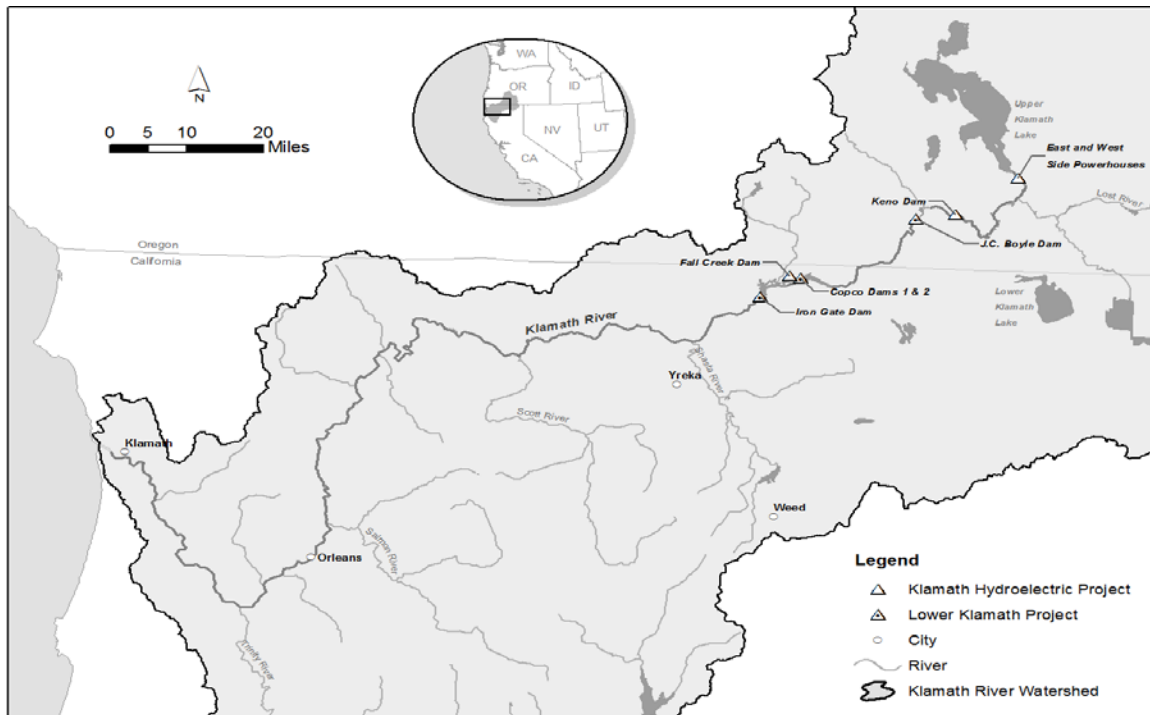


NOTICE OF PREPARATION AND SCOPING MEETINGS FOR AN ENVIRONMENTAL IMPACT REPORT FOR THE LOWER KLAMATH PROJECT LICENSE SURRENDER



PROJECT AREA

To save paper, the State Water Resources Control Board (State Water Board) strongly encourages interested parties to subscribe to the State Water Board's Email Subscription List to electronically receive Lower Klamath Project specific information. Instructions on how to sign up for the State Water Board's Email Subscription List are outlined below:

1. Visit: http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml#rights
2. Provide your name and email in the required fields.
3. In the categories below the email and name fields, select "Water Rights," then "Lower Klamath Project."
4. Click on the "Subscribe" button.
5. An email will be sent to you. You must respond to the email message(s) to confirm your membership on the selected list(s).

Alternatively, you may request to be placed on the State Water Board's hard copy mailing list. Requests to receive information should be sent to:

Mr. Parker Thaler
parker.thaler@waterboards.ca.gov
(916) 341-5321
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

There will also be the opportunity to sign up for a mailing list at the scoping meetings.

Notice of Preparation**Form B**

TO: State Clearinghouse
 Governor's Office of Planning and Research
 P.O. Box 3044
 Sacramento, CA 95812-3044

SUBJECT: Notice of Preparation of an Environmental Impact Report for the Proposed Lower Klamath Project License Surrender

Lead Agency:

Agency Name: State Water Resources Control Board
 Address: P.O. Box 2000
 City/State/Zip: Sacramento, CA 95812-2000
 Contact: Mr. Parker Thaler

Consulting Firm:

Firm Name: Stillwater Ecosystem, Watershed and Riverine Sciences
 Address: 2885 Telegraph Avenue, Suite 400
 City/State/Zip: Berkeley, CA 94705
 Contact: Ms. Maia Singer

INTRODUCTION

Pursuant to the California Environmental Quality Act (CEQA)¹, the State Water Resources Control Board (State Water Board) will prepare an environmental impact report (EIR) for removal of the Lower Klamath Project (LKP) facilities. The EIR will be prepared to support consideration of the Klamath River Renewal Corporation's (KRRC) LKP application for water quality certification². The KRRC is proposing to remove sufficient portions of the LKP to create a free flowing Klamath River and provide for volitional fish passage through the Federal Energy Regulatory Commission (FERC) license surrender process. The EIR will evaluate potential impacts of the LKP to water quality and other resources within California as compared to the environmental baseline, and will also evaluate a range of alternatives.

The LKP (FERC Project No. 14803) is currently part of the Klamath Hydroelectric Project (FERC Project No. 2082), which is owned and operated by PacifiCorp. The Klamath Hydroelectric Project presently consists of seven dam developments: (1) East Side; (2) West Side; (3) Keno; (4) J.C. Boyle; (5) Fall Creek (located on Fall Creek, a Klamath River tributary); (6) Copco No. 1; (7) Copco No. 2; and (8) Iron Gate.

On September 23, 2016, PacifiCorp and the KRRC filed a joint license transfer application with FERC, which seeks to transfer the J.C. Boyle, Copco No. 2, Copco No. 1, and Iron Gate dam developments to the KRRC. If FERC approves the license transfer application, the LKP will consist of four dam developments: (1) J.C. Boyle; (2) Copco No. 2; (3) Copco No. 1; and (4) Iron Gate. Concurrent with the license transfer application, the KRRC filed a license surrender application with FERC to decommission the LKP.

The license transfer and license surrender applications are consistent with the April 6, 2016, [Amended Klamath Hydroelectric Settlement Agreement](#) (KHSA). The Amended KHSA is an agreement between PacifiCorp; several state, federal and local governmental agencies³; two Native American Tribes; several nongovernmental organizations; and individual stakeholders

¹ Public Resources Code, sections 21000 et seq.

² Clean Water Act, section 401.

³ The State Water Board is not a signatory to, and is not bound by, the original or the Amended KHSA.

designed to remove sufficient portions of the four dam developments that comprise the LKP to create a free flowing Klamath River and provide for volitional fish passage.

The State Water Board is seeking comments from trustee agencies, responsible agencies, and other interested persons concerning the scope and content of the environmental information to be included in the EIR. Please send your comments to Mr. Parker Thaler at the address shown at the end of this Notice of Preparation (NOP).

The information in this NOP is divided into the following sections below:

- Project Title
- Project Location
- Scoping Meetings
- Brief Description of Existing LKP Dam Developments
- Brief Description of Proposed Project
- Federal Energy Regulatory Commission Process
- Klamath Settlement Agreements
- State Water Board's Water Quality Certification
- CEQA Information
- Submittal of Written Comments
- Questions and Additional Information
- Attachment 1 – Summary of Potentially Significant Impacts Associated with the Lower Klamath Project License Surrender

PROJECT TITLE: Lower Klamath Project License Surrender**PROJECT LOCATION**

The LKP is located along the Klamath River, in Siskiyou County, California, and in Klamath County, Oregon. The California portion of the LKP includes: Copco No. 2, Copco No. 1, and Iron Gate dam developments. The Oregon portion of the LKP includes the J.C. Boyle dam development, which is located on the Klamath River approximately 16 river miles from Oregon's border with California. The general locations of LKP dam developments are shown in the map on the first page of this NOP.

The EIR will focus primarily on impacts related to the actions proposed for the LKP's dam developments in California. Actions at J.C. Boyle will be described, but impacts will only be addressed to the extent that such actions will adversely impact the California environment. Oregon's Department of Environmental Quality⁴ is responsible for acting on a separate water quality certification application for the LKP that addresses the J.C. Boyle dam development.

SCOPING MEETINGS

The State Water Board will hold scoping meetings to provide information on the Lower Klamath Project License Surrender, the water quality certification process, and to receive written or oral comments from agency personnel and other interested persons concerning the range of alternatives, potential significant effects, and mitigation measures that should be analyzed in the EIR. The time allotted for each individual or organization to comment orally may be limited if the number of people in attendance so requires. Scoping meetings will be documented by transcript.

Date and Time	Location	Address
January 10, 2017 (5:00 pm – 7:00 pm)	Yreka	Best Western Miner's Inn – Convention Center, Auditorium 122 E. Miner Street Yreka, CA 96097
January 12, 2017 (5:00 pm – 7:00 pm)	Arcata	D Street Neighborhood Center 1301 D Street Arcata, CA 95521
January 20, 2017 (10:00 am – 12:00 pm)	Sacramento*	CalEPA Building Byron Sheet Auditorium 1001 I Street, 2 nd Floor Sacramento, CA 95814
* The Sacramento meeting will be webcast live on the California Environmental Protection Agency (CalEPA) website at: www.calepa.ca.gov/broadcast/ . During the webcast, webcast participants can submit comments via electronic mail to: wr401program@waterboards.ca.gov .		

If you have additional questions concerning these meetings, or would like to make a request for reasonable accommodations for a disability, please contact Parker Thaler by phone at (916) 341-5321 or by email at parker.thaler@waterboards.ca.gov.

It is the policy of the State Water Board to provide a work environment that is free from threats or acts of violence. Threats or acts of violence committed by, or directed at, any employee or contractor will not be tolerated. Any person who appears before the State Water Board has an obligation to represent their interests in a professional manner. The State Water Board

⁴ Oregon's Department of Environmental Quality's website: <http://www.oregon.gov/deq/pages/index.aspx>

requests that all persons in or near a State Water Board hosted meeting refrain from engaging in inappropriate conduct. Inappropriate conduct may include disorderly, contemptuous or insolent behavior, breach of peace, boisterous conduct, violent disturbance, or other unlawful interference in the proceedings.

It is possible that one or more members of the State Water Board will attend one or more of the scoping meetings. A quorum of the State Water Board may be present at the scoping meetings. However, no State Water Board action will be taken.

BRIEF DESCRIPTION OF EXISTING LKP DAM DEVELOPMENTS

California Dam Developments (described in order from downstream to upstream):

Iron Gate Dam Development: The Iron Gate dam development is located on the Klamath River between river mile (RM) 190 and RM 197 in Siskiyou County, California. The Iron Gate dam development primarily consists of: 1) 53,800 acre-feet (AF) reservoir (Iron Gate reservoir); 2) 189-foot tall earthen dam with a clay core on a basalt rock foundation (Iron Gate dam); 3) Iron Gate Hatchery, which includes warehouse, hatchery building, four fish rearing ponds, a fish ladder, visitor center, and four employee residences; 4) fish collection facility at Iron Gate dam; 5) ungated side-channel spillway capable of discharging 26,200 cubic feet per second (cfs); 6) reinforced concrete diversion tunnel capable of diverting 2,700 cfs from the reservoir to the Klamath River; 7) 45-foot tall freestanding intake structure; 8) 18 megawatt (MW) powerhouse; 8) 6.5 miles of transmission lines; and 9) recreation facilities, including Fall Creek, Jenny Creek, Wanaka Springs, Camp Creek, Juniper Point, Mirror Cove, Overlook Point, Long Gulch, and small unnamed dispersed shoreline recreation sites. Recreation sites include communication buildings, restrooms, and two residences. Iron Gate dam supplies cold water to Iron Gate Hatchery, which is located below Iron Gate dam and powerhouse. Iron Gate Hatchery raises steelhead, coho salmon, and chinook salmon.

Copco No. 2 Dam Development: The Copco No. 2 dam development is located on the Klamath River between RM 196 and RM 199 in Siskiyou County, California. The Copco No. 2 dam development consists primarily of: 1) 70 AF unnamed reservoir; 2) 33-foot tall concrete diversion dam with a gated spillway (Copco No. 2 dam); 3) water conveyance system consisting of a 3,550 feet of concrete lined tunnels, 1,313 feet of a wood-stave pipeline, an underground surge tank and two steel penstocks; 5) 27 MW powerhouse; 6) control center building; 7) maintenance building; 8) oil and gas storage building; and 9) a nearby village consisting of a cookhouse, bunkhouse, storage building, bungalow, three modular houses, four old style ranch houses, and a schoolhouse/community center. Copco No. 2 dam is located approximately 0.25 miles downstream of Copco No. 1 dam and has no associated recreation facilities. Water diversions for hydropower generation at Copco No. 2 create a 1.5-mile-long bypass reach.

Copco No. 1 Dam Development: The Copco No. 1 dam development is located on the Klamath River between RM 198 and RM 204 in Siskiyou County, California. The Copco No. 1 dam development primarily consists of: 1) 40,000 AF reservoir (Copco reservoir); 2) 135-foot tall concrete gravity arch dam with a gated spillway (Copco No. 1 dam); 3) diversion tunnel capable of diverting 5,179 cfs; 4) switchyard; 5) two 10- and one 14-foot diameter penstock pipes; 6) 20 MW powerhouse; and 7) reservoir-associated recreation facilities, including Mallard Cove and Copco Cove. There is no bypass reach for this dam development.

Oregon Dam Development:

J.C. Boyle Dam Development: J.C. Boyle Dam is located on the mainstem of the Klamath River, at RM 224.7. J.C. Boyle Dam is a 68-foot tall concrete dam that impounds approximately 2,629 AF of water in a narrow reservoir with approximately 420 surface-acres. J.C. Boyle supplies water through a 2.5-mile water conveyance system to a 98 MW powerhouse. Water diversions for hydropower generation at J.C. Boyle create a 4.3-mile bypass reach. The approximately 17 miles downstream of the J.C. Boyle powerhouse comprise the J.C. Boyle peaking reach. This 17-mile reach is where the LKP crosses from Oregon into California and ends at the Copco No. 1 reservoir.

BRIEF DESCRIPTION OF PROPOSED PROJECT

The KRRC is proposing to remove sufficient portions of the Iron Gate, Copco No. 2, Copco No. 1, and J.C. Boyle dam developments to create a free flowing Klamath River and provide for volitional fish passage in the Klamath River currently occupied by these dam developments. The hydroelectric facilities and associated structures will either be removed or decommissioned in place.

The LKP would require improvements to roads, construction of staging areas, and creation of onsite debris disposal sites. The LKP would also require changes to the city of Yreka's Fall Creek water supply. Yreka receives 15 cfs of water through a 24-inch diameter pipe that runs from the Fall Creek dam development, crosses the Klamath River near the upstream end of Iron Gate reservoir, to the City of Yreka's water distribution system.

The LKP would result in large sediment releases as water and sediment stored behind J.C. Boyle, Copco No. 2, Copco No. 1, and Iron Gate reservoirs are released during, and to a lesser extent, following decommissioning activities. Proposed post-decommissioning restoration activities include revegetation, invasive species control, and removal or modification of existing reservoir recreation facilities. The KRRC's water quality certification application proposes the following schedule in order to minimize sediment releases during the critical times and life stages of various sensitive species downstream:

Proposed Schedule for Lower Klamath Project	
Staging Activities	Beginning June 2019
Reservoir Drawdown	January 2020 – October 2020
Copco No. 1 Dam Development Removal	January 2020 – May 2020
J.C. Boyle Dam Development Removal	January 2020 – September 2020
Copco No. 2 Dam Development Removal	May 2020 – October 2020
Iron Gate Dam Development Removal	July 2020 – November 2020

A more detailed description of the Proposed Project is provided in the KRRC's application for water quality certification, which is available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/lower_klamath_ferc14803.shtml, and in the Final *Klamath Facilities Removal Draft Environmental Impact Statement/Environmental Impact Report* (2012 KHSA EIS/EIR), sections 2.4.3 and 2.4.4, available at: <https://klamathrestoration.gov/Draft-EIS-EIR/download-draft-eis-eir>.

FEDERAL ENERGY REGULATORY COMMISSION PROCESS

FERC is the federal agency that regulates the construction, operation, and decommissioning of most non-federal hydroelectric dams in the United States. The LKP (FERC Project No. 14803) is currently owned and operated by PacifiCorp as part of the Klamath Hydroelectric Project (FERC Project No. 2082).⁵ On September 23, 2016, PacifiCorp and the KRRC filed a joint license transfer application with FERC, which seeks to transfer the J.C. Boyle, Copco No. 2, Copco No. 1, and Iron Gate dam developments to the KRRC. Concurrent with the license transfer application, the KRRC filed a license surrender application with FERC to decommission the LKP. The LKP license transfer and surrender processes are subject FERC's approval.

In September 2006, during PacifiCorp's Klamath Hydroelectric Project relicensing process, FERC released a draft Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA). FERC's draft EIS for the Klamath Hydroelectric Project examines the probable effects of a range of alternatives, including continued operations of the dam developments with or without fish passage improvements, and removal of some or all of the four dam developments that compromise the LKP. FERC received extensive comments from agencies and interested parties. FERC released its final EIS for the Klamath Hydroelectric Project in November 2007 and it is available online at:

<https://www.ferc.gov/industries/hydropower/enviro/eis/2007/11-16-07.asp>.

KLAMATH SETTLEMENT AGREEMENTS

Concurrent with PacifiCorp's FERC relicensing of the Klamath Hydroelectric Project, the following three Settlement Agreements were executed by a number of parties with varying interests in the Klamath Basin: 1) KHSA (Klamath Hydroelectric Settlement Agreement); 2) Klamath Basin Restoration Agreement (KBRA); and 3) Upper Klamath Basin Comprehensive Agreement (UKBCA). These settlement agreements, among other things: 1) provided a decision-making framework and process for removal of J.C. Boyle, Copco No. 2, Copco No. 1, and Iron Gate dam developments; 2) addressed water supply and allocation issues; and 3) set forth substantial water quality improvement measures for the Upper Klamath Basin.

The original KHSA proposed federal legislation that would have halted PacifiCorp's FERC relicensing process and granted the Secretary of the United States Department of the Interior the authority to determine whether removing J.C. Boyle, Copco No. 2, Copco No. 1, and Iron Gate dam developments was in the public interest and would advance salmon restoration (Secretarial Determination).

In accordance with the original KHSA, the 2012 KHSA EIS/EIR was prepared to support Klamath Hydroelectric Project dam removal and to inform the Secretarial Determination. On September 22, 2011, the United State Department of Interior and the California Department of Fish and Game (now California Department of Fish and Wildlife) released the *Draft Klamath Facilities Removal Environmental Impact Statement/Environmental Impact Report*. The agencies circulated the Final 2012 KHSA EIS/EIR, but the United States Department of Interior never entered a Record of Decision and the California Department of Fish and Wildlife never certified the document.⁶

⁵ The Klamath Hydroelectric Project was originally licensed in 1956 for a term of 50 years. On March 1, 2006, the original FERC license expired and since then PacifiCorp has continued to operate the Klamath Hydroelectric Project (including the LKP dam developments) under annual licenses issued by FERC while PacifiCorp pursued relicensing. On June 16, 2016, at PacifiCorp's request, FERC issued an order placing the Klamath Hydroelectric Project relicensing process in abeyance.

⁶ The final 2012 KHSA EIS/EIR is dated December 2012, but was released in April 2013.

Similar to FERC's 2007 NEPA document, the 2012 KHSA EIS/EIR evaluated a range of project alternatives including continued operation of the dam developments, with and without fish passage improvements, as well as removal of some or all of the dams that make up the LKP. The 2012 KHSA EIS/EIR is available online at: <https://klamathrestoration.gov/Draft-EIS-EIR/download-draft-eis-eir>.

Federal legislation to enact the settlement agreements did not pass, and on December 31, 2015, the KBRA terminated. On April 6, 2016, the KHSA was amended to remove the need for Congressional authorization, and instead contemplates dam removal through the FERC license surrender process. Also on April 6, 2016, some of the parties to the KHSA and KBRA executed the Klamath Power and Facilities Agreement. The Klamath Power and Facilities Agreement addresses the disposition of specific Oregon facilities on the Klamath River, and expresses a commitment to continue negotiations regarding certain issues addressed in the KBRA. The State Water Board understands that the UKBCA remains in effect.

STATE WATER BOARD'S WATER QUALITY CERTIFICATION

The State Water Board's water quality certification process results from the KRRC's FERC license surrender application, filed in furtherance of the Amended KHSA. Section 401 of the Clean Water Act (33 U.S.C. § 1341) requires every applicant for a federal license or permit that may result in a discharge into navigable waters to provide the federal licensing or permitting agency with certification that the project will be in compliance with state water quality standards and other relevant requirements of state law. Section 401 provides that conditions of certification shall become conditions of any federal license or permit for the project. The State Water Board is the agency in California that is responsible for section 401 water quality certifications (Wat. Code, § 13160; Cal. Code Regs., tit. 23, § 3855, subd. (b)).

There are water quality impacts associated with both the operation and decommissioning of the LKP dam developments. The Klamath River and water bodies associated with the LKP dam developments are listed in the California's 2012 Clean Water Act Section 303(d) List of Impaired Water Bodies ([2012 Integrated Report](#)) as follows:

- The Klamath River from the Oregon border to the Pacific Ocean is listed for nutrients, organic enrichment/low dissolved oxygen, and temperature.
- Iron Gate and Copco No. 1 reservoirs are listed for mercury and for a liver toxin produced by blue-green algae, called microcystin.
- The Klamath River from Copco No. 1 reservoir to the Trinity River is listed for microcystin.
- The Klamath River from the Trinity River to the Pacific Ocean is listed for sediment.
- The Klamath River from Iron Gate Dam to the Scott River is listed for aluminum.

The State Water Board may issue a water quality certification if it determines that a project will comply with specific federal Clean Water Act requirements (including water quality standards and implementation plans) and with other relevant requirements of state law. The State Water Board will determine whether decommissioning the LKP dam developments adequately protects the beneficial uses and meets the water quality objectives for water bodies affected by the LKP, as defined in the [Water Quality Control Plan for the North Coast Region](#) (Basin Plan), as well as other relevant standards. Additional information concerning the Basin Plan and designated beneficial uses is available online at:

http://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/basin_plan.shtml

CEQA INFORMATION

The issuance of a section 401 certification is a discretionary action subject to CEQA compliance. Because there are potentially significant environmental impacts associated with the LKP, the State Water Board has decided to prepare an EIR.

The State Water Board previously initiated CEQA review for PacifiCorp's continued operations of the Klamath Hydroelectric Project and associated LKP dam developments by issuing a NOP for an EIR in September 2008 and again in November 2015. During the 2008 and 2015 CEQA processes, the State Water Board held extensive scoping meetings.

Following issuance of the September 2008 NOP, on February 18, 2010, the original KHSA was executed. From May 18, 2010, to July 1, 2013, at the request of KHSA signatories, the State Water Board issued a series of time-limited abeyances holding PacifiCorp's 2008 water quality certification application in abeyance. The State Water Board's fourth and final water quality certification abeyance ended on July 1, 2013, and the State Water Board resumed processing PacifiCorp's Klamath Hydroelectric Project water quality certification application and issued a second NOP in November 2015, in light of significant new information developments.

On June 16, 2016, FERC issued an order to hold PacifiCorp's Klamath Hydroelectric Project relicensing process in abeyance. Following FERC's order, PacifiCorp withdrew its water quality certification application from the State Water Board. The withdrawal of PacifiCorp's water quality certification application suspended the November 2015 Klamath Hydroelectric Project's CEQA process.

In developing an EIR to support the State Water Board's consideration of a water quality certification for the LKP, the State Water Board will consider FERC's 2007 EIS and the 2012 KHSA EIS/EIR. The State Water Board plans to evaluate a range of alternatives from the No Project Alternative to removal of the four Lower Klamath Project dam developments (KRRC's Proposed Project). State Water Board staff encourages interested parties to provide input regarding which alternatives should be evaluated in the EIR and recommends parties reference existing alternatives in the 2007 FERC EIS and 2012 KHSA EIS/EIR, where applicable.

Attachment 1 provides a broad summary of potentially significant impacts identified by resource area. Additional information on potential impacts is available in the FERC 2007 EIS (summary included in Table ES-1, pp. xxxix – l.) and the 2012 KHSA EIS/EIR (summary included in Table 5-1, pp. 5-8 to 5-75).

SUBMITTAL OF WRITTEN COMMENTS

Please send written scoping comments to the address below. Please provide a contact person and contact information in case there are questions about the comments. **The comment deadline is 5:00 pm on February 1, 2017.**

State Water Resources Control Board
Division of Water Rights
Water Quality Certification Program
Attention: Mr. Parker Thaler
P.O. Box 2000
Sacramento, CA 95812-2000

Phone: (916) 341-5321
Fax: (916) 341-5400
Email: parker.thaler@waterboards.ca.gov

QUESTIONS AND ADDITIONAL INFORMATION

General questions should be directed to Mr. Parker Thaler at (916) 341-5321 or parker.thaler@waterboards.ca.gov.

Information related to the water quality certification for the LKP is available on the State Water Board's LKP webpage at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/lower_klamath_ferc14803.shtml



Erin Ragazzi
Water Quality Certification Program Manager
Division of Water Rights

DEC 22 2016

Date

Attachment 1: Summary of Potentially Significant Impacts Associated with the Lower Klamath Project License Surrender

Attachment 1: Summary of Potentially Significant Impacts Associated with the Lower Klamath Project License Surrender

The Lower Klamath Project License Surrender environmental impact report (EIR) will examine potentially significant impacts of the Lower Klamath Project License Surrender in a wide range of areas. Below is a list that provides a broad summary of potentially significant impacts anticipated with the Klamath River Renewal Corporation's Lower Klamath Project (LKP). A more detailed summary of potential impacts is available in the Federal Energy Regulatory Commission's 2007 *Environmental Impact Statement* (summary included in Table ES-1, pp. xxxix – l.) and the 2012 *Klamath Facilities Removal Draft Environmental Impact Statement/ Environmental Impact Report* (summary included in Table 5-1, pp. 5-8 to 5-75):

Aesthetics:

- Removal of dams and associated hydroelectric and recreational facilities, and restoration activities, could have short-term and long-term impacts on landscape aesthetics; and
- Sediment transport could change the appearance of the Klamath River.

Air Quality:

- Construction, dam removal and restoration activities will temporarily affect air quality, potentially increasing volatile organic compounds, dust, and criteria pollutant levels to significant levels.

Aquatic Resources:

- Reservoir draw-down and dam removal could cause short-term impacts to critical habitat for coho, bull trout, and Southern Resident killer whale populations;
- Dam removal activities could alter the quality of essential habitat for coho salmon, chinook salmon, groundfish, Southern Resident killer whales and pelagic fish;
- Suspended sediment concentrations, sediment deposition, and bedload sediment changes associated with dam removal could affect habitat for various species, including salmonids, Pacific lamprey, green sturgeon, eulachon, longfin smelt, freshwater mussels, and benthic macroinvertebrates; and
- Dam removal would eliminate reservoir habitat associated with the existing LKP dam developments.

Flood Hydrology:

- Reservoir drawdown could affect flood risk in the short-term;
- Downstream sediment deposition could change flood risk;
- Flow regime changes associated with dam removal activities could change the 100-year floodplain; and
- Realigning the City of Yreka's water supply pipeline could alter flood risk.

Geology, Soils, and Geologic Hazards:

- Draining the reservoirs and releasing sediment could cause short-term and long-term increases in sediment deposition that could alter geomorphological characteristics in the Klamath River and/or Klamath Estuary;
- Dam removal, construction and restoration activities may cause significant erosion in the LKP area and downstream;
- Draining the reservoirs may alter seismic and volcanic activity; and
- Drying of exposed reservoir bed sediments could affect future restoration and construction activities.

Attachment 1: Summary of Potentially Significant Impacts Associated with the Lower Klamath Project License Surrender

Greenhouse Gas Emissions:

- Removal of a very low-emission power source (i.e., hydroelectric projects) may result in increased greenhouse gas emissions from replacement sources; and
- Construction, dam removal and restoration activities will temporarily increase greenhouse gas emissions.

Historical and Archeological Resources:

- Removal of dams and associated hydroelectric facilities may affect hydroelectric structures and a potential historical district;
- Reservoir removal, changing sedimentation, flow and erosion patterns could affect submerged or riparian archeological resources; and
- Potential effects to tribal cultural resources may also be considered effects to historical and archeological resources.

Land Use, Agricultural and Forest Resources:

- The exposure of the reservoir bed, restoration activities, dam removal activities (including roads, staging areas, and debris disposal), and removal of recreational facilities could impact land use, and potentially result in the conversion of forest or farmland to other uses.

Noise and Vibration:

- Dam removal activities, and particularly dam blasting activities, could result in localized noise impacts and increased vibration levels; and
- Noise levels along haul routes could be increased.

Population and Housing:

- Employment for proposed activities may result in new jobs, including potential temporary housing needs for any non-local employees.

Public Health and Safety, Utilities and Public Services, Solid Waste, and Power:

- Dam removal activities could result in public safety risks and potentially increase fire risk;
- Dam removal could affect water availability and response times for wildfires and area residential fires;
- Dam removal activities could require new roads and temporarily affect traffic safety;
- The City of Yreka's water supply pipeline could potentially be more vulnerable to vandalism;
- Sediment releases associated with dam removal activities could result in short-term human exposure to contaminants from contact with exposed sediments;
- Dam removal activities could affect the need and response time for public services;
- Dam removal could temporarily affect available mosquito habitat and related disease transmission;
- Dam removal could result in significant amounts of debris; and
- Loss of hydroelectric power could impact the supply of electricity.

Recreation:

- Reservoir-based recreation would be affected by reservoir drawdown, dam removal, construction and restoration activities;
- Changes in water quality, sedimentation, floodplain and river channel could affect river-based recreational activities downstream of facilities, including fishing and contact recreation; and
- Whitewater boating opportunities would be changed under an altered flow regime.

Attachment 1: Summary of Potentially Significant Impacts Associated with the Lower Klamath Project License Surrender

Terrestrial Resources:

- Dam removal activities and associated flushing of sediments could result in loss of wetland habitat in the LKP area and downstream, as well as impacts to wildlife corridors;
- Dam removal activities could negatively impact special status and culturally important species; and
- Disturbed areas resulting from the LKP could provide habitat for invasive plants.

Toxic/Hazardous Materials:

- Dam removal activities could involve transport and handling of hazardous materials, including risk of release.

Traffic and Transportation:

- Traffic associated with dam removal activities could affect traffic flow and safety, including to public transit and non-motorized transportation (e.g., pedestrians, bicycles);
- Changes in land use could result in traffic changes; and
- Increased heavy vehicle traffic during construction could increase wear on roads and potentially exceed bridge weight limits.

Tribal Cultural Resources:⁷

- Construction and restoration activities could affect sites and landscapes with tribal cultural value;
- Reservoir dewatering and removal could affect items and areas with tribal cultural resources that are currently submerged;
- Changing sedimentation, flow and erosion patterns could affect tribal cultural resource areas downstream; and
- Landscapes, ecosystems and species that are tribal cultural resources could be affected by dam removal and restoration activities.

Water Quality:

- Dam removal activities could contribute to changes in water quality, including:
 - Short- and long-term changes to the water temperature regime;
 - Biological oxygen demand and daily dissolved oxygen variability;
 - Short-term increases in suspended sediment and sediment associated nutrients in the Klamath River from the California state line to the marine nearshore environment, and may affect long-term suspended sediment and sediment associated nutrients in the Lower Klamath River, Klamath Estuary, and marine nearshore environment;
 - Long-term summer time increases in pH downstream of Iron Gate Dam;
 - Short-term increases in inorganic or organic contaminant levels;
 - Changes in nutrient levels, biomass, and algal cycling, potentially from the state line through the Klamath Estuary;
 - Short- and long-term changes to algae populations and associated algal toxins in the Lower Klamath River from the California state line to the Klamath Estuary; and
 - Long-term increases in nutrient levels and periphyton biomass in the Klamath River downstream of Iron Gate Dam.

⁷ This resource area was added to California Environmental Quality Act in 2014 (Assembly Bill 52; Statutes 2014, Chapter 532, Gatto), and has not been specifically evaluated in prior environmental documents. Tribal governments have been actively involved in issues surrounding the disposition of the Klamath Hydroelectric Project and associated LKP for many years. The State Water Board looks forward to working with California Native American Tribes to develop this analysis and any potential alternatives and mitigation measures.

**Attachment 1: Summary of Potentially Significant Impacts
Associated with the Lower Klamath Project License Surrender**

- Restoration activities could involve application of herbicides that could cause short-term levels of organic contaminants in runoff that are toxic to aquatic biota in the LKP area.

Water Supply:

- Eliminating the reservoirs could impact groundwater wells near the reservoirs and the amount of groundwater recharge;
- Changes to the flow regime below Iron Gate Dam could affect water supply and water rights;
- Removal of Iron Gate Reservoir will require realignment of City of Yreka's water diversion pipeline from Fall Creek; and
- Sediment releases may affect Klamath River geomorphology, which can affect downstream water intake pumps.