population, provide employment, and address the health risks that have resulted from toxic algae blooms and bacteria. From my readings on this issue, the science is solid for dam removal, and the benefits for all stakeholder communities have been demonstrated.

**Comment Author** Rouvier, Helene  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** November 07, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_WI_1107_075-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1102\_058

10/31/2011

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**  
KlamathSD@usbr.gov

**Website:**  
KlamathRestoration.gov

**Fax:**  
(916) 978-5055

SCANNED

11/27/13:00  
11/27/12  
1153734  
11/27/2011

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

150 ✓

**Name:** Sarah Schaefer  
**Organization:** Quartz Valley Indian Reservation  
**Title:** Biologist  
**Address:** 13601 Quartz Valley Road, Fort Jones, CA 96032  
**Email:** epubiol@qvir.com

**Comments:** The Quartz Valley Tribe is very concerned about the ecological health of the Klamath Basin, as the tribe is dependent upon clean water for ceremonial, recreational, and domestic use. Additionally, the Klamath Basin once supported salmonid and lamprey fisheries that was/is inherent to the survival of tribal ways.

Comment 1 - Approves of Dam Removal

I personally support Alternative 2, as it is my scientific and personal belief that this is a necessity to Klamath Basin recovery and restoration. Although there is not much data on the impacts of dam removal, I believe the mighty Klamath and its beautiful tributaries will prevail in time, providing local jobs through tourism with the recovery of native fisheries and paddling tourism. If Alternative 2 should be selected, there should be ample money set aside for monitoring and documentation of recovery efforts. Thank You.

**Public Disclosure:** It is not required that you submit personal information. You may ask us in your comment to withhold your personal information from public review.

Comment 2 - Proposed Project

This information may be made publicly available at any time. We cannot guarantee that we will be able to do so.

**Comment Author** Schaefer, Sarah  
**Agency/Assoc.** Quartz Valley Indian Reservation  
**Submittal Date** November 02, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1102_058-1	Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.  Master Response GEN-3 Best Available Information.	No
IT_MF_1102_058-2	Alternative 2 includes the connected action of implementing the KBRA, which includes efforts to monitor fish recovery. Congress would need to appropriate funds for implementation of the KBRA actions, including monitoring and documentation of recovery efforts.	No

PUBLIC HEARING ON THE KLAMATH DAM  
REMOVAL DRAFT EIS/EIR  
---oOo---  
YREKA, CALIFORNIA  
THURSDAY, OCTOBER 20, 2011

MS. FLORRINE SUPER: F-l-o-r-r-i-n-e, S-u-p-e-r.

Thank you for taking time to hear our issues.

Comment 1 - Approves of Dam Removal

I support dam removal and the restoration agreement.

I've been raised all my life in Yreka. Because  
I am a tribal member it takes me to the river and I've  
been there to witness ceremonies, fishing, smoke fishing.  
And today it's hard for me to get any fish which means I  
am losing my culture.

I don't know if you guys seen me bring my son  
in, but he's going to lose his culture. All you who are  
learning and trying to live their culture, is going to  
lose.

So it is time to remove the dams and make our  
river healthy.

Thank you.

**Comment Author** Super, Florraine  
**Agency/Assoc.**  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_021-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

IT\_WI\_1108\_076

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From: rsuper@karuk.us[SMTP: RSUPER@KARUK.US]  
Sent: Tuesday, November 08, 2011 9:03:56 AM  
To: BOR-SHA-KFO-KlamathSD; werner@wrinkledog.com  
Subject: Web Inquiry: alternative 2 full dam removal Auto forwarded by a Rule

Name: Robert Super  
Organization: karuk tribe

Subject: alternative 2 full dam removal

Body: I am in favor of alternative 2 full dam removal



Comment 1 - Approves of Dam Removal

**Comment Author** Super, Robert  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** November 08, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_WI_1108_076-1	Master Response GEN-2 Some People Approve of Dam Removal and Others Oppose Dam Removal.	No

IT\_WI\_1229\_095

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From: [talleyhome@earthlink.net](mailto:talleyhome@earthlink.net) [SMTP: TALLEYHOME@EARTHLINK.NET]  
Sent: Thursday, December 29, 2011 6:11:14 PM  
To: BOR-SHA-KFO-Klamathsd; [werner@wrinkledog.com](mailto:werner@wrinkledog.com)  
Subject: Web Inquiry: Remove all 4 Klamath Dams Auto forwarded by a Rule

Name: Bari G.M. Talley  
Organization:

Subject: Remove all 4 Klamath Dams

Comment 1 - Approves of Dam Removal

Body: Ayukîi, my name is Bari Gayle Morehead Talley. I am a Karuk tribal member as well as a citizen of the town of Orleans along the Klamath River. It is my heartfelt belief that a decision to completely remove all four dams and restore the river would benefit the region for long into the future, as well as to bring hope to others around the world.

Historically, human environmental policies have either ignorantly damaged ecosystems or overlooked scientific evidence in favor of populous areas and those with more financial power. Clearly, that hasn't worked out very well for the environment, the animals, indigenous peoples or fisherman. Upholding the findings would be a step in the direction to make reparations and provide sustainability for future generations.

Dam removal would also provide opportunities for scientific study that could help restore watersheds in other places. Possibilities for eco-tourism, as well as traditional fishing would greatly benefit the region. Job opportunities to do work that people can feel good about, rather than resource depletion would be an excellent change.

Abundance of salmon, a traditional and healthy food, would benefit the people in many ways. Humans have wiped out salmon runs all over the world. This is one place where we can really turn that around and really restore those great numbers—not just see old film reels, and hear about how many there used to be. We would take great pride in being part of that change.

Jobs. Hope. Health. It is in your power to make the right decision. Please help us and all of our children.

Yoŋtva - Thank you for your consideration.

**Comment Author** Talley, Bari G.M.  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** December 29, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_WI_1229_095-1	Comment Noted.  Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1020\_037

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**  
KlamathSD@usbr.gov

**Website:**

Comment 1 - Approves of  
Dam Removal

(916) 978-5055

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

**Name:** SANDI TRIPP  
**Organization:** KAPUK TRIBE  
**Title:** TRANSPORTATION DIRECTOR  
**Address:** PO BOX 1016, HAPPY CAMP, CA 95503  
**Email:** STRIPP@KAPUK.US

**Comments:**

I note clear scientific evidence for removal of the Klamath Hydro Electric dams. In regards to community I recognize dam removal as a means to economic health. Removal will truly bring the salmon populations back drift boat fishing tourism will return and all local business will prosper. We will have cold water flowing the river will be healthy again + so will we. People must understand that although change is hard some times it will allow for better times in our future.

**Public Disclosure:** It is not required that you submit personal information. If you decide to do so, please note that this information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Comment Author** Tripp, Sandi  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1020_037-1	Comment Noted.  Master Response GEN-2 Some People Approve of Dam Removal, Others Oppose Dam Removal.	No

# Klamath Settlement



EIS/EIR PROCESS

# Comment Form

IT\_MF\_1020\_031

Please mail your comments to:

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

OR

**Mr. Gordon Leppig**  
California Dept. of Fish and Game  
Northern Region,  
619 Second Street  
Eureka, CA 95501

**Email:**  
KlamathSD@usbr.gov

**Website:** Comment 1 - Approves of  
Klamath Dam Removal

**Fax:**  
(916) 978-5055

All comments on the Draft EIS/EIR must be received by November 21, 2011.

(Please print legibly)

**Name:** Hunter Iso

**Organization:** Self

**Title:**

**Address:** P.O. Box 153 Orleans CA 95556

**Email:** ~~Si~~ringmyster@hotmail.com

**Comments:** I am for Alternative 2 because I believe that the dams are taking away from the indigenous tribes that have been there before the dams were put up. As a member of the Hopi tribe in Arizona we Hopi's believe that we were put on this earth to take care of these lands and I feel that the dams are harming the environment.

**Public Disclosure:** It is not required that you submit personal information. If you decide to do so, please note that this information may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

**Comment Author** Tso, Hunter  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 20, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MF_1020_031-1	Master Response GEN-1 Comment Included as Part of Record.  The Secretary of the Interior will consider this comment along with all others in making his determination relative to the KHSA and KBRA.	No

PUBLIC HEARING ON THE KLAMATH DAM  
REMOVAL DRAFT EIS/EIR  
---o0o---  
YREKA, CALIFORNIA  
THURSDAY, OCTOBER 20, 2011

MR. CRAIG TUCKER: I am Craig Tucker, C-r-a-i-g,  
T-u-c-k-e-r.

I'm the Klamath Coordinator for the Karuk Tribe.

First off, I commend Dennis's team. The document is  
exhaustively comprehensive. I'm impressed of the breadth  
and scope. I have gone through the EIS, there is a lot to  
this one. Thanks for the hard work that went into that.

That doesn't mean I won't complain about  
something. And I complain a little bit about real estate,  
too.

Comment 1 - Real Estate

It turns out there is a lot of people whose real  
estate values are being harmed down river because for  
sometimes weeks and sometimes months in the summer there  
is a sign that says don't touch the water along the river  
all the way to the ocean. And that is harming -- there is  
people trying to run fishing lodges, there is people with  
waterfront property down there. It is harming their  
property values, their toxic algae being in that river,  
that stems from dams.

Comment 2 - Water Rights/Supply

Likewise this agreement goes along with the  
KBRA. Farmers in the Upper Basin who now have new

security for water deliveries to their farms. That will enhance their property values if we implement these agreements. That needs to be considered, too.

The criteria for the Secretary to make a

Comment 3 - Fish

positive determination is, one, does the dam removal enhance fish population? The analysis in the agreement is that it enhances falls runs, Chinook salmon about 81 percent. It expands the habitat for Coho salmon. And I would be interested in numbers on the Pacific Lamprey, which are reported to the tribes, and green sturgeon. We will assume they will benefit as well.

The other criteria for the Secretary to make a position is in the public interest. As the other analysis, this agreement would create 4600 jobs over the next 15 years.

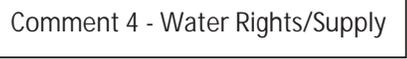
There's a very good diagram over there that describes --

The agreement also says removal of the dam will alleviate the massive toxic algae bloom that's experienced in the reservoirs this summer. It says it will increase the water security for the 1400 family farmers in the Klamath Irrigation Project. It also says you're getting the cheapest power bill as well. Not only I say that, but PacifiCorp says it and the

Public Utilities Commissions of California and Oregon say

it.

Comment 4 - Water Rights/Supply



Last thing I want to say, where does this water

come from that enables this miraculous water security for

farmers? We're adding more water storage to the Klamath

Basin with these agreements that we are taking out. We

are adding 97,000 acre feet of storage to Upper Klamath

Lake, and we are taking out 12,000 acre feet of active

storage in the dams.

There will be more water storage for farming,

for fish and more capacity for flood control because we

are adding 97,000 acre feet of storage. Thank you.

**Comment Author** Tucker, Craig  
**Agency/Assoc.** Karuk Tribe  
**Submittal Date** October 20, 2011

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1020_017-1	The Draft EIS/EIR acknowledges in the Effects Determination (3.15.4.2 pages 3.15-48, 3.25-64, 3.15-81,3.15-85 and 3.15-87 that water quality, specifically toxic algae could have negative impacts to property values in the long term and full and partial dam removal could reverse that situation. However, how long from now and to what extent is too speculative to quantify.	No
IT_MC_1020_017-2	The Draft EIS/EIR, Section 3.15, as well as the Dam Removal Real Estate Evaluation Report (BRI 2011) evaluate the potential effects on property values. The net value of the changes, and the time over which such changes might be observed in market prices, is uncertain.	No
IT_MC_1020_017-3	Conclusions regarding the effects of Alternatives 2 (and 3) on Pacific lamprey and green sturgeon are found in the Draft EIS/EIR, Section 3.3.4.3, starting on p. 3.3-120 (Pacific lamprey) and 3.3-124 (green sturgeon).	No
IT_MC_1020_017-4	Comment noted	No

Hoop Valley Tribe's position on the KHSA/KBRA and DEIS/DEIR

Comment 1 - Alternatives

The DEIS is deceptive with inadequate alternatives analysis. Dam removal cannot occur under the DEIS unless Congress also passes unacceptable legislation. Alternative 1— No Action/No Project is in fact the best route to dam removal because it re-starts the FERC process. The DEIS did not examine Alternative 8—Full Facilities Removal of Four Dams without KBRA—but it should have.

Hoop Valley participated in Klamath Settlement talks but refused to give up rights to protect water quality and flows in order to maintain its fishery as guaranteed by federal law. Section 15.3.9 of the KBRA and the authorizing legislation drafted by Senator Merkley will terminate the federal trust responsibility for our Federal reserved rights. Here is how that happens. Sec. 15.3.9 says:

"The United States, acting in its capacity as trustee for the Federally-recognized tribes of the Klamath Basin, hereby provides... Assurances that it will not assert: (i) tribal water or fishing right theories or tribal trust theories in a manner, or (ii) tribal water or trust rights, whatever they may be, in a manner that will interfere with the diversion, use or reuse of water for the Klamath Reclamation Project that is [permitted by] Appendix E-1 in any administrative context or proceeding, or judicial proceeding, or otherwise."

Comment 2 - FERC

**Returning to the FERC Licensing Process is Better:**

Fish passage will cost more than \$200 million and PacifiCorp is required to provide it which will render the Klamath Hydroelectric Project uneconomical. Therefore, PacifiCorp will have to abandon its FERC license and pay for decommissioning. Reservoir water quality problems (like toxic algae) can't be remedied without dam removal. Therefore, the California SWRCB will not issue a 401 Certification for continued operation of the dams. Therefore, PacifiCorp can't get a license, must abandon and decommission.

**Federal Legislation:**

Comment 3 - ITAs

Senator Merkley of Oregon has drafted authorizing legislation implementing the Klamath Hydropower Settlement Agreement (KHSA) and Klamath Basin Restoration Agreement (KBRA). Legislation is needed for the Secretary of Interior to choose dam removal under the KHSA. The Hoop Valley Tribe in the attached letter to Senator Merkley of October 3, 2011 found the bill "offensive and unacceptable" and vowed to oppose it if it is introduced in its current form. The bill's Klamath water rights settlement is a "unilateral subordination of our Tribe's rights in Klamath River water and to the anadromous fish that originate in that river."

"If enacted, the bill will terminate the Federal trust responsibility for our rights and curtail the associated Federal authority to protect and enforce them." The letter makes the case that under current law the U.S. government must protect senior water rights of

Comment 3 - cont.

Tribes necessary for fish production but that under the legislation and the KBRA “the United States would be enforcing the priority for water diversions even if that leaves too little water to restore the fish on which the Indian tribes rely.”

The Hoopa Valley Tribe believes that the KBRA threatens Trinity restoration goals as exemplified by the fact that the majority of fall Chinook mortalities in the lower Klamath September 2002 fish kill were of Trinity River origin.

Legislation that unilaterally terminates the trust relationship is unacceptable to the Hoopa Valley Tribe. Two major intertribal organizations (National Congress of American Indians and Affiliated Tribes of the Northwest Indians) have enacted resolutions opposing this outcome.

The current legislation does not conform to ecological restoration principles and will not solve fisheries and water quality problems. Future legislative efforts must be improved in this regard if Klamath River fisheries and Indian culture are to survive and thrive into the future.

**Comment Author** Unidentified  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_1026_067-1	<p>Congressional approval is only one step in the process needed for dam removal. An EIS can be prepared in advance of congressional approval because the analyses can be used to support decisions. The KBRA is considered a connected action to the KHSA and therefore is not analyzed separately.</p> <p>Master Response ALT-4 Elimination of Alternative 8-Dam Removal Without KBRA from Detailed Study.</p>	No
IT_LT_1026_067-2	<p>The question before the DOI is whether analysis of dam removal without the KBRA (Alternative 8) must be fully evaluated in order to ensure that the EIS/EIR contains analysis of reasonable alternatives consistent with 40 CFR § 1502.14, or whether Alternative 8 can be documented in the EIS/EIR as an alternative that has been eliminated from detailed study with a brief discussion of the reasons for its elimination. DOI has carefully considered this question and has concluded that a number of factors contribute to the conclusion that inclusion of Alternative 8 is not necessary to ensure full analysis of a range of reasonable alternatives. The CEQ guidance implementing NEPA clearly establishes that what constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case. Among the primary factual reasons for DOI's conclusion that evaluating dam removal in the absence of the KBRA is not reasonable are the following reasons:</p> <ol style="list-style-type: none"><li>1) The KHSA is a settlement of a broad range of claims and interests and the settlement parties have agreed to require support for KBRA as a requirement for settlement under the KHSA.</li><li>2) The dams in question are privately owned dams and the owner of these dams has documented and publicly expressed they will only move forward with dam removal if there are certain protections in place—protections that are expressly provided in the KHSA.</li><li>3) These protections include capping rate payer costs, protection from any harm or claims that might be caused or alleged as a result of decommissioning, and the need to recover some of the capital value of the dams by operating through 2020.</li><li>4) Under the KHSA, dam removal is to be paid for by a surcharge on the ratepayer that is capped at \$200 million with California paying any additional amounts up to \$450 million.</li><li>5) Without the funding requirements in the KHSA, and the rate payer protections that are associated with it, the only reasonably</li></ol>	No

**Comment Author** Unidentified  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

Comment Code	Comment Response	Change in EIS/EIR
	<p>foreseeable approach to potential dam removal would be through an administrative action before FERC.</p> <p>6) If in a hypothetical absence of the KHSA, a dam removal or relicensing proceeding commences before FERC, a key criteria for the tribal relinquishment of claims against the United States in the KBRA would not be fulfilled. In such a case, the United States would not proceed with finalizing certain portions of the KBRA, leading to a likely withdrawal by the United States and potentially other parties, including specifically, the tribes.</p> <p>7) There would be no liability protection for PacifiCorp in a FERC administrative action.</p> <p>8) PacifiCorp has made it clear without these protections; it will pursue re-licensing and will not pursue removal. A conditioned alternative was presented in FERC's 2007 Final EIS/EIR for relicensing of the Klamath Hydroelectric Project. FERC indicated in its Policy Statement on Dam Decommissioning at Relicensing:</p> <p>After examining the legislative history and the relevant statutory provisions, the Commission concludes that it has the legal authority to deny a new license at the time of relicensing if it determines that, even with ample use of its conditioning authority, no license can be fashioned that will comport with the statutory standard under Section 10(a) of the Federal Power Act (the Act) and other applicable law. The Commission anticipates that, where existing projects are involved, license denial would rarely occur. 69 FERC 61,336 (12/14/1994).</p> <p>9) Given that the applicant would pursue relicensing, a conditioned license has been proposed and the rarity of license denial, we believe that dam removal is unlikely without the KHSA and we likewise believe it unreasonable that the KHSA would survive without the KBRA. Consequently, it is unreasonable to evaluate an alternative on removal without the KBRA being a connected action as defined in 40 CFR Part 1508.25(a)1.</p>	
IT_LT_1026_067-3	<p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>Master Response GEN-27 Interplay Between Trinity River Restoration Program (TRRP) and KBRA.</p> <p>Appendix D-2 of the KBRA provides for establishment of a Technical Advisory Team (TAT) whose purpose is to inform the implementation of the KBRA as it relates to the management of environmental water and aquatic resources. To determine whether</p>	No

**Comment Author** Unidentified  
**Agency/Assoc.** Hoopa Valley Tribe  
**Submittal Date** October 26, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
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to store water at any particular time, the parties would need to understand the real-time water budget of the basin. Implementation of real-time water management would occur through installation of tools such as water flow monitoring gauges and snowpack gauges. Since environmental water would be managed in real time in response to existing environmental and hydrologic conditions, it is impossible to predict how that water might actually be managed into the future. Therefore, the hydrology modeling presented in Reclamation (2012d), and referenced in the EIS/EIR, attempts to simulate one possible scenario of how environmental water might be managed given the likelihood that actual management of environmental water in the future may differ and would not be constrained by monthly time steps. This would provide managers with the ability to mimic natural flow variability in near real time.

During development of the hydrologic model for the Proposed Action the Federal team determined that it was necessary to establish minimum flow targets to insure adequate protection of fish habitats and provide conditions to reduce the potential for the creating adverse conditions similar to those that were present during the 2002 adult fish die off that occurred in the lower river. A list of those instream flow targets is provided in Reclamation (2012d) Appendix E. To reduce the potential for an adult fish kill in the future the hydrologic model increased the flow targets for August and September at Iron Gate Dam to 1,100 cfs, a flow that exceeds the Hardy Phase II recommendations (Table 27) for a 90 percent exceedance criteria (Hardy et al. 2006). The 1,100-cfs value is consistent with recommendations developed by CDFG in their analysis of the 2002 adult fish kill in the lower Klamath River (CDFG 2004).

IT\_LT\_0126\_101

Wednesday-January 11, 2012

Government to Government Meeting between Resighini Rancheria and the Department of Interior.

ITA and Cultural Resources (36 CFR Part 800)

National Historic Preservation Act Section 106

Comment 1 - ITAs

- Concern is on the oversight of **natural resources and cultural uses of Resighini Rancheria Tribe on the Klamath River.**

Comment 2 - ITAs

- A. Water and Fishing Rights:
  - 1. **Resighini Rancheria did not participate in any negotiations of the KBRA/KHSA agreement from the beginning nor did we agree on anything concerning this process.**
  - 2. **The history of the Klamath River Reservation (KRR) is well-described in the US Supreme Court Case of Mattz vs Arnett.** In that case, the Court held that the KRR was not terminated by the Act of June 17, 1892, which opted the KRR to entry and settlement by non-Indians. Instead, the Court ruled that **KRR had continuously remained Indian Country since its creation by executive order in 1855, and therefore obviously under federal jurisdiction in 1934.**
  - 3. Cited in **Mattz Case at 487- "The Resighini Rancheria is located within the boundaries of what was first known as the Klamath Indian Reservation and what is today is the Yurok Reservation.**
  - 4. **The historical link between the Klamath River Indians and the Tribe is further illustrated by a provision of the Hoopa-Yurok Settlement Act (25 U.S.C. ss 1300i et seq.) which permitted a merger with the Yurok Tribe if a majority of the adult members of any several local Rancheria, including the Resighini Rancheria, so approved within 90 days after October 31, 1988 (25 U.S.C. ss1300i)**
  - 5. **Resighini Rancheria is primarily descended from the Klamath River Indians.** BIA records can show our original list consisted of Klamath River Tribe and was under federal jurisdiction in 1934.

← Comment 2 cont.

- 6. There is no record that Resighini Rancheria Tribe consented or terminated our water or fishing rights on the Klamath River.

Comment 3 - KBRA

- 1. Question- What is the adverse effect of the KBRA Agreements on Resighini Rancheria Tribe on water and fishing rights on the Klamath River?
- 2. Question-Will Section 15.3.9 of the KBRA Agreement change the tribal trust obligation by the Department of the Interior if an affirmative Secretarial Decision in conjunction with authorized legislation terminate or alter Resighini Rancheria Tribe's water and fishing right?
- 3. Question-Were all the six tribes in the Klamath River basin given the opportunity to participated on the KBRA/KHSA ?

Historic Properties: Water Change deliveries

← Comment 4 - Hydrology

- 1. Concern-The water levels during heavy wet seasons- original Fort Tewel and the old Waukel Village are within the Resighini Rancheria properties; as well as Waukel Cemetery and Resighini Cemetery.
- 1. Question –Will dam removal adversely affect these properties? Or for that matter any old villages and cemeteries along the Klamath River.

Cultural Use :

← Comment 5 - Cultural Resources

- 1. Concern- The water level during dry seasons-We gather willow roots along the banks of the Klamath River for making baskets, we use brush from the willow trees that grow within a quarter mile from the river for brush dances, we catch and eat fish such as salmon and sturgeon; these are several cultural ways that help us continue our traditional way of life.

← Comment 5 cont.

○ 1. Question-Is their enough water guaranteed for the Klamath River during dry season for us to continue to utilize the Klamath River for our traditional way of life?

○ 2. Question -When will we see the benefits of dam removal?

○ 3. Question-Will these KBRA/KHSA agreement s change water delivery priority from Tribes to Klamath project irrigators?

Comment 6 - KHSA

Comment 7 - Water Rights/Supply

**Comment Author** Unidentified  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** January 26, 2012

Comment Code	Comment Response	Change in EIS/EIR
IT_LT_0126_101-1	Natural resources and cultural uses of the Resighini Rancheria are described in Section 3.12.3.4.	No
IT_LT_0126_101-2	<p>Government to government consultation was held with the six federally recognized tribes in the Basin, including the Resighini Rancheria.</p> <p>Section 3.12 and the 1) Current Effects of Implementing the KHSA and KBRA on Indian Trust Resources and Cultural Values and 2) Potential Effects of Implementing the KHSA and KBRA on Trust Resources and Cultural Values describe the history, cultural values and tribal trust resources of the Resighini Rancheria.</p> <p>Master Response TTA-4 1988 Hoopa-Yurok Settlement Act</p> <p>See Draft EIS/EIR Section 3.8.2.1 Federal Water Law The Reserved Rights Doctrine: The reserved rights doctrine provides that when lands are set aside as Indian or other federal reservations, sufficient water to fulfill the purposes of the reservation is reserved as well. Federal reserved water rights arise expressly or by implication from federal treaties, statutes, and executive orders, and vest no later than the date the reservation was established. Unlike state appropriative rights, federal reserved water rights are for present and future uses and may be exercised at any time and are not lost through non-use. While federal reserved water rights may be quantified and administered by states in the context of comprehensive state water adjudication, they are otherwise governed by federal, not state, law. The Resighini Rancheria has a reserved, unquantified water right associated with the Rancheria.</p>	No
IT_LT_0126_101-3	<p>1. Master Response TTA-4 1988 Hoopa-Yurok Settlement Act.</p> <p>2. Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p> <p>The Federal government's Trust responsibility to the tribe would not be changed by an affirmative Secretarial Determination on dam removal, authorizing legislation and implementation of the KBRA Section 3.12.</p> <p>3. Master Response TTA-7 Tribal Involvement in Future Discussions of Water Management.</p> <p>Master Response KHSA-1 Negotiations of KHSA and KBRA.</p>	No

**Comment Author** Unidentified  
**Agency/Assoc.** Resighini Rancheria  
**Submittal Date** January 26, 2012

<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_LT_0126_101-4	<p>The sites identified by the comment author are located on the Resighini Rancheria near the mouth of the Klamath River. The Lead Agencies evaluation of changes in flood levels following dam removal identified no change in flood levels in this area. Therefore, no impacts would occur to the properties and cemeteries on Resighini land.</p> <p>Section 3.13 Cultural and Historic Resources of the Draft EIS/EIR addresses potential impacts to village and burial sites. Additional details regarding potential impacts to buried sites and management of those sites were added to Sections 3.13.4.3 and 3.13.4.4. The potential for vandalism of exposed sites was considered and is addressed in Mitigation Measure CHR-2 through the development of management plans and discovery plans, through consultations under NHPA Section 106, as applicable</p> <p>Master Response HYDG-1 Flood Protection.</p>	No
IT_LT_0126_101-5	<p>EIS/EIR Section 3.12, Tribal Trust Assets, discusses tribe's history, cultural practices, and trust resources. Dam removal and implementation of the Klamath Basin Restoration Agreement (KBRA) would allow more flexibility in managing flows in the river below the Iron Gate Dam site, particularly for creating more short-term natural flow variability and periodic higher-flows. As noted on p. 3.3-99 of the Draft EIS/EIR, the Proposed Action would establish a flow regime that more closely mimics natural conditions in the Lower Klamath Basin. Flows under the Proposed Action are intended to benefit fall-run Chinook salmon. Future minimum flow rates would be governed by future biological opinions rather than existing biological opinions, and the exact contents are currently uncertain.</p>	No
IT_LT_0126_101-6	<p>The dams would be removed in 2020. The Draft EIS/EIR discusses impacts and benefits expected in the short-term (less than 2 years) and the long-term.</p>	No
IT_LT_0126_101-7	<p>Master Response WSWR-5 Klamath Adjudication.</p> <p>Master Response TTA-1 Federal Trust Responsibility and the KBRA.</p>	Yes

KLAMATH DAM REMOVAL  
DRAFT EIS/EIR HEARING  
OCTOBER 27, 2011  
PUBLIC TESTIMONY  
KLAMATH, CALIFORNIA

MS. WATKINS: Sunshine Watkins, S-u-n-s-h-i-n-e  
W-a-t-k-i-n-s. I am the Treasurer of the Resighini  
Business Council, which is a federally recognized tribe  
at the top of the Klamath River Estuary.

Comment 1 - ITAs

Even though we are part of this river, we are  
excluded from Klamath settlement discussions, and, yet,  
our right to protect our fisheries and our water quality  
will be terminated by the Secretary of the Interior if he  
makes an affirmative decision on dam removal. We will  
have no ability to participate as co-managers on water  
quality, our fisheries, for 50 years.

The Klamath Basin Restoration Agreement is like  
feeding poison to our people with a side of dam removal.  
It terminates our rights of Natives of the river from top  
to bottom and does not secure enough water flow for  
salmon. It does not cure water pollution issues or  
restore enough marshes or lakes for restoration of the  
sucker fish.

Comment 2 - FERC

We are -- we are in favor of speedy dam removal  
but not through secretarial decision and KHSA. We are  
working through the Federal Energy Regulatory Commission  
process, with the California State Water Resources

Control Board, instead. Under the 401 certification  
process, the State will force dam removal, because they  
will block issuance of a license. This because pollution  
from the Klamath hydroelectric power reservoirs cannot be  
stopped unless dams are removed.

Our people have not seen anything like the  
September 2002 fish kill or the fish disease epidemics  
killing our young salmon.

If we want our salmon to survive into the future  
and stop toxic algae now, we need the dams out before  
2020, and we need to start restoration immediately, while  
our river and our salmon still have a chance. We need  
ecological restoration now, which the government process  
does not attempt.

Thank you.

**Comment Author**            Watkins, Sunshine  
**Agency/Assoc.**            Resighini Rancheria  
**Submittal Date**            October 27, 2011

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<b>Comment Code</b>	<b>Comment Response</b>	<b>Change in EIS/EIR</b>
IT_MC_1027_046-1	Master Response TTA-1 Federal Trust Responsibility and the KBRA.	No
IT_MC_1027_046-2	Master Response FERC-1 FERC Process Status.	No