



# Hoopa Valley Tribal Council

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July 10, 2013

Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24th Floor  
Sacramento, CA 95814

Re: Obsolete Section 401 Water Quality Certification Application for the Klamath Hydroelectric Project

Dear Ms. Townsend:

The Board recently received a request from PacifiCorp to again delay work on the Section 401 Water Quality Certification. The Hoopa Valley Tribe, a State downstream of the PacifiCorp unpermitted discharge, asks that you deny that request. You should hold a hearing and finally bring the Klamath River into compliance with the water quality standards of the State of California and those of the Hoopa Valley Tribe. Your Resolution 2012-0039 called for a hearing, but no such hearing has been held.

For over four years we have repeatedly requested the Board to end the delays on this Section 401 application (which was first submitted in 2006):

1. Letter of Hoopa Valley Tribal Council to State Water Resources Control Board to resume preparation of an Environmental Impact Report (December 3, 2008);
2. Hoopa Valley Tribal Council's Briefing Paper for State Water Board on need for Klamath Project Water Quality Certification (February 11, 2009);
3. Hoopa Valley Tribe's attorney's letter to State Water Board enclosing Klamath Hydroelectric Project EIR Scoping Comments of Hoopa Valley Tribe (February 23, 2009);
4. Hoopa Valley Tribal Council Chairman letter to State Water Board noting alarmingly poor water quality in the Klamath River and asking the status of the draft CEQA EIR (June 1, 2009);
5. Hoopa Valley Tribal Council comments requesting that the State Water Board refuse PacifiCorp's request to hold in abeyance a Section 401 permit application (May 11, 2010);



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6. Letter of Hoopa Valley Tribal Council Chairman to State Water Board Chairman urging resumed processing of PacifiCorp's application for water quality certification in light of the absence of required federal legislation (September 7, 2010);
7. Letter of Hoopa Valley Tribal Council Chairman to State Water Board Chairman urging disapproval of further abeyance in addressing water quality (September 24, 2010);
8. Letter of Hoopa Valley Tribal Council Chairman to State Water Board regarding request to take action on application for Klamath Hydroelectric Project because PacifiCorp is not diligently pursuing a water quality certification (April 13, 2011);
9. Letter of Hoopa Tribal Environmental Protection Agency to State Water Board staff urging action on Section 401 certification (March 2, 2012);
10. Letter of Hoopa Valley Tribal Council Chairman to State Water Board urging action on Section 401 certification (April 5, 2012).
11. Letter of Hoopa Valley Tribal Council Chairman to State Water Board urging action on Section 401 certification (July 9, 2012).

We attach copies of our earlier requests to you. The time to close the comment period on scoping for the CEQA EIR is long overdue. It is past time to publish your draft EIR, make a final decision, and issue a Section 401 certification with appropriate conditions.

Sincerely,

HOOPAVALLEY TRIBAL COUNCIL



Danielle Vigil-Masten, Chair

Enclosures



# Hoopa Valley Tribal Council

HOOPA VALLEY TRIBE

Regular Meetings on the First and Third Thursday of Each Month

P.O. Box 1348 • HOOPA, CALIFORNIA 95546 • Phone 625-4211 • Fax 625-4594



Clifford Lyle Marshall, Sr.  
Chairman

December 3, 2008

Dorothy R. Rice  
Executive Director  
State Water Resources Control Board  
P.O. Box 2000  
Sacramento, CA 95812-2000

Re: Klamath Hydroelectric Project Water Quality Certification

Dear Ms. Rice:

On November 14, 2008, the State Water Board extended to February 23, 2009 the deadline for scoping comments relating to the Board's environmental review of the Klamath Hydroelectric Project water quality certification. The extension was requested by the Project licensee as well as other signatories to an Agreement in Principle (AIP) filed with the Board on November 13, 2008. The AIP, among other things, presents a framework approach to achieve possible removal of Project dams in the future.

1. The Board Should Not Grant Any Additional Extensions In This Proceeding Based on the AIP.

The Hoopa Valley Tribe appreciates the Board's interest in facilitating a negotiated settlement in this proceeding, especially one that includes a possibility of removing project facilities that cause or contribute to violations of water quality standards. However, the November 13, 2008 AIP is unlikely to lead to either dam removal or a Final Agreement that adequately protects Klamath water quality.

The AIP is not a complete agreement and it provides numerous off-ramps (i.e., rights to withdraw) for the Project licensee and other three parties to the AIP. For example, any Final Agreement is expressly contingent on the enactment of specific State and Federal legislation and the contribution of hundreds of millions of dollars from the States of California and Oregon and nearly \$1 billion from the federal government. AIP, § II.B.iv; § VI. Litigation brought against parties to the AIP is also grounds for withdrawal. AIP, § II.B.vii. Of most relevance to the Board, imposition of costs on the licensee relating to the water quality certification proceedings in Oregon and California also gives the licensee the right to withdraw. AIP, § II.B.xii; xiii.

These and other contingencies make it very unlikely that the AIP will result in benefits to the Klamath River. In the meantime, the primary effect of the AIP is to delay the water quality certification and FERC relicensing proceedings.

The Hoopa Valley Tribe is very concerned about the delay in this water quality certification proceeding that has resulted, and will result, from the filing of the AIP. In the Tribe's view, delay in the Board's CEQA process is unnecessary. It appears that the alternatives proposed for evaluation by the Board in its September 30, 2008 scoping notice (NOP) are consistent with the alternatives being negotiated under the AIP. Specifically, the Board's NOP proposed evaluation of various dam removal alternatives that are similar to those being negotiated. The Board should proceed with its environmental review process simultaneously with the settlement negotiations and continue to work on preparation of its certification decision, to minimize delay in the event that settlement discussions break down.

The water quality certification proceedings for the Project can proceed in tandem with ongoing negotiations without any prejudice resulting to the licensee or other parties. Information generated through the Board's process would likely be useful to the settlement participants. The Board's analysis of project impacts and appropriate mitigation measures need not and should not wait for the conclusion, if any, of settlement negotiations. At the very minimum, the Board should not grant any further extensions of the comment period beyond February 23, 2009.

2. The Board Should Proceed To Consider Meaningful Interim Operation Measures.

The Board's September 30 NOP also discussed the need for interim operation measures to protect water quality. The Tribe supports prompt evaluation of appropriate interim measures and is concerned with the delay now resulting from the AIP. The licensee and AIP signatories have filed an "Interim Conservation Plan" with FERC. That plan is woefully inadequate in regard to mitigation of water quality impacts. The Board should not defer its own evaluation and imposition of appropriate interim measures because of the weak provisions in the AIP and Interim Conservation Plan.

3. Delay in Certification Infringes Upon The Hoopa Tribe's Rights.

The delay in the State's certification process also adversely affects the Tribe's legal rights. In 1990, the Hoopa Valley Tribe received approval from the United States Environmental Protection Agency to be treated as a state for purposes of developing and implementing water quality standards under the Clean Water Act. The U.S. EPA approved amendments to the Tribe's Water Quality Control Plan (WQCP) on February 14, 2008. The Tribe's WQCP applies to the Klamath River, which flows through the Hoopa Valley Reservation.

In this certification proceeding, the State Water Board has an independent obligation to ensure that the Project will not cause or contribute to violations of the Hoopa Valley Tribe's water quality standards. Since the Project is not located within the boundaries of the Hoopa Valley Reservation, the Hoopa Valley Tribe has a role analogous to a "downstream state" in this proceeding. Under the Clean Water Act, California (as the "upstream state") must ensure that its

Dorothy R. Rice  
December 3, 2008  
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permitting or certification decision will not result in violations of the Hoopa standards. *See Arkansas v. Oklahoma*, 503 U.S. 91 (1992). In sum, because the Hoopa standards are implemented through the Board's certification process, any delay in the Board's proceeding also results in delay in achievement of tribal water quality standards.

4. Evaluation of Next Steps.

We are pleased that the Board intends to revisit the Klamath proceeding in or prior to its February 17, 2009 meeting. The Board must carefully consider input from all affected members of the public interested in this proceeding, and not just the limited group of parties who have supported the AIP. We ask that you continue to keep us informed of any relevant notices, meeting dates, or commenting opportunities related to this proceeding. Protection of water quality in the Klamath River is of paramount importance to the Hoopa Valley Tribe and we look forward to working with the Board to achieve that goal in this proceeding.

Please contact me if you have any questions regarding the content of this letter.

Sincerely,

HOOPA VALLEY TRIBAL COUNCIL



Clifford Lyle Marshall, Chairman

cc: Jennifer Watts, Water Resources Control Board  
FERC Service List



# Hoopa Valley Tribal Council

HOOPA VALLEY TRIBE

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P.O. Box 1348 • HOOPA, CALIFORNIA 95546 • Phone 625-4211 • Fax 625-4594



Clifford Lyle Marshall, Sr.  
Chairman

February 11, 2009

## BRIEFING PAPER ON KLAMATH PROJECT WATER QUALITY CERTIFICATION

On February 17, 2009, the State of California Water Resources Control Board (State Water Board) holds a [public meeting to discuss the status of the water quality certification](#) relating to the re-licensing of PacifiCorp's Klamath Hydroelectric Project, located on the Klamath River. We encourage the Board to reject PacifiCorp's proposal to postpone water quality certification proceedings for the Klamath Hydroelectric Project. Indefinite delay of the water quality certification process subverts the Clean Water Act and Congressional intent of restoring our nation's waters.

This paper supplements the Hoopa Valley Tribe's December 3, 2008 letter to the Board. Specifically, we encourage the Board to continue with its certification proceeding. If PacifiCorp refuses to fund the studies necessary to complete the certification process, or withdraws its application, the State Water Board should deny certification.

### I. Background on Klamath Hydroelectric Project

The Klamath Hydroelectric Project consists of six project dams spanning sixty-four miles of the Klamath River in northern California and southern Oregon. The Klamath River is listed as a water quality impaired river under Section 303(d) of the Clean Water Act. The Klamath Project dams and associated reservoirs are believed to significantly contribute to water quality impairment.

Warm and calm surface water created by the shallow reservoirs of the Project provide an ideal environment for the growth of large algal blooms. In recent years, public health alerts have issued due to outbreak of the toxic alga *Microcystis aeruginosa* within and downstream of the Klamath Project. For example, in late 2005, scientists recorded the toxic alga at levels that exceeded World Health Organization standards for recreational use by 468 times. The United States EPA has listed the upper Klamath River in California as impaired for excess microcystin toxins.

Combinations of stagnant water conditions, low dissolved oxygen, and increased water temperature caused, in part, by dams have also had lethal consequences for fish. In 2002, Klamath River communities witnessed the largest adult fish kill recorded in U.S. history. Approximately 33,000 chinook, coho, and steelhead salmon were found dead due in part to

degraded water quality in the Klamath River between September 20 and 27, 2002. See [Pacific Coast Federation of Fishermen's Associations v. U.S. Bureau of Reclamation](#), 426 F.3d 1082, 1089 (9<sup>th</sup> Cir. 2005) (citing fish kill).

Degraded water conditions persist in the Klamath River. An [August 22, 2008 State Water Board letter](#) confirms that the Klamath River's "water quality and ability to support healthy fisheries is declining: there is substantial evidence to indicate an increase in fish disease on the river, an increase in the toxic blue-green algae *Microcystis aeruginosa*, and an overall decline in fish populations." The Hoopa Valley Tribe is a "State" for Clean Water Act purposes. Yet the [Tribe's federally approved water quality standards](#) for the portion of the reservation through which the Klamath River runs are not being met. In sum, water quality conditions in the Klamath River are seriously impaired and pose an ongoing threat to the health of fish and aquatic species relied upon by both tribal and non-tribal communities.

The FERC license for operation of the Klamath Project expired nearly three years ago, on March 1, 2006. PacifiCorp has continued to operate the Project under the authority of FERC annual licenses without inclusion of terms or conditions to protect water quality or other affected resources. Other than completion of the Section 401 water quality certification process, the Project is ready to be re-licensed with conditions that will provide significant protection, mitigation, and enhancement of environmental resources. In early 2007, the Departments of Interior and Commerce issued [final mandatory conditions and prescriptions for fish passage<sup>1</sup> and minimum instream flows](#) pursuant to their authorities under Sections 4(e) and 18 of the Federal Power Act. FERC conducted an environmental review of the Project pursuant to NEPA and issued its Final EIS in November 2007.

The current delay in issuance of the water quality certification allows the Project to continue operating and generating power revenues without the inclusion of the necessary environmental conditions and without complying with water quality standards. In February 2007, the Hoopa Valley Tribe filed a motion requesting FERC to impose ramping restrictions and minimum flow conditions on continued operations based on the federal agencies' mandatory conditions and prescriptions. In November 2008 FERC denied the motion. The Tribe requested rehearing of that order; that request is still pending.

## II. Perpetual Delay In Obtaining Section 401 Certification Is Unacceptable.

Prior to obtaining a FERC license to operate a hydroelectric project, a license applicant must seek and obtain certification pursuant to Section 401 of the Clean Water Act that the project will comply with applicable state water quality standards. 33 U.S.C. § 1341(a)(1). No license may be granted by FERC until the state in which the project is located either issues or waives certification.

On September 30, 2008, the California State Water Board initiated its environmental review process and requested scoping comments on the Section 401 water quality certification of the Klamath Project. In November 2008, PacifiCorp and the Resources Agency effectively

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<sup>1</sup> The KHP lacks fish passage and blocks more than 300 miles of historic migration, spawning, and rearing habitat in the Upper Klamath River Basin for salmon, steelhead, and lamprey populations.

derailed both the certification and FERC re-licensing process by executing an [Agreement in Principle \(AIP\)](#) that bars the State from imposing on PacifiCorp “significant costs for a Clean Water Act certification of the re-licensing project, including review pursuant to the California Environmental Quality Act.” If the State Water Board is paralyzed by the AIP, the Clean Water Act certification and FERC re-licensing processes will remain in a perpetual state of delay.

Although the AIP is being touted as a commitment by PacifiCorp to remove Project dams at some time in the future, the AIP is unlikely to lead to either dam removal or any final settlement that adequately protects water quality. Instead, the AIP appears to be a means to delay re-licensing and allow the project to remain operational without incurring costs of environmental protection measures. A significant flaw in the AIP is that it contains numerous avenues for PacifiCorp to unilaterally withdraw from its commitments. For example, any “final agreement” is contingent on the enactment of specific State and Federal legislation and the contribution of hundreds of millions of dollars from the States of California and Oregon and nearly \$1 billion from the federal government. Litigation brought against parties to the AIP is also grounds for withdrawal. Perhaps of most relevance, imposition of costs on the licensee relating to the water quality certification proceedings in Oregon and California gives PacifiCorp the right to withdraw. Without a water quality certification, no license can issue – and until a license issues, no environmentally protective conditions will be imposed on the Project – except for those interim conditions that PacifiCorp might voluntarily agree to.

We are very concerned about the delay in the water quality certification that has resulted from the filing of the AIP. We encourage the State Water Board to proceed with its duties under the Clean Water Act to evaluate the water quality impacts of the Klamath Project. If PacifiCorp refuses to complete the necessary environmental studies, the State Water Board should deny the certification.

There is no justification for the State Water Board to delay processing the Section 401 certification. The alternatives proposed for evaluation in the [Board’s September 30, 2008 scoping notice](#) are consistent with the dam removal alternatives being negotiated by parties to the AIP. The Board should proceed with its environmental review process simultaneously with the settlement negotiations and continue to work on preparation of its certification decision to minimize delay in the event that settlement discussions break down.

The water quality certification proceedings for the Project can proceed in tandem with ongoing negotiations without any prejudice to the licensee or any other party. For example, the parties are discussing a variety of “interim measures,” some of which affect water quality and project discharges. Those measures will undoubtedly become the subject of separate Section 401 applications. However, the Board’s analysis of project impacts and appropriate mitigation measures for relicensing the Project need not and should not wait for the conclusion of settlement negotiations that could be derailed at any moment at PacifiCorp’s sole discretion. We are encouraging all persons to oppose any further delays in the water quality certification proceeding that is serving to delay the necessary restoration of the Klamath River system. Allowing licensees, state agencies, and FERC to use the Section 401 process as a means to delay necessary river restoration measures is unacceptable.

### III. Abuse of Section 401 Certification Process Is Occurring Nationwide.

The Klamath Project offers an extreme example of how the Section 401 certification process is being manipulated by licensees, and willing state certification agencies, to delay implementation of effective environmental enhancement measures. The Water Board should prevent licensees from using the Section 401 process as a means to delay necessary environmental protection measures in the FERC re-licensing process.

Properly implemented, Section 401 certification is a powerful tool to ensure protection of water quality and health of aquatic resources affected by hydroelectric projects. The U.S. Supreme Court has confirmed that states have broad authority to include protective conditions in the Section 401 certification decision. *S.D. Warren Co. v. Maine Board of Environmental Protection*, 547 U.S. 370 (2006) (affirming state's authority to condition FERC hydroelectric projects under Section 401); *PUD No. 1 of Jefferson County v. Wash. Department of Ecology*, 511 U.S. 700 (1994) (upholding state's minimum flow conditions on project). Significantly, FERC has no discretion to reject the conditions imposed in the certification. *American Rivers v. FERC*, 129 F.3d 99 (2d. Cir. 1997).

A loophole in the Section 401 certification process is undermining the Congressional intent and subverting the goals of the Clean Water Act. Section 401 requires a state to issue its certification decision within one year from the date of the certification request, or else the certification decision will be deemed waived. 33 U.S.C. § 1341(a)(1). License applicants around the nation are repeatedly abusing the process by: (1) delaying or refusing to conduct necessary studies and environmental analysis within the one-year timeframe, (2) withdrawing their certification request just before the one-year time period expires, and then (3) re-submitting their application to start a new one-year timeframe. This perpetual abuse of process results in continued delay of the Section 401 certification decision, and because a FERC license cannot issue until the certification is obtained, also results in indefinite delay of FERC licensing proceedings. In the meantime, the project continues to operate, generating revenues for the licensee, while the water quality and affected resources suffer.

This abuse of process is being taken to an extreme in the re-licensing of the Klamath Project. PacifiCorp first applied for water quality certification from the States of California and Oregon on March 29, 2006. PacifiCorp withdrew and resubmitted its application in February 2007 and again in February 2008 – restarting the one year clock over again each time. On July 11, 2008, PacifiCorp withdrew its application, but then re-submitted it again on October 2, 2008. Thus, the State now has another one year timeframe, until October 1, 2009 to issue or waive its certification. In the meantime, federal agencies have submitted final mandatory conditions for the re-licensing of the Project and FERC has completed its Final EIS pursuant to NEPA. The Project is ready to be re-licensed except that the states have not yet concluded the Section 401 water quality certification process.

The recent AIP signed by PacifiCorp and the States of California and Oregon proposes to delay the certification decision (and thus the entire re-licensing) for years based on an illusory commitment to remove dams at some point in the future. An express condition of the AIP is that

the States of California and Oregon put the Section 401 proceedings on hold – by agreeing to not require PacifiCorp to spend any money on the certification process. Essentially, the States of Oregon and California have agreed to allow the significantly impaired water quality in the Klamath to continue to suffer and degrade for an additional decade or more based on an agreement that contains no enforceable commitments and that allows the licensee a unilateral right of withdrawal at any time.

Other hydroelectric re-licensing proceedings are similarly delayed because of the repeated withdrawal and re-submission of Section 401 certification applications. For example, the re-licensing of Idaho Power's Hells Canyon Project on the Snake River (FERC Project 1971) remains on hold due to the failure of the States of Idaho and Oregon to issue water quality certifications. Idaho Power filed for re-licensing and water quality certification in 2003. Idaho Power then withdrew and re-submitted its applications in 2005, 2006, 2007, and on August 8, 2008. Like the Klamath Project, FERC and all other federal agencies have completed their environmental reviews and are ready to license the Hells Canyon Project, but the 6-year delay in the certification proceedings has prevented licensing and the imposition of conditions. In the meantime, the licensee Idaho Power continues to generate power revenues under the authority of annual licenses that contain no environmental protection measures.

A similar situation has also occurred in the re-licensing of the Upper North Fork Feather River Project in California (FERC Project 2105). In that case, Pacific Gas & Electric filed for a new license application in 2002. However, due to the repeated withdrawal and re-submission of the related Section 401 certification application, no certification and thus no FERC license has been issued – allowing continued power generation without necessary environmental protection measures.

Delays in certification have also occurred in proceedings where parties have reached agreement to remove a project dam. For example, implementation of the agreement to remove the Condit dam on the White Salmon River in Washington State (Project No. 2342) has been delayed in part by the failure to obtain a water quality certification for the facilities removal. PacifiCorp first applied for a certification for removal of the dams in 2001, and has subsequently withdrawn and resubmitted its application every year – most recently on May 13, 2008.

On the Klamath River, and elsewhere around the nation, implementation of needed environmental protection measures is being postponed due to delays in the Section 401 water quality certification process. The ability of licensees to repeatedly withdraw and resubmit their application without consequence is largely to blame. A related problem is that states are often unable to issue the certification until the licensee funds necessary studies – leaving states with the choice of funding the studies themselves, waiting for the licensee to complete necessary studies, or simply denying certification. The ability of licensees to continue operating their projects under annual licenses that lack environmental conditions allows licensees to benefit from delays in re-licensing. We urge the State Board to fully exercise its authority and to bring into compliance the water quality of the Klamath River.

If you have any additional questions about the Klamath Project, please contact the Hoopa Fisheries Department at 530-625-4267 or Tom Schlosser at 206-386-5200, or at [t.schlosser@msaj.com](mailto:t.schlosser@msaj.com).

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**Via Electronic & First-Class Mail**

February 23, 2009

State of California  
Water Resources Control Board  
Attention: Jennifer Watts  
P.O. Box 2000  
Sacramento, CA 95812-2000

E-mail: [jwatts@waterboards.ca.gov](mailto:jwatts@waterboards.ca.gov)

Re: Klamath Hydroelectric Project EIR – Scoping Comments of Hoopa Valley Tribe

Dear Ms. Watts:

On behalf of the Hoopa Valley Tribe, we submit the following comments regarding the scope and content of the State Water Board's EIR relating to the application for Section 401 certification of the Klamath Hydroelectric Project. These comments are filed in response to the September 30, 2008 Notice of Preparation and of Scoping Meetings for an Environmental Impact Report for 401 Water Quality Certification of the Klamath Hydroelectric Project ("Scoping Notice").

1. The Hoopa Valley Tribe Agrees That a Separate EIR is Necessary Under CEQA Because the FERC EIS is Inadequate and Violates NEPA.

The State Water Board's Scoping Notice requests "input regarding the adequacy of the [FERC] Final EIS . . ." The Hoopa Valley Tribe submitted comments on both the Draft and Final EIS prepared in the FERC proceedings. The Tribe has attached a copy of its comments on the Final EIS hereto as Exhibit A. Some of the Tribe's objections to the Final EIS that are directly relevant to the State Water Board proceeding are as follows:

(a) the facts relied upon in the Final EIS are inconsistent with the factual findings and scientific evidence submitted at the August 2006 EPart Trial-Type hearing;

(b) the Final EIS failed to consider viable alternatives such as full project decommissioning and dam removal;

(c) the Final EIS improperly dismissed dam removal alternatives despite evidence that removal of dams is likely the only way for the project to satisfy applicable water quality standards; and

(d) the Preferred Alternative in the Final EIS improperly fails to include the mandatory conditions prescribed by the Departments of Interior and Commerce.

2. The Tribe Supports the Alternatives Identified in the State Water Board Scoping Notice, but Believes the Board Should also Evaluate a Four-Dam Removal Alternative.

The Tribe generally supports the range of alternatives developed by the State Water Board. The Tribe agrees that it would be improper for the State Water Board to evaluate any alternative that fails to include either of: (a) the Departments' mandatory Section 4(e) and Section 18 conditions or (b) the decommissioning and removal of one or more project dams. Thus, the Tribe agrees that the State Water Board should evaluate: (a) the FERC Staff Alternative with Mandatory Conditions; (b) the Removal of Iron Gate and Copco No. 1; and (c) the Removal of Iron Gate, Copco No. 1, and Copco No. 2.

The Tribe also supports the Board's proposal to analyze appropriate interim operations that would occur prior to dam removal or other appropriate long-term modifications. The Tribe has formally requested that FERC impose interim conditions pending issuance of a final license. *See Exhibit B.* FERC has rejected the Tribe's motion to date but has granted rehearing on that order.

In addition to the alternatives identified in the State Water Board's notice, the Tribe also believes that the State Water Board should evaluate a four-dam removal alternative, which would include the removal of J.C. Boyle Dam. Although the J.C. Boyle Dam is located in Oregon, the State Water Board must consider what impacts the existence and operation of that facility, and discharges therefrom, have on the overall project's ability to comply with water quality standards in California. It is possible that the State Water Board will determine, after review of the scientific evidence, that the project cannot satisfy water quality standards in California absent decommissioning and removal of J.C. Boyle Dam in Oregon. At this stage, the State Water Board should fully evaluate the impacts to water quality that arise at all project dams, including J.C. Boyle. Likewise, if removal of that facility is necessary to comply with California's standards, the EIR should evaluate that possible outcome. The Board should also evaluate removal of J.C. Boyle Dam as part of the Board's "CEQA No-Project Alternative."

The Tribe is unclear about the intended purpose of the fourth alternative suggested for evaluation in the State Water Board's notice – the "Long Term Modifications from Negotiated Settlement Alternative." The Tribe is unaware of any negotiated settlement alternative that is certain or definite enough to warrant evaluation at this time. The Tribe has previously informed the Board of its concern with the Agreement in Principle ("AIP") filed with the Board on November 13, 2008. *See Exhibit C.* Given the numerous off-ramps and withdrawal rights that

could result in termination of the AIP, the Tribe does not believe that the AIP is likely to lead to any Final Agreement that adequately protects Klamath water quality. Under no circumstances should the Board allow the AIP process to delay work on the EIR for the Section 401 certification. In addition, the Tribe is unaware of any proposed settlement alternative that does not include dam removal as an option. Thus, the “negotiated settlement” alternative is potentially redundant with other dam removal alternatives already proposed for consideration.

3. Removal of One or More Project Dams and Reservoirs is the Only Mitigation Measure That will Allow Compliance with Applicable Water Quality Standards.

The best available evidence suggests that it is impossible to operate the Klamath Hydroelectric Project in compliance with applicable water quality requirements. The FERC EIS suggests that water quality objectives cannot be met absent dam removal. The Final EIS states: (1) “the project [without dam removal] would continue to adversely affect water quality conditions downstream of Iron Gate Dam, which has the potential to adversely affect [ESA-listed] juvenile coho salmon” (FEIS, at 3-426); (2) “the project, as proposed, would continue to affect temperatures in the Klamath River;” (3) “even with implementation of best management practices that may be developed as part of a project-wide water quality management plan, it is likely that algal blooms would continue to occur in project reservoirs;” and (4) “some degree of project related nutrient enrichment would occur in the Klamath River downstream of Iron Gate Dam.” FEIS, at 3-173, 3-174. Despite these findings, FERC did not choose dam removal as a preferred alternative, or as a means to restore Klamath water quality, because it would lower the economic value of the Project to the licensee.

The Hoopa Valley Tribe also submitted an independent analysis of water quality impacts as part of its Recommended Section 10(a) Terms and Conditions on March 29, 2006. *See Exhibit D* (attaching excerpt of 10(a) conditions related to water quality). The Hoopa 10(a) conditions also confirm that many water quality impacts resulting from the project can be mitigated only through removal of the dams and draining project reservoirs.

Regarding impacts on water temperature, page 68 of the Hoopa 10(a) report states: “PacifiCorp’s own analyses make it clear that the KHP’s effects on water temperature are immitigable; therefore, the only way to substantially reduce the impacts is to remove all KHP dams and drain the reservoirs.” The report also noted that dam removal was the only way to mitigate the project’s impact on pH levels. “Dam removal would eliminate both the KHP’s direct and indirect effects on pH. We are not aware of any way to mitigate the KHP’s impact to pH.” Hoopa 10(a) Report, at p. 86. Page 92 of the Hoopa 10(a) report also discussed the relationship between the project and the distribution and abundance of *Microcystis aeruginosa* (MSAE) in the Klamath River. “Iron Gate and Copco Reservoirs provide ideal habitat for MSAE. Dam removal would eliminate these reservoirs, dramatically reducing available habitat for MSAE. Without the KHP reservoirs, MSAE might persist in the Klamath River, but it would likely be at much lower levels . . . .”

The Hoopa 10(a) document also evaluated potential mitigation measures related to nutrient levels, dissolved oxygen, and other water quality related impacts, and also documented areas where further research and information is necessary regarding potential benefits of non-removal mitigation measures. Overall, based on the information available at that time, the report indicates that removal of the dams and associated reservoirs is the only feasible way to mitigate project effects on water quality.

4. The Tribe Supports the Board's Consideration of Interim Operation Measures.

In its Scoping Notice, the Board requests "feedback regarding particular interim operation measures that were not discussed or not adequately addressed in the FEIS." Unfortunately, the FEIS fails to address interim operation measures despite their necessity. As discussed above, the Tribe strongly supports interim protective measures and has moved FERC for imposition of reasonable ramping rate and minimum flow conditions that are necessary for the immediate protection of aquatic resources. See Exhibit B. The Board should consider and recommend adoption of the Tribe's proposed measures, which are identical to certain measures contained in the Department of Interior's mandatory Section 4(e) conditions. There is no justification for delay in implementing the Tribe's proposed interim measures.

The Tribe would also support the Board's evaluation of additional interim measures that would provide some level of necessary water quality protection pending completion of long-term project modifications. The analysis of such measures should not be limited to dams in California, but should also include potential interim operation measures at J.C. Boyle. The Tribe does not believe the interim measures identified in PacifiCorp's proposed Interim Conservation Plan are adequate to protect water quality in the period pending re-licensing.

5. The Board Must Evaluate Whether the Project Can Satisfy the Hoopa Valley Tribe's Water Quality Standards.

In 1990, the Hoopa Valley Tribe received approval from the United States Environmental Protection Agency to be treated as a state for purposes of developing and implementing water quality standards under the Clean Water Act. The U.S. EPA approved amendments to the Tribe's Water Quality Control Plan (WQCP) on February 14, 2008. See Exhibit E. The Tribe's WQCP applies to the Klamath River, which flows through the Hoopa Valley Reservation.

In this certification proceeding, the State Water Board must ensure that the project will not cause or contribute to violations of the Hoopa Valley Tribe's water quality standards. Since the project is not located within the boundaries of the Hoopa Valley Reservation, the Hoopa Valley Tribe has a role analogous to a "downstream state" in this proceeding. Under the Clean Water Act, upstream states must ensure that their permitting or certification decision will not result in violations of water quality standards in affected downstream states. See *Arkansas v. Oklahoma*, 503 U.S. 91 (1992). This is true even if the standards imposed by the downstream state or, in this case, EPA-approved Indian tribe are more restrictive than the upstream state.

*City of Albuquerque v. Browner*, 97 F.3d 415 (10th Cir. 1996). To the extent that a state certifying agency proposes to certify a project under Section 401 that would cause or contribute to violations of a downstream state (or Tribe's) water quality standards, the Clean Water Act provides a mechanism to resolve such disputes. 33 U.S.C. § 1341(a)(2); 33 U.S.C. § 1377(e); 40 C.F.R. §§ 121.11-121.16; 40 C.F.R. § 131.7; *see also Wisconsin v. EPA*, 266 F.3d 741, 748-49 (7th Cir. 2001).

The Clean Water Act requires the State Water Board to ensure that its certification is consistent with the Tribe's EPA-approved 2008 Water Quality Control Plan. The EIR must include analysis of the Tribe's water quality standards, project effects on the Tribe's water quality, and whether the project can be operated in compliance with the Tribe's standards.

6. The Board Must Carefully Evaluate How Project-Related Water Quality Impacts Affect the Health and Viability of the Klamath Fishery.

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 of the Klamath and Trinity Rivers holds significant commercial, economic, and cultural value to the Tribe.

The Klamath Hydroelectric Project has significant adverse impacts on the Tribe's federally reserved fishing rights and on the health of the Klamath River, which flows through the Tribe's Reservation lands. In addition to blocking more than 300 miles of once fully occupied habitat, the project has caused or contributed to water quality conditions that imperil existing fish populations. The project has contributed to a 90% reduction in historic fish runs. Specific water-quality related impacts to the fishery include, but are not limited to, the following:

- (a) The dam reservoirs, particularly the Iron Gate Reservoir, slow down water and allow sunlight to heat it up to near fatal temperatures for downstream salmon. Elevated water temperatures not only encourage algae blooms but also encourage warm water parasites like *Ceratomyxa Shasta* and *Parvicapsula minibicornis*, which are fatal to many juvenile salmon.
- (b) Waters warmed by the reservoirs also cause stress to both adult and juvenile salmon, making them more susceptible to predators and fish pathogens downriver from the dams.
- (c) The dams trap and hold back natural gravel-rich sediments, impoverishing salmon spawning gravel beds for at least 50 miles downriver of Iron Gate Dam. This limits the ability of salmon to spawn in the river and pushes them out of some of their best remaining habitat.

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The Board's analysis must carefully focus on how project-related water quality impacts imperil the fishery relied upon by the Hoopa Valley Tribe and its members since time immemorial.

7. Additional Issues and Questions for the Board's Consideration.

In addition to the items addressed above, the Board should also address the following questions:

- (a) How will the Board incorporate studies and standards being prepared in the California and Oregon TMDL process for the Klamath system?
- (b) How will the Board distinguish natural baseline conditions from anthropogenic/agriculture-related conditions that originate in the Upper Klamath Basin?
- (c) How will the Board incorporate the work of the Blue-Green Algae Working Group and dam removal studies conducted by the California Coastal Conservancy into the analysis?

8. Conclusion.

The Tribe looks forward to working closely with the State Water Board in determining whether the Klamath Hydroelectric Project can be certified to comply with the water quality standards of both the State and the Tribe, and what conditions are appropriate. The Tribe urges the Board to proceed ahead with its analysis of water quality impacts in the 401 process. Please contact the undersigned if you have any questions about these comments. Thank you for your consideration.

Sincerely yours,

MORISSET, SCHLOSSER & JOZWIAK



Thomas P. Schlosser  
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*Attorneys for Hoopa Valley Tribe*

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

In the matter of	)	
	)	FERC Project No. 2082-027
	)	
Klamath Hydroelectric Project	)	
(License Applicant PacifiCorp)	)	
	)	
_____	)	

**HOOPA VALLEY TRIBE'S COMMENTS ON FINAL  
ENVIRONMENTAL IMPACT STATEMENT FOR THE  
KLAMATH HYDROELECTRIC PROJECT**

The Hoopa Valley Tribe (hereinafter “Tribe”) has reviewed the Final Environmental Impact Statement (“FEIS”) prepared by FERC for the Klamath Hydroelectric Project (P-2082-027) and submits the following comments.

**I. Nature of the Tribe’s Interest**

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 Hoopa Indians follow exacting cultural practices to protect individual runs of fish and to celebrate the bounty of the river that gives life to their people. The salmon fishery also holds significant commercial and economic value in the Hoopa culture and economies, and the Tribe holds property rights in the fishery of the Klamath River Basin. 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 and to which they remain fiercely devoted. In addition to the tribal lands, the Reservation also set aside sufficient resources of the Klamath and Trinity Rivers for the Indians to be self-sufficient and achieve a moderate living based on fish. *See* Memorandum from John D. Leshy, Solicitor of the Department of the Interior to the Secretary of the Interior 3, 15, 18-21 (Oct. 4, 1993) (hereinafter “1993 Solicitor Opinion”), *cited with approval*, *Parravano v. Babbitt*, 70 F.3d 539, 542 (9th Cir. 1995), *cert. denied*, 518 U.S. 1016 (1996).

Due to the significant adverse impacts that the Klamath Hydroelectric Project has on the Tribe's federally reserved fishing rights and on the health of the Klamath River, which flows through its reservation lands, the Tribe has actively participated in this relicensing proceeding. On March 29, 2006, the Tribe submitted comments and recommendations regarding the Klamath relicensing pursuant to Section 10(a) of the Federal Power Act, 16 U.S.C. § 803(a).<sup>1</sup> The Tribe also intervened, filed testimony, and actively participated in the "trial-type hearing" initiated by PacifiCorp pursuant to the Energy Policy Act of 2005, which concluded with Administrative Law Judge McKenna's ruling on September 27, 2006. On November 30, 2006, the Tribe filed comments on FERC's Draft Environmental Impact Statement ("HVT DEIS Comments"), which are incorporated herein by reference.

Through its continued involvement in this proceeding, the Tribe is committed to ensuring that FERC, and the federal and state agencies with conditioning authority in this relicensing proceeding, fulfill their duties in accordance with applicable law, including the Federal Power Act, Endangered Species Act, the Clean Water Act, and the federal government's trust responsibility to the Tribe.

## **II. Hoopa Valley Tribe's Comments on FEIS**

### **A. The FEIS Remains Inconsistent With The Factual Findings and Scientific Evidence Submitted At The EPAct Trial-Type Hearing.**

FERC released its DEIS for public comment on September 25, 2006. Two days later, on September 27, 2006, Administrative Law Judge Parlen McKenna issued his Order and Findings of Fact in the trial-type hearing initiated by PacifiCorp pursuant to the Energy Policy Act of 2005 (hereinafter the "EPAct Hearing"). In its DEIS

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<sup>1</sup> The Tribe incorporates its § 10(a) terms and conditions herein by reference and reserves all rights to object to final license conditions that are inconsistent with the Tribe's § 10(a) recommendations.

Comments, the Tribe requested that FERC prepare a Supplemental DEIS to take the findings, testimony, and evidentiary exhibits from the EPAct Hearing into account. *See* HVT DEIS Comments, at pp. 2-8. FERC failed to do so.

The Tribe restates its objection to FERC's failure to issue a Supplemental DEIS. *See* 40 C.F.R. § 1502.9(c)(1)(ii) ("agencies shall prepare supplements to either draft or final environmental impact statements if . . . there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts"); *Marsh v. Oregon Nat'l Resources Council*, 490 U.S. 360 (1989) (agency's decision not to supplement EIS will be upheld only if it is a reasoned decision based on the significance - or lack of significance - of the new information). The testimony of nearly fifty scientific experts and the release of legally binding factual findings relating to the federal agencies' mandatory conditions constitute "significant new information" that necessitate a supplemental DEIS.

The Tribe's DEIS Comments note that many of FERC's factual assertions and conclusions conflict with the evidence, testimony, and factual findings made by Judge McKenna in the EPAct Hearing. Many of these inconsistencies remain in the FEIS. For example, FERC Staff refuses to endorse the volitional fish passage conditions that are supported by all federal, state, and tribal stakeholders based on the Staff's concerns regarding juvenile reservoir mortality (FEIS at 5-48/5-49). The parties submitted extensive evidence and testimony at the EPAct Hearing that potential reservoir mortality resulting from water temperature, predation, and other migratory barriers would not preclude successful restoration of anadromous fish. *See* HVT DEIS Comments, at pp. 4-6 (citing relevant EPAct Findings). The FEIS arbitrarily rejects this evidence.

The FEIS also fails to adequately address and recommend mitigation relating to PacifiCorp's peaking operations. Evidence at the EPA Hearing confirmed that the peaking operations result in stranding (*ALJ Findings 16-8, 16-14, and 16-15*), increase energetic demands on salmonids (*Finding 16-21*), flush juvenile salmonids downstream (*Finding 16-16*), and reduce macroinvertebrate production (*Finding 16-24*). The FEIS acknowledges that the peaking operations adversely affect food availability and the corresponding health of the existing trout fishery (FEIS, at 5-39/5-40), but dismisses this adverse impact by improper reliance on "catch rate" data. As demonstrated at the EPA Hearing, data showing relatively high "catch rates" is not adequate proof that the Project does not adversely affect trout and other aquatic organisms in project reaches. *See Tribes Proposed Finding 16.7 (accepted, ALJ Decision, p. D-132)* ("relatively high catch rates . . . do not mean the fishery is not negatively affected by Project operations"). Although trout grow faster in the J.C. Boyle reaches from ages 1-2, project operations significantly affect trout at older ages. *See ALJ Findings 16-1 through 16-32*. In making its licensing determination, FERC cannot merely rely on the "catch rates" of young, small, and hungry trout in the peaking reaches to evaluate the impacts of project operations.

In creating the EPA Hearing process, Congress made a determination that certain factual issues in the re-licensing process would be determined through adjudication. *See Energy Policy Act of 2005, Public Law 109-58, Section 241*. FERC Staff's reliance on studies, information, and data that are inconsistent with the legally binding factual conclusions of the ALJ in this case is arbitrary and capricious, and inconsistent with Congressional intent. When FERC issues its license, it must rely upon the factual findings from the EPA Hearing process, which are based on an extensive

record and which are legally binding on the parties to that proceeding, including the licensee, the Departments of Interior and Commerce, and the participating tribes.

**B. The License Must Support FERC's Trust Obligation To The Hoopa Valley Tribe.**

FERC stands as trustee to the Hoopa Valley Tribe. *Covelo Indian Community v. FERC*, 895 F.2d 581 (9th Cir. 1990); 18 C.F.R. § 2.1c (acknowledging FERC's trust responsibility, which requires FERC to adhere to certain fiduciary standards in its dealings with Indian tribes); *Public Utility Dist. No. 1 of Pend Oreille County, Washington*, 117 FERC ¶ 61,205 (2006), p. 22, para. 58 ("The Commission recognizes the unique relationship between the United States and tribes as defined in treaties, statutes, and judicial decisions. We carry out our responsibility towards Indian tribes in the context of the FPA and other statutes that govern the Commission's actions"). Any license issued by FERC must be consistent with this trust obligation.

The Hoopa Valley Tribe previously commented that FERC's DEIS fails to evaluate whether the Project can be licensed in a manner consistent with the federal laws and executive orders that reserve and protect the Tribe's rights to water and fish. FERC's analysis in the FEIS suggests that it may not be possible to operate the Klamath Hydroelectric Project in a manner that adequately protects tribal rights absent decommissioning and dam removal. *See* FEIS, at 3-166 (noting that dam removal would result in greatest effects on Klamath water quality improvement); 5-82 (noting that dam removal would provide greater benefits to anadromous fish, but rejecting alternative solely due to cost). Removal of two or more dams appears to be the best and perhaps only feasible way to address the water quality and disease management issues that will affect proposed fish restoration efforts. *Id.*

The FEIS unduly minimizes the economic and cultural benefits associated with restoration of anadromous fish runs. In addition to its legal obligation to give equal consideration to power and non-power values, FERC has an independent obligation to issue a license that is consistent with its fiduciary trust obligations to affected tribes.

**C. The Alternatives Analysis Remains Inadequate.**

The FEIS, like the DEIS, fails to evaluate the viable alternatives of (1) decommissioning and removal of the three downriver dams, Iron Gate, Copco 1, and Copco 2, and (2) full project decommissioning and dam removal. *See* HVT DEIS Comments, pp. 11-15. This failure renders the EIS inadequate.

When making its licensing determination, FERC is not limited to options evaluated in the FEIS. FERC may consider other reasonable alternatives that satisfy the equal consideration requirements of the Federal Power Act, its trust obligation, and other obligations imposed by federal law. One alternative that FERC should consider is decommissioning and removal of the three downriver dams, Iron Gate, Copco 1, and Copco 2. This alternative would provide significant water quality benefits and open up considerable habitat for imperiled anadromous species, while retaining the power generation provided at J.C. Boyle Dam. Unlike the 2-dam removal alternative evaluated by FERC in the FEIS, this 3-dam removal alternative would restore natural flows to the Copco 2 Bypassed reach, resulting in improved water quality in that reach, and allowing anadromous species to utilize that reach as a migration corridor. Unlike the 4-dam removal alternative, a 3-dam removal alternative would allow continued power generation at J.C. Boyle dam, the primary power source in the Project.

The FEIS also fails to consider a full project decommissioning alternative. Although FERC Staff evaluates an alternative involving removal of the four downstream dams, it is unlikely that PacifiCorp would accept a license that includes removal and decommissioning of the four primary sources of power generation. A more likely scenario is full project decommissioning. FERC Staff should have evaluated an alternative involving full project decommissioning so that the Commission and the public could be fully informed of the consequences of that foreseeable alternative.

**D. FERC's Analysis of Anadromous Fish Restoration Is Inconsistent With The Evidentiary Record and Inconsistent With Opinions of All Federal, State, and Tribal Fishery Agencies.**

The Tribe disputes FERC's pessimistic analysis of anadromous fish restoration and supports the federal agencies' mandatory volitional fish passage prescriptions. *See* HVT DEIS Comments, at pp. 15-21. The Tribe's DEIS Comments also reject PacifiCorp's proposed trap and haul alternative and FERC's even more inadequate proposal to postpone all reintroduction efforts pending further monitoring. *Id.*

State, federal, and tribal biologists have spent years studying the Klamath fishery and have determined that reintroduction to historic habitats within and above the Project will provide significant benefit to the multiple species of anadromous fish affected by the Project. Moreover, those experts agree that absent dam removal, a volitional fish passage system of ladders and screens at project facilities is the only scientifically defensible means to restore fish to this habitat.

The FEIS offers a revised recommendation for anadromous fish restoration that is also deficient. FERC Staff continues to rely on assumptions that were rejected in the EPAct Hearing; specifically, that water temperature, predation, and disease risks will preclude a successful volitional passage program. *See* HVT DEIS Comments, pp. 18-19.

FERC also fails to offer substantial scientific evidence to support its program. The analysis in the FEIS offers nothing but speculation that FERC's recommended restoration approach would be more successful than the volitional passage system mandated by the federal agencies and supported by state and tribal fishery managers. FERC's analysis fails to address the pitfalls associated with trap and haul and fails to provide for restoration of target species such as steelhead and pacific lamprey.

Substantial evidence in the record supports the federal agencies' volitional fish passage prescriptions as the only scientifically defensible means to restore fish above Iron Gate Dam, other than project decommissioning and dam removal. When FERC issues its license, it must adopt the federal agencies' volitional fish passage prescription. *City of Tacoma v. FERC*, 460 F.3d 53, 67 (D.C. Cir. 2006) ("the Federal Power Act gives FERC no discretion to reject Interior's Section 4(e) conditions"). The Commission has no authority to adopt FERC Staff's inadequate restoration alternative.

**E. FERC Should Adopt The Tribe's Flow Recommendations.**

The Hoopa Valley Tribe's Section 10(a) filing recommends continuous instream flow releases within the Project of 500 cfs or 70% of inflow to the Project, whichever is greater. *See Section 10(a) Recommendations, at p. 35-36; see also HVT DEIS Comments, Exhibit B, Hoopa Valley Tribe's Comments on PacifiCorp's Proposed Alternative Section 4(e) Conditions.* For the Copco 2 bypassed reach, the Tribe supports the 10(j) recommendations submitted by the federal and state agencies, which recommend a minimum flow of 730 cfs. The Tribe's Alternative Fishway Prescription also recommended a minimum flow of 730 cfs to provide sufficient flow for anadromous fish migration in that reach. The Tribe requests the Commission to incorporate its flow

recommendations into the final license. At minimum, FERC must adopt the flow conditions contained in the Department of the Interior's mandatory Section 4(e) conditions. *City of Tacoma v. FERC*, 460 F.3d 53, 67 (D.C. Cir. 2006) ("the Federal Power Act gives FERC no discretion to reject Interior's Section 4(e) conditions").

1. *J.C. Boyle Bypassed Reach Minimum Flows.*

FERC's analysis of minimum flows in the J.C. Boyle Bypassed Reach is unchanged from its analysis in the DEIS. FERC continues to argue that flows above 200 cfs would make the thermal refugia in the bypassed reach too warm to benefit salmonids during the summer months. *See* FEIS, at 5-37.

FERC's analysis and rejection of the Tribe's flow recommendation due solely to temperature impacts is flawed. For most days of the year (*i.e.*, Fall through Spring), minimum discharges of 500 cfs to the bypass reach would not raise temperatures above the threshold level suitable for salmonids. During these cooler months, an increased minimum flow would increase habitat area without impacting the thermal refugia provided by Boyle Springs. FERC's analysis does not address this. FERC's analysis also discounts the benefits that increased flows (above the 200 cfs proposed by FERC) will provide. Those benefits are discussed in the HVT DEIS Comments, pages 22-23 and incorporated herein by reference. By focusing solely on temperature impacts, ignoring any studies other than PacifiCorp's own work, and unreasonably discounting the benefits associated with increased habitat area, FERC has selected a flow regime not sufficiently protective of fish. FERC should adopt the Tribe's recommended minimum flows. At minimum, if FERC declines to adopt the Tribe's flow conditions, FERC must adopt the similar flows mandated by the Department of Interior's Section 4(e) conditions.

2. J.C. Boyle Peaking Reach Flow Fluctuations.

In response to the stranding studies conducted by Dunsmoor in 2006, which documented significant mortality associated with the Project's peaking operations, the FEIS proposes a graduated ramping restriction that would only apply after periods of sustained stable (non-peaking) operation. FEIS, at 3-266/3-267. However, FERC Staff's proposal still fails to consider the impacts associated with daily peaking operations documented at the EPAct Hearing and in prior environmental impact statements relating to the Klamath River. *See* HVT DEIS Comments, at pp. 23-26 (describing documented impacts associated with J.C. Boyle peaking operations).

The Department of Interior's Section 4(e) River Corridor Management conditions mandate a ramping restriction of two-inches per hour for the J.C. Boyle peaking reach. FEIS, at 3-267. The Tribe supports this ramping restriction. Pursuant to *City of Tacoma v. FERC*, 460 F.3d 53 (D.C. Cir. 2006), FERC must include the Department of Interior's Section 4(e) conditions in the FERC license. The Commission has no discretion to adopt the less protective ramping conditions recommended in the Final EIS. *Id.* at 67.

Substantial evidence in the record supports the more protective flows and ramping restrictions. Based on the expert evidence provided at the EPAct Hearing, Judge McKenna found that increased flows, combined with limited peaking, and restrictive ramping will increase available habitat (*Findings 16-1 through 16-6*), reduce impacts from stranding (*Findings 16-7 through 16-15*), reduce flushing of juvenile salmonids downstream (*Findings 16-16 through 16-20*), reduce energetic demands on fish (*Findings 16-21 through 16-23*), and increase macroinvertebrate production and food availability (*Findings 16-24 through 16-25*). *See also* HVT DEIS Comments, pp. 23-26.

FERC's analysis in the FEIS ignores or fails to adequately address scientific studies that suggest project operations have significant impacts on aquatic resources in the peaking reach. FERC must adopt the more protective ramping restrictions mandated by the Department of Interior and supported by the Tribe.

3. *Copco 2 Bypassed Reach Minimum Flows.*

In its DEIS Comments, the Tribe argues that FERC's adoption of a 75 cfs minimum flow in the Copco 2 Bypassed Reach is not based on any apparent scientific rationale, but is based solely on economic considerations. The FEIS fails to provide any additional support for its meager flow proposal. FERC repeats its conclusion from the DEIS that, although flows in excess of 500 cfs would increase available habitat for trout, "other physical constraints such as water quality conditions, especially water temperature, would continue to be a limiting factor for trout productivity in the reach." *See* FEIS, at 5-41. These "other physical constraints" (which FERC does not explain in any detail or cite any supporting references) did not stop every other expert federal and state agency, and the Tribe, from recommending flows significantly higher than 75 cfs.

The only apparent justification for FERC's inadequate flow proposal is the cost to the licensee. *See* FEIS, at 5-41. FERC's analysis shows disregard for the Copco 2 reach, which has been completely dewatered due to PacifiCorp's operations. Only 10 cfs is currently sent downriver. The Department of the Interior has stated: "of all river reaches impacted by the Project, the Copco 2 Bypassed Reach is the most strongly affected." *Department of Interior 10(j) Recommendations, at D-24.* The current condition of the reach consists of a "largely impassable collection of boulders and rocks." *Hoopa Valley Tribe Alternative Fishway Prescription, at p. 3.* FERC's decision to prefer status quo

power production in the face of continued environmental degradation violates NEPA and the Federal Power Act. FERC must reconsider its recommendation of 75 cfs and choose a higher minimum flow for that reach that will adequately protect fish, based on the expert opinion and evidence in the record.

With its focus blinded by costs to the utility company, and its failure to recognize the mandatory nature of the Section 18 fishway prescriptions, FERC's analysis fails to consider the habitat needs that anadromous fish will require in the Copco 2 reach when they are reintroduced. FERC's analysis in the FEIS focuses solely on resident trout. FERC Staff fails to understand that the license will include the mandatory volitional fish passage prescriptions. The Commission must not ignore the fact that anadromous fish, including ESA-listed Coho, will be migrating through the Copco 2 reach after license issuance. A minimum flow of 730 cfs is necessary not only to provide usable habitat for anadromous fish, but also to provide safe, timely, and effective passage through the Copco 2 reach for anadromous fish. FERC should require flows that will provide suitable habitat for the anadromous salmonids that will use the Copco 2 reach as a migration corridor, and that may reside in this reach for days or weeks during their migration.

**F. Dam Removal Is Likely The Only Way To Fully Mitigate The Klamath Hydroelectric Project's Water Quality Impacts.**

The FEIS confirms that the Klamath Hydroelectric Project does contribute to water quality impairment in the Klamath River and suggests that the only way to fully mitigate the Project's impacts on water quality is through dam removal. *See* FEIS, at 3-166. According to the FEIS, dam removal will significantly improve water quality in the Klamath. Dam removal would result in reduced ammonia and pH fluctuations, and

reduce the risk of algae and microcystis blooms. *Id.* Temperature, DO, and nutrient impacts would be reduced. *Id.* Disease impacts will also be mitigated.

Significantly, FERC suggests that water quality objectives will not be met absent dam removal. The FEIS states: (1) “the project [without dam removal] would continue to adversely affect water quality conditions downstream of Iron Gate Dam, which has the potential to adversely affect [ESA-listed] juvenile coho salmon” (FEIS, at 3-426); (2) “the project, as proposed, would continue to affect temperatures in the Klamath River;” (3) “even with implementation of best management practices that may be developed as part of a project-wide water quality management plan, it is likely that algal blooms would continue to occur in project reservoirs;” and (4) “some degree of project related nutrient enrichment would occur in the Klamath River downstream of Iron Gate Dam.” FEIS, at 3-173, 3-174. However, FERC rejects dam removal as a means to restore Klamath water quality (and as a means to open up historic anadromous fish habitat) because it would lower the economic value of this Project to PacifiCorp. *See* FEIS, at 5-82. Like the DEIS, the FEIS improperly supports status quo power production instead of necessary environmental mitigation.

**G. FERC’s Economic Analysis Is Misleading and Arbitrarily Promotes Power Values Over Non-Power Values.**

FERC’s misleading economic analysis in the FEIS renders the document fatally flawed. FERC Staff’s preferred alternative is dictated almost entirely by the estimated costs and expense to PacifiCorp of implementing necessary environmental mitigation measures. Throughout the document, FERC Staff evaluates environmental measures solely in terms of their cost to PacifiCorp, and makes no effort to quantify the economic benefits associated with environmental measures. For example, even though FERC

acknowledges that dam removal would result in significant benefits in terms of water quality, fish health, access to habitat, and recovery of ESA-listed Coho salmon, FERC staff ultimately rejects that alternative on the sole basis of cost to PacifiCorp. *See* FEIS at 5-82 (“although we acknowledge that the removal of Iron Gate and Copco 1 dams would provide greater benefits to anadromous fish, it would result in a substantial reduction in generation benefits and very high costs for decommissioning . . .”). Thus, hundreds of pages of analysis on the impacts of the dams on water quality and fish are set aside, and the environmental measures with the highest potential for protecting, mitigating, and enhancing anadromous fish are rejected, on grounds that such measures would be too expensive for PacifiCorp to profitably implement.

In its DEIS Comments, the Tribe argues that FERC provides a misleading economic analysis by focusing solely on the costs and benefits to the licensee and failing to consider the economic benefits associated with environmental measures. *See* HVT DEIS Comments at pp. 32-36. The Tribe also argued that the EIS failed to disclose sufficient information regarding the data, assumptions, and methodologies upon which the economic analysis is based, making it impossible for the public or the Commission to evaluate the accuracy of the economic analysis. FERC took no steps to correct either of these flaws in its FEIS.

The Commission must recognize that alternatives presented in the FEIS that have negative “net power benefits” (i.e., alternatives that result in a financial loss for PacifiCorp) may provide positive financial and non-financial benefits to society as a whole. FERC makes no effort to quantify the benefits of environmental measures or to incorporate those benefits into its economic analysis. The narrow focus on the costs that

PacifiCorp will incur implementing environmental measures provides the public with a misleading picture of the actual costs and benefits of implementing environmental measures.

This flaw in the economic analysis also makes the alternatives analysis defective. Under FERC's approach, the relicensing alternatives that include environmental measures look substantially less attractive than the "no-action" alternative from an economic standpoint. If FERC Staff properly considered economic benefits associated with improved water quality, reduced fish disease, recovery of coho salmon, and increased anadromous fish production, it likely would select a preferred alternative with more environmental protections. *See Natural Resources Defense Council v. United States Forest Serv.*, 421 F.3d 797 (9th Cir. 2005) (suggesting that proper evaluation of economic data in EIS may result in selection of less environmentally harmful alternative); *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446-48 (4th Cir. 1996) (holding that an EIS based on inflated economic benefits violates NEPA and might defeat the purpose of an EIS by impairing the agency's consideration of the adverse environmental effects and by skewing the public's evaluation of the proposed action).

A primary purpose of NEPA is to ensure informed decision making and informed public involvement. A one-sided economic analysis, which ignores substantial economic benefits associated with environmental measures, fails to satisfy this standard. FERC's one-sided economic analysis, which focuses solely on "net annual power benefits" is of special concern due to the repeated instances in the FEIS where FERC staff rejects an environmentally preferable alternative on grounds that it is "not worth the cost." By only examining the "cost" to PacifiCorp, while failing to quantify the "benefits" associated

with a given environmental measure, FERC staff's analysis is artificially biased against non-power values.

**H. The Staff Alternative Is Inconsistent With The Federal Agencies' Mandatory Section 4(e) and Section 18 Prescriptions, Which Must Be Included In The License.**

In the FEIS, FERC Staff selects a preferred alternative that is not consistent with the obligations imposed by the Federal Power Act, Clean Water Act, and Endangered Species Act, and tribal trust obligations. Most significantly, FERC Staff ignores the fact that the Commission must include the Section 18 fish passage prescriptions and Section 4(e) conditions mandated by the Departments of Commerce and Interior. FERC Staff states, at page 5-10 of the FEIS:

NMFS and Interior have made modified fishway prescriptions which, when finalized, the Commission *may* need to include in a new license for this project. Similarly, the Bureau of Land Management and Reclamation have specified preliminary 4(e) conditions which, when finalized, *may* also need to be included in a new license for this project.

(emphasis added). This paragraph is an inaccurate statement of the law. FERC has no discretion to reject or modify the Section 18 and Section 4(e) prescriptions. *City of Tacoma v. FERC*, 460 F.3d 53, 67 (D.C. Cir. 2006) (“the Federal Power Act gives FERC no discretion to reject Interior’s Section 4(e) conditions”).

The utility of the FEIS is undermined significantly by adopting a preferred alternative that is inconsistent with FERC’s legal obligations. FERC Staff has developed and presented a preferred alternative that the Commission has no legal authority to adopt. By recommending an alternative that ignores FERC’s authority and the applicable requirements of the Federal Power Act, the FEIS is deficient and violates NEPA.

**I. FERC Failed To Adequately Address Impacts And Mitigation For ESA-Listed Coho Salmon.**

The Tribe, in its DEIS Comments, notes that FERC's analysis of impacts to ESA-listed coho salmon is inadequate. FERC declined the Tribe's request to prepare a separate, stand-alone, biological assessment. The Tribe restates its objection to FERC's inadequate analysis of impacts to ESA-listed coho.

The FEIS acknowledges the significant impacts that the Klamath Hydroelectric Project has on water quality and coho habitat downstream of Iron Gate Dam. FEIS, at 3-426 (noting that the project "would likely continue to adversely affect water quality conditions downstream of Iron Gate Dam, which has the potential to adversely affect juvenile coho salmon [during outmigration]"). Despite FERC's conclusion that the Project will continue to adversely impact Coho absent dam removal, FERC Staff's preferred alternative rejects partial decommissioning and dam removal on the basis that removal is too costly to PacifiCorp. *See* FEIS, at 5-82 (rejecting decommissioning despite greater benefits to anadromous fish). Rejecting necessary measures on grounds of cost is impermissible under the ESA. *Tennessee Valley Auth. v. Hill*, 437 U.S. 153 (1978). The ESA requires agencies to deny actions that result in jeopardy or adverse modification of critical habitat, even if the cost of ESA-compliance is high. *Id.*

The failure to provide a reasonable appraisal of the project's impacts on Coho or to support measures that are necessary to avoid jeopardy and promote recovery is especially shortsighted given the Commission's affirmative ESA obligations. It is likely that NMFS would have determined that the Klamath Hydroelectric Project, under the FEIS' preferred alternative, will result in jeopardy to Coho, impede recovery, and cause adverse modification of critical habitat. Instead, by assuming the proposed action

“includes the staff alternative, as modified by NMFS and DOI mandatory conditions,” NMFS was able to conclude that the level of “anticipated take is not likely to jeopardize the continued existence of SONCC coho salmon.” NMFS Biological Opinion at 6, 133 (December 21, 2007). The likelihood of a jeopardy/adverse modification finding under the preferred alternative is supported by the existing Klamath BiOps, the documented trajectory of decline of Klamath fish stocks, and the acknowledged adverse impacts that Klamath dams have on Coho. FERC must license the project, in consultation with NMFS, in a manner that avoids jeopardy and adverse modification of critical habitat.

**J. The Final EIS Fails To Evaluate How Relicensing Would Impact the Trinity River Restoration.**

In December 2000, the Department of the Interior, with the concurrence of the Hoopa Valley Tribe, approved the Trinity River Mainstem Fishery Restoration Record of Decision. The FEIS, like the DEIS, fails to consider how relicensing of this project will affect the Tribe’s efforts to restore anadromous fish in the Trinity River.

**K. Removal of Keno From Project Area.**

The Tribe, as stated in its 10(a) Recommendations, objects to the removal of Keno Dam from the Project. The Tribe requests that the Commission reject PacifiCorp’s request to remove Keno Dam from the Project boundaries.

**III. Conclusion.**

This relicensing presents a unique opportunity to restore the health of the Klamath River, once one of the greatest fish-producing rivers in the United States. The Tribe remains disappointed in FERC’s environmental analysis. FERC’s preferred alternative fails to select feasible and scientifically defensible mitigation and restoration measures in favor of status quo power production and continued environmental degradation.

FERC cannot accept the Staff's preferred alternative as it would violate the mandates set forth in the Federal Power Act, as interpreted by the D.C. Circuit Court of Appeals in *City of Tacoma v. FERC*, 460 F.3d 53 (D.C. Cir. 2006). The preferred alternative ignores the legal reality that FERC must adopt the mandatory Section 4(e) and Section 18 conditions imposed by the Departments of Interior and Commerce, including the volitional fish passage, minimum flow, ramping, and other mandatory prescriptions and conditions. FERC Staff's recommendation of an alternative that does not include the legally mandated conditions renders the FEIS of limited utility to the Commission and the public.

We trust that the Tribe's comments will be appropriately considered and addressed by the Commission in this license proceeding. Thank you for your consideration of the Tribe's comments.

Respectfully submitted,

MORISSET, SCHLOSSER, JOZWIAK & MCGAW

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/s/ Thomas P. Schlosser

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/s/ Thane D. Somerville  
*Attorneys for Hoopa Valley Tribe*

BEFORE THE UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

In re Klamath Hydroelectric Project )  
 ) FERC Project No. P-2082  
 )  
License Applicant: PacifiCorp )  
 )  
\_\_\_\_\_ )

**HOOPA VALLEY TRIBE’S MOTION FOR INTERIM PROTECTIVE  
CONDITIONS IN ANNUAL LICENSE (P-2082)**

**I. INTRODUCTION**

The Hoopa Valley Tribe, intervenor in the Klamath Hydroelectric Project relicensing proceeding (P-2082-027), hereby requests FERC to impose interim protective conditions in PacifiCorp’s annual operating license. Specifically, the Tribe requests that FERC require immediate compliance with the ramping rate limitations and minimum instream flow conditions contained in the Department of Interior’s Section 4(e) conditions filed with the Commission on January 29, 2007.<sup>1</sup> The Tribe has attached the proposed ramping rate and minimum flow interim conditions to this motion as Exhibit 1.<sup>2</sup>

The Department’s ramping restrictions and minimum flow conditions are critical for the immediate protection of trout and other resident aquatic resources that are adversely affected by ongoing project operations.<sup>3</sup> The ramping rate and minimum flow

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<sup>1</sup> See Department of Interior Modified 4(e) Conditions – BLM Reservation, Attachment A1-6, Conditions 4A and 4B (Jan. 22, 2007) (hereinafter “DOI Modified 4(e) Conditions”) (containing ramping rate and minimum flow conditions). Relevant portions of the DOI Modified 4(e) Conditions are attached as Exhibit 2. The full set of Modified DOI Section 4(e) conditions are available in the FERC record at: *FERC Elibrary Accession No. 20070205-0041*.

<sup>2</sup> The proposed language in Exhibit 1 is substantively identical to the ramping and minimum flow conditions contained in the DOI’s Modified Section 4(e) Conditions 4A and 4B. Slight changes in wording have been made to withdraw references to the seasonal flushing flow requirement.

<sup>3</sup> The Oregon Basin redband trout, which includes the Klamath Basin populations, is listed as a state sensitive species by the Oregon Department of Fish and Wildlife. See Department of the Interior – Response to Ready for Environmental Analysis Notice – March 27, 2006, page 26,

conditions are uniquely suitable as interim conditions, because they will provide substantial benefit to affected fishery and aquatic resources without requiring structural modification to the project or significant capital expenditure by the licensee.<sup>4</sup> In addition, the proposed conditions apply only to PacifiCorp's operation of the J.C. Boyle Dam. The proposed conditions would not affect other Klamath Project facilities or operations.

The Department's ramping and minimum flow conditions were recently evaluated in a 5-day "trial-type" evidentiary hearing held under the authority of the Energy Policy Act of 2005. *See In re Klamath Hydroelectric Project*, Docket No. 2006-NMFS-0001 (2006).<sup>5</sup> In the hearing, Judge Parlen McKenna ruled that PacifiCorp's operation of the Klamath Hydroelectric Project adversely affects resident trout and other aquatic resources below J.C. Boyle, and that the Department's ramping and minimum flow conditions will

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*citing* ODFW Klamath River Basin Fish Management Plan (1997). *FERC Accession No. 20060329-4002*. Under Oregon law, "sensitive" species are those wildlife species, subspecies, or populations that are subject to a decline in number of sufficient magnitude to qualify their listing as threatened due to loss in quantity or quality of habitat or other factors. OAR 635-100-0001; 635-100-040.

<sup>4</sup> PacifiCorp can immediately implement the ramping rate limitation for the J.C. Boyle peaking reach with no structural modifications or capital expenditures of any kind. The minimum flow and ramping conditions for the J.C. Boyle bypassed reach do call for installation of a new gage to monitor compliance at River Mile 225 downstream of J.C. Boyle dam. Installation of this new gage could be done quickly and at small cost. Even if FERC declined to order immediate construction of the new gage as an interim measure due to the associated capital costs, FERC could still order immediate compliance with the flow and ramping conditions in the bypassed reach. The gages that are necessary to calculate inflow to J.C. Boyle (which will be used as the basis for the required minimum flow) are already in place upstream of J.C. Boyle. The lack of a monitoring gage downstream would not preclude PacifiCorp from complying with the minimum flow obligations on an interim basis as an appropriate "rough and ready measure." *See Platte River Whooping Crane Critical Habitat Maintenance Trust v. FERC* (Platte River II), 962 F.2d 27 (D.C. Cir. 1992) (approving minimum and maximum flow regime as appropriate "rough and ready" interim license condition).

<sup>5</sup> The complete record of the trial-type hearing has been filed with FERC in the P-2082 docket. *See FERC Elibrary Accession No. 20061217-0001 through -0295*.

provide substantial benefit to those resources. *See* ALJ Ultimate Findings of Fact 16 and 17; ALJ Findings of Fact 16-1 through 17-9.<sup>6</sup>

The need for ramping restrictions and increased minimum flows at J.C. Boyle is supported by substantial evidence in the existing FERC record. The extensive administrative record supporting the Department's Section 4(e) conditions, in addition to the evidence, testimony, and findings of fact developed in the August 2006 trial-type hearing confirm that PacifiCorp's project operations, including its peaking, ramping, and flow regime have a significant adverse impact on the Klamath River and its trout fishery. The interim measures requested by the Tribe in this motion will provide much needed immediate protection to the resident trout fishery while this re-licensing proceeding continues over coming years.

FERC has the legal authority to impose interim conditions in the annual license based on express re-opener provisions in PacifiCorp's 1956 license. *Platte River Whooping Crane Habitat Maintenance Trust v. FERC* (Platte River II), 962 F.2d 27 (D.C. Cir. 1992); *see also* 18 C.F.R. § 16.18(d) (authorizing FERC to incorporate interim conditions in annual license "if necessary and practical to limit adverse impacts on the environment"). FERC must include the Department's ramping restrictions and minimum flow conditions in the final license. *City of Tacoma v. FERC*, 460 F.3d 53 (D.C. Cir. 2006) (holding that FERC must include Department's 4(e) conditions in license). However, there is no reason to delay implementation of these conditions until final license issuance. FERC should require immediate compliance as an interim measure.

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<sup>6</sup> Relevant portions of Judge McKenna's September 27, 2006 Decision and Findings of Fact are included as Exhibit 3. The full Decision is available in the FERC record at *FERC Elibrary Accession No. 20061002-5081*.

Interim conditions in the annual license are only a first step in the lengthy process of Klamath fishery restoration. Once protective conditions are adopted in the relicensing proceeding, it may take years before positive effects of protective measures result. The sooner that FERC acts to protect fishery resources in this proceeding, the sooner that tangible improvements will be realized. FERC has a legal obligation to act now, within the full extent of its authority, to protect the fish that currently reside in the river, and to take the first steps towards recovery and restoration.

## **II. FACTUAL BASIS FOR INTERIM PROTECTIVE CONDITIONS**

On February 25, 2004, PacifiCorp filed an application with FERC for a new operating license for the Klamath Hydroelectric Project. PacifiCorp's fifty-year license to operate the project expired on March 1, 2006. PacifiCorp currently operates the project pursuant to an annual license, which is scheduled for renewal on March 1, 2007.

The Klamath Hydroelectric Project causes serious adverse impacts to fish species in the Klamath River. The three dams furthest downstream (Iron Gate, Copco 1, and Copco 2) have no upstream or downstream passage facilities, effectively blocking over 300 miles of historic habitat for Chinook salmon and steelhead, and blocking access to habitat within the project for all anadromous species, including ESA-listed coho. This motion does not directly focus on the impacts to anadromous fish downstream of Iron Gate Dam, but instead focuses on the harmful project operations, i.e., the ramping, peaking, and flow regime, that adversely affect sensitive trout populations in the river reaches immediately downstream of the J.C. Boyle facilities. This motion focuses on those impacts because they can be easily and immediately addressed through interim

protective conditions and because they are well-documented by existing evidence in the FERC record.<sup>7</sup>

It will likely be many years before PacifiCorp operates the Klamath Project under a new license with conditions adequately protective of the affected environment. The current re-licensing schedule has been delayed on numerous occasions, and it is reasonable to assume that delays will continue given the complexity of this proceeding and the number of issues and interested parties involved. FERC is not scheduled to issue its Final EIS for a number of months. Numerous other events, including consultation pursuant to the ESA, and issuance of water quality certifications must occur before a license is issued. Thus, it is possible that a license will not issue before the end of 2007. Upon issuance, it is likely that one or more parties will seek rehearing with FERC and subsequent judicial review. As current FERC practice is to stay the terms and conditions of a new license pending judicial review, the resources of the Klamath River will continue to suffer from the documented adverse effects of the Klamath Hydroelectric Project for many years unless FERC imposes interim protective conditions.

A. PacifiCorp's Peaking Operations and Resulting Flow Fluctuations Adversely Impact the Resident Fishery and Other Aquatic Resources.

The Klamath Hydroelectric Project is managed as a peaking operation with daily flow fluctuations ranging from 1,000 cfs to 2,600 cfs for nine to ten months of the year.<sup>8</sup>

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<sup>7</sup> On January 31, 2007, the Tribe requested that FERC initiate consultation on the annual license with NMFS and USFWS under Section 7 of the Endangered Species Act. FERC Elibrary Accession No. 20070131-0579. The Tribe reiterates that request here. FERC has a legal obligation to consult regarding potential impacts to ESA-listed species resulting from issuance of the annual license, as it retains discretion to impose conditions protective of fish and wildlife. However, FERC's consultation under the ESA should not preclude or delay immediate imposition of the interim ramping and minimum flow conditions requested herein. Consultation with NMFS and USFWS may lead to *additional* necessary interim measures for the protection of ESA-listed species above and beyond those measures requested by the Tribe in this motion.

When daily power operations begin, water is sent through the J.C. Boyle powerhouse and discharged into the J.C. Boyle peaking reach, rapidly increasing the flow and water level in that reach. Conversely, when power operations cease for the day, flow and water levels in the peaking reach decrease significantly. These dramatic and unnatural flow fluctuations adversely affect trout and other aquatic species in the reaches below the J.C. Boyle Dam and powerhouse. *See* ALJ Ultimate Finding of Facts 16 and 17.<sup>9</sup>

Article 36 of PacifiCorp's current license provides for a maximum ramping rate at the J.C. Boyle Dam of nine inches per hour. PacifiCorp's operations under the current ramping rate can raise or lower the river stage downstream of the J.C. Boyle powerhouse by as much as 2.2 feet in a period of several hours.<sup>10</sup> Studies of the Klamath Project document numerous compliance violations, with some ramping events exceeding 1.2 feet per hour for up ramping and 1.3 feet per hour for down ramping.<sup>11</sup>

The nine-inch-per-hour ramping rate results in a rate of river stage change (change in water level) that is more than four times greater than what would naturally occur in a rare, intense storm event.<sup>12</sup> Rivers, such as the Williamson above Upper

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<sup>8</sup> *See* Interior Preliminary 4(e) Conditions – BLM Reservation, Page A-26, March 27, 2006 (hereinafter “DOI Preliminary 4(e) Conditions”). *FERC Accession No. 20060329-4002*.

<sup>9</sup> ALJ Ultimate Finding of Fact 16 holds that “Current project operations, particularly sediment blockage at the J.C. Boyle Dam, the flow regime, and peaking operations, negatively affect the redband trout fishery. The proposed [Department of Interior 4(e)] River Corridor Management Conditions would improve fishery resources. Ultimate Finding of Fact 17 holds that “The BLM’s proposed upramp rate will improve conditions for fish resources and other aquatic organisms by reducing adverse effects caused by the existing nine inch/hour upramp rate.” *FERC Elibrary Accession No. 20061002-5081*.

<sup>10</sup> *See* DOI Preliminary 4(e) Conditions, Page A-26. *FERC Accession No. 20060329-4002*.

<sup>11</sup> *Id.*, citing Huntington (2004).

<sup>12</sup> *In re Klamath Hydro. Project*, Testimony of Cleve Steward, HVT-Steward-Exh. 4, at 2:18-21.

Klamath Lake rarely, if ever, see a natural “ramping” event of 2 inches per hour, let alone 9 inches per hour.<sup>13</sup> In other words, the current 9-inch-per-hour ramp rate results in daily flow fluctuations in the peaking reach that are over four times more powerful than fluctuations that occur only rarely in a natural system.<sup>14</sup>

The adverse impacts to fish and aquatic resources from these extreme flow fluctuations are well-documented by existing evidence in the FERC record. These impacts include stranding of fish and macroinvertebrates, increased energetic demands on resident fish, lack of food availability, downstream displacement of fish and macroinvertebrates, and reduced habitat areas.<sup>15</sup>

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<sup>13</sup> *In re Klamath Hydro. Project*, Exhibit of Cleve Steward, HVT-Steward-Exh. 37, at pp. 14-15 (showing that the “upramp” rate for the naturally flowing Williamson River in the Upper Klamath Basin rarely, if ever, exceeded two inches per hour over the three years of flow data reviewed).

<sup>14</sup> *In re Klamath Hydro. Project*, Testimony of Cleve Steward, HVT-Steward-Exh. 4, at 2:18-21.

<sup>15</sup> (A) DOI Modified 4(e) Conditions, pages A-65 through A-71, January 22, 2007, and supporting studies cited therein (*FERC Elibrary Accession No. 20070205-0041*);

(B) BLM Preliminary Section 7(a) Determination and Report, pages 50-56, and supporting studies cited therein (*FERC Elibrary Accession No. 20070130-5068*);

(C) DOI Preliminary 4(e) Conditions, March 27, 2006, and supporting studies cited therein (*FERC Elibrary Accession No. 20060329-4002*);

(C) *In re Klamath Hydroelectric Project*, ALJ Findings of Fact 16-1 through 17-9, and supporting citations to testimony, 2006-NMFS-0001 (2006) (*FERC Elibrary Accession No. 20061002-5081*);

(D) Dunsmoor, L.K. 2006, *Observation and Significance of Fish and Invertebrate Stranding During the First Few Major Peaking Cycles in 2006 Downstream of J.C. Boyle Hydroelectric Project*, Technical Memorandum to the Klamath Tribes;

(E) The Tribe relies upon and incorporates by reference all studies cited by the Department of the Interior in its Section 4(e) conditions, and in BLM’s Section 7(a) determination; and

(F) The Tribe also relies upon and incorporates by reference all testimony, exhibits, and findings of fact from the EPAct trial-type hearing, 2006-NMFS-0001. *FERC Elibrary Accession No. 20061217-0001 through -0295*. The Tribe specifically directs the Commission’s attention to the following relevant testimony: (1) *HVT Steward-Ex. 4, Direct Testimony of Cleveland R. Steward on BLM Issue 17* (discussing impacts associated with nine-inch-per-hour ramping rate); (2) *KTR LKD Ex. 17, Direct Testimony of Larry K. Dunsmoor on BLM Issue 16* (testifying on how project peaking operations impact resident trout fishery and how resource would be improved by Department’s conditions); (3) *KTR FAE Ex. 31, Direct Testimony of F. Al Espinosa on BLM Issue 16* (same); (4) *BLM Denman Exhibit 0, Denman Direct Testimony* (comparing

The impacts of the daily flow fluctuations were addressed at length in the EPA Act trial-type hearing. Based on the testimony and exhibits produced at the hearing, Judge McKenna found that the extreme flow fluctuations resulting from the Project cause significant adverse impacts to the resident trout fishery and that the Department's Section 4(e) conditions, specifically its ramping restrictions and minimum flow conditions, would mitigate the impacts considerably. *See* ALJ Findings of Fact 16-1 through 17-9; *see also* ALJ Decision pages 77-82 (“the current peaking operations and their unnatural upramp rates create several conditions that are harmful to the trout fishery”).

Rapid dewatering of the J.C. Boyle peaking reach results in devastating impacts. ALJ Finding of Fact 16-9. In the trial-type hearing, Judge McKenna found that “project peaking operations kill, through stranding, large numbers of young fish and aquatic invertebrates that are the primary prey food for trout.” ALJ Finding of Fact 16-15. ALJ McKenna determined that “reduced ramp rates can resolve the problem of fish stranding.” ALJ Finding of Fact 16-13.

Based on the extensive evidence and testimony presented at trial, Judge McKenna also found that the unnatural flow fluctuations adversely impact food availability for trout in the J.C. Boyle reaches, resulting in impaired growth and overall health:

- Flow fluctuations from peaking operations increase energetic demands on salmonids, decreasing energy available for overall health, growth, and reproduction. ALJ Finding of Fact 16-21.
- Macroinvertebrate drift rates, a measure of food availability for trout, in the non-peaking Keno reach were five to six times greater than in the [J.C. Boyle] peaking reach. Fluctuations in the peaking reach are undoubtedly a

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trout fishery prior to J.C. Boyle Dam to trout fishery after J.C. Boyle Dam); (5) *BLM Hooton Exhibit OA, Hooton Direct Testimony FWS 3-BLM 16* (testifying on impacts of project operations on resident trout); (6) *BLM Hooton Exhibit OB, Hooton Direct Testimony BLM 14-17* (same); (7) *BLM Snedaker Exhibit 0, Snedaker Direct Testimony BLM 16-17* (describing impacts of PacifiCorp's peaking operations on resident fishery).

contributing factor to the lower macroinvertebrate drift rates [in the peaking reach]. ALJ Finding of Fact 16-25.

- Daily peaking . . . reduces the quality and abundance of drift forage for trout. ALJ Finding of Fact 17-5.
- The Project caused impacts to forage fish in the peaking reach help explain the lower growth rates and absence of larger and older fish in the peaking reach, as compared to the Keno reach [upstream]. ALJ Finding of Fact 16-32.
- Flushing of juvenile salmonids downstream is likely in the peaking reach. ALJ Finding of Fact 16-16.

These findings of fact were based on Judge McKenna's review of evidence and testimony provided by numerous agency, tribal, and NGO scientists, which McKenna cites in support of the findings.<sup>16</sup> Judge McKenna's findings are consistent with the extensive administrative record prepared by the Department of the Interior in support of the Department's Section 4(e) conditions.<sup>17</sup> The existing FERC record contains substantial evidence of the harm associated with the current ramping and peaking operations and the need for immediate interim protection of the resident fishery.<sup>18</sup>

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<sup>16</sup> Significantly, McKenna found PacifiCorp's studies on the effects of its flow regime to be unreliable. *See* ALJ Decision, at p. 80 (citing flaws in the studies sponsored by PacifiCorp). *FERC Elibrary Accession No. 20061002-5081*.

<sup>17</sup> The findings are also consistent with the conditions and recommendations made by the Hoopa Valley Tribe pursuant to Section 10(a) of the Federal Power Act on March 29, 2006. *See* pages 43-48 (regarding negative impacts of PacifiCorp's peaking operations and need for ramping rate restrictions). *FERC Elibrary Accession No. 20060328-5073*.

<sup>18</sup> These findings are also consistent with previous studies conducted in a FERC proceeding regarding the City of Klamath Falls Application for the Salt Cave Hydroelectric Project. The City of Klamath Falls 1986 license application, page 3-11, suggested that the most suitable trout spawning and incubation portions of the J.C. Boyle peaking reach are dewatered on a daily basis due to flow fluctuations caused by the Klamath Hydroelectric Project. *See In re Klamath Hydroelectric Project*, HVT, Steward, Exhibit 33. FERC's EIS on the Salt Cave application determined that flows of 1500 cfs sent through the peaking reach by PacifiCorp "lead to fry and fingerling trout being flushed downstream.").

The Department of the Interior's final ramping rate prescription limits upramping and downramping in the J.C. Boyle peaking reach and J.C. Boyle bypass reach to two-inches-per-hour.<sup>19</sup> A ramping rate of two-inches-per-hour is widely accepted as the minimum necessary to protect aquatic resources from the adverse impacts associated with peaking. *See* ALJ Finding of Fact 17-4.<sup>20</sup> The Department issued its two-inch-per-hour ramping condition pursuant to its authority under Section 4(e) of the Federal Power Act; thus, FERC is required to include the ramping limitation in the final license. *City of Tacoma v. FERC*, 460 F.3d 53 (D.C. Cir. 2006). However, in this case, there is no justification for FERC to delay. Interim protection is warranted to prevent continuing harm to the affected fishery resources during the remainder of this relicensing proceeding.

The ramping restriction is uniquely appropriate as an interim measure, because it will provide immediate benefit to adversely affected species without project modifications or capital expenditures by the licensee. PacifiCorp can immediately implement the ramping condition without making expensive structural changes to the project. As documented by the Department of the Interior, the benefits to the resident fish resource would be immediate and significant.

The ramping condition is also unique because its merits have been tested in a recent judicial proceeding. PacifiCorp directly challenged the evidentiary basis for the Department's ramping condition in a trial-type hearing held in August 2006. Experts

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<sup>19</sup> DOI Modified 4(e) Conditions, Attachment A1-6, A1-7. *FERC Accession No. 20070205-0041*.

<sup>20</sup> *See also* Hunter, M.A. 1992. Hydropower flow fluctuations and salmonids: A review of the biological effects, mechanical causes, and options for mitigation. Technical Report No. 119. State of Washington Dep't of Fisheries; *In re Klamath Hydroelectric Project*, Testimony of Cleve Steward, HVT-Steward-Exh. 4.

from the federal government, intervening Indian tribes, and environmental organizations submitted substantial evidence on the impacts of PacifiCorp's peaking operations. After considering the extensive evidence presented, and conducting 5-days of hearing, Judge McKenna found that PacifiCorp's peaking operations adversely affect the resident trout fishery and that the Department's ramping conditions would mitigate this harm. *See* ALJ Findings of Fact 16-1 through 17-9. PacifiCorp is bound by these findings and FERC should give the Court's findings substantial, if not conclusive, weight when assessing the need for interim conditions.

Based on the existing substantial evidence in the record, the Tribe requests that FERC immediately impose a ramping restriction of two-inches-per-hour for the J.C. Boyle peaking and bypass reaches in PacifiCorp's annual license for the immediate protection of the resident trout and other affected aquatic resources.

B. FERC Should Immediately Require Increased Minimum Instream Flows in the J.C. Boyle Bypass Reach To Protect The Resident Trout Fishery.

The Department of the Interior's Section 4(e) conditions prescribe minimum instream flows to be released from the J.C. Boyle Dam into the J.C. Boyle bypassed reach.<sup>21</sup> The Department's flow prescription requires PacifiCorp to release (1) no less than 40% of inflow<sup>22</sup> to the J.C. Boyle Bypassed River Reach when inflow is 1,175 cfs or greater; (2) 470 cfs when inflow is less than 1,175 cfs; and (3) an amount equal to inflow when inflow is less than 470 cfs.

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<sup>21</sup> *See* DOI Modified 4(e) Conditions, Attachment A1-6. FERC Accession No. 20070205-0041.

<sup>22</sup> The conditions provide that "inflow" to J.C. Boyle Reservoir shall be calculated by averaging the previous three days of the combined daily flows as measured at the Keno gage #11509500 and Spencer Creek gage #11509500. *Id.*

The Tribe requests that FERC require immediate compliance with this flow condition as an interim annual license condition. Like the ramping restrictions, the Department's minimum flow condition has well-documented benefits. It is also a measure that will not require structural modifications or capital expenditures by the licensee, with the possible exception of a new monitoring gage downstream of J.C. Boyle. It is a perfect example of a "rough and ready" measure that can be implemented now for the protection of the fishery. *Platte River Whooping Crane Critical Habitat Maintenance Trust v. FERC* (Platte River II), 962 F.2d 27 (D.C. Cir. 1992) (approving minimum and maximum flow regime as appropriate "rough and ready" interim license condition). In addition, it is a Section 4(e) condition that FERC must include in the final license. *City of Tacoma v. FERC*, 460 F.3d 53 (D.C. Cir. 2006). For all of these reasons, FERC should require immediate compliance with the minimum flow conditions.

There is substantial evidence in the record in support of the Department's instream flow conditions. The Department states in its January 22, 2007 filing: "Existing flows [of 100 cfs] in the Bypassed reach do not provide adequate protection for spawning habitat and in fact adversely affect spawning habitat."<sup>23</sup> Previous studies by the Oregon Department of Fish and Wildlife ("ODFW") confirm that current flows in the J.C. Boyle Bypassed reach do not "adequately provide for a healthy productive fish community, with reduced growth, low relative weights, and low persistence of fish over the age of 4."<sup>24</sup> The recent Wild and Scenic Rivers Act Section 7(a) determination prepared by the Bureau of Land Management also discusses the benefits associated with the increased

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<sup>23</sup> See DOI Modified 4(e) Conditions, Page A-58. *FERC Accession No. 20070205-0041*.

<sup>24</sup> See *id.*, page A-58-59, citing ODFW 2003, Klamath River Redband Trout Investigations – Annual Progress Report. *FERC Elibrary Accession No. 20070205-0041*.

flow regime, which will provide additional habitat, seasonal flow variability, less stranding, and less adverse impacts associated with peaking operations.<sup>25</sup> The Hoopa Valley Tribe has recommended larger flows as the minimum necessary for adequate protection of the fishery resource, but limits its request here to those flows prescribed by the Department of the Interior under Section 4(e) as interim protection.<sup>26</sup>

PacifiCorp directly challenged the Department's minimum flow conditions in the August 2006 trial-type hearing, but Judge McKenna found that the current flow regime does adversely affect fish species and that the Department's minimum flow conditions will provide substantial benefit to those affected species. In the hearing PacifiCorp raised the following issue:

Whether and how current Project operations affect the redband trout fishery resources, insofar, as that resource would be addressed by the [Department of Interior's] River Corridor Management Condition [which includes the minimum flows and ramping rates]?<sup>27</sup>

The ALJ, based on the evidence, exhibits, and testimony provided in the hearing ruled as follows:

Current Project operations, particularly sediment blockage at the J.C. Boyle Dam, the flow regime, and peaking operations, negatively affect the redband trout fishery. The [Department's] proposed River Corridor Management Conditions would improve fishery resources. ALJ Ultimate Finding of Fact 16.

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<sup>25</sup> BLM Preliminary Section 7(a) Determination and Report, pages 55-56. *FERC Accession No. 20070130-5068*.

<sup>26</sup> See Hoopa Valley Tribe's 10(a) Recommendations, pages 35-43, March 29, 2006. *FERC Elibrary Accession No. 20060328-5073*.

<sup>27</sup> PacifiCorp Request For Hearing, BLM Disputed Issue of Fact 16. *FERC Elibrary Accession No. 20060428-4010*.

The ALJ made additional rulings relating to the instream flow condition. In describing the benefits and need for increased flows, Judge McKenna ruled, at page 78, of his decision:

the Project's artificial low flow regime contributes to the lack of available spawning gravel in the J.C. Boyle peaking and bypass reaches. . . . Spawning gravel has been observed along channel margins and on depositional features in the peaking and bypass reach. However, when low flows occur, portions of this margin-habitat are no longer inundated with water, making the spawning gravel unusable. The proposed conditions would substantially alter the current flows by providing an overall increase in base flows. Higher base flows allow for greater inundation of habitat suitable for spawning.

Providing additional flow and spawning habitat for trout populations will provide significant benefit to the resident trout fishery resource, as documented extensively in the existing FERC record. Thus, the Tribe requests that FERC impose the Department's minimum flow conditions as an interim annual license condition for the immediate protection of the trout fishery.

### **III. LEGAL ARGUMENT AND ANALYSIS**

#### **A. FERC Must Impose Protective Fishery Conditions In PacifiCorp's Annual License for the Klamath Hydroelectric Project.**

FERC has authority to impose interim fishery protective conditions in an annual license so long as the original license contains a reservation of authority to impose such conditions. *Southern California Edison Co.*, 106 FERC P 61,212, at 61,717 (Mar. 4, 2004) ("an annual license can be amended if . . . the underlying license contains a reservation of the Commission's authority to do so"); *Platte River Whooping Crane Habitat Maintenance Trust v. FERC* (Platte River II), 962 F.2d 27 (D.C. Cir. 1992) (affirming protective conditions imposed by FERC in annual license with reopener); *Platte River Whooping Crane Critical Habitat Maintenance Trust v. FERC* (Platte River

I), 876 F.2d 109, 111, 114 (D.C. Cir. 1989) (holding FERC abused its discretion by not evaluating need for protective conditions in annual license with reopener clause); *Confederated Tribes and Bands of Yakima Indian Nation v. FERC*, 746 F.2d 466, 473 (9th Cir. 1984) (noting that minimum stream flow conditions could be added to annual license as protective measure).

PacifiCorp's existing license for the Klamath Hydroelectric Project contains at least three relevant "re-opener" clauses that provide FERC with authority to impose interim conditions in the annual license to protect the fish species in the Klamath River. Article 58 of the License authorizes FERC to include the Department's Section 4(e) flow conditions in the license as interim conditions, because the flow conditions constitute "recommendations of the Secretary of the Interior" which are "based on substantial evidence." Article 58 states (with emphasis added):

*The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such facilities and comply with such reasonable modifications of the project structures and operation as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior, Oregon State Game Commission, or California Department of Fish and Game, after notice and opportunity for hearing and upon findings based on substantial evidence that such facilities and modifications are necessary and desirable, reasonably consistent with the primary purpose of the project, and consistent with the provisions of the Act.*

Article 36 of the License expressly authorizes the Commission to amend the ramping rates at J.C. Boyle (formerly known as Big Bend). Article 36 provides (with emphasis added):

*The Big Bend Development shall be so operated as to increase or decrease gradually the rise or fall of the river at a rate not to exceed nine (9) inches per hour at a point one-half (1/2) mile below the Big Bend powerhouse, subject to conditions beyond the control of the Licensee; provided, that the*

*permissible limits and rate of change will be subject to review and adjustment by the Commission from time to time, after notice and opportunity for hearing.*<sup>28</sup>

Finally, Article 18 of the License authorizes the Commission to modify flows to protect life, health, and property rights. Article 18 provides:

the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as . . . the Commission may prescribe for [the protection of life, health, and property].

The Hoopa Valley Tribe has federally protected property rights in the Klamath fishery and the water rights that support that fishery. *Klamath Water Users Ass'n v. Patterson*, 204 F.3d 1206, 1213-1214 (9th Cir. 1999); *Parravano v. Babbitt*, 70 F.3d 539 (9th Cir. 1995). Therefore, the Commission has authority under Article 18 to order increased flows to protect the Tribe and its fishery rights.

Failure to assess the need for protective conditions in an annual license is an abuse of FERC's discretion. *Platte River I*, 876 F.2d at 111. Although FERC is not required to "resolve the ultimate balancing of environmental and power issues when evaluating interim conditions," it must consider temporary "rough and ready" measures

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<sup>28</sup> The reference to a "hearing" in Article 58 and Article 36 does not require an evidentiary hearing. In the administrative proceedings leading up to the *Platte River II* decision, FERC conducted an inquiry into the need for interim conditions in which it sought comments from interested parties and then made a decision based on those comments. However, FERC did not hold a formal evidentiary hearing. See 962 F.2d at 37, fn. 4 (refusing to reach the argument that the Commission improperly denied the licensee's request for an evidentiary hearing on the need for interim conditions). More relevant, in this case, PacifiCorp has already had an opportunity to challenge, in a formal evidentiary "trial-type" hearing, the factual basis and evidentiary support for the Department's ramping rate and minimum flow conditions. PacifiCorp exercised its rights under the Energy Policy Act of 2005 to request a hearing on the Department's conditions, submitted extensive testimony and evidence directly challenging the ramping rate and minimum flow conditions, and cross-examined the government and tribal witnesses that offered evidence in support of those conditions. See *FERC Elibrary Accession No. 20061002-5081*. While FERC should provide PacifiCorp and other interested parties a reasonable opportunity to respond to the Tribe's request for interim ramping and minimum flow conditions at J.C. Boyle, there is no basis for holding a formal evidentiary hearing on those issues which have already been subject to extensive hearing within the context of this relicensing.

to prevent environmental harm pending relicensing. *Platte River I*, 876 F.2d at 116. In this case, the ramping and minimum flow provisions constitute “rough and ready” measures that can be immediately imposed in PacifiCorp’s annual license to mitigate ongoing damage to the resident trout fishery.

Operation of the Klamath Hydroelectric Project has had, and will continue to have, a detrimental impact on fish species, including sensitive redband trout, and other aquatic resources. FERC has an obligation to consider protective measures in the annual license to protect the species in the interim. *Platte River I*, 876 F.2d at 116 (stating it is insufficient for FERC to delay consideration of protective measures until the re-licensing proceeding).

Pursuant to the recent *City of Tacoma* decision, FERC must include all of the Department’s Section 4(e) conditions upon issuance of the final license. However, in this case, there is no reason to wait for final license issuance before requiring protection of the river and its resources. The Section 4(e) ramping and minimum flow conditions will provide immediate benefit to adversely affected resources at no additional cost to the licensee. FERC must impose these “rough and ready” ramping and minimum flow measures to protect the affected resources while this re-licensing proceeds.

B. Congress Intends For FERC To Utilize Its Authorities To Protect Fish And Wildlife Through License Modifications.

In the Electric Consumers Protection Act, Pub. L. No. 99-495 (1986) (“ECPA”), Congress “clearly indicates that [it] expected FERC to exercise whatever authority it might have to introduce into existing licenses environmental protective conditions that in its judgment appear necessary.” *Platte River I*, 876 F.2d at 118. ECPA amended § 4(e) of the Federal Power Act to provide for “equal consideration” to energy and

environmental concerns, including fish, wildlife, and recreation, in licensing decisions. The Committee Reports that preceded passage of ECPA show that Congress expected FERC to consider environmental conditions in the annual licensing process where FERC had authority to do so. *Id.* (“the Committee also notes that . . . such annual licenses can include fish and wildlife provisions”).

In the Committee Reports, Congress expressed its view that “consideration of the need for environmental conditions should enter into the annual licensing process.” *Id.* In this case, where FERC has express authority to modify the PacifiCorp license, where the Klamath Hydroelectric Project operations have a documented history of adversely affecting fish species, and where there are “rough and ready” measures that can be implemented immediately without structural changes to the project, FERC has an obligation to impose such protective interim conditions in the annual license. Failure to do so would not only be an abuse of FERC’s discretion, but it would also violate Congressional intent.

C. FERC Must Fulfill Its Trust Responsibility To The Hoopa Valley Tribe; It Must Exercise Its Authorities To The Fullest Extent Possible To Protect Tribal Trust Resources.

The Hoopa Valley Tribe holds federal Indian reserved fishing rights in the Klamath fishery. *Parravano v. Babbitt*, 70 F.3d 539 (9th Cir. 1995). In addition, the Tribe has a federal Indian reserved water right to support the fishery. *See* Memorandum from the Regional Solicitor to the BOR Regional Director, Certain Legal Rights and Obligations Related to the U.S. Bureau of Reclamation, Klamath Project for Use in Preparation of the Klamath Project Operations Plan (July 25, 1995) (Sol. Op.) at p. 6-7; *United States v. Adair*, 723 F.2d 1394, 1411 (1984). The Tribe’s rights include the right

to prevent other water users from depleting the river's waters below a level that is protective of the fishery. *Id.*

The United States has a trust responsibility to protect tribal trust resources. This trust responsibility extends to all agencies within the federal government. *United States v. Eberhardt*, 798 F.2d 1353, 1363 (9th Cir. 1986) (Beezer, J., concurring); *Pyramid Lake Paiute Tribe v. Dep't of the Navy*, 898 F.2d 1410, 1420 (9th Cir. 1990). Both the Ninth Circuit Court of Appeals and the Department of the Interior have expressly recognized the existence of the federal government's specific trust obligation to protect the Hoopa Valley Tribe's rights to the water and fishery resources of the Klamath River. *See Parravano v. Babbitt*, 70 F.3d 539 (9th Cir. 1995). FERC has also expressly acknowledged its trust responsibility to Indian tribes. *See* Policy Statement on Consultation with Indian Tribes in Commission Proceedings (July 23, 2003), at ¶ 13 ("The policy statement . . . acknowledges the Commission's trust responsibilities."); *see also Covelo Indian Community v. FERC*, 895 F.2d 581 (9th Cir. 1990).

FERC must "pursuant to its trust responsibility and consistent with its other legal obligations, prevent activities under its control that would adversely affect [the Tribe's rights], even though those activities take place off-reservation." *Sol. Op.* at 8 (discussing obligation of Bureau of Reclamation to protect tribal trust resources in the Klamath). In order to fulfill its trust responsibility, FERC must "exercise its statutory and contractual authority to the fullest extent to protect the tribal fisheries and tribal water rights." *Sol. Op.* at 10; *Pyramid Lake Paiute Tribe of Indians v. Morton*, 354 F.Supp. 252, 255-256 (D. Nev. 1973). In this case, FERC's trust duty to the Tribe requires it to order

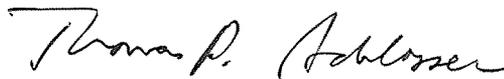
immediate compliance with the ramping and minimum flow conditions for the protection of Klamath fishery resources.

#### IV. CONCLUSION

The Tribe requests that FERC immediately impose the Department of the Interior's Section 4(e) ramping rate and minimum instream flow conditions as interim protective measures in PacifiCorp's annual license. The ramping rate and minimum flow conditions are uniquely suitable interim conditions because they will have an immediate beneficial effect on adversely impacted fish resources, because the conditions can be implemented without significant capital expenditures by the licensee or structural modifications to the project, and because the conditions have already been subject to, and upheld in, an extensive evidentiary hearing. There is no reasonable basis to delay implementation of these critical conditions.

DATED this 23rd day of February, 2007.

MORISSET, SCHLOSSER, JOZWIAK & McGAW



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## EXHIBIT 1

### Interim License Conditions Requested By Hoopa Valley Tribe

1. Ramping During Controlled Events for J.C. Boyle Peaking Reach: The Licensee shall operate the J.C. Boyle Development to not exceed an up-ramp rate or down-ramp rate of two inches per hour when conducting controlled flow events (e.g., scheduled maintenance, power generation, changes in streamflow requirements), as measured at the J.C. Boyle powerhouse gage USGS #11510700.
2. Ramping During Controlled Events for J.C. Boyle Bypassed River Reach: The Licensee shall operate J.C. Boyle Development to not exceed an up-ramp rate or down-ramp rate of two inches per hour as measured at the new gage below J.C. Boyle Dam when conducting controlled flow events (e.g., scheduled maintenance and changes in minimum flow requirements), except when turbine capacity is exceeded.
3. Required Minimum Streamflows: The Licensee shall operate J.C. Boyle Development to accomplish the following:
  - (a) Proportional Flow Requirement: Provide no less than 40% of the inflow to J.C. Boyle Reservoir to the J.C. Boyle Bypassed River Reach, to be measured at a new gage below the J.C. Boyle Dam near River Mile 225. Inflow to J.C. Boyle Reservoir shall be calculated by averaging the previous three days of the combined daily flows as measured at the Keno gage #11509500 and Spencer Creek gage #11510000 (Calculated Inflow).
  - (b) Minimum Base Flow Requirement: When Calculated Inflow is less than 1,175 cubic feet per second (cfs), no less than 470 cfs shall be provided to the J.C. Boyle Bypassed River Reach, except that when the Calculated Inflow is less than 470 cubic feet per second (cfs), then flow shall be provided to the J.C. Boyle Bypassed River Reach in an amount equal to the Calculated Inflow.



# Hoopa Valley Tribal Council

HOOPA VALLEY TRIBE

Regular Meetings on the First and Third Thursday of Each Month

P.O. Box 1348 • HOOPA, CALIFORNIA 95546 • Phone 625-4211 • Fax 625-4594



Clifford Lyle Marshall, Sr.  
Chairman

December 3, 2008

Dorothy R. Rice  
Executive Director  
State Water Resources Control Board  
P.O. Box 2000  
Sacramento, CA 95812-2000

Re: Klamath Hydroelectric Project Water Quality Certification

Dear Ms. Rice:

On November 14, 2008, the State Water Board extended to February 23, 2009 the deadline for scoping comments relating to the Board's environmental review of the Klamath Hydroelectric Project water quality certification. The extension was requested by the Project licensee as well as other signatories to an Agreement in Principle (AIP) filed with the Board on November 13, 2008. The AIP, among other things, presents a framework approach to achieve possible removal of Project dams in the future.

1. The Board Should Not Grant Any Additional Extensions In This Proceeding Based on the AIP.

The Hoopa Valley Tribe appreciates the Board's interest in facilitating a negotiated settlement in this proceeding, especially one that includes a possibility of removing project facilities that cause or contribute to violations of water quality standards. However, the November 13, 2008 AIP is unlikely to lead to either dam removal or a Final Agreement that adequately protects Klamath water quality.

The AIP is not a complete agreement and it provides numerous off-ramps (i.e., rights to withdraw) for the Project licensee and other three parties to the AIP. For example, any Final Agreement is expressly contingent on the enactment of specific State and Federal legislation and the contribution of hundreds of millions of dollars from the States of California and Oregon and nearly \$1 billion from the federal government. AIP, § II.B.iv; § VI. Litigation brought against parties to the AIP is also grounds for withdrawal. AIP, § II.B.vii. Of most relevance to the Board, imposition of costs on the licensee relating to the water quality certification proceedings in Oregon and California also gives the licensee the right to withdraw. AIP, § II.B.xii; xiii.

These and other contingencies make it very unlikely that the AIP will result in benefits to the Klamath River. In the meantime, the primary effect of the AIP is to delay the water quality certification and FERC relicensing proceedings.

The Hoopa Valley Tribe is very concerned about the delay in this water quality certification proceeding that has resulted, and will result, from the filing of the AIP. In the Tribe's view, delay in the Board's CEQA process is unnecessary. It appears that the alternatives proposed for evaluation by the Board in its September 30, 2008 scoping notice (NOP) are consistent with the alternatives being negotiated under the AIP. Specifically, the Board's NOP proposed evaluation of various dam removal alternatives that are similar to those being negotiated. The Board should proceed with its environmental review process simultaneously with the settlement negotiations and continue to work on preparation of its certification decision, to minimize delay in the event that settlement discussions break down.

The water quality certification proceedings for the Project can proceed in tandem with ongoing negotiations without any prejudice resulting to the licensee or other parties. Information generated through the Board's process would likely be useful to the settlement participants. The Board's analysis of project impacts and appropriate mitigation measures need not and should not wait for the conclusion, if any, of settlement negotiations. At the very minimum, the Board should not grant any further extensions of the comment period beyond February 23, 2009.

2. The Board Should Proceed To Consider Meaningful Interim Operation Measures.

The Board's September 30 NOP also discussed the need for interim operation measures to protect water quality. The Tribe supports prompt evaluation of appropriate interim measures and is concerned with the delay now resulting from the AIP. The licensee and AIP signatories have filed an "Interim Conservation Plan" with FERC. That plan is woefully inadequate in regard to mitigation of water quality impacts. The Board should not defer its own evaluation and imposition of appropriate interim measures because of the weak provisions in the AIP and Interim Conservation Plan.

3. Delay in Certification Infringes Upon The Hoopa Tribe's Rights.

The delay in the State's certification process also adversely affects the Tribe's legal rights. In 1990, the Hoopa Valley Tribe received approval from the United States Environmental Protection Agency to be treated as a state for purposes of developing and implementing water quality standards under the Clean Water Act. The U.S. EPA approved amendments to the Tribe's Water Quality Control Plan (WQCP) on February 14, 2008. The Tribe's WQCP applies to the Klamath River, which flows through the Hoopa Valley Reservation.

In this certification proceeding, the State Water Board has an independent obligation to ensure that the Project will not cause or contribute to violations of the Hoopa Valley Tribe's water quality standards. Since the Project is not located within the boundaries of the Hoopa Valley Reservation, the Hoopa Valley Tribe has a role analogous to a "downstream state" in this proceeding. Under the Clean Water Act, California (as the "upstream state") must ensure that its

Dorothy R. Rice  
December 3, 2008  
Page - 3

permitting or certification decision will not result in violations of the Hoopa standards. *See Arkansas v. Oklahoma*, 503 U.S. 91 (1992). In sum, because the Hoopa standards are implemented through the Board's certification process, any delay in the Board's proceeding also results in delay in achievement of tribal water quality standards.

4. Evaluation of Next Steps.

We are pleased that the Board intends to revisit the Klamath proceeding in or prior to its February 17, 2009 meeting. The Board must carefully consider input from all affected members of the public interested in this proceeding, and not just the limited group of parties who have supported the AIP. We ask that you continue to keep us informed of any relevant notices, meeting dates, or commenting opportunities related to this proceeding. Protection of water quality in the Klamath River is of paramount importance to the Hoopa Valley Tribe and we look forward to working with the Board to achieve that goal in this proceeding.

Please contact me if you have any questions regarding the content of this letter.

Sincerely,

HOOPA VALLEY TRIBAL COUNCIL



Clifford Lyle Marshall, Chairman

cc: Jennifer Watts, Water Resources Control Board  
FERC Service List

# Hoopa Valley Tribal Council

HOOPA VALLEY TRIBE

Regular Meetings on the First and Third Thursday of Each Month

P.O. Box 1348 • HOOPA, CALIFORNIA 95546 • Phone 625-4211 • Fax 625-4594

March 29, 2006

Clifford Lyle Marshall, Sr.  
Chairman

Honorable Magalie Roman Salas  
Secretary  
Federal Energy Regulatory Commission (FERC)  
888 First Street, NE  
Washington, DC 20426

Subject: KLAMATH HYDROELECTRIC PROJECT, FERC No. 2082 COMMENTS AND  
RECOMMENDED 10(a) TERMS AND CONDITIONS FOR PACIFICORP

Dear Ms. Salas,

Pursuant to Section 10(a) of the Federal Power Act and in response to the Federal Energy Regulatory Commission (FERC) Notice of Application Ready for Environmental Analysis (REA) dated December 28, 2005 and its subsequent 30-day delay, the Fisheries Department of the Hoopa Valley Tribe (HOOPA FISHERIES) submits the attached Comments and Preliminary Recommended Terms and Conditions (Attachment A).

The hydroelectric license issued by the FERC for the Klamath Hydroelectric Project (Project), No. 2082, located on the Klamath River, expires March 1, 2006. PacifiCorp (Applicant) applied for a new license to operate the project. HOOPA FISHERIES staff consulted extensively with the Applicant during the course of the pre-licensing consultation phases, and provided the Applicant with comments and recommendations on the First Stage Consultation Document, Draft License Application (DLA) and Final License Application (FLA). HOOPA FISHERIES also has attended the scoping meetings and reviewed and commented on the scoping documents issued by FERC for the relicensing of the Klamath Project.

HOOPA FISHERIES regards this relicensing effort to be of critical importance to protection and restoration of Tribal trust assets in the Klamath River Basin. The largest tributary in the Klamath River system is the Trinity River, which flows through the heart of the Hoopa Valley Tribe's ancestral homeland and today's Hoopa Valley Indian Reservation. The Klamath River also flows across part of the Reservation. Fish resources of the Klamath River system are the lifeblood of culture, icons of traditional spiritual practice, critical to tribal member diets, and a primary economic resource.



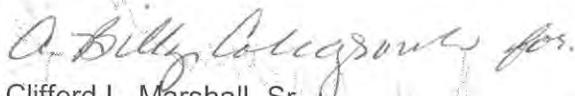
The three downstream-most dams of the Project were constructed without fish passage, and Iron Gate Dam at River Mile 190 today forms the upstream extent for anadromous fish populations in the mainstem Klamath River. In addition, the Project impacts remaining habitats upstream, in the Project area, and downstream. Because of these and other important natural resource issues, HOOPA FISHERIES has participated in this relicensing effort since the Applicant officially initiated relicensing in 2000. HOOPA FISHERIES has provided information and expertise on various aspects of fish and wildlife species distribution and abundance, and habitat quality and utilization, and has actively contributed to issue scoping and study planning.

Attachments A and B provide HOOPA FISHERIES's preliminary 10(a) recommended terms and conditions for the new license. These are a reflection of the complex nature of the Project. HOOPA FISHERIES staff believes that implementation of the operating proposal provided by the Applicant and the minimal measures proposed in the FLA will not adequately protect fish, water quality and wildlife resources in the Project area. FERC staff should adopt HOOPA FISHERIES's section 10(a) recommended terms and conditions in their entirety in the preferred alternative for the Draft Environmental Impact Statement (DEIS) to ensure adequate mitigation and protection for fish, wildlife and habitat resources of the Klamath River basin during the next license period.

### Summary

HOOPA FISHERIES appreciates the amount of work the Applicant has expended in completing studies and preparing the FLA and responses to the AIR. However, HOOPA FISHERIES is concerned that the FLA and the responses to AIR's fail to disclose significant impacts to fish and wildlife and their habitats caused by Project facilities and operations. There are still substantial areas of disagreement between the Licensee, HOOPA FISHERIES, and the many stakeholders regarding Project impacts to fish and wildlife resources. HOOPA FISHERIES is supportive of continued discussions with the Licensee that may lead to the filing of a comprehensive settlement for the relicensing of the Klamath Project. HOOPA FISHERIES may modify these recommendations pursuant to the Commission's regulations which allow filing modified section 10(a) recommendations during the comment period on the DEIS as specified in 18 C.F.R. § 4.34(b)(4), or in the event that settlement negotiations lead to filing of a settlement agreement, then HOOPA FISHERIES reserves the authority to add to, delete from, or modify the 10(a) recommendations, terms and conditions in order to provide final terms that are consistent with the terms of any agreement.

Sincerely,



Clifford L. Marshall, Sr.  
Chairman

Attachment

CC: Klamath Service List

*ATTACHMENT A*

**PRELIMINARY  
COMMENTS and 10(a) RECOMMENDED TERMS AND CONDITIONS**

**for**

**PACIFICORP's KLAMATH HYDROELECTRIC PROJECT  
FERC #2082**

**By the**

**Tribal Fisheries Department, Hoopa Valley Tribe  
March 29, 2006**

**Hoopa, California**

FERC environmental inspections occur at best annually. When HOOPA FISHERIES staff conducted research at the JC Boyle Dam facilities, flows in the ladder ranged from non-existent to raging white water, indicating non compliance with existing license conditions. The relicensing process has strongly illuminated the need to provide regular and frequent inspections of facilities and operations and to make access available to regulatory personnel for environmental license conditions.

### **13. Water Quality in Bypass, Peaking and Regulated Reaches**

**13A. Water Quality Monitoring Plan.** *The Hoopa Valley Tribe regulates water quality on the Klamath River portion of Reservation waters pursuant to 33 U.S.C. § 1377. The Licensee shall implement mitigation measures and conduct water quality monitoring pursuant to the Water Quality Management and Monitoring Plan Approved by the Hoopa Valley Tribe, ODEQ and CSWRCB in connection with Clean Water Act § 401 water quality certifications issued by those agencies.*

**13B. Failure to Meet Water Quality Certification.** *To the extent that it is infeasible to meet water quality objectives set forth below or in water quality certifications by ODEQ or CSWRCB through modification of Project facilities and operations, the Licensee shall prepare a decommissioning amendment for the subject facility in consultation with state, federal and tribal stakeholders in order to achieve compliance.*

#### **Issue and Rationale**

In this section, the following water quality parameters are addressed in order:

- Water temperature
- Nutrients
- Periphyton and aquatic macrophytes
- Dissolved oxygen,
- pH
- Ammonia toxicity
- Cyanobacteria and cyanobacterial toxins
- Taste and odor compounds
- Fish parasites

For each parameter, we provide background information, as necessary; we present information about the parameter's existing condition in the Klamath River; we discuss how the KHP contributes to the present condition of that parameter; and then we recommend the means by which the parameter's adverse effect on the river's water quality can be remedied.

Before providing detailed information regarding specific water quality parameters and the KHP's effects on them, a few words regarding PacifiCorp's water quality modeling are required. PacifiCorp (2005d) presents the results of modeling calibration and verification. Examination of the figures in the appendix shows that the model predicts flow and temperature quite well, but does not accurately predict dissolved oxygen,

nutrients, or algae. It is important to keep the differences in accuracy between the various parameters in mind when evaluating model results.

Flow and temperature are based on the laws of physics, and modeling them is a long-established practice. Dissolved oxygen, nutrients, and algae are subject not only to the laws of physics, but also to chemistry, biology, and ecology, which are far more complex, unpredictable, and difficult to represent mathematically. To compound the problem, compared to flow and temperature, far less data is available for these parameters to calibrate and verify the model.

## **TEMPERATURE**

### ***Existing conditions in Klamath River***

The Klamath River is recognized as impaired with regard to water temperature by the North Coast Regional Water Quality Control Board temperature-impaired (NCRWQCB 2001). Kier Associates (1999) noted acutely stressful water temperature conditions on the mainstem Klamath River and the potential for temperature stress to contribute to juvenile salmonid disease epidemics.

Data show that water temperatures in the mainstem Klamath River consistently exceed stressful for steelhead in all years (Figure 1) and sometimes exceed lethal conditions for juveniles of Pacific salmon species such coho and chinook (Sullivan et al., 2000). The locations displayed are in the Middle Klamath reach from near Happy Camp to just above Weitchpec. The floating weekly average water temperature is calculated by averaging the average daily water temperature for sampling day and the three days on either side of each day. The highest value floating weekly average for an entire year is the maximum floating weekly average or MWAT (Welsh et al. 2001). Although the MWAT can be used as an index for duration of stress to which fish are exposed, it masks extreme highs that would be reflected in a floating weekly maximum temperature (MWMT). Figure 2 shows the MWMT at mainstem Klamath River locations between Iron Gate and Weitchpec with acute temperature problems extending from just above the Shasta River to Weitchpec, where the Trinity River joins the Klamath River and moderates its temperature.

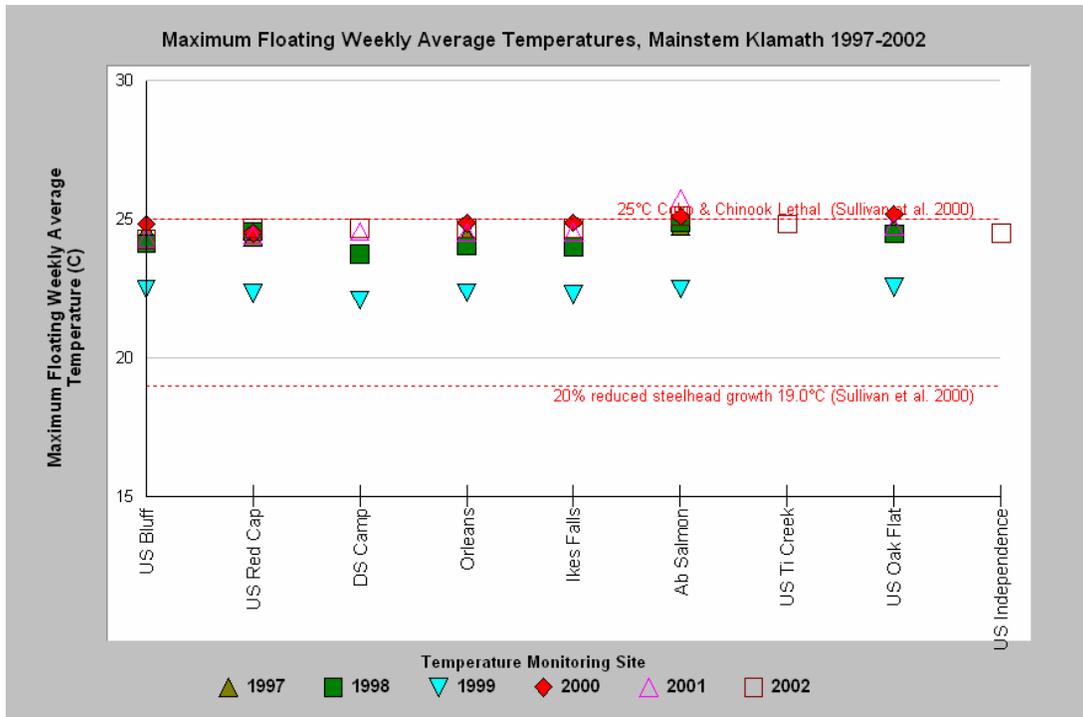


Figure 1. Maximum floating weekly average temperatures (MWAT) of the Klamath River for nine locations for the years 1997-2002. Data from KRIS Version 3.0 (TCRCD 2004). DS = downstream, US = Upstream.

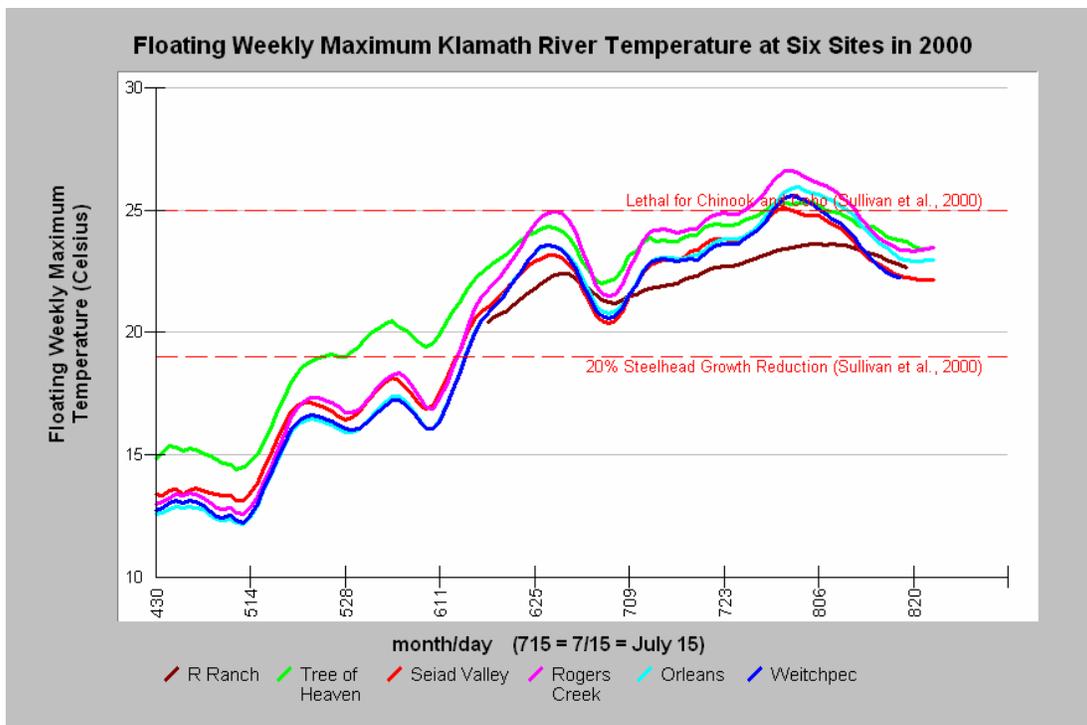


Figure 2. This chart shows an increase in floating weekly maximum from April through August at six Klamath River locations in 2000 with only R-Ranch below Iron Gate attaining a maximum of below 25° C. Data from KRIS V 3.0 (TCRCD 2004).

An MWAT of 25° C indicates that maximum daily temperature exceeded lethal for levels for steelhead (26.5° C) as characterized by Sullivan et al. (2000). For example, Figure 3 shows the minimum, maximum and average temperature of the Klamath River at Seiad Valley in 2002. While the MWAT was 25.39° C, the peak maximum reached 27.14° C. McCullough (1999) recognized that all salmonids ceased growth and were under stress above 20° C. Figure 4 shows temperatures of the Klamath River above the Salmon River exceeded 20° C in 1996 for weeks at a time in July and August. Salmonids would have no period during the night to recover from temperature stress, if they were not able to find cold water refugia at the mouths of tributaries.

The above data clearly illustrate that mainstem Klamath River water temperature alone is a sufficient stressor to cause increased susceptibility of disease and even direct mortality of salmonids in many years. Temperature acts in concert with other stressors in affecting fish health and has synergistic effects on other water quality parameters such as pH, D.O. and ammonia.

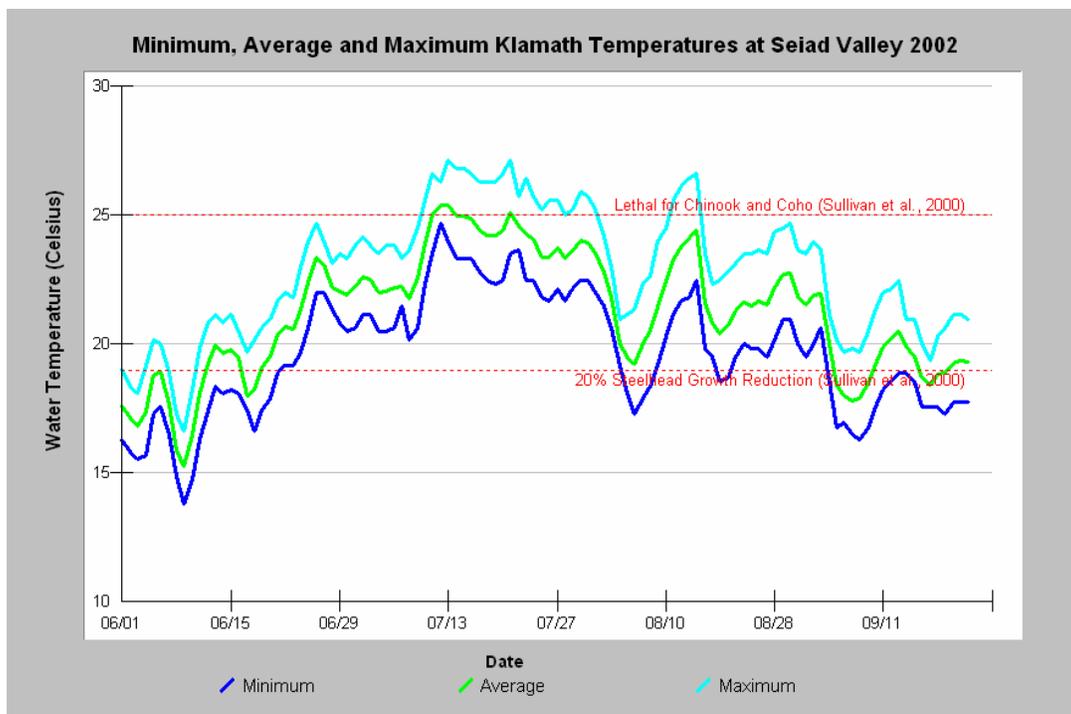


Figure 3. The minimum, average and maximum chart for the Klamath at Seiad Valley in 2002 shows that while the MWAT would be 25° C the max-max was over 27 ° C. Data from KRIS V 3.0 (TCRCD, 2004).

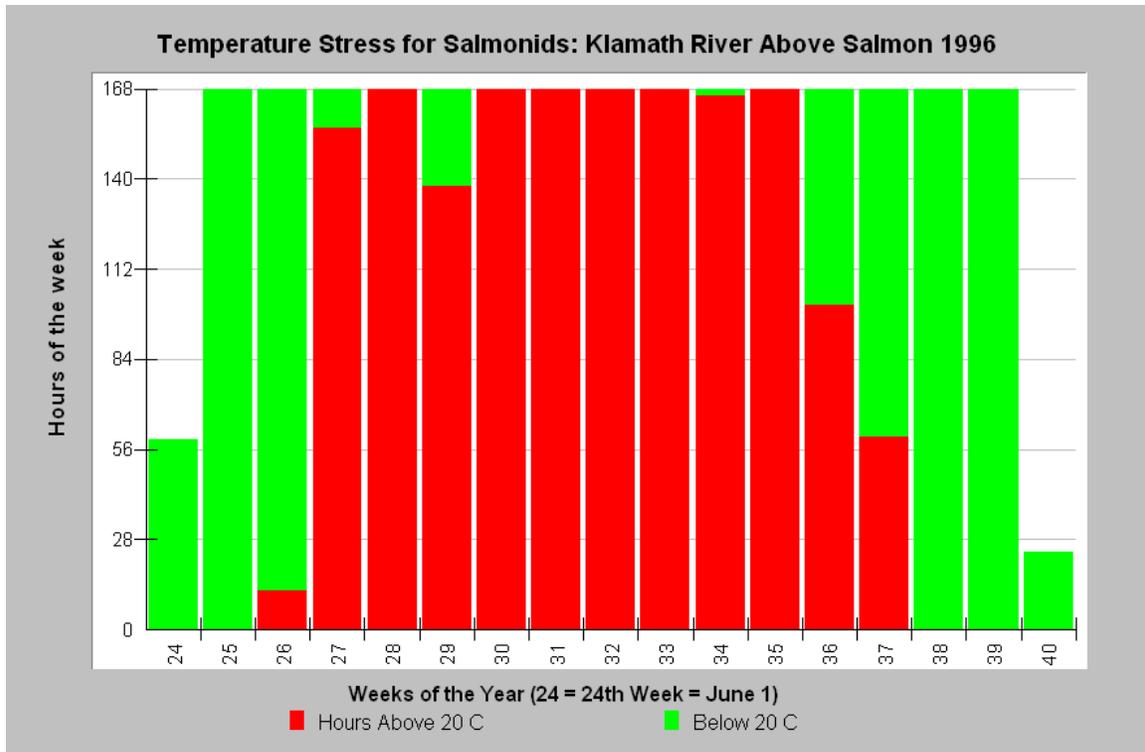


Figure 4. This chart shows that in July and August of 1996 that the Klamath River water temperature above the Salmon River rarely dropped below 20° C, which is recognized as a temperature stressful to all salmonids (McCullough, 1999). KRIS V 3.0 (TCRCD 2004).

Dr. John Bartholow (2005) of the U.S. Geologic Survey has studied the mainstem Klamath for over a decade and analyzed all available data, both recent and historic. Data suggest a long-term trend towards warming with adverse implications for salmonid survival:

“The season of high temperatures that are potentially stressful to salmonids has lengthened by about 1 month over the period studied, and the average length of main-stem river with cool summer temperatures has declined by about 8.2 km/decade. Water temperature trends seem unrelated to any change in main-stem water availability but are consistent with measured basinwide air temperature increases. Main-stem warming may be related to the cyclic Pacific Decadal Oscillation, but if this trend continues it might jeopardize the recovery of anadromous salmonids in the Klamath River basin.”

Water temperatures are likely to increase due to climate change. Rising atmospheric concentrations of carbon dioxide and other greenhouse gases could lead to an increase in global mean temperatures (NRC 2004). The National Research Council report (NRC 2004) provides a description of what may occur:

“A detailed model of the Klamath basin region at 25 mi resolution has been developed by Snyder et al. (2002). Use of the model demonstrates three important kinds of changes in the hydrology of the Klamath

watershed that could occur over the next century: (1) warming, especially at high elevations in spring (April, May); (2) higher total precipitation, especially in spring; and (3) an increase in the ratio of rainfall to snowfall and large decreases in spring snowpack. The changes modeled by Snyder et al. (2002) have strong implications for management of water resources and all aquatic species, but especially salmonids (NAST 2001, O'Neal 2002). For salmonids, the most important potential changes include altered timing of snowmelt, lower base flows, and additional warming of water in summer.”

Given that high water temperatures are widely recognized as a problem for anadromous fish in the Klamath River, global climate change has the potential to cause additional decline in the basin's fish stocks and should be part of the context within which the KHP is evaluated in the EIS.

### ***Project Effects***

It is widely recognized that the KHP alters water temperatures in the Klamath River (PacifiCorp 2004). Due to the thermal mass of Iron Gate and Copco reservoirs, water temperatures in the mainstem Klamath below Iron Gate Dam are cooler in spring, and warmer in late summer and fall, than would exist if the KHP were absent (PacifiCorp 2004, PacifiCorp 2005, Deas 2004). The KHP decreases water temperature in the spring and early summer by at least 5° C and also increases stream temperatures in late summer and autumn by at least 5° C (Figure 5). Due to variations in weather, the timing and magnitude of these temperature deviations will vary from year to year.

The *EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards* (U.S. EPA 2003) recommends temperature limits for various life history stages for the protection of Pacific salmon species. For spawning, U.S. EPA recommends that the maximum seven-day floating average (7DADM) not exceed 13° C, which is shown on Figure 5 as a reference line. Historic spawning in the reach below Copco Dam began in mid-October (Snyder 1931) and chinook salmon spawning takes place today from Iron Gate Reservoir to Happy Camp during that period (Figure 6) (Catalano et al. 1996, Magnusen et al. 2001). Model outputs in Figure 5 show that the Klamath River water temperature without the KHP would begin to fall to lower than 13° C for at least brief periods, as early the first week in September. Natural temperatures would consistently meet U.S. EPA thresholds (13 C 7DADM) three weeks earlier than temperature of flows emanating from Iron Gate Dam. Eggs laid in the Klamath River below Iron Gate at higher than optimal conditions are likely to have higher pre-hatch mortality, a greater rate of developmental abnormalities, and lower weight as alevins (McCullough 1999).

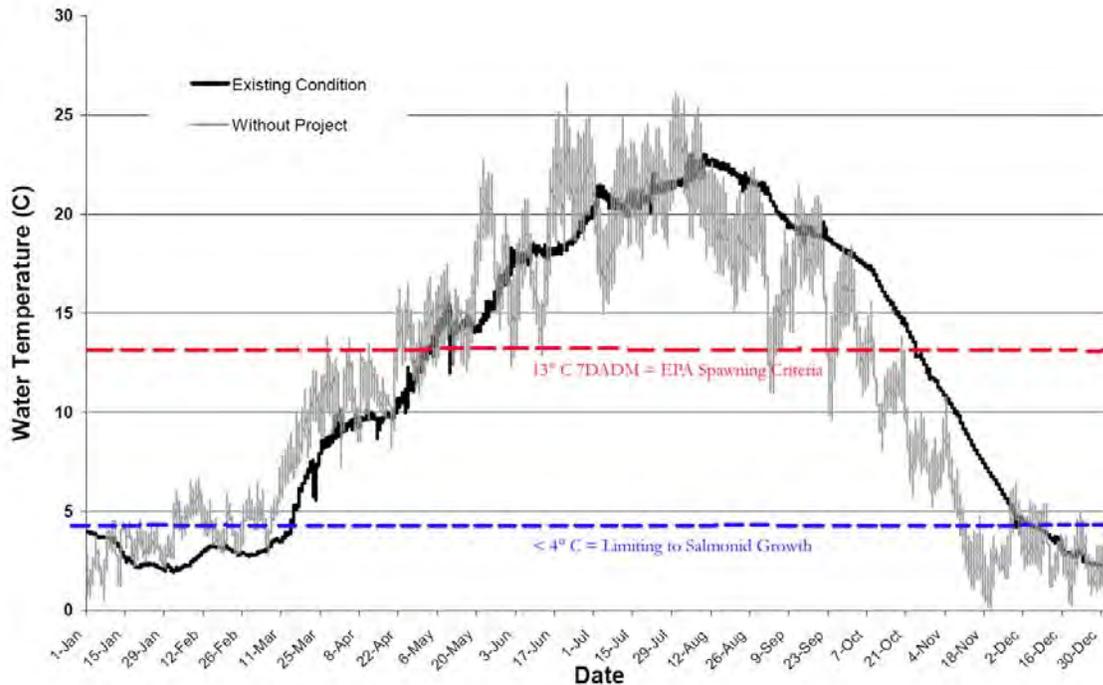


Figure 5. PacifiCorp water quality modeling output showing water temperatures at Iron Gate Dam for the year 2000, comparing existing condition (with project) and without project scenarios (PacifiCorp 2005c). References for salmonid spawning and the lower limit for salmonid growth are from U.S. EPA (2003).

Although the viability of eggs and fecundity of female chinook salmon have not been measured in the wild, Iron Gate Hatchery does track the fecundity of hatchery fish. Figure 7 shows that fertility of eggs dropped as low as 66% in lots of fish spawned in early October, when temperature stress related to elevated water temperature from Iron Gate Reservoir is occurring. As temperatures drop, fertility increased to a maximum of 96% by November 7.

As water flows downstream from Iron Gate, the thermal lag becomes less pronounced, but is still visible at Seiad Valley (river mile 128.5), 60 miles downstream of Iron Gate Dam, increasing temperatures between 2° C to 5° C for most of October and November (Figure 8). The Klamath River without the Klamath Hydroelectric project (WOP) alternative would attain fall to temperatures suitable for chinook salmon spawning weeks before current existing conditions (EC), similar to just below Iron Gate Reservoir. Since this reach is heavily used by fall chinook salmon for spawning, detrimental effects on fecundity, fertility and egg survival are likely to occur here as well.

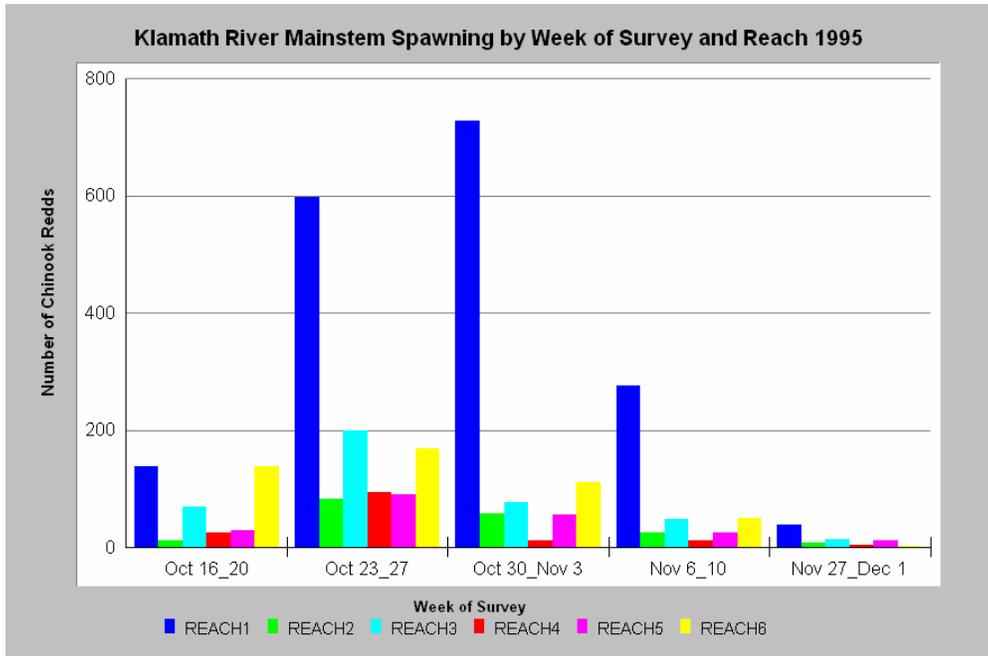


Figure 6. Chinook salmon spawning surveys below Iron Gate Dam (Reach 1) downstream to Happy Camp (Reach 6) show that spawning begins in mid-October in the entire reach. Data from USFWS (Catalano 1996).

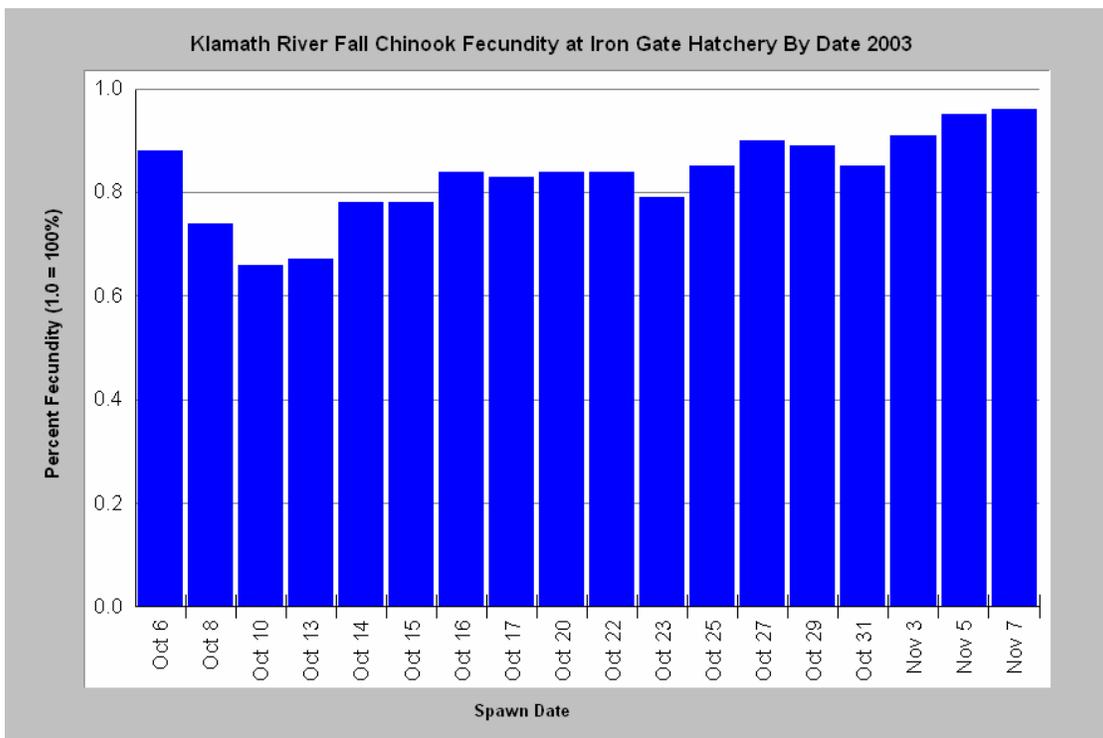


Figure 7. Iron Gate Hatchery female fall chinook salmon is indicated by the percent of fertile eggs present in spawning lots on various days from early October to early November. Data from California Department of Fish and Game Region 1.

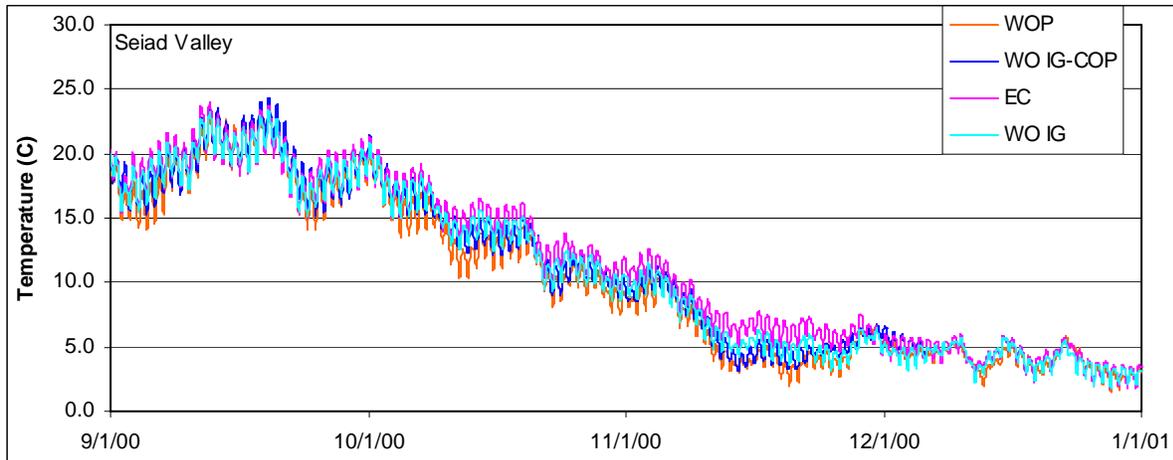


Figure 8. Results from PacifiCorp's water quality model comparing water temperatures in the Klamath River at Seiad Valley in the year 2000 under four different scenarios. WOP = without project (all dams but Link removed), WO IG-COP = existing condition with Iron Gate and Copco removed, EC = existing condition, WO IG = existing condition with Iron Gate removed. Figure from Deas (2004).

Since the construction of Iron Gate dam, there has been a shift in the timing of the fall Chinook spawning run that is arguably due to the KHP's impact on river temperatures (Michael Belchik, personal communication). The compression of the run timing of fall Chinook not only makes fish more vulnerable to harvest but can cause higher densities in the stream as they join later-running Trinity River fish in the lower Klamath River. High concentrations of salmon in combination with high water temperatures are thought to have contributed to the September 2002 Klamath River fish kill (CDFG 2003 and Guillen 2003).

The U.S. EPA (2003) and McCullough (1999) both recognize 4° C as the lower temperature lower limit for salmonid growth. While Klamath River flows would naturally drop below 4° C in December and January, they would occasionally rise above that level during that period whereas reservoir outlet flows stay consistently below it. Also, with project flows remain under 4° C early December to late March, where without project temperatures would exceed that threshold consistently starting in February (Figure 5).

Warm incubation temperatures accelerate time of emergence. Therefore, it is likely that Klamath River fall chinook fry emerge from the gravel earlier than they would if incubation temperatures were optimal throughout their gestation. Early emerging fry then have to withstand sub-optimal stream temperatures because of KHP-depressed stream temperatures through late March. Small chinook salmon juveniles in the Klamath River migrate downstream slowly (PFMC 1994). Increased residence time in the mainstem exposes fish to prolonged stress, increasing their likelihood of becoming infected with parasites (see Fish Disease section below). In addition, the larger a smolt

is before entering the ocean, the higher its chances of surviving to maturity and returning to spawn (Nicholas and Hankin 1988).

The early summer cooling may provide some benefit to juvenile fish, but the period is short (less than one month total in the year 2000), and the magnitude is small. Due to the short duration and magnitude of this beneficial cooling, the benefits are likely to be far outweighed by the detrimental effects to late summer, spring, and fall temperatures. Modeling from the year 2000 (Figure 5) (PacifiCorp 2005c) shows that the project had: beneficial cooling of 0-5°C for the last 10 days of May, detrimental heating of 0-4°C for the first half of June, beneficial cooling of 3°C for two weeks in late June, detrimental heating of approximately 4°C in the first 7 days in July, no difference for most of July, a cooling benefit of approximately 2°C for approximately 5 days in late July/early August, and then detrimental heating beginning in August and lasting through the end of fall.

In the J.C. Boyle Bypass Reach, located between Copco and Keno Reservoirs, there are springs that contribute approximately 225 cubic feet per second of clean, cool water. These springs could be among the most significant thermal refugia on the entire mainstem of the Klamath River and there is evidence they were supporting summer holding by spring-run chinook prior to the construction of Iron Gate Dam. Spring-run chinook were historically the most abundant salmonid species in the Klamath Basin, but declined because of blockage of migration and deterioration of habitat (NRC 2004). The U.S. EPA (2003) points out that access to refugia is essential for river systems where attainment of optimal mainstem temperatures is not possible. The critical role of thermal refugia in maintaining the viability of anadromous salmonids in the Klamath Basin has become increasingly clear in recent years (Belchik 1997, McIntosh and Li 1998, Watershed Sciences 2002).

### ***Remediation***

In response to FERC's AR-1 request, PacifiCorp used its water quality model to analyze various possible ways to reduce the KHP's effects on temperature. PacifiCorp (Scott 2005) summarized its findings as follows:

"The results of the analyses indicate that potential reservoir water temperature management using selective withdrawals, curtains, or flow augmentation offers only modest, if any, improvements to water temperatures in the Klamath River downstream of Iron Gate dam. Furthermore, the alternatives examined do not provide appreciable differences in regard to their relative effect on fish."

FERC then requested PacifiCorp to complete additional modeling regarding selective withdrawal options. PacifiCorp (2005b) subsequent investigations showed that the measures would be ineffective in mitigating project impacts:

Based on these results, PacifiCorp concludes that the additional revised selective withdrawal scenarios do not provide effective control of

temperatures below Iron Gate dam, and therefore do not merit more detailed design evaluation under Part (b) of this AIR.

Even *if* the alternatives PacifiCorp investigated *could* reduce water temperature, it would not be a good idea because it would likely lead to increased nutrients being released downstream. Regarding Copco reservoir, PacifiCorp (2005a) stated:

“Consideration was given to turning the lake over earlier through implementing selective withdrawal earlier in the season. However, concerns over mixing nutrient rich bottom waters into the photic zone and possibly creating beneficial conditions for primary production was deemed undesirable.”

Even if water temperatures could be altered for spawning or rearing periods, only dam removal would provide access to important thermal refugia.

PacifiCorp’s own analyses make it clear that the KHP’s effects on water temperature are immitigable; therefore, the only way to substantially reduce the impacts is to remove all KHP dams and drain the reservoirs.

## **NUTRIENTS**

### ***Background information***

Nutrients do not directly affect salmonids, but impact them by stimulating the growth of algae and aquatic macrophytes to nuisance levels that can adversely impact dissolved oxygen and pH levels in streams. U.S. EPA (2000) and Tetra Tech (2004) provide excellent summaries of the literature on the subject.

### ***Existing conditions in the Klamath River***

The quality of water coming out of Upper Klamath Lake in the summer is extremely poor and often full of live and/or dead algae. Nutrient concentrations generally decline as the Klamath River flows downstream. There are three reasons for this:

1. *Dilution* by springs and clean tributaries
2. *Periphyton* growing on the bed of the river removes nutrients from the water column
3. *Denitrification* by microorganisms in the hyporheic zone below the river converts nitrate into inert atmospheric nitrogen

#### **1. Dilution**

Even if the river did not have the capacity to assimilate nutrients, nutrient concentration would still decline as the river flows downstream from Keno to Iron Gate due solely to dilution of low-quality Klamath River water with high-quality water from tributary and spring flow inputs. These inputs include springs in the J.C. Boyle bypass reach (225 cfs) and tributaries between Link River dam and Iron Gate dam. The tributaries are Spencer Creek (approximately 20 to 200 cfs), Shovel Creek (10 to 100 cfs), Fall Creek (30 to 100 cfs) and Jenny Creek (30 to 500 cfs). Spencer, Shovel, and Jenny creeks all have irrigation diversions, so the actual quantity of water entering the Project may be

less than stated here (PacifiCorp, 2004). The sum of these inputs ranges from 315 to 1125 cfs.

As demonstrated in a comparison of flow at USGS gages from Iron Gate Dam down to Turwar near the mouth of the river (Figure 9), the river picks up many substantial tributaries on its path to the ocean. With the exception of the Shasta, and perhaps the Scott, nearly all these tributaries are cleaner and cooler than the mainstem Klamath, greatly increasing the likelihood of improved water quality.

### *2. Assimilative Capacity of Periphyton*

Benthic algae, also known as periphyton or attached algae, can take nutrients dissolved in water and assimilate them into their cells as they grow. This can enhance water quality by removing nutrients from the water, but it can also release nutrients when the algae decompose, causing diurnal D.O. and pH swings by photosynthesis/respiration cycles.

### *3. Denitrification in River Reaches*

Denitrification is a process in which certain organisms can convert nitrate ( $\text{NO}_3$ ) to atmospheric nitrogen ( $\text{N}_2$ ). The result is enhanced water quality, due to the reduction in productivity that occurs because a form of nitrogen readily available to organisms (nitrate) is converted into a stable form of nitrogen that is essentially unusable by most organisms (atmospheric nitrogen).

Denitrification is known to occur in the hyporheic zones of rivers and streams (Sjodin et al., 1997 and Holmes, 1996). The hyporheic zone is the area of water-saturated sediment beneath and beside streams where ground water and surface water mix (Edwards, 1998). Denitrification most often occurs with the following conditions: low hydraulic conductivity, long flow path, reduced oxygen supply, adequate nitrate supply, and adequate supply of labile organic carbon (Edwards, 1998). The amount of nitrogen removed from some rivers due to denitrification can be extraordinary, especially those with a high rate of interchange between surface water and gravel alluvium. In Colorado's South Platte River, denitrification rates varied between 2 and 100 mg of nitrogen per square meter per hour. During mid-summer, a 90% reduction of nitrate was achieved in a 6 km long reach. On an annual basis, close to half the nitrate input to a 100-km reach was removed by denitrification (Sjodin et al., 1997).

It is unknown how much denitrification is currently occurring in the Klamath River, or how that amount compares with the amount of nitrogen assimilated by periphyton.

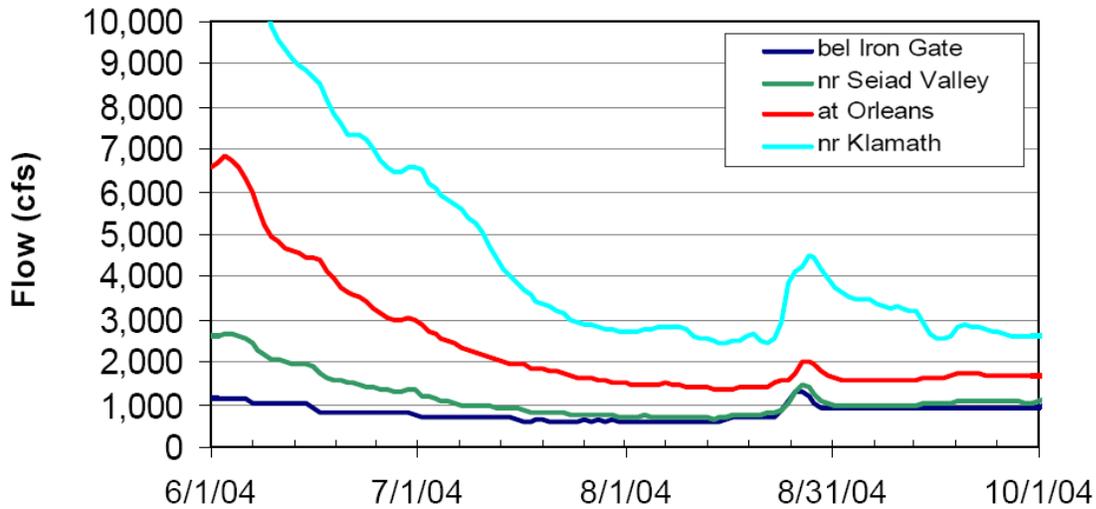


Figure 9. A comparison of discharge at USGS gages from Iron Gate Dam down to Turwar in summer and early fall of 2004. Adapted from NCRWQCB et al. (2005).

Figure 10 shows a typical example of the longitudinal gradient in nitrogen concentrations in the peak of the summer months. Only inorganic forms of nitrogen (nitrate and ammonia) are immediately available to fuel growth of periphyton and aquatic plants, organic nitrogen must first decay into ammonia before it can be utilized. Organic nitrogen is the most common form of nitrogen across the Klamath River. High levels of inorganic nitrogen are present throughout the upper reaches of the Klamath River. Beginning at the outlet of Iron Gate Dam (river mile 189.73), dense mats of periphyton and aquatic plants cover the river bed during summer. They are extremely efficient at removing nutrients, and within approximately 40 miles, above the Scott River at river mile 146.12, most inorganic nitrogen has been removed from the water column.

## Nitrogen at Klamath River Sites August 2002

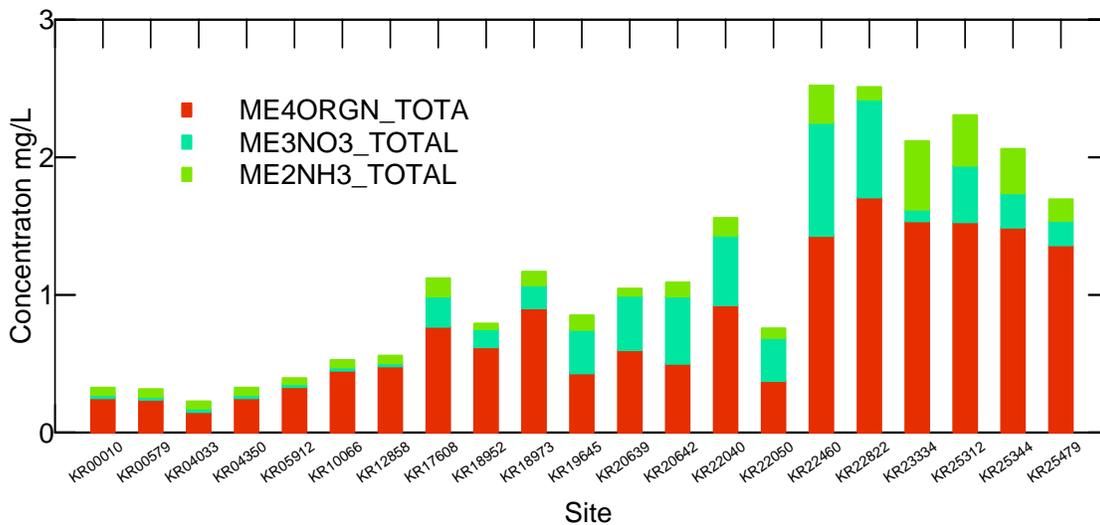


Figure 10. This graph shows the longitudinal gradient in average nitrogen concentrations in the Klamath River from Link River to the estuary in August 2002. The total height of the bars is total nitrogen concentration, and the colors represent the three major forms of nitrogen: organic (ME4ORGN\_TOTA), nitrate (MENO3\_TOTAL), and ammonia (MENH3\_TOTAL). Figure is from Kier Associates (2005).

There is substantial variation in nutrient concentration between years (Figures 11 and 12). The year with the highest nutrient concentrations at most sites was 2001. Both TN and TP generally decrease as the river flows downstream, though the pattern varies among years.

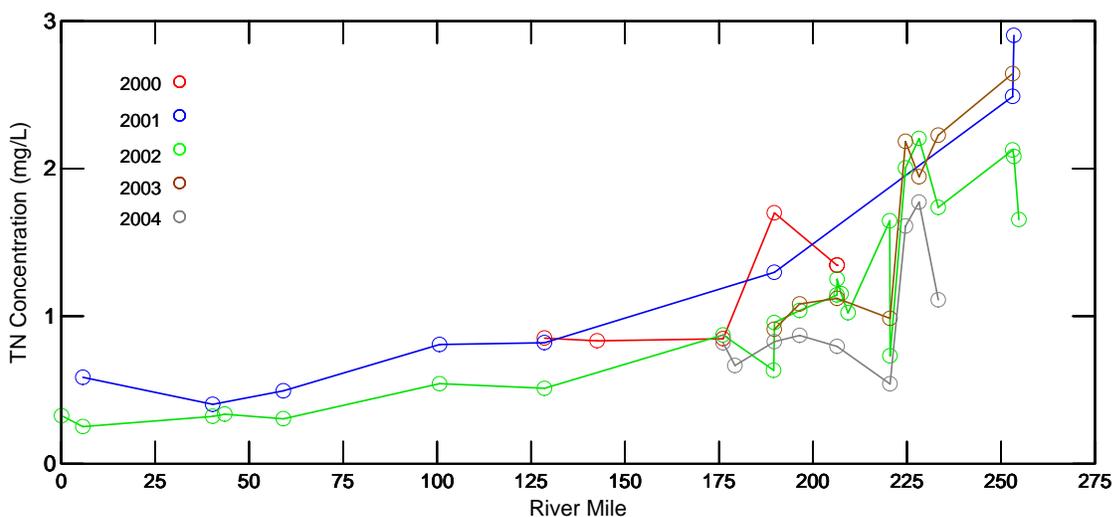


Figure 11. Longitudinal profile of mean summer (June 1 – August 31) total nitrogen concentrations in Klamath River mainstem sites for the year 2000-2004 (reservoirs excluded). Sites with less than three measurements in a summer were excluded from this graph. Figure is from Kier Associates (2005).

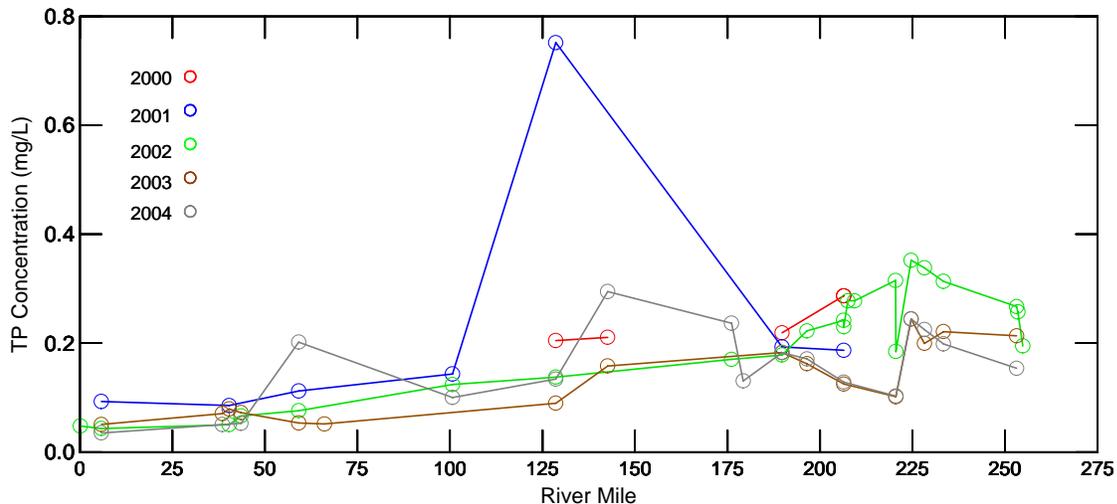


Figure 12. Longitudinal profile of mean summer (June 1 – August 31) total phosphorus concentrations in Klamath River mainstem sites for the year 2000-2004 (reservoirs excluded). Sites with less than three measurements in a summer were excluded from this graph. Figure is from Kier Associates (2005).

**Project effects**

The effect of the KHP on nutrient dynamics in the Klamath River between Iron Gate Dam and the estuary are not completely understood because of insufficient data collection and analysis; however, recent and previous studies do provide useful information.

PacifiCorp (2004) cited the fact that water exiting the KHP is higher quality than water entering the KHP in support of its argument that the project benefits water quality. To understand the impacts of the KHP on water quality, the question is not “Is current water quality outflow from the Project better than current water quality upstream?” but “How does water quality in the Project area and downstream of the Project area compare to what the water quality would be in those same areas without the KHP?”

Just because water quality exiting the KHP is better than KHP inflow does not mean that the Project has a beneficial impact on water quality. Project operations could very well be delaying water quality recovery. As described above, the water quality in the Klamath River should improve naturally as it flows downstream, due to freshwater inflows and the capacity of the system to assimilate nutrients. The rate at which that assimilation occurs may be altered by the Project.

To understand how the KHP affects nutrient dynamics, it is necessary to understand the nutrient dynamics of the reservoirs, free-flowing river reaches, the peaking reach, and bypass reaches. Only after these individual components are understood is an adequate understanding of the KHP's effects on nutrient dynamics possible. The following questions need to be answered:

1. *At what times of year are Iron Gate and Copco Reservoirs sources and sinks of nutrients and what is the magnitude of those sources and sinks?*

Kann and Asarian (2005) provided the first attempt to answer that question, and an in-progress SWRCB study (Kanz 2005) will use similar methods but with data of better spatial resolution, temporal resolution, and duration. Our best current understanding is that the reservoirs are likely sinks in April-May (Kann and Asarian 2005) and a mix of sources and sinks in June-September (Kann and Asarian 2005). Data from the fall are relatively scarce, especially during and after turnover, but it is likely that the reservoirs are sources during this season. There has been almost no data collection and analysis in the winter months, so that season remains an unknown.

PacifiCorp's (2004) Final License Application presented limited analysis of water quality data; however, some important details were obscured by averaging data over broad spatial and temporal scales. They postulated that retention of organic matter and nutrients in the reservoirs results in a net decrease in organic matter and nutrients that would otherwise continue downstream (PacifiCorp 2004).

Kann and Asarian (2005) used water quality data collected by PacifiCorp and the U.S. Fish and Wildlife Service to calculate nutrient budgets for Copco and Iron Gate Reservoirs. The report concludes:

*“These preliminary analyses indicate that for the Copco/Iron Gate Reservoir system, the April-November period is characterized by periods of positive and negative retention for both phosphorus and nitrogen (net positive values denote a sink and net negative values denote a source). Despite acting as net sinks for P and N over the entire Apr-Nov period, both Copco and Iron Gate Reservoirs can act as a nutrient source during critical periods (e.g., June through September), making nutrients available at such periods for downstream growth of algae and macrophytes. The more robust seasonal analysis presented here does not support an earlier PacifiCorp (2004; 2005d) broad postulation that the reservoirs benefit water quality by processing organic matter and nutrients from upstream sources. With the given data set, there is a clear indication that the reservoirs periodically increase nutrient loading downstream. Likely pathways for this increased load include internal sediment loading and nitrogen fixation by cyanobacteria.*

Limitations in the spatial and temporal resolution and duration of the data make the conclusions of this study preliminary, though it is the most complete analysis thus far.

The California State Water Resources Control Board (SWRCB) recently received a Clean Water Act Section 104(b) grant from the U.S. Environmental Protection Agency Region IX to conduct a nutrient cycling study on Iron Gate and Copco Reservoirs (Kanz 2005). Once collected, the data will be used to construct a detailed nutrient budget for each reservoir. Because nutrient data will be collected more frequently (every two weeks rather than monthly) and will encompass an entire year (rather than March to November), as well as include additional spatial coverage and algal sampling, the 2005 study is expected to be an improvement over the analysis of existing data conducted by Kann and Asarian (2005).

The study is expected to provide information on important reservoir processes that have not yet been fully evaluated, including seasonal patterns of nutrient flux and the potential for nitrogen fixation by blue-green algae. Sampling began in May 2005 and will continue through May 2006, with results available soon after.

*2. At what times of year are free-flowing river reaches of the Klamath River sources and sinks of nutrients, and what is the magnitude of those sources and sinks?*

As described earlier, benthic algae, also known as periphyton or attached algae, can take up nutrients dissolved in water and assimilate them into their cells as they grow. In addition, denitrification by microorganisms in the hyporheic zone of free-flowing rivers can reduce nitrogen concentrations in streams. These two processes can enhance water quality by removing nutrients from the water. The assimilative capacity of Klamath River periphyton to remove nutrients from water should be quantified.

Kier Associates and Aquatic Ecosystem Sciences are currently performing data analyses for the Yurok Tribe that should provide some answers to these questions, though the analyses will be limited by the quality and resolution of the source data from PacifiCorp and U.S. Fish and Wildlife Service.

Nutrient data described above and shown in Figure 10 shows that the free-flowing river below Iron Gate Dam is particularly effective at removing inorganic forms of nitrogen (ammonia and nitrate). The algal assimilation and denitrification most likely responsible for this reduction in inorganic nitrogen levels are temperature-dependent processes (Sjodin 1997), so are likely most effective during July and August, the warmest months of the year.

*3. How do bypass and hydropower peaking operations affect nutrient dynamics in the J.C. Boyle Bypass and Peaking reach?*

Power peaking operations in the reach below J.C. Boyle have reduced the amount of benthic algae in the KHP area (PacifiCorp 2004). PacifiCorp's Final License Application (2004) acknowledged that power peaking operations have impacts on fish populations in the peaking reach; however they did not acknowledge that peaking operations may also have impacts on local and downstream water quality caused by reducing the assimilative capacity of benthic algae. Interestingly, PacifiCorp (2005d) does mention the diminished assimilative capacity in the peaking reach. There are three reasons for the decrease of benthic algae in the KHP flow-peaking area:

- diurnal desiccation of near-shore areas
- reduced light penetration during peak flows
- high velocities and associated scour

During peaking operations, flows in the J.C. Boyle peaking reach are ramped daily from a 325 cfs base flow to a 1500 cfs flow (one turbine) or a 3000 cfs flow (two turbines). The result is that the edges of the river alternate between wet and dry, substantially decreasing algal biomass at the edges of the channel. According to PacifiCorp (2004), peaking operations reduce the area of wetted streambed in the J.C. Boyle peaking reach by about 10 to 25 percent, because of the “varial zone” at the edge that is wetted and dried on a daily cycle. This reduction in wetted width likely diminishes the capacity of the peaking reach to assimilate nutrients.

Peaking flows occur at times of peak electrical demand, which in the summer is typically weekday afternoons and early evenings (PacifiCorp 2004). During peak flows, water depths are greater than they would be were J.C. Boyle operating as a run-of-the-river facility. This, along with possible increases in turbidity, can decrease the amount of light available to benthic algae during photosynthetic hours. This would lead to less algal growth, less algal biomass, and less nutrient removal.

High flows (1500-3000 cfs) during peaking may also scour benthic algae from the substrate and prevent their establishment and growth.

Just as peaking affects periphyton, hence, water quality, so do bypass operations. The low flows in the J.C. Boyle bypass reach result in a narrow channel width. The flows in the bypass reach between Iron Gate and Copco are even lower, though this reach is much shorter in length. This affects the amount of periphyton that can grow in the channel bottom, which affects the amount of nutrients that the periphyton can remove from the water column, which affects downstream water quality.

Benthic algae are included in PacifiCorp’s water quality model, but the model is not calibrated and verified for nutrients, so the effects of algae cannot be reliably determined from the model (Wells et al. 2004). Additionally, the model does not take into account factors such as scour and desiccation on the ability of algae to grow.

### ***Remediation***

Algaecides such as copper-based compounds could potentially be applied to reduce algae growth in reservoirs (Pascual and Tedesco 2003); however, we cannot recommend this approach due to potential for unintended downstream consequences. Copper is a heavy metal that can be toxic in sufficient concentrations, and does not degrade in the environment. Furthermore, groundwater at the Resighini Rancheria just above the Klamath estuary is contaminated with copper from an unknown source (Phil Smith, pers. comm.) so it seems unwise to risk exacerbating the situation.

Dam removal would reverse KHP effects on nutrient dynamics.

## PERIPHYTON AND AQUATIC MACROPHYTES

### **Background information**

EPA (2000) presents an excellent review of literature on how periphyton grows in response to nutrient availability, and how they in turn affect dissolved oxygen and pH. Based on that review, EPA (2000) provides a general guideline that the level at which periphyton typically starts to become a nuisance to water quality and aesthetics is 150 mg/m<sup>2</sup>. Additionally, Horner et al. (1983) conducted a literature review of 19 case studies and concluded that biomass levels greater than 150 mg/m<sup>2</sup> often occurred with enrichment and when filamentous forms were more prevalent.

### **Existing conditions in the Klamath River**

In 2004, there was a collaborative study of Klamath River periphyton by the North Coast Regional Water Quality Control Board, the Yurok Tribe, and PacifiCorp. They collected periphyton samples in the Klamath River at sites between Iron Gate Dam and Weitchpec, including tributary streams. Although this dataset spans only one algal growing season, and hence is temporally limited, it is the best data currently in existence. All parties used similar sampling methodologies (Eilers 2005, NCRWQCB et al. 2005) and the same laboratory. Additional information on this study's results is contained in Kier Associates (2005).

The 2004 periphyton data samples show interesting spatial and temporal patterns, and indicate that maximum annual periphyton levels at many sites on the Klamath River far exceed the EPA's general guidance of 150 mg/m<sup>2</sup> (Figure 13). In early July 2004, all sites sampled had chlorophyll *a* values of 82 mg/m<sup>2</sup> or less, except for the Klamath River above the Scott River (river mile 142.61), which was 353 mg/m<sup>2</sup>. For the August samples, periphyton biomass increased at most sites, exceeding 150 mg/m<sup>2</sup> at 5 of 9 sites sampled with the highest biomass of 706 mg/m<sup>2</sup> at river mile 183.28 (Klamath River above Cottonwood Creek). In late August, the flow released from Iron Gate Dam increased from 615 cfs to a peak of 1320 cfs, before declining to 913 cfs. The flow increase likely caused significant scour of periphyton because biomass decreased from 706 mg/m<sup>2</sup> at river mile 183.28 in August to 9 mg/m<sup>2</sup> at river mile 179.23 on September 1, and biomass also declined substantially at river mile 142.61. Biomass held stable at river mile 98.5, and increased in the lower river at river miles 70.30 and 43.50. Biomass may not have declined in the lower river because the Klamath River's channel generally widens as it flows downstream, and so the flow likely had less scouring affect and algae continued to grow. It is difficult to generalize from one year of data, and it is unknown if similar patterns occur in other years.

The most common species identified in 2004 samples were *Cymbella affinis* (CMAF), *Cocconeis placentula* (COPC), *Diatoma vulgare* (DTVVL), *Epithemia sorex* (EPSX), *Navicula cryptocephala veneta* (NVCV), and *Nitzschia frustulum* (NZFR). All six of these species are classified by the US Geological Survey as eutrophic and alkalophilic (NCRWQCB et al. 2005).

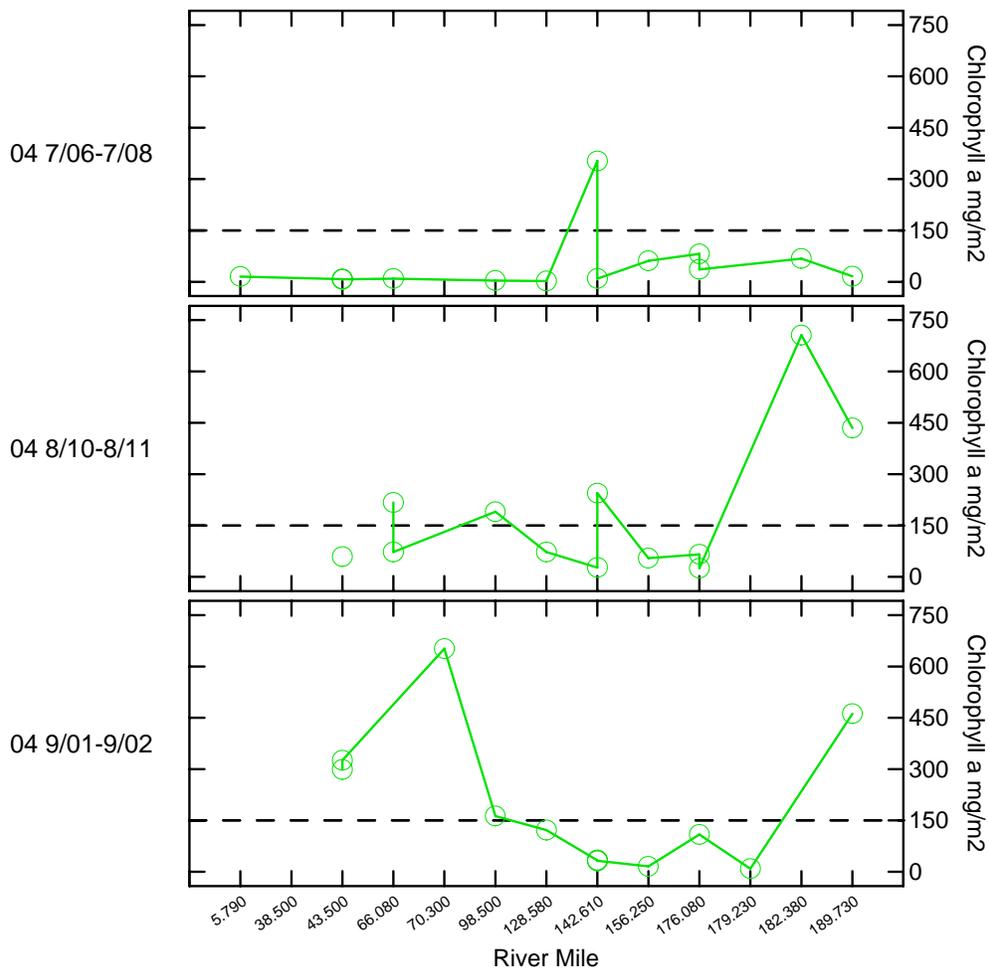


Figure 13. Periphyton biomass as  $\text{mg/m}^2$  chlorophyll a in the mainstem Klamath River for the year 2004 grouped by sampling period and sorted by river mile. Sampling periods begin with year, followed by month-day range (i.e. 04 9/01-9/02 is 9/01/2004-9/02/2004). EPA (2000) general guidance of  $150 \text{ mg/m}^2$  is shown as a horizontal line on the charts.

Little or no data have been collected on aquatic macrophytes in the Klamath River. Below the Scott River, macrophytes are present only in quiet backwater areas (PacifiCorp, 2005d). They are known to be common in the Klamath River between the Iron Gate Dam and the Scott River, likely due to the stable nature of the channel in that reach (PacifiCorp, 2005d). In that reach, they may play an important role in dissolved oxygen and pH dynamics.

### **Project effects**

Biggs (2000) provides a comprehensive guide to periphyton ecology and management. The review includes a summary of the three main ways in which dams affect periphyton in rivers:

“First, the placing of a dam or some form of barrage across the river alters (or completely stops) the flow of bed sediments moving down the river. This then usually enhances bed armouring (i.e., paved with very stable, large cobbles and boulders on the surface layers) which provides excellent substrata for periphyton to attain a high biomass. Second, most of the small- and medium-sized floods are prevented from flowing down the river (unless the reservoir is at storage capacity), which means that the normal flow variability is reduced and the natural ability of the system to remove excess accumulations of biomass is also reduced. Third, the reduction in flow usually also results in a reduction in water velocities, which then allows a higher biomass of filamentous green algae to develop if nutrient levels are sufficient.”

Biggs' (2000) first and second points are likely occurring in the Klamath River as a result of the KHP. In addition, the third point is likely occurring in the Klamath River as well, but more likely because of upstream agriculture rather than the KHP.

#### *Geomorphic changes*

As noted in the citation from Biggs (2000) above, dam construction typically halts the downstream transport of gravel, resulting in more coarse substrates. The KHP has had this effect on the Klamath River below Iron Gate Dam. Larger substrates like cobble and boulder require higher flows to scour them than smaller substrates like gravel and sand. This provides a more stable substrate, increasing the amount of periphyton and aquatic macrophytes than can grow.

The effect of the KHP on bed substrate likely diminishes with increasing distance downstream of Iron Gate as each successive tributary introduces gravels to replenish a portion of the deficit.

#### *Hydrologic changes*

Though not designed for flood-control, Iron Gate and Copco Reservoirs do influence the hydrologic regime by reducing peak streamflows during moderate and small storm events. Peak flows from tributaries such as Jenny, Spencer, and Shovel Creeks can be captured by the reservoirs. Hydroelectricity can only be generated when water flows through the turbines, not the spillways, so it is in PacifiCorp's best interests to minimize use of the spillways. Hence, PacifiCorp may draw down its reservoirs in anticipation of storms to capture storm flows. This helps provide a stable flow regime that allows periphyton and macrophytes to flourish. Periphyton and macrophytes are sensitive to scouring in high flows so a reduction in frequency and intensity of peak flows may cause an increase in periphyton and macrophyte growth. Photosynthesis and respiration of periphyton and macrophytes is a major driver of pH and dissolved oxygen dynamics in the Klamath River so allowing an increase in periphyton and macrophytes may further degrade water quality.

While these hydrologic effects likely contribute to periphyton macrophyte growth between Iron Gate Dam and the Scott River, effects are likely insignificant below the Scott because winter storms are unregulated in the Scott and it contributes large amounts of water during storm events.

### *Nutrients*

Many factors govern the biomass of periphyton that occurs in a stream at any given time. The explanations here are abbreviated; for full details see Biggs (2000). The most important include the amount of available nutrients, light, temperature, and number of days since scour (Biggs 2000). When nutrients and light are adequate to fully meet the demands of the periphyton community, then temperature governs the rate of accrual. The upper limit of biomass accrual is then determined by nutrient concentration and grazing intensity.

Present-day (with KHP) nutrient concentrations in the Klamath River below Iron Gate Dam are likely higher than they would be without the KHP. The reasons for this are discussed above and include nitrogen fixation in KHP reservoirs, reduction in assimilative capacity through peaking operations; bypass operations, and inundation of free-flowing river reaches by reservoirs. This increase in nutrients likely leads to an increase in the amount of periphyton and aquatic macrophytes, which degrades pH and dissolved oxygen conditions, harming fisheries.

### **Remediation**

The coarsening of the streambed below Iron Gate Dam could potentially be remedied by gravel augmentation, though the quantity of gravel required to fully compensate for KHP effects would likely be prohibitively expensive, and could cause damage to the stream where the gravel was removed.

Dam removal would allow gravel to move downstream at its natural rate, restore natural hydrology, and remedy the KHP's impacts to nutrient dynamics.

Pulse flows from Iron Gate Dam could potentially be used to prevent excessive growths of periphyton and aquatic macrophytes; however, this might have unintended consequences as the system is not fully understood. For example, artificially limiting periphyton growth near Iron Gate Dam might move the zone of poor water quality downstream, merely relocating the problem rather than solving it.

## **DISSOLVED OXYGEN**

### ***Existing conditions in the Klamath River***

Dissolved oxygen (D.O.) data for the Klamath River are less robust than for temperature and pH because of the continuous recorders can have problems resulting from fouling of probes that may cause incorrect readings. Continuous data from 2004 are the most reliable because it is the only year in which data were post-processed to correct for bio-fouling of the probes.

Data collected for the Klamath River at various locations from below Iron Gate Reservoir (RM 189.13) to the river mouth (RM 0) between the years 2000 and 2004 show a wide range of conditions. Figure 14 shows the mean daily minimum D.O. for 2000-2004 by river mile and the reference line of 7.0 mg/L on the chart above reflects research showing reduced swimming ability of juvenile chinook salmon (WDOE 2002). Only one location near the mouth of the river at Terwer Creek (RM 5.73) meets the proposed NCRWQCB (2005) standards for D.O., which is a minimum of 8.0 mg/L. All locations near Iron Gate Reservoir show significantly depressed D.O. in 2001 and 2004. The 2004 D.O. daily average minimum for August 2004 shows depressed levels all the way down to the Scott River with average daily minimum D.O. dipping below 6.0 mg/L, well into the stressful ranges for salmonids (Reiser and Bjornn 1979).

While monthly mean minimum D.O. levels indicate chronic stress for juvenile salmonids, daily minimum data from some mainstem Klamath River locations show levels dipping more toward acutely low D.O. levels of 5 mg/L. Figure 15 shows daily minimum, average and maximum D.O. above the Scott River. Minimums continue under 6 mg/L into October, which raises concerns about D.O. levels needed for spawning. NCRWQCB proposed D.O. standards for spawning are 8.0 mg/L in redds and 11 mg/L in the water column, values clearly not met according to gauge results.

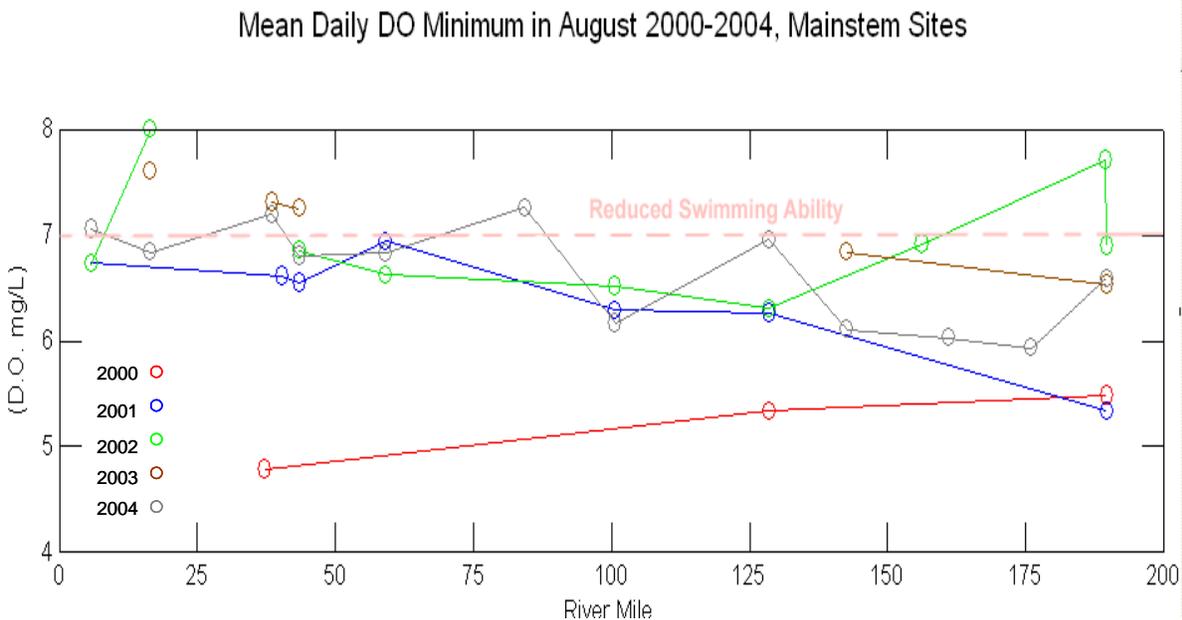


Figure 14. The mean daily minimum D.O. for August in various years from 2000-2004 are displayed here with river miles (RM) for location reference. River miles range from the outlet of Iron Gate Reservoir at River Mile (RM) 189.73 to the mouth at RM 0. Data are from the USFWS, Karuk Tribe, Yurok Tribe and USGS. It should be noted that D.O. data for 2000-2003 were not adjusted to correct for biofouling of the probes over the course of a deployment; the only year of D.O. data that have been adjusted to correct for biofouling is 2004. The USFWS (Zedonis 2005), who distributed these data collected by the USFWS, Karuk Tribe, and Yurok Tribe, notes that “the adjusted dissolved oxygen data periodically display a trend of decay through the course of deployment

suggesting that the correction was inadequate to account for all bias.” Figure from Kier Associates (2005).

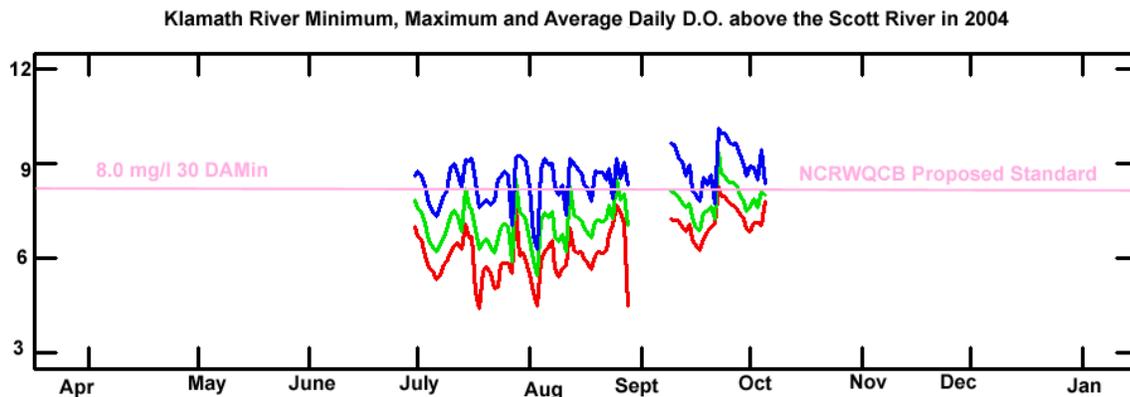


Figure 15. This chart shows **minimum** (red), **average** (green) and **maximum** (blue) D.O. values for the Klamath River above the Scott River (RM 142.61) with a threshold that reflects the NCRWQCB (2005) proposed standard for Klamath River D.O. Data are from the USFWS, Karuk Tribe, Yurok Tribe and USGS. Figure from Kier Associates (2005).

While data collected by the U.S. Fish and Wildlife Service Arcata Fisheries Office in August of 1997 was anomalous, it bears mention because it likely represents extreme conditions that sometimes occur. WDOE (2002) set acute lethal D.O. limits for warm water species at 3.5-4.0. USFWS crews measured Klamath River D.O. of 3.1 during nocturnal swings on August 9-10, 1997 (Figure 16) and mortality of Klamath small-scale suckers and speckled dace both confirm that conditions at that time had reached acute lethality. Other limnological conditions such as pH and dissolved ammonia were not measured, but may have been cumulatively adding to fish stress and mortality.

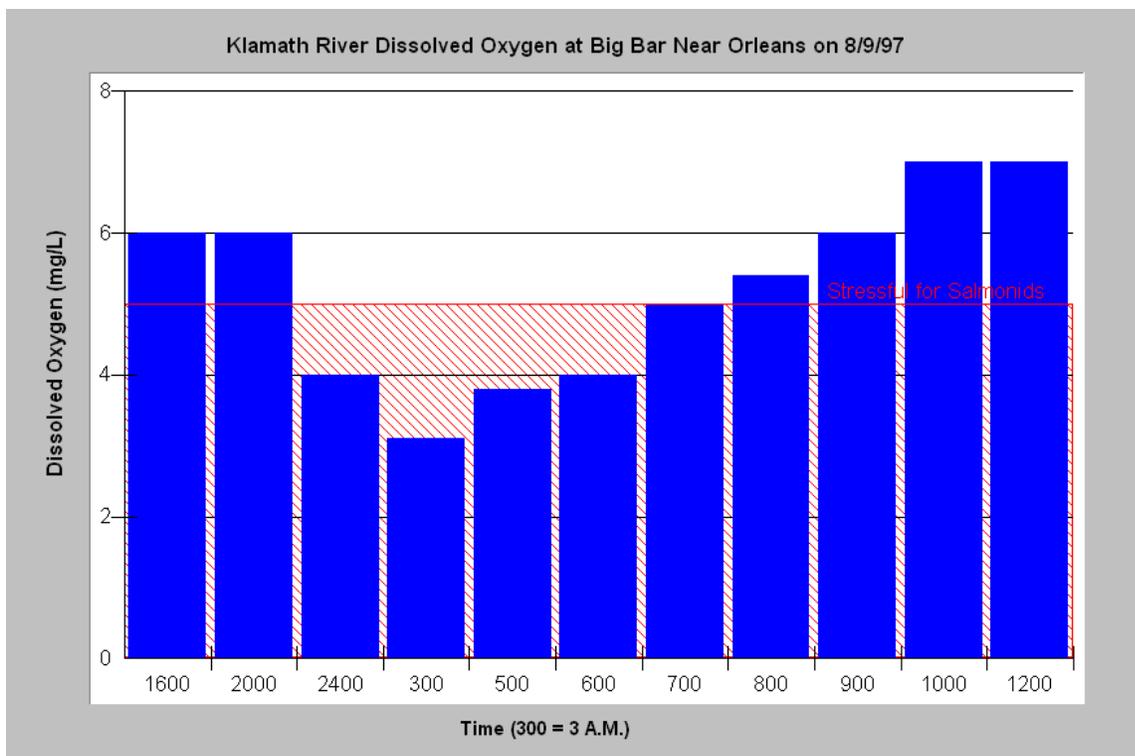


Figure 16. USFWS Arcata Fisheries Office measured D.O. levels at night and in early morning hours of August 9-10, 1997 and discovered minimum nocturnal levels of 3.1 mg/L, which are lethal for salmonids according to WDOE (2002).

### **Project effects**

The KHP has both direct and indirect effects on dissolved oxygen in the Klamath River.

The KHP has a direct effect on dissolved oxygen (D.O.) levels in the Klamath River immediately below Iron Gate Dam because during the summer season, the reservoir often releases water with low levels of oxygen (Figure 14). This effect is likely localized in impact, though it is unknown how large the area is. Due to oxygen exchange between the water surface and the air, dissolved oxygen levels should rise once the water is flowing down the river; however, in the Klamath River there is excessive growth of aquatic macrophytes and periphytic algae which causes large diurnal fluctuations in dissolved oxygen levels. Photosynthetic activity by aquatic plant life during the day may cause supersaturated D.O. conditions and respiration at night can cause D.O. declines.

To the extent that the project increases nutrient levels, which is still an unsettled question (see discussions in the nutrient section above), it stimulates growth of aquatic macrophytes and periphyton that drive large diurnal swings in D.O., including low D.O. at night.

Another unanswered question is what happens to the phytoplankton (free-floating algae) that are flushed from Iron Gate and Copco Reservoirs into the Klamath River below. The discharging of algae from Iron Gate reservoir into the river below has been

documented (Kann 2006). Whatever the fate of algal cells in the river, they likely have a detrimental effect on dissolved oxygen in the river. If the algal cells survive and continue to grow, then they contribute to diurnal fluctuations of dissolved oxygen. If they die, the microorganisms that decompose them will respire, removing oxygen from the water.

### ***Remediation***

To mitigate KHP impacts to dissolved oxygen, PacifiCorp (2005b) has proposed an oxygen diffuser system for Iron Gate reservoir. If the information presented in the report is correct, it appears that the diffuser would be effective in increasing dissolved oxygen levels in Iron Gate Dam releases. We would like PacifiCorp to provide more detailed information regarding how the diffusion system would affect reservoir chemistry, and provide examples of evaluations of this technology's effectiveness in other eutrophic reservoirs. While we agree that if this system is put into place, monitoring and testing will be required during installation and operation, additional up front evaluation should be required.

Dam removal would eliminate the KHP's effects on dissolved oxygen levels in the Klamath River.

## **PH**

### ***Background information***

Evidence from laboratory studies indicates that any pH over 8.5 is stressful to salmonids and 9.6 is lethal (Wilkie and Wood 1995). Studies show that as water reaches a pH of 9.5, salmonids are acutely stressed and use substantial energy to maintain pH balance in their bloodstream (Wilkie and Wood 1995), while pH in the range of 6.0 to 8.0 is normative.

Wilkie and Wood (1995) note that when the gill membranes of bony fishes, including salmonids "are exposed to alkaline water there is an immediate reduction in ammonia excretion rate and a corresponding increase in plasma ammonia concentration." The direct stress effects of increased pH in the Klamath River are compounded by increasing unionized ammonia, which is triggered by increasing pH in conjunction with typically warm water conditions in summer (see below).

Prolonged exposure to pH levels of 8.5 or greater may exhaust ion exchange capacity at gill membranes and lead to increased alkalinity in the bloodstream of salmonids (Wilkie and Wood 1995). This internal shift in chemistry facilitates conversion of internal ammonium to dissolved ammonia (Heisler 1990). In case of extreme pH swings " $\text{NH}_3$  and  $\text{NH}_4^+$  concentrations rise too rapidly and/or approach toxic levels, internal ammonia can ultimately contribute to high pH induced mortality" (Wilkie and Wood 1995). Dissolved ammonia causes a similar diffusion pressure on the gills to high pH as salmonids try to convert  $\text{NH}_3$  into more benign  $\text{NH}_4^+$ , thus causing loss of  $\text{H}^+$  ions at the gill membrane. This compounds problems in maintaining pH balance in the bloodstream of juvenile and adult salmonids exposed to both stressors.

### Existing conditions in the Klamath River

The NCRWQCB (2001) Basin Plan standard for the Klamath River is that pH should not exceed 8.5, but this standard is exceeded on a daily basis across large portions of the river (Figures 16 and 17). Figure 16 shows the average maximum pH during the month of August at all locations monitored on the Klamath River from 2000-2004. The pH rises above levels known to be stressful to salmonids at locations immediately below Iron Gate Dam (RM 189.13) downstream to the mouth of the Shasta River (RM 176.08). The data show considerable variability between sites and between years. The variability of pH between years is reflective of changes in flows, climatological conditions, and other factors, but the consistent exceedance of the NCRWQCB pH standard of 8.5 is an indication of pervasive nutrient pollution and consequently a high probability of problems for fish health.

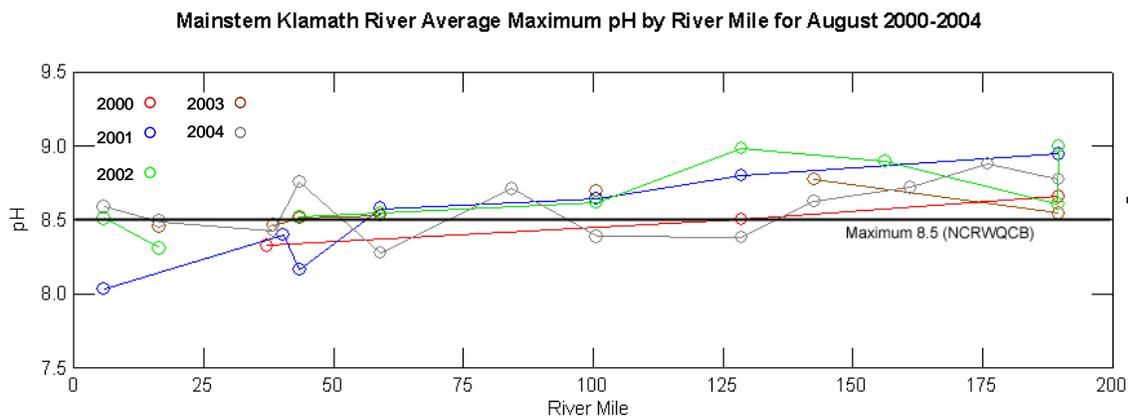


Figure 16. Average maximum pH of the Klamath River by river mile showing patterns for the years 2000-2004. The horizontal line shown on the graph is the NCRWQCB (2001) standard for pH. Data are from the USFWS, Karuk Tribe, Yurok Tribe and USGS. Figure is from Kier Associates (2005).

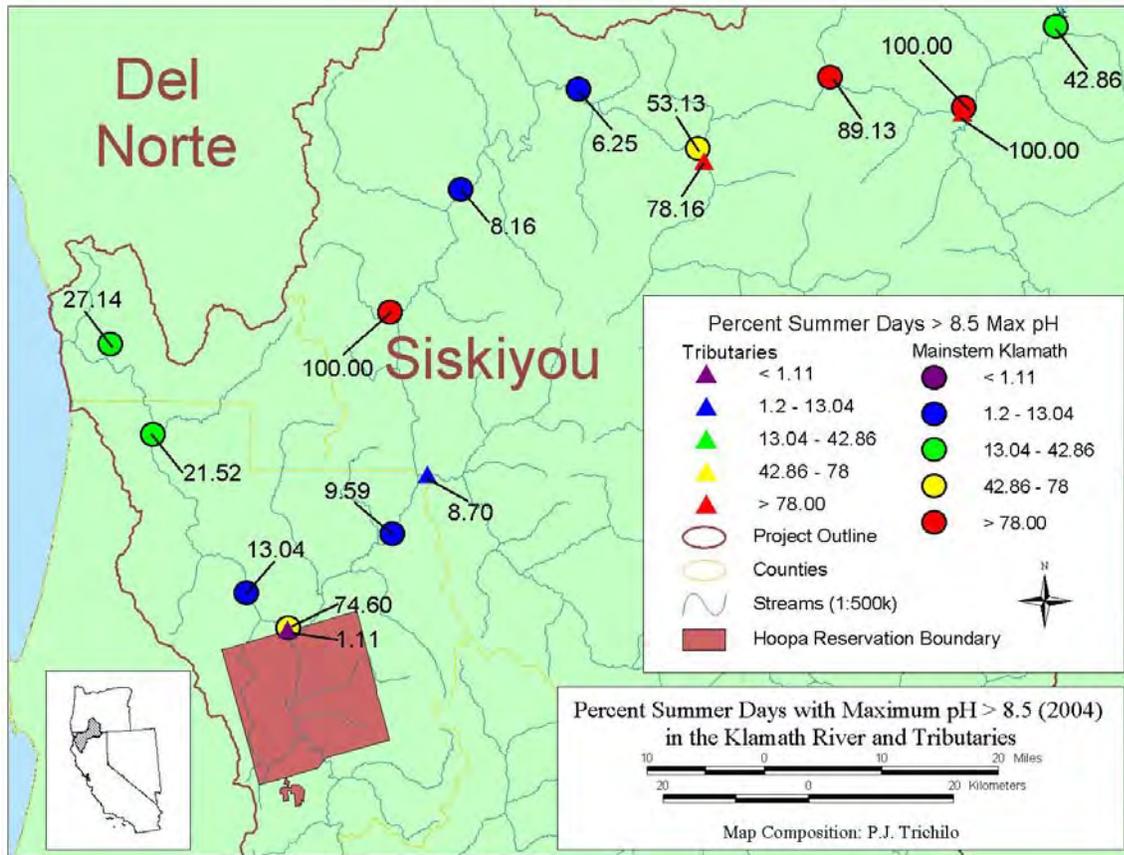


Figure 17. Map showing the percent of summer days in 2004 where maximum pH exceeded 8.5. Data are from Yurok Tribe, Karuk Tribe, and U.S. Fish and Wildlife Service. Figure is from Kier Associates (2005).

### Project effects

The KHP has both direct and indirect effects on pH in the Klamath River.

The KHP has a direct effect on pH levels in the Klamath River immediately below Iron Gate Dam, as during the summer season the reservoir often releases water with high pH (Figure 16). This effect is likely localized in impact, though it is unknown how large the area is.

Levels of pH are elevated throughout the Klamath River below Iron Gate Dam (Figures 16 and 17), and it is likely that the pH of water released from Iron Gate Dam does not drive this except for the reach immediately below the dam. Further downstream of the dam, high pH is caused by excessive photosynthesis of aquatic macrophytes and periphytic algae.

To the extent that the project increases nutrient levels, or delays decreases in nutrient levels, which is still an unsettled question (see discussions in the nutrient section above), it stimulates growth of aquatic macrophytes and periphyton that drive large diurnal swings in pH, including high pH during the daylight hours.

If the phytoplankton that are flushed out of Iron Gate Reservoir into the Klamath River below continue to photosynthesize, which at this point is unknown, then they contribute to diurnal fluctuations of dissolved oxygen.

The Periphyton and Aquatic Macrophytes section above provides additional information on how the KHP encourages growth of periphyton and aquatic macrophytes, and hence increases pH.

### ***Remediation***

Dam removal would eliminate both the KHP's direct and indirect effects on pH. We are not aware of any way to mitigate the KHP's impact to pH.

## **AMMONIA TOXICITY**

### ***Background information***

Ammonia is a nitrogen-containing compound this is toxic to fish, but is also a nutrient for aquatic plants and algae. Ammonia's toxicity to fish depends on ammonia concentration, temperature, pH, and duration of exposure (U.S. EPA 1999). As pH and temperature increase, ammonia converts from ammonium ions to unionized or dissolved ammonia that is lethal to salmonids at very low levels. Goldman and Horne (1983) explained that conversion of ammonium to dissolved ammonia is prompted by increasing pH with greater than 38% converted at a pH of 9.0 and a water temperature of 25 ° C (Figure 18).

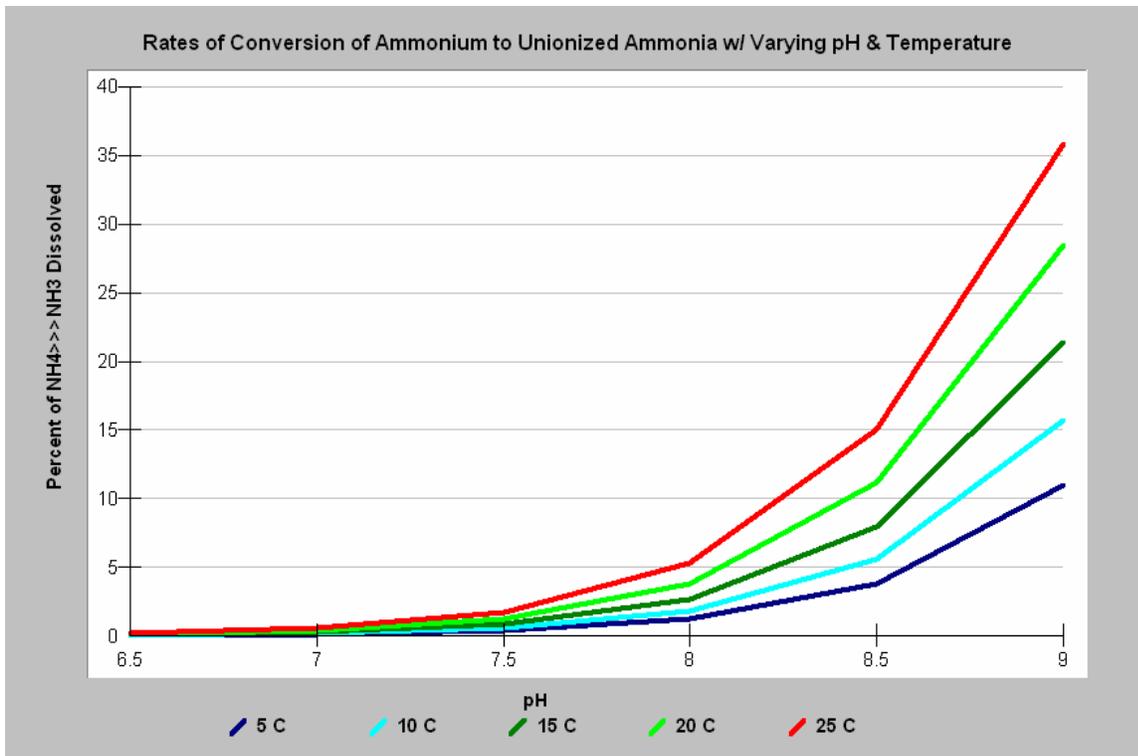


Figure 18. Chart showing the percent conversion of ammonium to dissolved ammonia with increasing pH and water temperature. Data from Goldman and Horne (1983).

**Existing conditions in the Klamath River**

Laboratories, which did not have adequately low reporting limits, have processed most nutrient data that have been collected on the Klamath River. Consequently, a sample could be reported as a non-detect, but ammonia levels could be high enough to be acutely toxic to fish, or even lethal. We did not perform the specific calculations required to query available data to determine if the ammonia criteria are being exceeded, as the upcoming Mainstem Klamath TMDL will include ammonia toxicity analysis (St. John. pers. comm.).

One of the few datasets with adequate reporting limits for ammonia was the North Coast Regional Water Quality Control Board 104b water quality data from 1996 and 1997. These data show that maximum dissolved ammonia can reach levels well above those recognized as acutely stressful to salmonids (Heisler 1990). Maximum levels of dissolved ammonia for 1996 and 1997 by Klamath River location indicate that problems with this substance may be more pronounced in reaches further downstream from Iron Gate Dam (Figure 19).

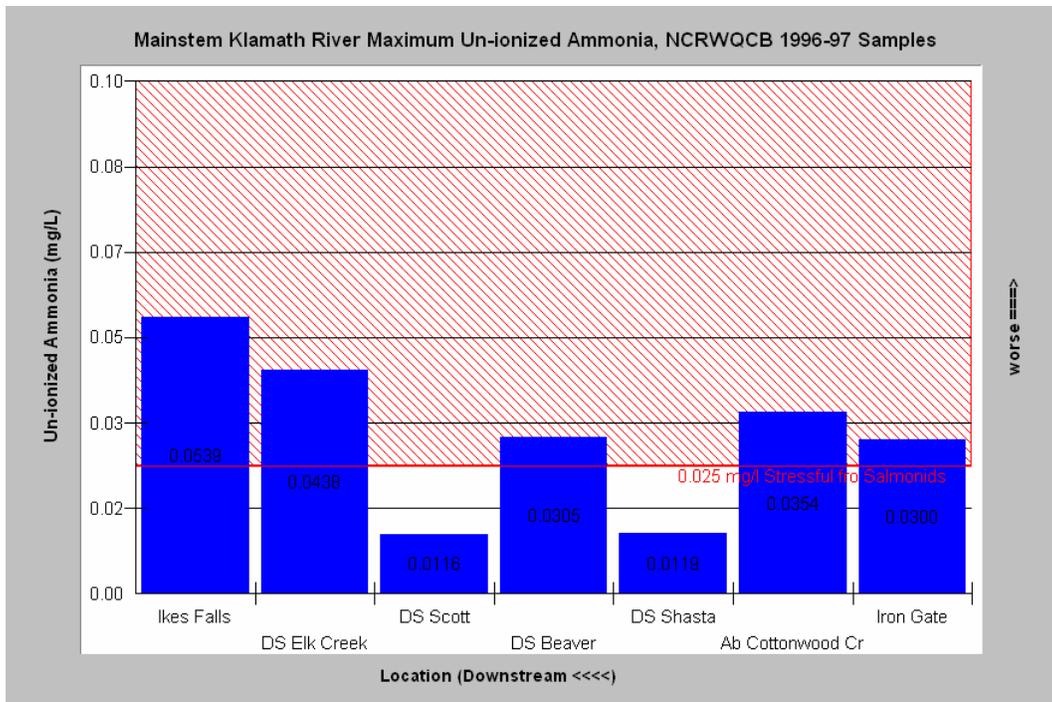


Figure 19. The maximum dissolved ammonia (also known as unionized ammonia) levels measured in grab samples collected in 1996 and 1997 show levels in the highly stressful to lethal range for salmonids as far downstream as Ikes Falls near Orleans (RM 65.93). The North Coast Regional Water Quality Control Board collected data as part of the 104b program.

**Project effects**

Data from the year 2002 (Kann and Asarian 2005) show that Iron Gate and Copco Reservoirs exhibited substantial negative net retention of ammonia, indicating that both are major sources of ammonia (Figure 20). For the overall April-November 2002 period, net retention in Copco was -44% and Iron Gate was -32%. While the magnitude and timing of ammonia releases likely varies from year to year, it is highly likely that it occurs in all years.

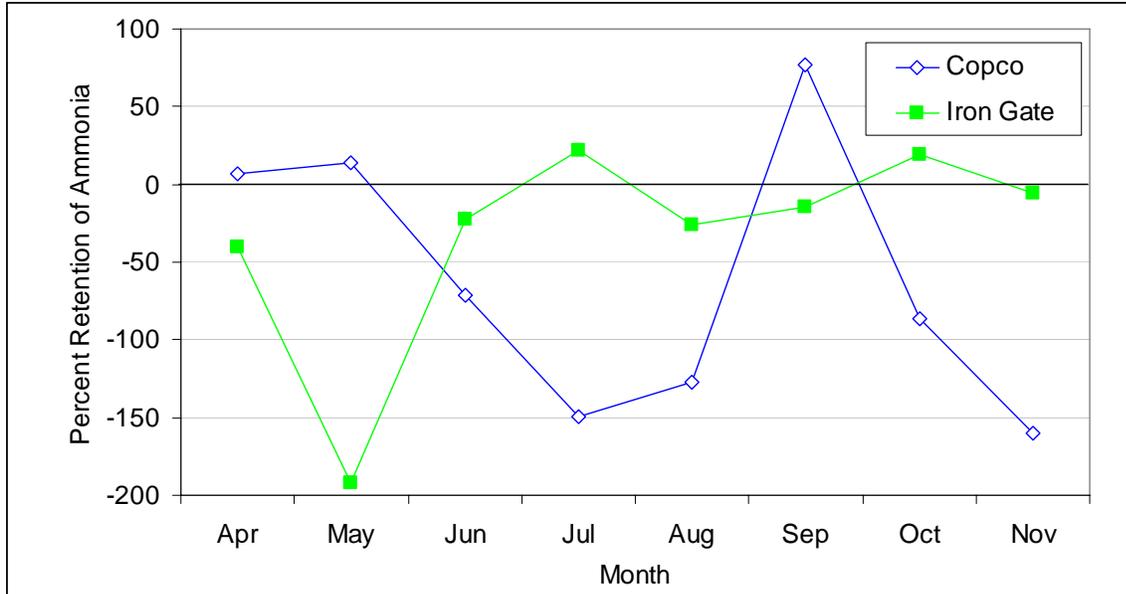


Figure 20. Percent retention of ammonia by month at Iron Gate and Copco Reservoirs in 2002, by month. Negative retention signifies source, positive retention signifies sink. Retention calculated as incoming load minus outgoing load, minus change in storage. Retention percentage is calculated as retention divided by incoming load. Chart made from summarizing calculations provided in the appendices of Kann and Asarian (2005). Data originally collected by PacifiCorp and U.S. Fish and Wildlife Service.

Although Iron Gate Dam releases substantial ammonia into the Klamath River, much of that ammonia is likely transformed relatively rapidly into nitrate or is taken up by periphyton and aquatic macrophytes. The precise rate of uptake or transformation is unknown and likely varies depending on conditions, but should be investigated.

Ammonia releases from Iron Gate Dam represent a substantial localized risk to fish in the vicinity. In addition, ammonia releases from Iron Gate also represent a risk to downstream reaches because if assimilative capacity of periphyton and macrophytes are temporarily diminished (i.e. due to cloudy weather, cold temperatures or turbidity) then ammonia could move downstream intact. This may occur at least occasionally, because high levels of unionized ammonia has been detected far downstream of Iron Gate (figure 19). Even if this occurs infrequently, due to its potential for extreme toxicity, ammonia presents a significant risk to fish health. It should be noted here that ammonia downstream could instead be caused by a phenomenon known as nutrient spiraling, where nutrients are absorbed and then are released (such as when periphyton is scoured or senesces), cascade downstream, break down, and then become available again for growth.

### **Remediation**

Ammonia accumulates in the hypolimnion of both Copco and Iron Gate reservoirs (PacifiCorp 2004). An oxygenation system could potentially reduce ammonia concentrations in the bottom of the reservoir because in the presence of oxygen

microorganisms can transform ammonia into nitrate. Such a system could also produce unintended results, such as the gas-bubble disease that has plagued Columbia River salmon management efforts.

## CYANOBACTERIA AND CYANOBACTERIAL TOXINS

### **Background information**

*Cyanobacteria, also known as blue-green algae, are a diverse group of single-celled aquatic organisms found in surface waters worldwide. Lakes, reservoirs, ponds, and slow-moving rivers are especially well suited to cyanobacteria, and given the right conditions – calm water, light, and abundant nutrients – these organisms can reproduce at a high rate, forming vast blooms in the water. The resulting high cyanobacterial algal concentrations are not only aesthetically unpleasing, but often produce toxins that have been implicated in human health problems ranging from skin irritation and gastrointestinal upset, to death from liver or respiratory failure (Chorus and Bartram 1999, Chorus 2001). Microcystis aeruginosa produces the potent hepatotoxin microcystin and has been demonstrated to occur in the Klamath River system (Kann 2006).*

These hepatotoxins (liver toxins) are powerful cyclical peptides which disrupt the structure of liver cells, causing cell destruction, liver hemorrhage, liver necrosis, and death. In addition to hepatotoxicity, long-term laboratory animal studies indicate that microcystins act as liver tumor promoters and teratogens (Falconer et al. 1988). Microcystin poisoning has been implicated in the largest number of cyanobacteria-associated animal deaths worldwide, and enough work has been done, both with rodents and pigs, on microcystin effects at various levels of exposure, that the World Health Organization (WHO) has issued a provisional guideline of 1 µg/L for microcystin concentration in drinking water. With actual microcystin concentration data frequently unavailable, alert level guidelines based on cell counts have been established for *Microcystis* (as well as other cyanobacteria) blooms in drinking and recreational waters (Yoo et al. 1995, Chorus and Bartram 1999).

Although human health effects of toxins from the blue-green algae *Microcystis aeruginosa* are better studied, fish health effects have also been recently researched (Zambrano and Canelo 1995, Wiegand and Pflugmacher 2005), including effects on salmonids (Tencalla et al. 1994, Bury et al. 1996; Fischer et al. 2000, Best et al. 2003). These effects are discussed here because there is evidence that hepatotoxins created by *Microcystis* are a threat to fish health independently, and may act synergistically with other water quality problems (i.e. pH) in causing cumulative stress or in contributing to immunosuppression and subsequent outbreaks of fish disease epidemics.

Microcystin toxins accumulate in the liver where they disrupt many different liver enzymes and ultimately cause the liver to break down (Fischer et al., 2000). Algae grazing fish species may be the most susceptible to microcystin poisoning, but other fish may ingest whole *Microcystis* cells or breakdown products from the water column (Wiegand and Pflugmacher 2005). In laboratory experiments, rainbow trout were found to excrete microcystin toxins in bile fluids when exposed to them orally. The toxins

caused increased drinking in this species and increased water in the gut, which was a sign of osmoregulatory imbalance and could promote diffusion of toxins into the blood (Best et al., 2003).

Tencalla et al. (1994) noted that large-scale fish kills around the world have resulted from microcystin poisoning. They postulated that a 60 g rainbow trout would only have to ingest 0.1-0.4 g of algae (wet weight) or 0.2-0.6% of its body weight to experience massive liver damage. Bury et al. (1996) studied brown trout exposed to sublethal levels of microcystin toxins and found greatly altered blood cortisol levels indicating acute stress and reduced immunosuppression. This is a concern in the mainstem Klamath River because of the recognized fish health problems (Foott and Stone, 2003; Nichols and Foott, 2005), and the potential for additional diminishment of resistance to disease caused by microcystin exposure of juvenile salmonids.

### ***Existing conditions in the Klamath River***

Kann (2006) provides a summary of four datasets that provide information about the distribution and abundance of *Microcystis aeruginosa* (MSAE) in the Klamath River basin. These include data from the Klamath Tribes in 1990-1997, PacifiCorp in 2002-2004, Karuk Tribe/State Water Resource Control Board (SRWCB) in 2005, and Yurok Tribe/U.S. Fish and Wildlife Service (USFWS) in 2005.

The Klamath Tribes' 1990-1997 data showed that while MSAE is found in Upper Klamath Lake and Agency Lake, it was only rarely detected in the outlet to Upper Klamath Lake. PacifiCorp's data showed that MSAE was only detected in twice (August 21, 2003 and September 10, 2002) in the Klamath River above Copco (river mile 206.42), but then was common in Iron Gate and Copco Reservoirs. In Karuk Tribe/SRWCB data from 2005, MSAE and microcystin toxin were never detected at the station above Copco Reservoir, but were common in Iron Gate and Copco Reservoirs and in the Klamath River at the outlet of Iron Gate Dam. Yurok/USFWS data from 2005 showed that MSAE and microcystin toxin were found in the Klamath River all the way from Iron Gate Dam to the Klamath estuary. Based on those results, Kann (2005) concludes:

Taken together these data provide compelling evidence that Copco and Iron Gate Reservoirs are providing ideal habitat for MSAE; increasing concentrations dramatically from those upstream, and exporting MSAE to the downstream environment.

### ***Project effects***

The results described above from multiple datasets and summarized by Kann (2005) indicate that Iron Gate and Copco Reservoirs were almost certainly for the responsible for the high levels of MSAE and microcystin toxin detected in the Klamath River between Iron Gate Dam and the estuary.

Kann (2005) described the potential for Iron Gate and Copco Reservoirs to contribute to downstream blooms of MSAE:

In areas where turbulent diffusivity may decrease as rivers widen and increase in depth, or such as would occur in backwater areas, the potential also exists for MSAE blooms in slow-moving riverine environments as well ...Given the tens of thousands of MSAE cells introduced to the lower-Klamath River from Copco and Iron Gate Reservoirs above, the potential for recurring blooms downstream increases as slower-moving water is encountered. For example, as described above, MSAE cell concentration exceeded 1.3 million cells/ml in a backwater area near the confluence of Coon Creek nearly 100 miles downstream from Iron Gate Dam.

With dam removal, although *Microcystis* might persist at low levels in the Klamath River's quiet backwaters or perhaps in the Klamath estuary, its abundance would likely be reduced many fold. The reason is that its inoculant source (Iron Gate and Copco Reservoir) would be reduced by orders of magnitude, so that even in a suitable MSAE habitat such as a quiet backwater, blooms would take longer to develop because they would start from fewer cells, and cells would have less of a chance of dispersing to suitable habitats.

California's water quality standard for toxic substances states, "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life." (NCRWQCB, 2001).

To the extent that creation of the KHP reservoirs resulted in formation of habitat conditions ideal for *Microcystis*, with subsequent increased microcystin concentration in the waters of the Klamath River, operation of the KHP may be violating California's toxic substances water quality standard.

### **Remediation**

As described above, Iron Gate and Copco Reservoirs provide ideal habitat for MSAE. Dam removal would eliminate these reservoirs, dramatically reducing available habitat for MSAE. Without the KHP reservoirs, MSAE might persist in the Klamath River, but it would likely be at much lower levels than found in 2005, for reasons described above.

## **TASTE AND ODOR COMPOUNDS**

### **Background information**

The issue of taste and odor compounds may seem at first like a minor issue, but in the Klamath Basin, it is an important one. Fish growing in water containing taste and odor compounds can take these compounds into their tissues. Off-flavored fish can adversely affect recreational fishing because eating such fish becomes less desirable. This, in turn, can have negative economic effects on recreational economies, including bait and

tackle sales and boat and cottage rentals (EPA 1986). Several Native American Tribes in the Klamath basin have subsistence fisheries, which is another reason why taste and odor compounds are important issues.

A likely source of potential taste and odor compounds in the Klamath River is algae. As it grows and decays, algae can produce undesirable tastes and odors in water (EPA 1996 and Droste 1997). Smith and deNoyelles (2001) provide a summary of the background and history of taste-and-odor compounds in surface water, as does Mau et al. (2004).

Many algal species are capable of producing tastes and odors, including various Bacillariophyta, Chlorophyta, Cryptophyta, and *Actinomyces*. Taste and odors vary between species. Species causing "grassy" or "musty" odors include the diatoms *Melosira* and *Synedra*, as well as the Cyanobacteria *Anabaena* (Palmer 1977). Diatoms that can cause "fishy" odors include *Asterionella*, *Cyclotella*, and *Chlamydomonas* (Palmer 1977). Cyanobacteria *Oscillatoria* spp. and *Lyngbya limnetica* are capable of producing "musty odor" (Palmer 1997). Other species known to produce taste and odor compounds include the Cyanobacteria *Aphanizomenon*. *Actinomyces* are moldlike bacteria that can break down organic matter and produce many taste and odor compounds including geosmin, an earthy-smelling byproduct which is also produced by Cyanobacteria (Droste 1997).

Some of the most severe taste and odor problems have been associated with blooms of cyanobacteria (Mau et al. 2004). Two chemical compounds found within certain species of cyanobacteria, geosmin and 2-methylisoborneol (MIB), are responsible for many of the taste and odor problems associated with cyanobacteria blooms (Gerber, 1969; Tabachek and Yurkowski, 1976).

### ***Existing conditions in the Klamath River***

While we are not aware of any quantitative data regarding the types and concentrations of taste and odor compounds in the Klamath River, it is widely recognized that salmon caught on the middle Klamath River (between Iron Gate Dam and the Trinity River) have poor odor and taste. Staff of the Quartz Valley Indian Reservation eloquently stated this during a meeting with FERC (2004):

“Around here, when people say that they got salmon, the first question that you ask is where did you get it from? If they got it up river, you don't want to eat it. People that don't know, eat it. But people that know get it farther down.”

PacifiCorp conducted a survey of recreational users in the KHP area and results are included in Water Resources Final Technical Report Appendix 13a Klamath Water Quality/Aesthetics Survey Responses (PacifiCorp 2004). Thirty-six percent of recreational users indicated that water quality affected their visit to the Klamath River and many respondents commented on the excessive algae, green water, foam, suds,

and bad odors found in the KHP reservoirs and river reaches. Comments included the following:

- “Bad smell this year” (regarding Keno and Lake Ewauna)
- “Slimy, green, foamy – yuck” (regarding Copco/Lower Klamath)
- “Extremely filthy (also dead fish everywhere)” (regarding J.C. Boyle)

Humboldt State University graduate students are conducting studies of the relationships between nutrients, *Actinomyces*, and geosmin in the mainstem Klamath River but have not published their results yet (Gearheart, pers. comm.).

### **Project effects:**

Data on taste and odor compounds is lacking in the Klamath River, but analysis of phytoplankton and nutrient data, combined with information about taste and odor compounds from literature derived in other locations, suggests that the KHP is likely increasing taste and odor compounds in the Klamath River.

Each year, KHP reservoirs such as Iron Gate and Copco host massive algae blooms. Organic matter (likely live and dead algae) can be flushed downstream in the Klamath River below (Kann and Asarian 2005). These blooms are likely contributing to taste and odor problems both directly through metabolic byproducts of the algae, as well and indirectly through increasing organic matter, which can later be decomposed by *Actinomyces* to produce geosmin and other taste and odor compounds. In addition, anaerobic conditions in the bottoms of the reservoirs may also produce taste and odor compounds.

### **Remediation**

As described above in the nutrients section, copper-based algaecides could potentially be used to reduce algal growth and hence reduce taste and odor compounds, but we strongly discourage this approach due to potential for unintended downstream consequences.

Removing KHP dams and reservoirs would reduce algal production and anaerobic conditions, likely reducing taste and odor compound production. As discussed in the nutrients section above, it would also likely reduce levels of nutrients and organic matter in the Klamath River downstream, which should reduce algal growth as well as reduce the amount of geosmin produced by *Actinomyces* (which feed on organic matter).

Taste and odor-causing compounds are often volatile and can be removed to a significant extent by aeration (Droste 1997). Adding oxygen to water can improve the taste of water to a limited extent (Droste 1997). Dam removal would replace anaerobic reservoirs with many miles of a free-flowing river that has a much higher surface area to volume ratio than the reservoirs, which would allow for more replenishment of oxygen. In addition, free-flowing rivers feature naturally occurring gravity-powered aeration features known as riffles, which further serve to oxygenate the water. The increase in surface area to volume ratio and increase in the number of riffles would likely result in

more aeration and hence more removal of taste and odor compounds from the waters of the Klamath River.

## FISH PARASITES

### **Background information**

In recent years, myxozoan parasites have received increasing attention in the Klamath River, especially for their role in causing fish kills of juvenile salmonids. The two that have been most closely studied are *Ceratomyxa shasta* and secondarily *Parvicapsula minibicornis*. The life cycle of *C. shasta* utilizes two different hosts: the freshwater polychaete worm *Manaynukia speciosa* and a salmonid (Figure 21). Bartholomew (2006) recently discovered that *Parvicapsula minibicornis* also uses the same polychaete host.

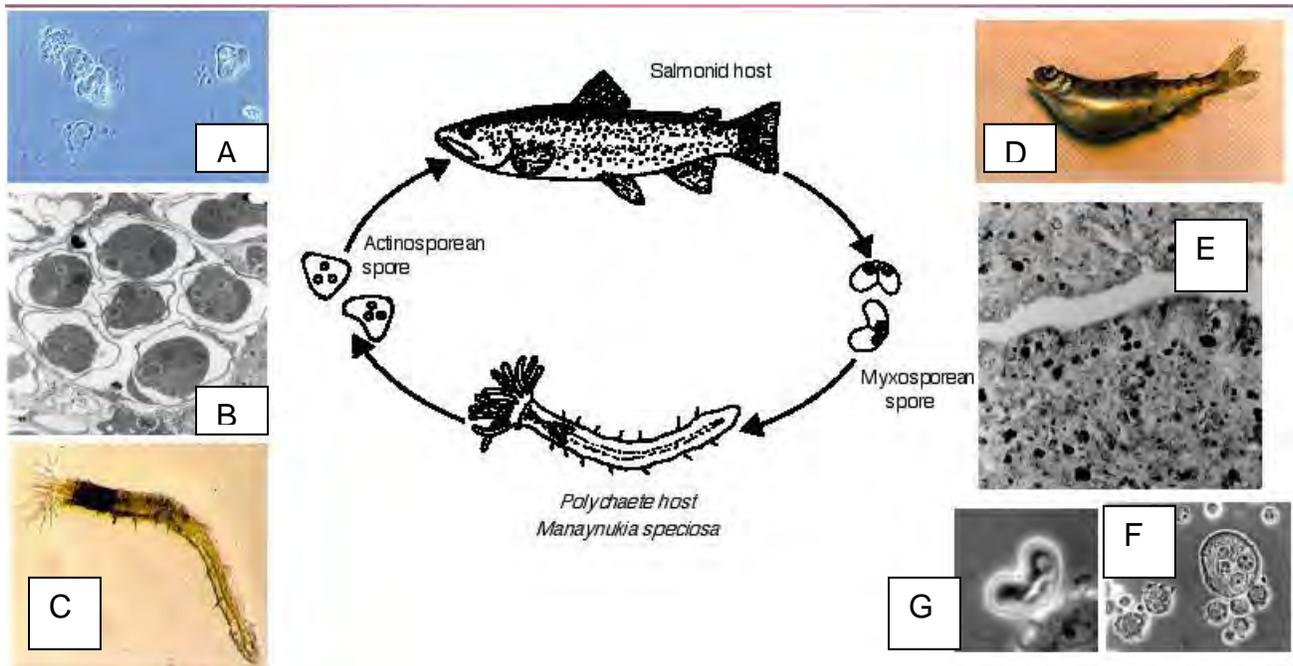


Figure 21. Life cycle of *Ceratomyxa shasta* showing release of the myxospore stage from the infected fish, the polychaete alternate host, and release of the alternate actinospore stage from the polychaete. A. released actinospores, B. electron micrograph of actinospores in the polychaete, C. polychaete, D. infected fish, E. histological section of infected intestine, F. trophozoite stages, G. myxospore (Bartholomew et al. 1997).

### **Existing conditions in the Klamath River**

*C. Shasta* was first detected in the Klamath River in the early 1990s and was first identified as being a serious fish health issue in 1995. The recent high incidence of *C. Shasta* in the Klamath River may be due to an increase in polychaete population is caused by an increase in polychaete habitat (Stocking and Bartholomew, 2004).

Unpublished data from recent surveys on the Klamath River have shown that the polychaete's primary habitat is sand with fine benthic organic matter (Stocking 2006).

Its secondary habitat is dense beds of *Cladophora*, a filamentous green algal species. There are some notable differences between these two habitats. Polychaetes living on the sand with fine benthic organic matter substrate are restricted to low-velocity areas, whereas polychaetes can exist in *Cladophora* in areas with higher water velocities (Stocking 2006). In addition, sand with fine benthic organic matter is a less stable substrate than *Cladophora*. For example, Stocking (2006) sampled an extremely large and dense population of polychaetes at Tree of Heaven (approximate river mile 170) in March 2005. When Stocking returned to sample after a high-flow event (discharge below Iron Gate Dam peaked at 5380 cubic feet per second on May 18) in May 2005, much of the organic matter was gone and all polychaetes had disappeared (presumably both had been washed downstream). In contrast, polychaete populations in *Cladophora* beds remained intact.

To date, there has been no systematic effort to map the distribution and abundance of *Cladophora* in the Klamath River and its tributaries. *Cladophora* distribution in the Klamath River appears to be patchy. When present it often covers large areas with a dense mat (Stocking, pers. comm.). Stocking (pers. comm.) says that *Cladophora* is most common between Iron Gate (river mile 190) and Happy Camp (approximate river mile 100), and he has not seen it downstream of the Klamath's confluence with the Trinity (river mile 44).

A recent unpublished study examined the rates of *C. shasta* and *P. minibicornis* infectivity in their polychaete host *M. speciosa* in the Klamath River from Keno Reservoir to China Point near Happy Camp (Stocking 2006). The study found that in the year 2005, the sites with highest *C. shasta* infection prevalence in polychaetes were the Tree of Heaven (approximately river mile 170) and Interstate 5 (approximately river mile 179). The most likely explanation for this high infection prevalence at these sites is their proximity to the salmon spawning grounds below Iron Gate Dam. Returning adult salmon can become infected with *C. shasta* as they move upriver. When they spawn and die, the *C. shasta* myxospores contained inside them are released and can infect polychaetes.

*Ceratomyxa shasta* causes major problems for the health of juvenile salmonids in the Klamath River. *C. Shasta* infection rates are extremely high and, in many years, results in the death of significant portion of the juvenile salmonids in the Klamath River. Nichols and Foott (2005) estimated that in 2004, 45% of juvenile fall-run chinook salmon were infected with *C. Shasta*, 94% of the population was infected with *P. minibicornis*. The majority of the *C. Shasta* infected fish would not survive, and the impact of a loss of that many fish could rival the 2002 adult fish-kill where over 33,000 adult salmon died.

Foott (pers. comm.) noted that *C. Shasta* parasite loads are so high in the Klamath River that even healthy fish with active immune systems can be overwhelmed. To reduce the incidence of *C. Shasta* infection in the Klamath River, it may be insufficient to improve physical water quality temperature, pH and D.O. alone to reduce fish stress. It also may require a reduction in parasite loads. Reducing parasite loads could likely be achieved by reducing populations of the polychaete. This could likely be achieved by

reducing available habitat for the polychaete. Reducing the amount of organic matter in the Klamath River would reduce the amount of the polychaete's primary habitat (sand with fine benthic organic matter). As explained above in the Periphyton section, green algae such as *Cladophora* are more common in streams with high nutrient concentrations, so reducing the amount of nutrients in the Klamath River would likely lead to a reduction in the amount of *Cladophora* (the polychaete's secondary habitat).

In a recent unpublished study, the Karuk Tribe collected water samples biweekly at many sites between Iron Gate Dam and the Klamath estuary from May through September (Bartholomew 2006). A technique known as QPCR was used to quantify the amount of *C. Shasta* DNA in the water samples. Known quantities of *C. Shasta* spores were also processed with QPCR, which allows development of quantitative relationship between QPCR results and the number of spore in a sample. The biological significance (to fish) of specific spore concentrations is still unknown at this time, but this knowledge will be developed over time by performing QPCR on water samples in the same locations as sentinel fish studies are being conducted. Even in the absence of accurate knowledge of the biological significance of spore counts, knowing spore counts is still useful because it allows comparison of the relative exposure risk between sites and time periods.

Unpublished preliminary analyses of the 2005 QPCR sampling results suggested some trends (Bartholomew 2006). Spore counts were generally highest in June and July, except for sites downstream of the Trinity River where there were never many spores detected at any time during the season. The longitudinal pattern was that spore counts were right below Iron Gate, then spiking to high (approximately 10-20 spores/L) at the Klamath above the Shasta, and then decreasing as water flowed downstream past each successive monitoring station, with the Klamath River above the Scott River and Klamath River at Seiad Valley still having relatively high concentrations.

### **Project effects**

The upstream ends of KHP reservoirs have the largest populations of polychaetes discovered anywhere in the Klamath system (Stocking 2006). Polychaetes are not found in other portions of the reservoirs, likely because they need oxygen (Stocking, pers. comm.) and water quality in the reservoirs is so poor that the depths are anaerobic and hence polychaetes cannot survive. On extreme high-flow events, polychaetes could potentially be flushed from the upper ends of the reservoirs into the river below, though it is unknown if this occurs.

It has been documented that the reservoirs can periodically release pulses of organic matter downstream (Kann and Asarian 2005). When this organic matter settles in depositional zones of the Klamath River, it provides ideal habitat for *C. shasta*'s polychaete host *M. speciosa*. This likely contributes to higher polychaete populations, higher spore loads of *C. shasta* in the water column, *C. shasta* infection in salmonids, and hence salmonid disease and death.

As discussed in the Periphyton section above, the KHP reservoirs disrupt downstream transport of gravel, leading to substrate coarsening and armoring of the streambed below Iron Gate Dam, which favors the establishment of green filamentous algae such as *Cladophora*. Additionally, as discussed above, the KHP reservoirs also provide a stable hydrologic regime by reducing peak flows, which also encourages periphyton growth, including *Cladophora*. These two KHP-driven mechanisms likely contribute to larger populations of *C. shasta*'s polychaete host *M. speciosa* by expanding the quantity of its secondary habitat (*Cladophora* beds). This likely contributes to higher polychaete populations, higher *C. shasta* spore loads in the water column, *C. shasta* infection in salmonids, and hence salmonid disease and death.

Lastly, Iron Gate Dam (river mile 190) is a complete barrier to fish. This causes massive aggregations of spawning fish in the mainstem Klamath River below the dam (Figure 6). As noted above, the highest rates of *C. shasta* infection in polychaetes were found at Tree of Heaven (approximately river mile 170) and Interstate 5 (approximately river mile 179). These high infection rates may be due to Iron Gate Dam causing a blockage in salmon migration. If the dams were removed, or some other type of fish passage provided, the salmon would likely spawn over a more dispersed area, and there would not be massive release of *C. shasta* spores that occurs with spawning and death thousands of fish in a relatively small area.

As discussed above in the Temperature, pH, Dissolved Oxygen, and Ammonia Toxicity sections above, the KHP is detrimental to physical and chemical water quality, which contributes to fish stress and immunosuppression, increasing chances of infection and disease.

### **Remediation**

Removal of KHP dams would reverse the KHP effects described above, including reversing the KHP-driven expansion of habitat for *C. shasta*'s polychaete host *M. speciosa* by reducing the amount of organic matter and *Cladophora* in the Klamath River. With dam removal or provision of fish passage, the salmon would likely distribute salmon spawning over a larger area, reducing *C. Shasta* spore counts. Dam removal would also improve water temperature, pH, dissolved oxygen, and ammonia levels, which would reduce salmonid stress and hence help restore salmonid immune systems.

For these reasons, it is likely that dam removal would contribute to enhanced fish health and lower incidences of myxosporean parasite diseases in Klamath River salmonids.

### **NEED FOR URGENT ACTION**

Recent fish health studies of the Klamath River by the U.S. Fish and Wildlife Service California-Nevada Fish Health Center (Nichols and Foott, 2005) indicate a high incidence of disease in juvenile salmonids:

“We estimated that 45% of the population was infected with *C. shasta* and 94% of the population was infected with *P. minibicornis*. The prognosis for *P. minibicornis* infection by itself is not well understood. The high incidence of dual myxozoan infection (98% of *C. shasta* infected fish), and associated pathology suggests that the majority of the *C. shasta* infected juvenile Chinook would not survive.”

The loss of 45% or more of juvenile downstream migrants to disease shows epidemics of disease that threaten persistence of Pacific salmon stocks in the Klamath River. Recent record low escapements of spring (Figure 22) and fall (Figure 23) fall chinook to the Salmon River and two consecutive record lows in the Scott River basin (Figure 24) in 2004 and 2005 suggest that mainstem Klamath River water quality is precipitating a basin wide chinook salmon stock collapse.

Higgins et al. (1992) discussed the risk of extinction of northwestern California Pacific salmon stocks and discussed minimum viable population sizes:

“When a stock declines to fewer than 500 individuals, it may face a risk of loss of genetic diversity which could hinder its ability to cope with future environmental changes (Nelson and Soule 1987). A random event such as a drought or variation in sex ratios may lead to extinction if a stock is at an extremely low level (Gilpin and Soule 1990). The National Marine Fisheries Service (NMFS, 1987) acknowledged that, while 200 adults might be sufficient to maintain genetic diversity in a hatchery population, the actual number of Sacramento River winter run chinook needed to maintain genetic diversity in the wild would be 400-1,100.”

The populations of fall chinook in the Salmon River and Scott River have plummeted to all time lows for two years running despite favorable or average ocean conditions (Collison et al. 2003) and wet years with at least average flows. These populations have some additional ability to rebound without loss of genetic diversity because chinook spawn at different ages, but the low adult returns should be viewed with alarm.

Several mainstem Klamath River water quality parameters approach or exceed lethal conditions for salmonid juveniles below the Scott and Salmon Rivers throughout summer as described by Kier Associates (2005) and above in this document. High water temperature currently couples with nutrient enrichment (likely due at least in part to KHP reservoirs) that sets off nutrient spiraling and high rates of photosynthesis that lead to high pH, depressed D.O. and periodic problems with highly toxic dissolved ammonia. To compound those factors even more, the recently discovery of the toxic algae *Microcystis aureginosa* indicates yet another threat to salmonids (and humans).

When all these indicators are considered together, it becomes clear that the Klamath River is in serious trouble and that the dismantling of the KHP is an essential step on the road to recovery for the river and its peoples.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

FEB 14 2008

Clifford Lyle Marshall, Chairman  
Hoopa Valley Tribal Council  
Post Office Box 1348  
Hoopa, CA 95546

Dear Mr. Marshall:

The Environmental Protection Agency (EPA) is hereby approving the amendments to the Water Quality Control Plan for the Hoopa Valley Indian Reservation, Resolution Number 07-37, adopted by the Hoopa Valley Tribal Council on September 13, 2007, and submitted to EPA Region 9 on October 16, 2007. EPA's approval is based on our finding that the adopted revisions to the Water Quality Control Plan are consistent with the requirements of Section 303(c) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 CFR Section 131.

**Summary of Approved Revisions**

Pursuant to 40 CFR Section 131.11(a), states and tribes must adopt those water quality criteria that protect the designated uses of the waterbody. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use.

EPA commends the Hoopa Valley Tribe for the effort involved in revising its Water Quality Control Plan. The revised Plan includes a definition of "Natural Background" and adopts nutrient and other related criteria for the Klamath River and Trinity River Tributary temperature criteria.

Definition of Natural Conditions: EPA hereby approves the new definition of Natural Conditions submitted by the Hoopa Valley Tribe. We note that this definition is just one part of the use of "Natural Conditions" in the Water Quality Control Plan and does not include a provision that site specific criteria can be set equal to natural background nor a procedure for determining natural background, or alternatively, a reference in the water quality standards to another document describing the binding procedure that will be used. Each of these provisions must be in place before criteria can actually be established pursuant to the "Natural Conditions" clause. This issue is discussed below in more detail.

Specific Use Water Quality Criteria for the Klamath River: EPA hereby approves the revised and new water quality criteria and finds that the proposed specific use criteria for

Exhibit E

the Klamath River, including pH, water column dissolved oxygen, intergravel dissolved oxygen, periphyton, microcystins and microcystis are consistent with EPA and other guidance.

Nutrient Criteria: EPA hereby approves the new total nitrogen and total phosphorus criteria for the Klamath River adopted in the Water Quality Control Plan. The approaches used in the development of the Hoopa Valley Tribe numeric nutrient criteria for total nitrogen and total phosphorus follow EPA recommended methodology and are thus supported by a substantive scientific basis.

As noted above, EPA is, in this letter, approving the Water Quality Control Plan's criteria for nutrients (total nitrogen and total phosphorus) and intergravel dissolved oxygen, in that these criteria are supported by the available scientific information. We understand that comments were received during the development of the amendments to the Water Quality Control Plan that raised concerns about whether these criteria would, under certain circumstances, specify nutrient levels that are lower than those that existed under natural conditions of the applicable waterways. In response to this issue, EPA, the Hoopa Valley Tribe, and the North Coast Regional Water Quality Control Board (Regional Board) initiated a series of discussions. As a result of these discussions, the Hoopa Valley Tribe adopted a definition of "Natural Conditions" as a limitation on certain water quality criteria. See, for example, page 48 of the Water Quality Control Plan. We understand that the Hoopa Valley Tribe and the Regional Board have agreed to use the Regional Board's TMDL process as the forum for resolving any technical questions about the best methodology for establishing Natural Conditions reference numbers. See Email from Maria Rea, EPA, to Louisa McConnell, Hoopa Valley Tribe, *et al.* dated March 7, 2007.

EPA's policy on natural conditions suggests that the methodology should be able to generate specific, reproducible natural conditions reference numbers (see memorandum from Tudor Davies, "*Establishing Site Specific Aquatic Life Criteria Equal to Natural Background*," November 5, 1997). EPA is approving these revised and new criteria with the understanding that unless and until the Hoopa Valley Tribe completes the process of establishing Natural Condition reference conditions, the stated numerical criteria (at page 52 for nutrient criteria and dissolved oxygen) of these amendments to the Water Quality Control Plan will constitute the operative criteria for all purposes. As new information and methodologies become available through the TMDL process discussions (as agreed to by the Tribe and Regional Board), that new information will be incorporated into the Tribe's Water Quality Control Plan.

Trinity River Tributaries Temperature Criteria: EPA hereby approves the new Trinity River Tributaries Temperature Criteria, finding that the tributary temperature criteria proposed by the Hoopa Valley Tribe are protective of beneficial uses and were established using the best available science.

## Other Comments Related to the Plan Water Quality Standards

Pursuant to Section 7 of the Endangered Species Act (ESA), EPA is required to consult with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) regarding potential effects on threatened and endangered species by water quality standards actions under Section 303(c)(3) of the CWA. Additionally, pursuant to a Memorandum of Agreement (MOA) executed amongst the EPA, the USFWS and the NMFS (66 FR 11202, February 22, 2001) we carried out early informal consultation as set forth in the MOA. EPA finds that the amendments to the Water Quality Control Plan will have no effect on species or critical habitat under the jurisdiction of the USFWS. Based on a biological evaluation submitted to the NMFS on December 7, 2007, EPA found that EPA's approval of the amendments to the Water Quality Control Plan is not likely to adversely affect species or their critical habitat under the jurisdiction of the NMFS. Concurrence with this finding was sent to EPA by NMFS in a letter dated February 7, 2008.

EPA understands that reaches of the Mainstem Trinity River upstream of the Hoopa Reservation and reaches upstream and downstream of the Klamath River are subject to the jurisdiction of the Regional Board. EPA's regulations at 40 CFR Section 131.7 provide for a dispute resolution process where inconsistent standards apply to the same water body. At this time, however, EPA is not aware of any inconsistencies in the regulatory programs adopted by the Hoopa Valley Tribe and the Regional Board, and understands that the Hoopa Valley Tribe has been working closely with the Regional Board during the development of these amendments. EPA commends the Hoopa Valley Tribe for its continuing outreach and cooperation with the neighboring California and Tribal regulatory agencies.

EPA intends to continue to work closely with the Hoopa Valley Tribe during the next triennial review. Our aim is to be able to take prompt action on any amendments as well as to provide the Hoopa Valley Tribe with appropriate assistance. Coordination between EPA and the Services is ongoing and we anticipate that CWA/ESA issues concerning the Water Quality Control Plan will be identified and raised during the next triennial review. We also encourage early dialogue between EPA, the Hoopa Valley Tribe, the Regional Board and the Services to identify and resolve water quality standards issues. Once again, EPA commends the Hoopa Valley Tribe for its diligent efforts in developing the amendments to the Water Quality Control Plan. If there are any questions regarding this action, please call me at (415) 972-3572 or have your staff contact Suesan Saucerman at (415) 972-3522. As always, EPA looks forward to continued cooperation with the Hoopa Valley Tribe in achieving our mutual environmental goals.

*Congratulations and best wishes,*

Sincerely,

*Alexis Strauss* 14 February 2008  
Alexis Strauss, Director  
Water Division

cc: Holly Lundborg, NCRWQCB  
Steve Kirk, ODEQ  
Dru Keenan, USEPA R10  
Sandi Tripp, Karuk DNR  
Kevin McKernan, YTEP



# Hoopa Valley Tribal Council

HOOPA VALLEY TRIBE

Regular Meetings on the First and Third Thursday of Each Month

P.O. Box 1348 • HOOPA, CALIFORNIA 95546 • Phone 625-4211 • Fax 625-4594



Clifford Lyle Marshall, Sr.  
Chairman

June 1, 2009

Dorothy Rice, Executive Director  
State Water Resources Control Board  
P.O. Box 100  
Sacramento, CA 95812-0100

Re: Klamath Project No. 2082 Water Quality Certification

Dear Ms. Rice:

Thank you for your February 21, 2009 memorandum indicating that the State Board will move forward in developing a draft EIR for this matter. As you know, on September 30, 2008, the Board issued its Notice of Preparation of the CEQA EIR. The Board has subsequently extended the deadline for submission of comments concerning scoping.

On February 11, 2009, the Hoopa Valley Tribe submitted comments for consideration at the Board's February 17 meeting concerning the request of some parties that the Board postpone preparation of its CEQA EIR. On February 13, 2009, the Director of the Office of Energy Projects, Federal Energy Regulatory Commission, also wrote to you indicating that, because of uncertainty whether legislation anticipated by certain parties will be enacted, the Federal Regulatory Commission encourages the Water Board to act as quickly as possible on PacifiCorp's application for water quality certification.

On February 17, 2009, the Hoopa Valley Tribe and other parties submitted testimony concerning the Board's permit preparation process. Your February 21 memorandum was the Board's response.

After the February hearing, the Board placed on the agenda for its March 17, 2009 meeting a proposed resolution to allocate \$2 million from the Cleanup and Abatement Account to support CEQA compliance for the Section 401 water quality certification. Subsequently, PacifiCorp contacted the Board concerning the March 17, 2009 meeting Agenda Item No. 14, stating: "In lieu of this funding request from the CAA, PacifiCorp hereby offers to provide initial funding of up to \$200,000, to be used over the coming months by the SWRCB and its consultant under the framework of the existing CEQA Memorandum of Understanding . . . to assess the existing physical environment in the Klamath Basin in and around the KHP."

Dorothy Rice, Executive Director

June 1, 2009

Page - 2

(Emphasis added.) Thereafter, the minutes of the Board's meeting of March 17, 2009 show that the proposal to allocate funds to the CEQA compliance was "pulled from the agenda."

The status of the Board's progress toward compliance with CEQA and deciding upon measures to protect water quality is simply unclear at the present time. The Hoopa Valley Tribe has written repeatedly concerning the alarming poor water quality in the Klamath River at and above the point where the Klamath River flows through the Hoopa Valley Indian Reservation. We would appreciate knowing whether the Board removed the \$2 million funding proposal from its agenda because of PacifiCorp's offer of \$200,000.00. Also, was the \$200,000 received and expended? What is the status of the consultant's preparation of the draft CEQA EIR? Please let us know the schedule for your CEQA compliance and the milestones by which governmental parties may monitor the Board's progress toward removal of this obstacle to completion of FERC licensing. Thank you for your consideration.

Sincerely,

HOOPA VALLEY TRIBAL COUNCIL

*s/ Clifford Lyle Marshall*

Clifford Lyle Marshall, Chairman

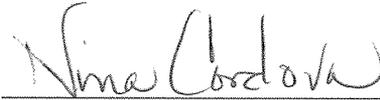
cc. Wes Chesbro  
Patricia Higgins

## CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission, I hereby certify that I have this day caused the foregoing document to be served upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Seattle, Washington this 2nd day of June, 2009.

MORISSET, SCHLOSSER, & JOZWIAK

A handwritten signature in black ink, appearing to read "Nina Cordova", is written over a horizontal line.

Nina Cordova

# Hoopa Valley Tribal Council

Hoopa Valley Tribe

P.O. Box 1348 ~ Hoopa, California 95546 ~ Phone (530) 625-4211 ~ Fax (530) 625-4594



Leonard E. Masten Jr.  
Chairman

May 11, 2010

## **THE WATER BOARD SHOULD NOT CONTINUE TO HOLD IN ABEYANCE THE SECTION 401 WATER QUALITY CERTIFICATION APPLICATION FOR THE KLAMATH HYDROELECTRIC PROJECT**

On May 18, 2010, the Water Board will consider, as an “uncontested” item, a proposed resolution regarding PacifiCorp’s and Department of Fish and Game’s request to hold in abeyance the Section 401 Water Quality Certification Application for the Klamath Hydroelectric Project. The Hoopa Valley, a “State” within the meaning of the Clean Water Act, urges the Water Board to reject or substantially amend the proposed resolution and to direct staff and the Water Board’s consultant to proceed with environmental analysis useful for both the Section 401 process and the possible dam removal process outlined in the Klamath Hydroelectric Settlement Agreement (“KHSA”). Specifically, we urge the Water Board to delete WHEREAS paragraphs number 5 and number 9. Also, the second bullet point of the BE IT RESOLVED paragraph 1 should be changed from June 18, 2010 to May 19, 2010 (90 days after the effective date of the KHSA). Finally, a new BE IT RESOLVED paragraph should be added: “3. If one or more of the events described in paragraph 1 occur, staff will promptly resume processing of the water quality certification application.”

The Hoopa Valley Tribe submitted written comments and oral testimony on this same subject at the Board’s February 17, 2009 meeting. Subsequently, as directed by the Water Board, on February 23, 2009, the Hoopa Valley Tribe submitted scoping comments on the Klamath Hydroelectric Project EIR.

On June 1, 2009, the Hoopa Valley Tribe wrote concerning an item on the Water Board’s agenda for its March 17, 2009 meeting. The Tribe asked whether the funding offered by PacifiCorp had been received and requested the status of the consultant’s preparation of the draft CEQA EIR, including milestones for monitoring the Board’s progress. On June 9, 2009, the Board explained that the funds offered by PacifiCorp were sufficient to cover the costs of CEQA review for a period of time and that therefore the item was pulled from the Water Board’s agenda. Now, after delay of an additional year, PacifiCorp and CDFG have proposed another indefinite delay.

The Hoopa Valley Tribe believes that indefinite delay of the water quality certification process subverts the Clean Water Act and Congressional intent of restoring our Nation’s waters. This paper supplements documents noted above and the Hoopa Valley Tribe’s December 3, 2008 letter to the Board. Specifically, we encourage the Board to continue with its certification proceeding. If PacifiCorp refuses to fund the studies necessary to complete the certification process, or withdraws its application, the State Water Board should deny certification.

## I. Background on Klamath Hydroelectric Project

The Klamath Hydroelectric Project consists of six project dams spanning sixty-four miles of the Klamath River in northern California and southern Oregon. The Klamath River is listed as a water quality impaired river under Section 303(d) of the Clean Water Act. The Klamath Project dams and associated reservoirs are believed to significantly contribute to water quality impairment.

Warm and calm surface water created by the shallow reservoirs of the Project provide an ideal environment for the growth of large algal blooms. In recent years, public health alerts have issued due to outbreak of the toxic alga *Microcystis aeruginosa* within and downstream of the Klamath Project. For example, in late 2005, scientists recorded the toxic alga at levels that exceeded World Health Organization standards for recreational use by 468 times. The United States EPA has listed the upper Klamath River in California as impaired for excess microcystin toxins.

Combinations of stagnant water conditions, low dissolved oxygen, and increased water temperature caused, in part, by dams have also had lethal consequences for fish. In 2002, Klamath River communities witnessed the largest adult fish kill recorded in U.S. history. Approximately 33,000 chinook, coho, and steelhead salmon were found dead due in part to degraded water quality in the Klamath River between September 20 and 27, 2002. See [Pacific Coast Federation of Fishermen's Associations v. U.S. Bureau of Reclamation](#), 426 F.3d 1082, 1089 (9<sup>th</sup> Cir. 2005) (citing fish kill).

Degraded water conditions persist in the Klamath River. An [August 22, 2008 State Water Board letter](#) confirms that the Klamath River's "water quality and ability to support healthy fisheries is declining: there is substantial evidence to indicate an increase in fish disease on the river, an increase in the toxic blue-green algae *Microcystis aeruginosa*, and an overall decline in fish populations." The Hoopa Valley Tribe is a "State" for Clean Water Act purposes. Yet the [Tribe's federally approved water quality standards](#) for the portion of the reservation through which the Klamath River runs are not being met. In sum, water quality conditions in the Klamath River are seriously impaired and pose an ongoing threat to the health of fish and aquatic species relied upon by both tribal and non-tribal communities.

The FERC license for operation of the Klamath Project expired more than four years ago, on March 1, 2006. PacifiCorp has continued to operate the Project under the authority of FERC annual licenses without inclusion of terms or conditions to protect water quality or other affected resources. Other than completion of the Section 401 water quality certification process, the Project is ready to be re-licensed with conditions that will provide significant protection, mitigation, and enhancement of environmental resources. In early 2007, the Departments of Interior and Commerce issued [final mandatory conditions and prescriptions for fish passage<sup>1</sup> and minimum instream flows](#) pursuant to their authorities under Sections 4(e) and 18 of the Federal Power Act. FERC conducted an environmental review of the Project pursuant to NEPA and issued its Final EIS in November 2007.

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<sup>1</sup> The KHP lacks fish passage and blocks more than 300 miles of historic migration, spawning, and rearing habitat in the Upper Klamath River Basin for salmon, steelhead, and lamprey populations.

The current delay in issuance of the water quality certification allows the Project to continue operating and generating power revenues without the inclusion of the necessary environmental conditions and without complying with water quality standards. In February 2007, the Hoopa Valley Tribe filed a motion requesting FERC to impose ramping restrictions and minimum flow conditions on continued operations based on the federal agencies' mandatory conditions and prescriptions. In November 2008 FERC denied the motion. The Tribe requested rehearing of that order; our appeal is still pending.

## II. Perpetual Delay In Obtaining Section 401 Certification Is Unacceptable.

Prior to obtaining a FERC license to operate a hydroelectric project, a license applicant must seek and obtain certification pursuant to Section 401 of the Clean Water Act that the project will comply with applicable state water quality standards. 33 U.S.C. § 1341(a)(1). No license may be granted by FERC until the state in which the project is located either issues or waives certification.

On September 30, 2008, the California State Water Board initiated its environmental review process and requested scoping comments on the Section 401 water quality certification of the Klamath Project. In November 2008, PacifiCorp and the Resources Agency effectively derailed both the certification and FERC re-licensing process by executing an [Agreement in Principle \(AIP\)](#) that bars the State from imposing on PacifiCorp "significant costs for a Clean Water Act certification of the re-licensing project, including review pursuant to the California Environmental Quality Act." Subsequently, certain parties entered into the Klamath Hydroelectric Settlement Agreement, a document with numerous contingencies including the requirement of enactment of federal legislation, which has not even been introduced, and passage of a state bond measure which is quite uncertain. If the State Water Board is paralyzed by these documents, the Clean Water Act certification and FERC re-licensing processes will remain in a perpetual state of delay.

Although the KHSA is being touted as a commitment by PacifiCorp to remove Project dams at some time in the future, the KHSA is unlikely to lead to either dam removal or any final settlement that adequately protects water quality. Instead, the KHSA appears to be a means to delay re-licensing and allow the project to remain operational without incurring costs of environmental protection measures. A significant flaw in the KHSA is that it contains numerous avenues for PacifiCorp to unilaterally withdraw from its commitments. For example, any decision to proceed with facilities removal is contingent on the enactment of specific State and Federal legislation and the contribution of hundreds of millions of dollars from the States of California and Oregon and nearly \$1 billion from the federal government. Sec. 3.3.4. Litigation brought against parties to the KHSA is also grounds for termination. Sec. 8.11. Perhaps of most relevance, imposition of costs on the licensee relating to TMDL obligations in Oregon and California gives PacifiCorp the right to withdraw. Sec. 6.3.4. Without a water quality certification, no license can issue – and until a license issues, no environmentally protective conditions will be imposed on the Project – except for those minimal measures that PacifiCorp might voluntarily agree to.

We are very concerned about the delay in the water quality certification that has resulted from the filing of the AIP and KHSA. We encourage the State Water Board to proceed with its

duties under the Clean Water Act to evaluate the water quality impacts of the Klamath Project. If PacifiCorp refuses to complete the necessary environmental studies, the State Water Board should deny the certification.

There is no justification for the State Water Board to delay processing the Section 401 certification. The alternatives proposed for evaluation in the [Board's September 30, 2008 scoping notice](#) are consistent with the dam removal alternatives being studied by parties to the AIP. The Board should proceed with its environmental review process simultaneously with the settlement negotiations and continue to work on preparation of its certification decision to minimize delay in the event that the KHSA process breaks down.

The water quality certification proceedings for the Project can proceed in tandem with ongoing negotiations without any prejudice to the licensee or any other party. For example, the KHSA parties discussed a variety of "interim measures," some of which affect water quality and project discharges. Those measures may become the subject of separate Section 401 applications. However, the Board's analysis of project impacts and appropriate mitigation measures for relicensing the Project need not and should not wait for the conclusion of the KHSA process that could be derailed at any moment. We are encouraging all persons to oppose any further delays in the water quality certification proceeding that is serving to delay the necessary restoration of the Klamath River system. Allowing licensees, state agencies, and FERC to use the Section 401 process as a means to delay necessary river restoration measures is unacceptable.

### III. Abuse of Section 401 Certification Process Is Occurring Nationwide.

The Klamath Project offers an extreme example of how the Section 401 certification process is being manipulated by licensees, and willing state certification agencies, to delay implementation of effective environmental enhancement measures. The Water Board should prevent licensees from using the Section 401 process as a means to delay necessary environmental protection measures in the FERC re-licensing process.

Properly implemented, Section 401 certification is a powerful tool to ensure protection of water quality and health of aquatic resources affected by hydroelectric projects. The U.S. Supreme Court has confirmed that states have broad authority to include protective conditions in the Section 401 certification decision. *S.D. Warren Co. v. Maine Board of Env'tl. Protection*, 547 U.S. 370 (2006) (affirming state's authority to condition FERC hydroelectric projects under Section 401); *PUD No. 1 of Jefferson County v. Wash. Dep't of Ecology*, 511 U.S. 700 (1994) (upholding state's minimum flow conditions on project). Significantly, FERC has no discretion to reject the conditions imposed in the certification. *American Rivers v. FERC*, 129 F.3d 99 (2d. Cir. 1997).

A loophole in the Section 401 certification process is undermining the Congressional intent and subverting the goals of the Clean Water Act. Section 401 requires a state to issue its certification decision within one year from the date of the certification request, or else the certification decision will be deemed waived. 33 U.S.C. § 1341(a)(1). License applicants around the nation are repeatedly abusing the process by: (1) delaying or refusing to conduct necessary studies and environmental analysis within the one-year timeframe, (2) withdrawing

their certification request just before the one-year time period expires, and then (3) re-submitting their application to start a new one-year timeframe. This perpetual abuse of process results in continued delay of the Section 401 certification decision, and because a FERC license cannot issue until the certification is obtained, also results in indefinite delay of FERC licensing proceedings. In the meantime, the project continues to operate, generating revenues for the licensee, while the water quality and affected resources suffer.

This abuse of process is being taken to an extreme in the re-licensing of the Klamath Project. PacifiCorp first applied for water quality certification from the States of California and Oregon on March 29, 2006. PacifiCorp withdrew and resubmitted its application in February 2007 and again in February 2008 – restarting the one year clock over again each time. On July 11, 2008, PacifiCorp withdrew its application, but then re-submitted it again on October 2, 2008. On September 10, 2009, PacifiCorp withdrew and resubmitted its Section 401 water quality certification application. Thus, the State now has another one year timeframe, until September 9, 2010 to issue or waive its certification. In the meantime, federal agencies have submitted final mandatory conditions for the re-licensing of the Project and FERC has completed its Final EIS pursuant to NEPA. The Project is ready to be re-licensed except that the states have not yet concluded the Section 401 water quality certification process.

The recent KHSA signed by PacifiCorp and the States of California and Oregon proposes to delay the certification decision (and thus the entire re-licensing) for years based on an illusory commitment to remove dams at some point in the future. Essentially, certain parties have agreed to allow the significantly impaired water quality in the Klamath to continue to suffer and degrade for an additional decade or more based on an agreement that contains no enforceable commitments and that allows the licensee a unilateral right of withdrawal.

Other hydroelectric re-licensing proceedings are similarly delayed because of the repeated withdrawal and re-submission of Section 401 certification applications. For example, the re-licensing of Idaho Power's Hells Canyon Project on the Snake River (FERC Project 1971) remains on hold due to the failure of the States of Idaho and Oregon to issue water quality certifications. Idaho Power filed for re-licensing and water quality certification in 2003. Idaho Power then withdrew and re-submitted its applications in 2005, 2006, 2007, and on August 8, 2008. Like the Klamath Project, FERC and all other federal agencies have completed their environmental reviews and are ready to license the Hells Canyon Project, but the 6-year delay in the certification proceedings has prevented licensing and the imposition of conditions. In the meantime, the licensee Idaho Power continues to generate power revenues under the authority of annual licenses that contain no environmental protection measures.

A similar situation has also occurred in the re-licensing of the Upper North Fork Feather River Project in California (FERC Project 2105). In that case, Pacific Gas & Electric filed for a new license application in 2002. However, due to the repeated withdrawal and re-submission of the related Section 401 certification application, no certification and thus no FERC license has been issued – allowing continued power generation without necessary environmental protection measures.

Delays in certification have also occurred in proceedings where parties have reached agreement to remove a project dam. For example, implementation of the agreement to remove

the Condit dam on the White Salmon River in Washington State (Project No. 2342) has been delayed in part by the failure to obtain a water quality certification for the facilities removal. PacifiCorp first applied for a certification for removal of the dams in 2001, and has subsequently withdrawn and resubmitted its application every year – most recently on May 13, 2008.

On the Klamath River, and elsewhere around the nation, implementation of needed environmental protection measures is being postponed due to delays in the Section 401 water quality certification process. The ability of licensees to repeatedly withdraw and resubmit their application without consequence is largely to blame. A related problem is that states are often unable to issue the certification until the licensee funds necessary studies – leaving states with the choice of funding the studies themselves, waiting for the licensee to complete necessary studies, or simply denying certification. The ability of licensees to continue operating their projects under annual licenses that lack environmental conditions allows licensees to benefit from delays in re-licensing. We urge the State Board to fully exercise its authority and to bring into compliance the water quality of the Klamath River.

If you have any additional questions about the Klamath Project, please contact the Hoopa Fisheries Department at 530-625-4267 or Tom Schlosser at 206-386-5200, or at [t.schlosser@msaj.com](mailto:t.schlosser@msaj.com).

# Hoopa Valley Tribal Council

Hoopa Valley Tribe

P.O. Box 1348 ~ Hoopa, California 95546 ~ Phone (530) 625-4211 ~ Fax (530) 625-4594



Leonard E. Masten Jr.  
Chairman

September 7, 2010

Charles R. Hoppin, Chairman  
Water Resources Control Board  
1001 I Street  
P.O. Box 100  
Sacramento, CA 95812-0100

Re: Processing the Water Quality Certification Application of the  
Klamath Hydroelectric Project

Dear Chairman Hoppin:

On several occasions, including December 3, 2008, February 11, 2009, February 23, 2009, June 1, 2009 and May 11, 2010, we have urged the State Water Resources Control Board to take action to bring water quality of the Klamath River into compliance with state and tribal water quality standards. Both the Klamath, and its principal tributary, the Trinity, flow through the Hoopa Valley Indian Reservation. Our Tribe is a State within the meaning of the Clean Water Act. But it is difficult to reach the objectives of our water quality standards until California exercises the authority it possesses to bring upstream Klamath River water quality into compliance with law.

On May 18, 2010, the Board adopted Resolution No. 2010-0024 granting the request to hold in abeyance the processing of a water quality certification application of the Klamath Hydroelectric Project. Since PacifiCorp submitted its application to the Board in 2006, PacifiCorp has done little other than make an annual withdrawal and resubmission of the application. However, the Board conducted CEQA scoping sessions in 2008 and retained a consultant to help complete an environmental impact report. Earlier this year, PacifiCorp, the States of California and Oregon, the United States entered into an agreement (the "KHSA") to commence a process which could lead to removal of four Klamath river dams and the elimination of PacifiCorp's hydroelectric project that have so seriously degraded Klamath water quality. The Board's May 18, 2010 Resolution approved suspension of PacifiCorp's application for a certification if the KHSA process proceeds as planned.

In fact, numerous obstacles to the KHSA process make its completion, let alone its outcome, highly problematic. Among many contingencies, the KHSA depends upon enactment

Charles R. Hoppin  
September 7, 2010  
Page 2

of federal legislation to immunize PacifiCorp from liability. Also, it calls for funding from a California bond measure in the amount of \$250 million. As you know, the water bond measure which contained funds for Klamath dam removal, was removed from the ballot by an act of the legislature and will not be proposed before 2012. In addition, as discussed below, federal implementing legislation required for the KHSA has not been enacted.

The Board's May 18 Resolution directed the staff to resume processing PacifiCorp's application for water quality certification within 90 days if federal legislation to implement the KHSA had not been introduced by June 18, 2010. No such legislation has been introduced. It is our understanding that KHSA implementation legislation will not be introduced this year.

Evidently, PacifiCorp also doubts that the KHSA process will lead to dam removal. PacifiCorp's recent comments concerning the mainstem Klamath TMDL show PacifiCorp opposes TMDL temperature and nutrient standards. However, those standards do not apply to them so long as the KHSA is in effect.

The Clean Water Act section that halts the FERC relicensing process pending completion of the State water quality certification provides that the State's authority to act is "waived" if the request for certification is not acted upon "within a reasonable period of time (which shall not exceed one year)." 33 U.S.C. § 1341(a)(1). The delay already experienced is unreasonable.

In view of these facts, there appears to be no basis for the Board to grant a further delay in addressing water quality and the serious public health hazards of the Klamath River. Accordingly, we urge the Board to complete the CEQA process now and issue a Water Quality Certification that will ensure compliance with water quality standards.

Sincerely,

HOOPA VALLEY TRIBAL COUNCIL



Leonard E. Masten Jr., Chairman

# Hoopa Valley Tribal Council

Hoopa Valley Tribe

P.O. Box 1348 ~ Hoopa, California 95546 ~ Phone (530) 625-4211 ~ Fax (530) 625-4594



Leonard E. Masten Jr.  
Chairman

September 24, 2010

Charles R. Hoppin, Chairman  
Water Resources Control Board  
1001 I Street  
P.O. Box 100  
Sacramento, CA 95812-0100

Re: Opposition to October 5 Board meeting agenda item 9 (Proposed Resolution to Extend Abeyance of the Klamath Hydroelectric Project 401 Water Quality Certification Application)

Dear Chairman Hoppin:

On several occasions, including December 3, 2008, February 11, 2009, February 23, 2009, June 1, 2009, May 11, 2010, and September 7, 2010, we have urged the State Water Resources Control Board to take action to bring water quality of the Klamath River into compliance with state and tribal water quality standards. Both the Klamath, and its principal tributary, the Trinity, flow through the Hoopa Valley Indian Reservation. Our Tribe is a State within the meaning of the Clean Water Act. But it is difficult to reach the objectives of our water quality standards until California exercises the authority it possesses to bring upstream Klamath River water quality into compliance with law.

On May 18, 2010, the Board adopted Resolution No. 2010-0024 granting the request to hold in abeyance the processing of a water quality certification application of the Klamath Hydroelectric Project. Since PacifiCorp submitted its application to the Board in 2006, PacifiCorp has done little other than make an annual withdrawal and resubmission of the application. However, the Board conducted CEQA scoping sessions in 2008 and retained a consultant to help complete an environmental impact report. Earlier this year, PacifiCorp, the States of California and Oregon, the United States entered into an agreement (the "KHSA") to commence a process which may (or may not) lead to removal of four Klamath river dams and the elimination of PacifiCorp's hydroelectric project that have so seriously degraded Klamath water quality. The Board's May 18, 2010 Resolution approved suspension of PacifiCorp's application for a certification if the KHSA process proceeds as planned.

In fact, numerous obstacles to the KHSA process make its completion, let alone its outcome, highly problematic. Among many contingencies, the KHSA depends upon enactment of federal legislation to immunize PacifiCorp from liability. Also, it calls for funding from a California bond measure in the amount of \$250 million. As you know, the water bond measure which contained funds for Klamath dam removal, was removed from the ballot by an act of the legislature and will not be proposed before 2012. In addition, as discussed below, federal implementing legislation required for the KHSA has not been enacted.

The Board's May 18 Resolution directed the staff to resume processing PacifiCorp's application for water quality certification within 90 days if federal legislation to implement the KHSA had not been introduced by June 18, 2010. No such legislation has been introduced. It is our understanding that KHSA implementation legislation will not be introduced this year.

On the date abeyance of the Board's action was lifted, PacifiCorp requested continuation of the abeyance. Clearly, PacifiCorp also doubts that the KHSA process will lead to dam removal. PacifiCorp's recent comments concerning the mainstem Klamath TMDL show PacifiCorp opposes TMDL temperature and nutrient standards. However, those standards do not apply to them so long as the KHSA is in effect. Further, the Board's draft resolution erroneously recites that "interim measures have begun to be implemented." While the Interim Measures Implementation Committee has met two times during 2010, and small technical studies have been commenced, nothing is being done in the river.

The Clean Water Act section that halts the FERC relicensing process pending completion of the State water quality certification provides that the State's authority to act is "waived" if the request for certification is not acted upon "within a reasonable period of time (which shall not exceed one year)." 33 U.S.C. § 1341(a)(1). The delay already experienced is unreasonable.

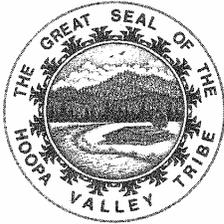
In view of these facts, there appears to be no basis for the Board to amend its resolution or to grant a further delay in addressing water quality and the serious public health hazards of the Klamath River. Accordingly, we urge the Board to complete the CEQA process now and deny or issue a Water Quality Certification that will ensure compliance with water quality standards.

Sincerely,

HOOPA VALLEY TRIBAL COUNCIL



Leonard E. Masten Jr., Chairman



# Hoopa Valley Tribal Council

P.O. Box 1348 • Hoopa, California 95546  
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LEONARD E. MASTEN JR  
CHAIRMAN

April 13, 2011

Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24th Floor  
Sacramento, CA 95814

Re: Hoopa Valley Tribe's Request to Take Action on the Application for the  
Klamath Hydroelectric Project (P-2082)

Dear Ms. Townsend:

PacifiCorp's fifty-year license to operate the Klamath Hydroelectric Project (P-2082) expired more than five years ago, on March 1, 2006. Since that date, PacifiCorp has continued to operate the Project under annual licenses that incorporate terms and conditions originally issued in 1954. The annual licenses lack any mitigation for the Project's significant impacts to water quality, fish, and other aquatic organisms in the Klamath River. Although FERC has completed all the steps necessary to re-license the Klamath Project with terms, conditions, and mitigation measures required by current law, the re-licensing has permanently stalled due to an agreement entered into between PacifiCorp and the States of California and Oregon, known as the Klamath Hydroelectric Settlement Agreement (KHSA). Under the KHSA, the States have agreed to not process PacifiCorp's application for certification under Section 401 of the Clean Water Act (the last necessary step to complete re-licensing). PacifiCorp and certain parties have unlawfully attempted to circumvent FERC jurisdiction, agreeing, without FERC's consent, to hold this re-licensing proceeding in abeyance.

Under the express terms of the KHSA, PacifiCorp is not diligently pursuing an application to re-license the Klamath Project. Nor is PacifiCorp operating the Project under the terms of a FERC-approved settlement. Commission staff are aware of this. If it fails to take action on PacifiCorp's Section 401 application, the Board will have abdicated its regulatory authority over the Klamath Project to the benefit of PacifiCorp, which continues to receive substantial revenues from the Project's power production, and to the detriment of the Klamath River, its resources, and downstream Indian tribes, which continue to suffer the impacts of PacifiCorp's unmitigated power generation.

The Tribe requests that the Board find that PacifiCorp has failed, and is failing, to diligently pursue re-licensing of the Klamath Project and process PacifiCorp's Section 401 application or issue an order denying PacifiCorp's application.



If FERC finds, pursuant to 40 C.F.R. § 121.16, that the States of California and Oregon have waived their Section 401 certification authority in this matter, FERC can proceed to issue a new license to PacifiCorp that includes the mandatory Section 4(e) and 18 terms and conditions prescribed by the Departments of Interior and Commerce in January 2007. Under no circumstance should the Board or FERC allow the proceeding to remain in its current state of perpetual delay.

#### I. Background of the Klamath Project Re-Licensing

In 1954, the Federal Power Commission issued a fifty-year license for operation of the Klamath Hydroelectric Project on the Klamath River in southern Oregon and northern California. The Commission subsequently changed the effective date of the license to March 1, 1956. That license, currently held by PacifiCorp, expired on March 1, 2006. Since license expiration, PacifiCorp has continued to operate the Project on the same terms of the 1954 license under the authority of annual licenses issued by FERC. PacifiCorp's application to re-license the Project (filed in 2004) remains pending before FERC.

In 2006, the Departments of Interior and Commerce filed conditions and prescriptions for inclusion in the Klamath Project license under the authority of Sections 4(e) and 18 of the Federal Power Act. These conditions include minimum flow and fish passage provisions that would provide substantial mitigation to the imperiled water and fish resources of the Klamath River. PacifiCorp challenged these terms and conditions in a trial-type evidentiary hearing pursuant to the Energy Policy Act of 2005, Public Law 109-58, § 241.

In September 2006, after reviewing extensive testimony from federal, tribal, state, and non-governmental entities, Administrative Law Judge Parlen McKenna dismissed PacifiCorp's challenges, finding that the Section 4(e) and 18 conditions were supported by the evidence in the record and necessary for the protection of affected fish and water resources of the Klamath River. In early 2007, the Departments of Interior and Commerce filed their final mandatory 4(e) and 18 prescriptions. FERC must include those conditions and prescriptions in any new license issued for the Klamath Project. *Escondido Mut. Water Co. v. La Jolla Band of Mission Indians*, 466 U.S. 765, 777 (1984) (holding FERC has no discretion to reject 4(e) conditions imposed by Interior); *City of Tacoma v. FERC*, 460 F.3d 53, 66-67 (D.C. Cir. 2006) (same).

FERC published its Final Environmental Impact Statement and completed its environmental analysis of the Klamath re-licensing more than three years ago, on November 16, 2007. FERC and the respective federal agencies have completed all steps necessary to re-license the Klamath Project with the mandatory protective terms and conditions. The only missing approval is a Section 401 water quality certification (or waiver) from the States of Oregon and California.

PacifiCorp applied for water quality certification from the California State Water Resources Control Board on March 29, 2006. PacifiCorp withdrew and re-submitted its application on February 28, 2007 and again on February 22, 2008, and again in 2009 and 2010. On February 13, 2009 FERC's Director, Office of Energy Projects, wrote to the Board urging

Jeanine Townsend

April 13, 2011

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“the Water Board to act as soon as possible on PacifiCorp’s application for water quality certification.”

Under the KHSA, PacifiCorp is now contractually obligated to again withdraw and re-submit its application in 2011. Significantly, PacifiCorp does not desire the State of California to actually process its application, nor does the State apparently intend to. The Board’s Resolution 2010-0024 held in abeyance PacifiCorp’s application unless the required federal legislation was not introduced by June 18, 2010. Nothing was introduced. However, on the request of PacifiCorp, the Board enacted Resolution 2010-0049, which extended the abeyance unless the required federal legislation is not enacted by May 17, 2011. No legislation has been introduced at all, let alone set for hearings or congressional action. Plainly, there will be no enactment by May 17<sup>th</sup>. No doubt PacifiCorp will again ask the Board to move the goal posts.

The withdrawal and re-submission is merely a contractually-mandated technical charade that is designed to obscure the fact that the State of California has waived its Section 401 certification authority. *See* KHSA, Section 6.5 (providing that PacifiCorp agrees to “withdraw and re-file its applications for Section 401 certifications as necessary to avoid the certifications being deemed waived under the CWA during the Interim Period”). By continuing to withdraw and re-submit the application, PacifiCorp intends to circumvent FERC jurisdiction and prevent FERC from issuing a license with mandatory terms and conditions necessary to protect the Klamath River.

In 2008, PacifiCorp, the States, and the United States signed an Agreement in Principle (“AIP”) that prevented Oregon and California resource agencies from imposing any costs on PacifiCorp (absent PacifiCorp’s consent) relating to water quality certification studies during negotiations on the KHSA. In February 2010, PacifiCorp completed negotiations and executed the KHSA, in which the States agreed to put the Section 401 certification process in abeyance. *See* KHSA, Section 6.5 (entitled “Abeyance of Relicensing Proceeding”). PacifiCorp, in signing the KHSA, has effectively suspended the FERC re-licensing process until at least 2020, allowing itself at least fourteen additional years of unmitigated power generation beyond the date of license expiration. Significantly, if the KHSA fails or terminates (which is likely), the process will simply return to FERC for additional (but significantly delayed) re-licensing proceedings.

PacifiCorp wrongly touts the KHSA as an agreement to remove the dams of the Klamath Project. The KHSA does not require the removal of any dams of the Klamath Hydroelectric Project, but instead establishes a planning process that could potentially lead to the commencement of dam removal after 2020 (nearly ten years from now). Such commencement of dam removal in 2020 is not guaranteed, but is expressly subject to the achievement of 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 the Interior that dam removal is in the public interest; and (d) separate concurrences by the states of Oregon and California that dam removal is in the public interest.

There is no evidence that even one of the required contingencies will occur. To date, no federal legislation supporting the KHSA has been passed. In fact, no such legislation has yet

been introduced by any member of Congress. Similarly, no action has been taken on the required California bond package. The bond was originally scheduled for a public vote on November 2, 2010; however, the California State Legislature voted to postpone the measure to the November 2012 election. The Secretarial Determination process is also now in jeopardy due to the fact that the House of Representatives recently approved amendments to terminate federal funding to study dam removal. Given Congressional reluctance to fund less than \$2 million for the KHSA-studies, it is highly doubtful that Congress will fund the \$1 billion necessary to implement the subsidies required by the legislation that the KHSA depends upon. Finally, the concurrence of the Governors of the States of Oregon and California (which is a purely discretionary political decision) is no longer guaranteed as both of the respective Governors that signed the KHSA have now left office. It is highly unlikely that any of the necessary contingencies required for dam removal will occur. The only certainty is continued delay, absent affirmative FERC intervention.

Although the KHSA was signed in early 2010 by the licensee, PacifiCorp, FERC has taken no action to obtain public comment or to initiate any review of the KHSA. The basis for FERC's failure to review the KHSA is not clear to the Tribe, especially since the agreement appears to be an unlawful attempt to strip FERC of its regulatory authority over the Klamath Project. FERC's failure to take any action at all on the Settlement Agreement also appears directly inconsistent with FERC's Policy Statement on Hydropower Licensing Settlements (PL06-5-00, September 21, 2006). The Tribe requests the Board to step in and re-assert control over this proceeding, as described in more detail below.

II. The Board Should Exercise Its Authority To Deny PacifiCorp's Application Due to PacifiCorp's Failure to Diligently Pursue Water Quality Certification.

FERC regulations require a licensee to diligently pursue water quality certification. A licensee must file within 60 days from the date of issuance of the Ready for Environmental Analysis (REA) Notice: (a) a copy of the water quality certification; (b) a copy of the request for certification, including proof of the date on which the certifying agency received the request; or (c) evidence of waiver of water quality certification. 18 C.F.R. § 4.34(b)(5)(i). The regulation shows that FERC expects certification or waiver to have occurred by the time the REA Notice is issued or shortly thereafter. Here, more than 60 months has passed since FERC issued its REA Notice in December 2005.

Under well-established FERC policy, "indefinite delays in processing applications are not in the public interest." *Georgia-Pacific Corporation*, 35 FERC ¶ 61,120 (1986); *Town of Summersville, W. Va. v. FERC*, 780 F.2d 1034, 1040 (D.C. Cir. 1986). Failure to diligently prosecute a license application is adequate grounds for dismissal. *In re Mountain Rhythm Resources*, 90 FERC ¶ 61,088 (2000) (dismissing license application for failure to show due diligence in prosecution of CZMA certification); *see also In re Swift River Company*, 41 FERC ¶ 61,146 (1987) (requiring applicant whose 401 certification was denied to exercise due diligence in pursuing any available appeal remedies).

FERC policy clearly requires a licensee to show “due diligence” in pursuing certification, and absent such diligence, FERC has authority (and arguably an obligation under the public interest mandate of the FPA) to dismiss the license application. At this date, PacifiCorp is taking no action whatsoever to obtain a Section 401 certification. In fact, PacifiCorp has contracted with the States of Oregon and California to hold FERC’s re-licensing process in abeyance. PacifiCorp is failing to act with “due diligence” and its actions are causing “indefinite delay.”

III. Alternatively, FERC May Exercise Its Legal Authority To Deem The Section 401 Certification Waived And Promptly Proceed To Issue A License That Contains the Mandatory Section 4(e) and 18 Prescriptions.

Absent action by the Board, FERC may and should deem the Section 401 certifications waived and promptly proceed to issue a license to PacifiCorp for operation of the Klamath Hydroelectric Project in accordance with the Department of Interior and Commerce’s mandatory Section 4(e) and 18 prescriptions, in addition to other mitigation measures deemed appropriate by FERC. Once FERC deems the certification waived, which is wholly within its authority, it may issue a license and terminate this unduly protracted re-licensing proceeding.

The failure of the States of Oregon and California to exercise their regulatory authority over the Klamath Project and issue a Section 401 certification does not bar FERC from taking final action on the license. To the contrary, 40 C.F.R. § 121.16 provides:

The certification requirement with respect to an application for a license or permit shall be waived upon: (a) Written notification from the State or interstate agency concerned that it expressly waives its authority to act on a request for certification; or (b) Written notification from the licensing or permitting agency to the Regional Administrator of the failure of the State or interstate agency concerned to act on such request for certification within a reasonable time after receipt of such request, as determined by the licensing or permitting agency (which period shall generally be considered to be 6 months, but in any event shall not exceed one year).

*See also* 33 U.S.C. § 1341(a)(1) (expressly mandating that certification must occur “within a reasonable period of time (which shall not exceed one year)”). PacifiCorp submitted its initial application for Section 401 certification five years ago. Both Congress, in the express language of Section 401 of the Clean Water Act, and EPA, in its regulations implementing the Clean Water Act, have mandated that the certification decision must happen within one year. FERC regulations also support timely certification. Here, PacifiCorp has wholly frustrated Congressional intent, EPA policy, and FERC policy, by obtaining the agreement of the States of Oregon and California to abandon their regulatory authority, and refuse to certify the Project, solely for the purpose of delaying any and all action on the license by FERC.

The Klamath Project license is ready for issuance. The only obstacle is the lack of a Section 401 certification, or formal waiver, from the States of Oregon and California. It is clear that neither of those States intends to issue a certification or a formal waiver for years to come.

Jeanine Townsend  
April 13, 2011  
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In the meantime, the Project simply continues operating without compliance with current law. The Board must step in and re-assert its control over this re-licensing proceeding.

Thank you for your consideration to this important matter.

Sincerely,  
HOOPA VALLEY TRIBAL COUNCIL

A handwritten signature in black ink, appearing to read 'Leonard E. Masten, Jr.', with a stylized flourish at the end.

Leonard E. Masten, Jr., Chairman



## Hoopa Valley Tribal Council Land Management Division

Tribal Environmental Protection Agency  
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Jennifer Watts, Ph.D.  
Environmental Scientist  
Water Quality Certification Unit  
Division of Water Rights

3/2/2012

Dear Jennifer,

As the Executive Director of the Hoopa Tribal Environmental Protection Agency (TEPA), I would like to strongly recommend that the State Water Resources Control Board restart your 401 Certification process pursuant to the relicensing of the Klamath Hydroelectric Project (KHP). The Hoopa Tribe was very appreciative that Chairman Charles Hoppin made it clear at the meeting of August 18, 2011 that you would restart your 401 Certification instead of holding it up subject to the Klamath Hydropower Settlement Agreement (KHSA).

As you are probably well aware, there is no prospect for authorizing legislation and the Secretary of Interior's Decision on dam removal and implementation of the Klamath Settlement will not be issued. The Klamath River annually has toxic algae that comes from KHP reservoirs and causes pollution through the Hoopa Square and all the way to the estuary. Your agency's own record indicates that this condition cannot be remedied except by dam removal.

You more than likely know that the Federal Energy Regulatory Commission sent a short letter into the record of the DEIS/DEIR on the Secretarial dam removal process that said relicensing of KHP dams is still on-going and that FERC was awaiting 401 Certification from the State. It is time that you acted before the State loses its authority due to neglect.

Furthermore, we far prefer that dam removal happen through the FERC process and not implement the Klamath Basin Restoration Agreement (KBRA). I am attaching a paper commissioned by Hoopa TEPA that shows that the KHSA and KBRA would not remediate Klamath River water quality problems on the Hoopa Square. This is also a finding of the DEIS/DEIR. The Hoopa Valley Tribe has water quality authority recognized by the U.S. EPA and our water quality standards ([www.hoopa-nsn.gov/documents/WQCP.pdf](http://www.hoopa-nsn.gov/documents/WQCP.pdf)) have standing in the 401 Certification process. We look forward to working with you.

Sincerely,

Ken Norton  
Hoopa TEPA



# Hoopa Valley Tribal Council

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LEONARD E. MASTEN JR  
CHAIRMAN

April 5, 2012

Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24th Floor  
Sacramento, CA 95814

Re: Hoopa Valley Tribe's Request to Move Forward on the Application for the Klamath Hydroelectric Project (P-2082)

Dear Ms. Townsend:

The Hoopa Valley Tribe (Tribe) urges the Board to stop the repeating cycle allowing PacifiCorp to avoid relicensing of the Klamath Hydroelectric Project (P-2082), and to take decisive action on PacifiCorp's § 401 certification. As you know, PacifiCorp's fifty-year license to operate the Klamath Project expired six years ago, on March 1, 2006. Yet, PacifiCorp continues to operate the Project under annual licenses that incorporate terms and conditions originally issued in 1954. The annual licenses lack meaningful mitigation for the Project's significant impacts to water quality, fish, and other aquatic organisms in the Klamath River.

FERC completed all the steps required to relicense the Project in 2007, but an agreement between PacifiCorp and the States of California and Oregon (the Klamath Hydroelectric Settlement Agreement (KHSA)), has delayed the final necessary step. That is, agencies of state government (not including the Board) have agreed that PacifiCorp's § 401 certification application under the Clean Water Act should not be processed. This agreement usurps the Board's and FERC's authority over relicensing proceedings by unlawfully and indefinitely delaying the process.

On August 16, 2011, the Board's Resolution No. 2011-0038 determined that the Board's § 401 certification process must be completed if the Secretary of Interior does not make a determination to remove the PacifiCorp dams by April 30, 2012. It is clear that no such determination will be made by any date in 2012 because, as the Board's resolutions note, complex and expensive federal legislation is a prerequisite to the Secretary's determination. KHSA ratification legislation was introduced in November 2010, as S. 1851 and H.R. 3398, but no hearings or other action has been taken upon it. Under these circumstances, the Board should discharge its duties and issue an appropriately conditioned § 401 certification.

If the Board fails to approve or deny PacifiCorp's application, FERC may find, pursuant to 40 C.F.R. § 121.16, that the States of California and Oregon have waived their § 401 certification authority in this matter. The D.C. Circuit recently stated that:



In imposing a one-year time limit on States to ‘act,’ Congress plainly intended to limit the amount of time that a State could delay a federal licensing proceeding without making a decision on the certification request. This is clear from the plain text. Moreover, the Conference Report on Section 401 states that the time limitation was meant to ensure that ‘sheer inactivity by the State . . . will not frustrate the Federal application.’ Such frustration would occur if the State’s inaction, or incomplete action, were to cause the federal agency to delay its licensing proceeding.

*Alcoa Power Generating Inc. (Alcoa) v. F.E.R.C.*, 643 F.3d 963, 972 (D.C. Cir. 2011) (quoting H.R. Rep. 91–940, at 56 (1970), *reprinted in* 1970 U.S.C.C.A.N. 2691, 2741). Upon waiver, FERC can proceed to issue a new license to PacifiCorp that includes the mandatory Section 4(e) and 18 terms and conditions prescribed by the Departments of Interior and Commerce in January 2007. The Board should take immediate action on PacifiCorp’s application, lest its authority to impose additional needed water quality conditions be deemed to have been waived.

#### I. History of the Klamath Project Relicensing

In 1954, the Federal Power Commission issued a fifty-year license for operation of the Klamath Hydroelectric Project on the Klamath River in southern Oregon and northern California. The Commission subsequently changed the effective date of the license to March 1, 1956. That license, currently held by PacifiCorp, expired on March 1, 2006. Since license expiration, PacifiCorp has continued to operate the Project on the same terms of the 1954 license under the authority of annual licenses issued by FERC. PacifiCorp’s application to relicense the Project (filed in 2004) remains pending before FERC.

In 2006, the Departments of Interior and Commerce filed conditions and prescriptions for inclusion in the Klamath Project license under the authority of Sections 4(e) and 18 of the Federal Power Act. These conditions include minimum flow and fish passage provisions that would provide substantial mitigation to the imperiled water and fish resources of the Klamath River. PacifiCorp challenged these terms and conditions in a trial-type evidentiary hearing pursuant to the Energy Policy Act of 2005, Public Law 109-58, § 241.

In September 2006, after reviewing extensive testimony from federal, tribal, state, and non-governmental entities, Administrative Law Judge Parlen McKenna dismissed PacifiCorp’s challenges, finding that the Section 4(e) and 18 conditions were supported by the evidence in the record and necessary for the protection of affected fish and water resources of the Klamath River. In early 2007, the Departments of Interior and Commerce filed their final, mandatory 4(e) and 18 prescriptions. FERC must include those conditions and prescriptions in any new license issued for the Klamath Project. *Escondido Mut. Water Co. v. La Jolla Band of Mission Indians*, 466 U.S. 765, 777 (1984) (holding FERC has no discretion to reject 4(e) conditions imposed by Interior); *City of Tacoma v. FERC*, 460 F.3d 53, 66-67 (D.C. Cir. 2006) (same).

FERC published its Final Environmental Impact Statement (EIS) and completed its environmental analysis of the Klamath relicensing over four years ago, on November 16, 2007. FERC and the respective federal agencies have completed all steps necessary to relicense the Klamath Project with the mandatory protective terms and conditions. The only outstanding step is a § 401 water quality certification (or waiver) from the States of Oregon and California.

PacifiCorp applied for water quality certification from the Board on March 29, 2006. PacifiCorp withdrew and resubmitted its application on February 28, 2007 and again on February 22, 2008, and again in 2009, 2010, and 2011. On February 13, 2009 FERC's Director, Office of Energy Projects, wrote to the Board urging you "to act as soon as possible on PacifiCorp's application for water quality certification."

Under the KHSA, PacifiCorp must again resubmit and withdraw its application in 2012. Significantly, PacifiCorp does not desire the State of California to actually process its application, and the Board has thus far acquiesced in this delay tactic. The Board's Resolution 2010-0024 held in abeyance PacifiCorp's application unless the required federal legislation was not introduced by June 18, 2010. Nothing was introduced. On PacifiCorp's request, however, the Board enacted Resolution 2010-0049, which extended the abeyance unless the required federal legislation was not enacted by May 17, 2011. No legislation was introduced. Again, PacifiCorp requested an extension, and the Board enacted Resolution 2011-0038, which extended the abeyance.

The Department of the Interior (Interior) published a draft EIS in 2011, which includes an alternative to specifically examine the effect of relicensing the Klamath Project on fish passage. Interior issued a press release on February 27, 2012, explaining that its final EIS will be released this spring, and stating that its Secretarial Determination will not be complete by March 31, 2012. The most recent estimated date for completion of the Klamath Facilities Removal Environmental Impact Statement/Environmental Impact Report is May 11, 2012. Plainly, the environmental analysis required by CEQA is essentially complete. The California Department of Fish and Game is a co-lead on the EIS/EIR and is well equipped to provide the environmental review documentation needed by the Board. The Board should not stall this process any longer. It should determine whether to issue a § 401 certification based on the EIR and studies already completed.

The continuous withdrawal and resubmission is merely a contractually-mandated technical charade designed to obscure the fact that the Schwarzenegger Administration chose not to exercise § 401 certification authority. *See* KHSA, Section 6.5 (providing that PacifiCorp agrees to "withdraw and re-file its applications for Section 401 certifications as necessary to avoid the certifications being deemed waived under the CWA during the Interim Period"). By continuing to withdraw and resubmit the application, PacifiCorp intends to circumvent FERC jurisdiction, and to prevent FERC from issuing a license with conditions necessary to protect the Klamath River.

In 2008, PacifiCorp, the States, and the United States signed an Agreement in Principle (“AIP”) that prevented Oregon and California resource agencies from imposing any costs on PacifiCorp (absent PacifiCorp’s consent) relating to water quality certification studies during negotiations on the KHSA. In February 2010, PacifiCorp completed negotiations and executed the KHSA, in which the States agreed to put the § 401 certification process in abeyance. See KHSA, Section 6.5 (entitled “Abeyance of Relicensing Proceeding”). PacifiCorp, in signing the KHSA, has effectively suspended the FERC relicensing process until at least 2020, allowing itself at least fourteen additional years of unmitigated power generation beyond the date of license expiration. When the KHSA formally terminates (which is likely), the process will simply return to FERC for additional (but significantly delayed) relicensing proceedings.

PacifiCorp wrongly touts the KHSA as an agreement to remove the dams of the Klamath Project. The KHSA does not require any such thing, but instead establishes a planning process that could potentially lead to the commencement of dam removal after 2020 (nearly ten years from now). Such commencement of dam removal in 2020 is not guaranteed, but is expressly subject to the achievement of 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 the Interior that dam removal is in the public interest; and (d) separate concurrences by the states of Oregon and California that dam removal is in the public interest.

There is no evidence that even one of the required contingencies will occur. To date, no federal legislation supporting the KHSA has been passed. Similarly, no action has been taken on the required California bond package. The bond was originally scheduled for a public vote on November 2, 2010; however, the California State Legislature voted to postpone the measure to the November 2012 election. The Secretarial Determination process is also now in jeopardy due to the fact that the House of Representatives recently approved amendments to terminate federal funding to study dam removal. Given Congressional reluctance to fund less than \$2 million for the KHSA-studies, it is highly doubtful that Congress will fund the \$1 billion necessary to implement the subsidies required by the legislation that the KHSA depends upon. Finally, the concurrence of the Governors of the States of Oregon and California (which is a purely discretionary political decision) is no longer guaranteed as both of the respective Governors that signed the KHSA have now left office. It is highly unlikely that any of the necessary contingencies required for dam removal will occur. The only certainty is continued delay, absent Board action or affirmative FERC intervention.

## II. The Board Should Immediately Take Action on PacifiCorp’s Application

FERC regulations require a licensee to diligently pursue water quality certification. A licensee must file within 60 days from the date of issuance of the Ready for Environmental Analysis (REA) Notice: (a) a copy of the water quality certification; (b) a copy of the request for certification, including proof of the date on which the certifying agency received the request; or (c) evidence of waiver of water quality certification. 18 C.F.R. § 4.34(b)(5)(i). The regulation shows that FERC expects certification or waiver to have occurred by the time the REA Notice is

issued or shortly thereafter. Here, more than 70 months have passed since FERC issued its REA Notice in December 2005.

Under well-established FERC policy, “indefinite delays in processing applications are not in the public interest.” *Georgia-Pacific Corporation*, 35 FERC ¶ 61,120 (1986); *Town of Summersville, W. Va. v. FERC*, 780 F.2d 1034, 1040 (D.C. Cir. 1986). Failure to diligently prosecute a license application is adequate grounds for dismissal. *In re Mountain Rhythm Resources*, 90 FERC ¶ 61,088 (2000) (dismissing license application for failure to show due diligence in prosecution of CZMA certification); *see also In re Swift River Company*, 41 FERC ¶ 61,146 (1987) (requiring applicant whose 401 certification was denied to exercise due diligence in pursuing any available appeal remedies).

FERC policy clearly requires a licensee to show “due diligence” in pursuing certification, and absent such diligence, FERC has authority, and arguably an obligation under the public interest mandate of the FPA, to dismiss the license application. At this date, PacifiCorp is taking no action whatsoever to obtain a Section 401 certification. In fact, PacifiCorp has contracted with the States of Oregon and California to hold FERC’s relicensing process in abeyance. PacifiCorp is failing to act with “due diligence” and its actions are causing “indefinite delay.” The Board must stop this indefinite delay by either denying or granting the § 401 certification.

III. Alternatively, FERC May Exercise Its Legal Authority to Deem the § 401 Certification Waived and Promptly Proceed to Issue a License That Contains the Mandatory Section 4(e) and 18 Prescriptions

Absent action by the Board, FERC may and should deem the § 401 certifications waived and promptly proceed to issue a license to PacifiCorp for operation of the Klamath Hydroelectric Project in accordance with the Department of Interior and Commerce’s mandatory Section 4(e) and 18 prescriptions, in addition to other mitigation measures deemed appropriate by FERC. Once FERC deems the certification waived, it may issue a license and terminate this unduly protracted relicensing proceeding.

The failure of the States of Oregon and California to exercise their regulatory authority over the Klamath Project and issue a § 401 certification does not bar FERC from taking final action on the license. To the contrary, 40 C.F.R. § 121.16 provides:

The certification requirement with respect to an application for a license or permit shall be waived upon: (a) Written notification from the State or interstate agency concerned that it expressly waives its authority to act on a request for certification; or (b) Written notification from the licensing or permitting agency to the Regional Administrator of the failure of the State or interstate agency concerned to act on such request for certification within a reasonable time after receipt of such request, as determined by the licensing or permitting agency (which period shall generally be considered to be 6 months, but in any event shall not exceed one year).

Jeanine Townsend

April 5, 2012

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*See also* 33 U.S.C. § 1341(a)(1) (expressly mandating that certification must occur “within a reasonable period of time (which shall not exceed one year)”; *Alcoa*, 643 F.3d at 972 (determining that a State’s inaction may not frustrate the Federal licensing process); *California Trout, Inc. v. F.E.R.C.*, 313 F.3d 1131, 1138 & n.10 (9th Cir. 2002) (noting that it reserved its opinion of a case where “an annual license has become a *de facto* renewal”). PacifiCorp submitted its initial application for § 401 certification six years ago. Both Congress, in the express language of § 401 of the Clean Water Act, and EPA, in its regulations implementing the Clean Water Act, have mandated that the certification decision occur within one year. FERC regulations also support timely certification. Here, PacifiCorp has wholly frustrated Congressional intent, EPA policy, and FERC policy, by obtaining the agreement of the States of Oregon and California to abandon their regulatory authority, and refuse to certify the Project, solely for the purpose of delaying any and all action on the license by FERC.

The Klamath Project license is ready for issuance. The only obstacle is the lack of a § 401 certification, or formal waiver, from the States of Oregon and California. Plainly, Interior will not meet the April 30, 2012 deadline, and the Board must take immediate action on the § 401 certification process in order to halt PacifiCorp’s continued operation without compliance with current law.

Thank you for your consideration to this important matter.

Sincerely,  
HOOPA VALLEY TRIBAL COUNCIL

A handwritten signature in black ink, appearing to read "By Nelson Jr", with a horizontal line underneath.

Byron Nelson, Jr., Vice-Chairman



# Hoopa Valley Tribal Council

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LEONARD E. MASTEN JR  
CHAIRMAN

July 9, 2012

Jeanine Townsend  
Clerk to the Board  
State Water Resources Control Board  
1001 I Street, 24th Floor  
Sacramento, CA 95814

Re: July 17, 2012 Agenda Item No. 11 – Proposed Resolution Regarding  
the Section 401 Water Quality Certification Application for the Klamath  
Hydroelectric Project

Dear Ms. Townsend:

The Board's agenda includes a request by PacifiCorp and its supporters to again delay work on the Section 401 Water Quality Certification. The Hoopa Valley Tribe, a State downstream of the PacifiCorp unpermitted discharge, asks that you deny that request and finally bring the Klamath River into compliance with the water quality standards of the State of California and those of the Hoopa Valley Tribe.

Four nearly four years we have been asking the Board to end the delays on this Section 401 application (which was first submitted in 2006):

1. Letter of Hoopa Valley Tribal Council to State Water Resources Control Board to resume preparation of an Environmental Impact Report (December 3, 2008);
2. Hoopa Valley Tribal Council's Briefing Paper for State Water Board on need for Klamath Project Water Quality Certification (February 11, 2009);
3. Hoopa Valley Tribe's attorney's letter to State Water Board enclosing Klamath Hydroelectric Project EIR Scoping Comments of Hoopa Valley Tribe (February 23, 2009);
4. Hoopa Valley Tribal Council Chairman letter to State Water Board noting alarmingly poor water quality in the Klamath River and asking the status of the draft CEQA EIR (June 1, 2009);
5. Hoopa Valley Tribal Council comments requesting that the State Water Board refuse PacifiCorp's request to hold in abeyance a Section 401 permit application (May 11, 2010);



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6. Letter of Hoopa Valley Tribal Council Chairman to State Water Board Chairman urging resumed processing of PacifiCorp's application for water quality certification in light of the absence of required federal legislation (September 7, 2010);
7. Letter of Hoopa Valley Tribal Council Chairman to State Water Board Chairman urging disapproval of further abeyance in addressing water quality (September 24, 2010);
8. Letter of Hoopa Valley Tribal Council Chairman to State Water Board re request to take action on application for Klamath Hydroelectric Project because PacifiCorp is not diligently pursuing a water quality certification (April 13, 2011);
9. Letter of Hoopa Tribal Environmental Protection Agency to State Water Board staff urging action on Section 401 certification (March 2, 2012);
10. Letter of Hoopa Valley Tribal Council Chairman to State Water Board urging action on Section 401 certification (April 5, 2012).

Please let us know if copies of our detailed earlier requests would assist you. The time to close the comment period on scoping for the CEQA EIR is long overdue. It is past time to publish your draft EIR, make a final decision, and issue a Section 401 certification with appropriate conditions.

Sincerely,

HOOPA VALLEY TRIBAL COUNCIL

*s/ Leonard E. Masten, Jr.*

Leonard E. Masten, Jr., Chairman