

Klamath Hydroelectric Settlement Agreement

Implementation Report

Klamath Hydroelectric Project



FERC Project No. 2082



June 2014

Executive Summary

This report highlights the accomplishments and activity related to implementation of the Klamath Hydroelectric Settlement Agreement since the agreement was signed on February 18, 2010. This is the fourth annual implementation report and focuses on events that occurred between June 2013, when the third report was issued, and June 2014.

Federal Legislation

On June 20, 2013, a hearing on Klamath River Basin water resources issues was held in the U.S. Senate Committee on Energy and Natural Resources. Shortly after the hearing, Senators Wyden and Merkley from Oregon, Governor Kitzhaber of Oregon, and Representative Walden convened the Klamath Basin Task Force to address remaining issues relevant to implementation of the Klamath Settlements. With completion of the Klamath Task Force efforts in early 2014, Senators Wyden, Merkley, Feinstein, and Boxer introduced new legislation (S. 2379) into the U.S. Senate in May, 2014 that would implement the KHSA, the Klamath Basin Restoration Agreement, and the Upper Basin Comprehensive Agreement. The Senate Committee on Energy and Natural Resources held a hearing on the proposed legislation on June 3, 2014 to gather testimony from stakeholders regarding the Klamath settlements.

Secretarial Determination and Environmental Review

On April 4, 2013, the Department of the Interior released a Final Environmental Impact Statement (Final EIS) and related scientific/technical reports. Under the terms of the KHSA, the studies and environmental review will inform the Secretarial Determination on whether to proceed with facilities removal under the agreement.

Dam Removal Funding

The California and Oregon public utility commissions have authorized customer surcharges designed to provide the full \$200 million capped

amount that PacifiCorp customers will contribute toward dam removal under the KHSA. PacifiCorp has collected dam removal surcharges from Oregon customers since March 2010 and began collecting surcharges from California customers in January 2012.

The Oregon customer surcharge, with accrued interest, is designed to provide approximately \$184 million for dam removal in 2020. The California surcharge, with accrued interest, is designed to provide approximately \$16 million in funding for dam removal in 2020. Together, the trust accounts had a balance of \$75.5 million as of May 31, 2014.

Interim Measures

PacifiCorp continues to implement the interim measures in the KHSA to address environmental conditions and improve fisheries during the period prior to dam removal.

The company is funding several water quality-related initiatives and studies, including basin-wide water quality monitoring and studies intended to reduce nutrient levels in the Klamath River and improve water quality in the Project reservoirs. Other ongoing actions include operational adjustments to Project operations and the implementation and funding of fish habitat improvements within the Project and in the Klamath basin below Iron Gate dam. Under terms of the settlement, PacifiCorp is also now fully funding the ongoing operations of Iron Gate Hatchery and the implementation of a Hatchery and Genetics Management Plan to aid in the conservation and recovery of coho salmon.

PacifiCorp is pleased with the progress made in implementing the KHSA and the various interim measures that will result in improvements to water quality, fish habitat, and other environmental improvements. PacifiCorp notes the significant contributions of KHSA parties, tribes, and involved state and federal agencies in these efforts and looks forward to working with our stakeholders as these efforts continue to move forward.

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1.0 Introduction

On February 18, 2010, PacifiCorp, along with representatives of more than 40 organizations, including Federal agencies, the States of California and Oregon, Native American tribes, counties, irrigators and conservation and fishing groups signed the historic Klamath Hydroelectric Settlement Agreement (KHSA). The KHSA lays out the process for additional studies, environmental review, and a decision by the Secretary of the Interior regarding whether removal of four Klamath River dams owned by PacifiCorp should proceed. The four Klamath River dams proposed to be removed are J.C. Boyle, Copco No. 1, Copco No. 2 and Iron Gate. The KHSA includes provisions for the interim operation of the dams until their anticipated removal in 2020 and spells out the process to transfer, decommission, and remove the dams. The KHSA also contains a set of interim measures that PacifiCorp is implementing during the period prior to potential dam removal to improve water quality and fish habitat conditions, support and improve hatchery operations, and benefit environmental resources in the Klamath basin. A copy of the KHSA can be found on PacifiCorp's website at:

<http://www.pacificorp.com/es/hydro/hl/kr.html>

Since the execution of the KHSA, PacifiCorp has been working diligently in cooperation with parties to the KHSA and other affected stakeholders and regulatory agencies to implement its obligations under the KHSA and advance the settlement process. The purpose of this annual report is to document the progress made in implementing the KHSA.



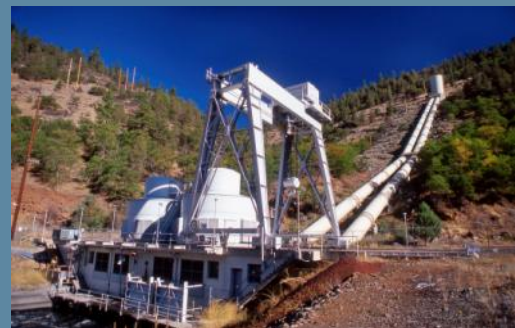
Iron Gate Dam and Powerhouse



Copco No. 2 Dam



Copco No. 1 Dam and Powerhouse



J.C. Boyle Powerhouse

1.1 Background

PacifiCorp owns and operates the Klamath Hydroelectric Project (Project), located on the upper Klamath River in Klamath County (south-central Oregon) and Siskiyou County (north-central California). The Project consists of eight developments, as shown in Figure 1. Seven of the developments are located on the Klamath River between river mile (RM) 190.1 and 254.3, including (in order moving upstream) Iron Gate (RM 190.1 to 196.9), Copco No. 2 (RM 198.3 to 198.6), Copco No. 1 (RM 198.6 to 203.1), J.C. Boyle (RM 220.4 to 228.3), Keno (RM 233 to 253.1), East Side and West Side (both in Link River at RM 253.1 to 254.3). The eighth development is on Fall Creek, a Klamath River tributary at RM 196.3. The Project is licensed by the Federal Energy Regulatory Commission as Project No. 2082. With the exception of Fall Creek, the Project is largely dependent on water releases from Upper Klamath Lake at the U.S. Bureau of Reclamation's (Reclamation) Link River dam (RM 254.3).

On February 25, 2004, PacifiCorp filed an application with the Federal Energy Regulatory Commission (FERC) for a new 50-year license for the Project. PacifiCorp proposes in its application to operate five of the developments in a manner similar to current operations with a set of environmental measures, the purposes of which include (but are not limited to) water quality and habitat enhancement, instream flows and ramp rates¹ management, facilitation of fish passage, and enhancement of Iron Gate Hatchery stock management.

Following the submittal of its application for a new license, PacifiCorp began settlement discussions with a diverse group of stakeholders to resolve issues related to relicensing of the

¹ Hydroelectric facilities typically have the capability of increasing and decreasing flow levels downstream of the facilities. In general, the rate at which these flow changes occur is called the "ramp rate" or "ramping."

Project. PacifiCorp worked collaboratively with this group of stakeholders to develop and enter into the KHSA. A precursor to the KHSA, the Klamath Agreement in Principle (AIP) laid out a framework for the KHSA and was signed on November 13, 2008.

After five years of negotiations, the KHSA was signed by the involved parties on February 18, 2010 and identifies a process and path forward that provides for the decommissioning and removal of Iron Gate, Copco No. 2, Copco No. 1, and J.C. Boyle dams in 2020, subject to certain contingencies including funding, the passage of federal legislation, and a determination by the Secretary of the Interior that removal of the dams should proceed. Specifically, the Secretary will determine whether removal of PacifiCorp's lower four dams on the Klamath River 1) will advance restoration of the salmonid fisheries of the Klamath Basin; and 2) is in the public interest, which includes but is not limited to consideration of potential impacts on affected local communities and tribes.

PacifiCorp agreed to a potential dam removal path for the Project and executed the KHSA based upon an assessment that the KHSA provided superior cost and risk protections for PacifiCorp and its customers as compared to continuing on a path of relicensing the Project. Under the KHSA, PacifiCorp's customers in California and Oregon will be assessed surcharges to provide up to \$200 million in funding towards dam removal costs. The State of California is to provide up to \$250 million in funding for dam removal costs in excess of the \$200 million Customer Contribution.

If the Secretary of the Interior issues a determination to proceed with dam removal, and the states of California and Oregon concur with that determination, PacifiCorp will transfer the four Klamath River dams to be removed to a Dam Removal Entity (DRE). The DRE is to be designated by the Secretary of the Interior as part of the Secretarial Determination process. The DRE will be responsible for obtaining necessary permits, contracts, insurance, and

other authorizations to complete removal of the facilities. Keno dam, which is owned by PacifiCorp, will continue to serve irrigation purposes and is to be transferred to Reclamation.

The current FERC license for the Project expired on March 1, 2006, and the Project is now operating under annual licenses from FERC pending final resolution of the FERC licensing process as may be amended by legislation implementing the KHSA. It is anticipated that the Project will continue operating under annual licenses until the dams are removed pursuant to the KHSA or a new license is issued. The KHSA

provides that Project operations will continue over the interim period until the dams are removed or, should dam removal not proceed, until a new license is issued. Should the Secretary of the Interior determine that dam removal should not proceed, or the KHSA terminates for other reasons, the FERC relicensing process for the Project would resume. The KHSA also provides that a new FERC license will not be issued and the licensing process will be held in abeyance pending the outcome of the Secretarial Determination and, should the Secretary render an affirmative determination, during the interim period prior to dam removal.

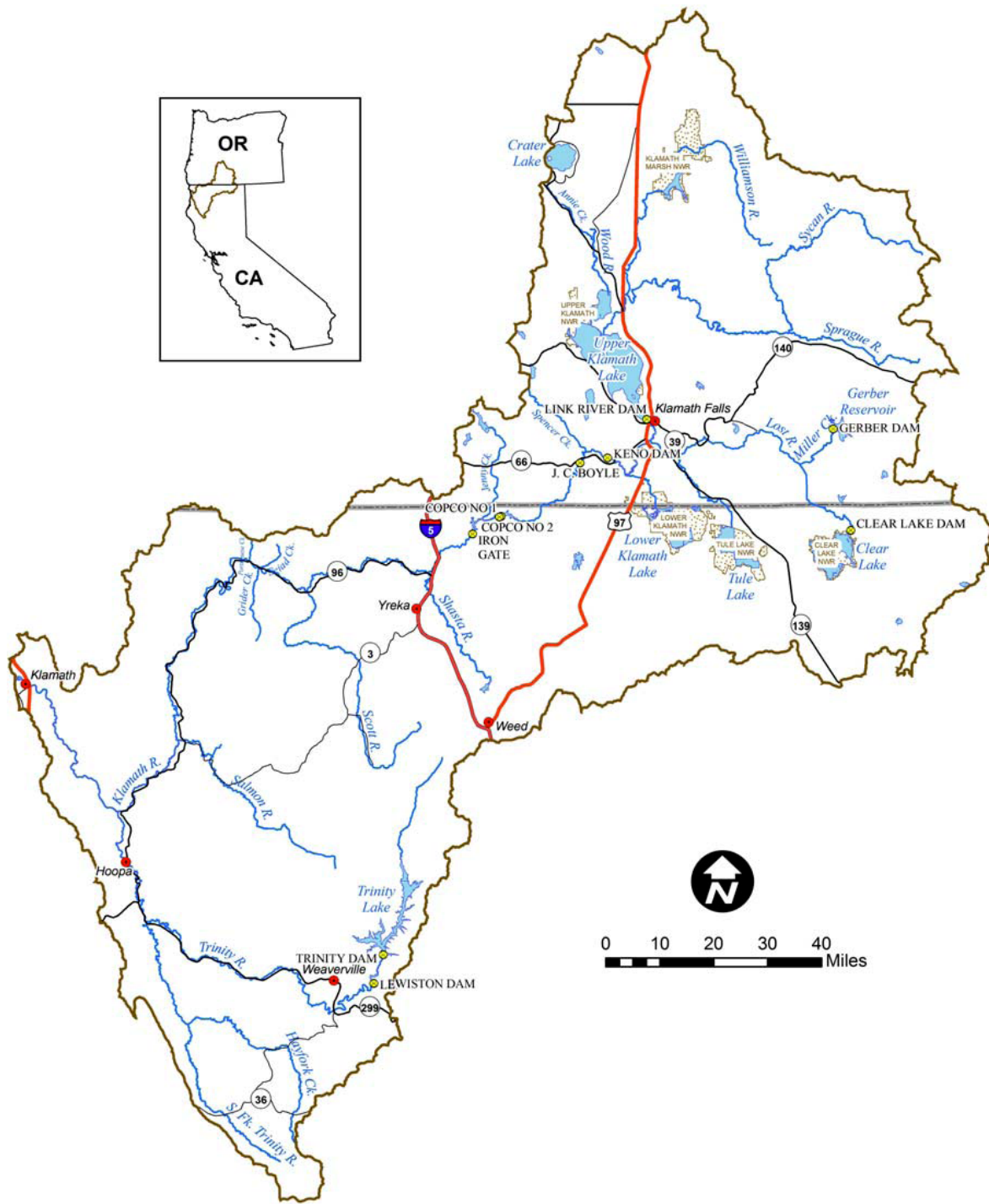


Figure 1
Klamath Basin Map

2.0 Parties to the Klamath Hydroelectric Settlement Agreement

The parties to the KHSA are listed below.

United States

The United States Department of Commerce,
National Marine Fisheries Service

The United States Department of the Interior,
including:

- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Fish and Wildlife Service

State of California

California Department of Fish and Wildlife
California Natural Resources Agency

State of Oregon

Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Oregon Water Resources Department

PacifiCorp

Tribes

Karuk Tribe
Klamath Tribes
Yurok Tribe

Counties

Humboldt County, California
Klamath County, Oregon

Parties Related to Klamath Reclamation Project

Ady District Improvement Company
Collins Products, LLC

Enterprise Irrigation District
Don Johnston & Son
Inter-County Properties Co, which acquired title

as Inter-County Title Company
Klamath Irrigation District
Klamath Drainage District
Klamath Basin Improvement District
Klamath Water Users Association
Klamath Water and Power Agency
Bradley S. Luscombe
Malin Irrigation District
Midland District Improvement Company
Pioneer District Improvement Company
Plevna District Improvement Company
Reames Golf and Country Club
Shasta View Irrigation District
Sunnyside Irrigation District
Tulelake Irrigation District
Van Brimmer Ditch Company
Randolph and Jane Walthall 1995 Trust
Westside Improvement District #4
Winema Hunting Lodge, Inc.

Upper Klamath Irrigators

Upper Klamath Water Users Association

Non-Governmental Organizations

American Rivers
California Trout
Institute for Fisheries Resources
Northern California/Nevada Council Federation
of Fly Fishers
Pacific Coast Federation of Fishermen's
Associations
Salmon River Restoration Council
Trout Unlimited

3.0 Funding

The KHSA sets out a cost cap for facilities removal of \$450 million. Of this amount, up to \$200 million is to come from surcharges on PacifiCorp's customers in California and Oregon. In addition, the State of California will fund up to \$250 million in dam removal costs in excess of the customer cost cap through the sale of bonds or another appropriate state financing mechanism.

3.1 Customer Contributions

3.1.1 Oregon Public Utility Commission Proceedings

On March 18, 2010, in accordance with KHSA Sections 4.1.1 and 7.3.9, PacifiCorp filed its analyses of the rate-related costs, benefits and risks to customers of the KHSA as compared to relicensing the Klamath River dams with the Oregon Public Utility Commission. This filing, with supporting testimony, was an application to implement provisions of Oregon Senate Bill 76 passed in the 2009 Oregon legislative session. PacifiCorp concurrently filed an advice letter establishing two surcharges, effective upon filing, to collect the customer contribution towards dam removal costs. In its application, PacifiCorp also requested that the depreciation schedule for Project facilities be adjusted in contemplation of their anticipated removal in 2020 and sought authorization to transfer Project facilities to the Dam Removal Entity. On September 16, 2010, the Oregon Public Utility Commission (OPUC) issued a final order affirming the dam removal surcharges for Oregon customers and a depreciation schedule for the facilities that provides for removal in 2020. The OPUC order requires PacifiCorp to seek authorization to transfer Project facilities to the DRE at a later date. The OPUC order is available at:

<http://apps.puc.state.or.us/orders/2010ords/10-364.pdf>

Since the surcharges commenced in March 2010, PacifiCorp has been remitting collected

surcharges to trust accounts established by the OPUC with an independent financial institution. As of May 31, 2014, the balance of the Oregon customer dam removal trust accounts was as follows:

J.C. Boyle Trust Account	\$17,429,332.96
Copco 1, Copco 2, and Iron Gate Trust Account	<u>\$52,525,681.61</u>
Total	\$69,955,014.57

The Oregon customer surcharges, with accrued interest, are designed to provide approximately \$184 million in funding for dam removal in 2020.

3.1.2 California Public Utilities Commission Proceedings

On March 18, 2010, in accordance with KHSA Sections 4.1.1 and 7.3.9, PacifiCorp filed an application requesting authorization to begin collecting dam removal surcharges from its California customers and seeking authorization to transfer Project facilities to the Dam Removal Entity. This application included supporting testimony regarding the rate-related costs, benefits and risks to customers of the KHSA as compared to relicensing. In its application, PacifiCorp also requested that the depreciation schedule for Project facilities be adjusted in contemplation of their anticipated removal in 2020. On May 6, 2011, the California Public Utilities Commission (CPUC) issued a final decision approving 1) the request for a surcharge of \$13.76 million collected over nine years; 2) institution of two trust accounts for the deposit of the surcharge; and 3) depreciation of the rate base of the Klamath River Project assets, and amortization of the relicensing and settlement costs associated with the Klamath River Project, on an accelerated basis. On June 6, 2011, PacifiCorp filed an advice letter requesting approval of revised tariffs adding the Klamath Surcharge. The trust accounts were established with an independent financial institution by the CPUC in January 2012 and PacifiCorp began assessing the surcharge on January 10, 2012.

Due to a delay between the issuance of the decision and the establishment of the trust accounts, approximately eight months of collecting the surcharge were lost. On January 13, 2012, PacifiCorp filed a request to increase the Klamath surcharge rate in order to collect the full amount of the surcharge within the original collection timeframe. The Commission approved PacifiCorp's request on October 25, 2012 and new rates became effective October 29, 2012.

The CPUC final decision is available at:

http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/134812.htm

As of May 31, 2014, the balance of the California customer dam removal trust accounts was as follows:

J.C. Boyle Trust Account	\$885,716.31
Copco 1, Copco 2, and Iron Gate Trust Account	<u>\$2,671,151.97</u>
Total	\$3,556,868.28

The California customer surcharges, with accrued interest, are designed to provide approximately \$16 million in funding for dam removal in 2020.

3.1.3 Total Trust Account Balances

The total balance of the California and Oregon dam removal trust accounts maintained by independent financial institutions under the direction of the California and Oregon public utility commissions was \$73,511,882.85, as of May 31, 2014.

3.1.4 Management of the Trust Accounts

Pursuant to KHSA Section 4.2.4, the public utility commissions in California and Oregon have entered into trust management agreements with independent financial institutions to manage the trust accounts established to hold the dam removal surcharges that constitute the Customer Contribution towards dam removal costs. Disbursement of funds to the dam removal entity for permitting and facilities removal expenditures will occur at the direction of authorized representatives of the public utility commissions.

3.2 State of California Funding

If the cost of facilities removal exceeds the \$200 million Customer Contribution, then the State of California is to provide funding of up to \$250 million to cover the additional costs. Consistent with KHSA Section 4.1.2, this funding may come from a California Bond Measure or other appropriate state financing mechanism.

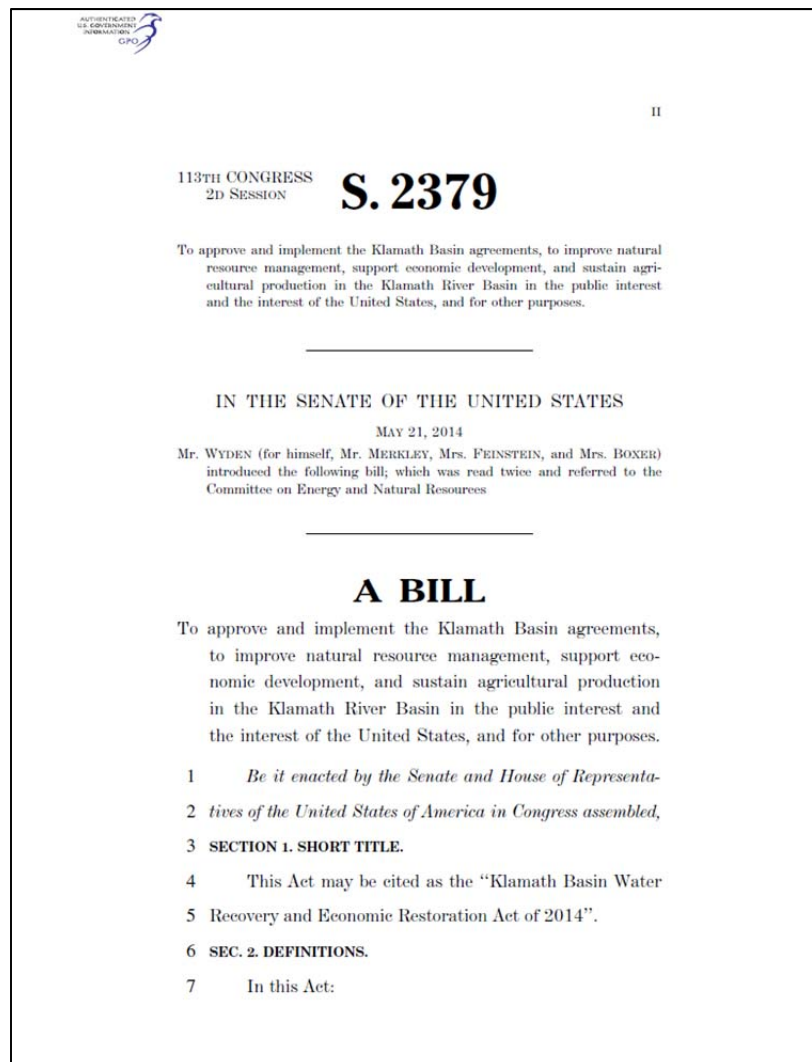
On November 4, 2009, the California Legislature voted to place an \$11.1 billion water bond measure, including funding of up to \$250 million for Klamath River dam removal and related measures, on the ballot for November 2010. The California Legislature subsequently withdrew the bond measure from voter consideration on August 9, 2010, deferring the bond to the November 2012 California ballot. The bond measure was then deferred to the November 2014 ballot by California Assembly Bill No. 1422, chaptered into law on July 9, 2012.

4.0 Federal Legislation

On May 21, 2014, Senators Wyden, Merkley, Boxer and Feinstein introduced Senate bill S. 2379 which would endorse the Klamath Hydroelectric Settlement Agreement, the Klamath Basin Restoration Agreement (KBRA), and the Upper Basin Comprehensive Agreement (Comprehensive Agreement). The Comprehensive Agreement was finalized in March, 2014 and provides the framework for a settlement of water rights claims between the Klamath Tribes, the Bureau of Indian Affairs and Off-Project irrigators in the Upper Klamath Basin. The Comprehensive Agreement was envisioned by the KBRA and with its execution in early 2014 the Klamath Settlements in their entirety can be considered by Congress and enacted through S. 2379.

On June 3, 2014, the Senate Energy and Natural Resources Committee held a hearing to receive testimony on the proposed legislation and the recently executed Comprehensive Agreement.

If legislation is approved by Congress and consistent with the KHSAs, the Secretary of the Interior will determine whether to proceed with removal of the Klamath Hydroelectric Project facilities based on the unique standard and procedures set forth in the KHSAs. The non-federal parties to the KHSAs, KBRA, and Comprehensive Agreement continue to work with the Congressional delegations from Oregon and California in support of enactment of legislation to implement the Klamath Settlements.



5.0 Studies, Environmental Review, and Secretarial Determination

As described in Section 3 of the KHSA, the Secretary of the Interior, in cooperation with the Secretary of Commerce and other Federal agencies, is conducting studies and environmental review to determine whether to proceed with facilities removal. The Secretary of the Interior will determine whether, in his judgment, facilities removal 1) will advance restoration of the salmonid fisheries of the Klamath Basin; and 2) is in the public interest, which includes but is not limited to consideration of potential impacts on affected local communities and tribes.

This environmental review and study process is being conducted consistent with the National Environmental Policy Act (NEPA) and the State of California is conducting review under the California Environmental Quality Act (CEQA). Public NEPA scoping for the Secretarial Determination process was conducted during summer 2010 and numerous public meetings regarding the Agreements and the environmental review process have been held within local Klamath basin communities.

On April 4, 2013, the Department of the Interior (Interior) released a Final Klamath Facilities Removal Environmental Impact Statement (Final EIS). The Final EIS identifies effects of the proposed action (dam removal and implementation of the KBRA) as well as other alternatives analyzed. The Final EIS identifies full removal of all four mainstem PacifiCorp hydroelectric facilities (J.C. Boyle, Copco 1, Copco 2, and Iron Gate) as the preferred alternative to achieve a free flowing river and realize other goals and objectives expressed in the Klamath Basin Restoration Agreement and the Klamath Hydroelectric Settlement Agreement. The matter now awaits congressional action which is necessary to authorize the Secretary of the Interior to make a determination whether the removal of the

four facilities should proceed.

Information on the NEPA process, the Final EIS, and the related environmental studies can be found at the website KlamathRestoration.gov.

PacifiCorp has fully cooperated with relevant federal and state agencies in the environmental review and study process, and the development, by Interior, of the detailed plan for facilities removal. This cooperative effort has involved the transfer of project-related engineering design and operational information to allow the development of engineering designs and planning documents necessary to develop the detailed plan, and sediment sampling on and around Project reservoirs as well as many other activities to allow the Department of the Interior to develop necessary information for the Secretarial Determination process.

The detailed plan for facilities removal includes the following elements:

- The physical methods to be undertaken to remove the four mainstem hydroelectric dams, including a timetable;
- Plans for the management, removal, and/or disposal of sediment, debris and other materials;
- A plan for site remediation and restoration; and
- A detailed statement of the estimated costs of facilities removal as contemplated in the KHSA.

Interior's cost estimates contained in the detailed plan indicate the most probable cost of measures to implement full facilities removal is \$292 million, which is less than the \$450 million cost cap for facilities removal contained in the KHSA. These cost estimates also indicate that the State of California's contribution towards the cost of facilities removal through a bond measure or other financing mechanism may be less than \$250 million.

6.0 Interim Operations

6.1 Lease of State-Owned Beds and Banks

Pursuant to KHSA Section 2.5, PacifiCorp and the State of Oregon executed leases for J.C. Boyle and Keno dams in June 2011 and PacifiCorp is complying with the terms of those leases and remitting lease payments to the State of Oregon.

6.2 Keno Transfer

Pursuant to KHSA Section 7.5.2, PacifiCorp and the Department of the Interior, Bureau of Reclamation (Reclamation) executed an Agreement in Principle regarding the potential transfer of the Keno development to Reclamation in August, 2012. The Agreement in Principle memorializes broad principles designed to function as a framework for the development of a final agreement for PacifiCorp to transfer the Keno Facility to Interior. PacifiCorp and Interior continue good-faith negotiations to reach a final Transfer Agreement consistent with the principles outlined in the Agreement in Principle prior to the Secretarial Determination. The final Transfer Agreement will outline exactly how necessary lands and improvements will be transferred to Interior as specified in the KHSA



and details related to ongoing access to affected lands and provisions for the transfer of control of the facility from PacifiCorp to Interior.

6.3 Local Community Power

Pursuant to Section 5.3, representatives of Interior, PacifiCorp, the Klamath Water and Power Agency (KWAPA), Klamath Water Users Association (KWUA), Bonneville Power Administration, and the Western Area Power Administration have held numerous meetings regarding the development and implementation of a federal power program that would provide federal power to eligible Klamath basin irrigation loads.

PacifiCorp has transferred customer load information to KWAPA for customers that have indicated an interest in the program and signed releases authorizing the release of their customer information to KWAPA. This customer load data is informing KWAPA and Interior's planning for the delivery of federal power to serve eligible loads and estimated costs associated with the program.

PacifiCorp has assisted KWAPA and its consultants to develop an analysis of the potential cost savings associated with implementation of the federal power program. PacifiCorp continues to work cooperatively with the involved parties to advance the power provisions of the Klamath Settlements, which are an important element of the KHSA for Klamath basin irrigators who are now paying higher power rates under tariffs approved by the public utility commissions.

6.4 Section 401 Water Quality Certification Process

Section 6.5 of the KHSA commits the KHSA parties to request abeyance of the California and Oregon Clean Water Act Section 401 water quality certification process for PacifiCorp's relicensing application, pending completion of the Secretarial Determination process and during the interim period prior to potential dam removal. Given the anticipated removal of the hydroelectric project facilities in 2020, abeyance of the 401 process relieves the states, PacifiCorp, and other interested parties of the

burden of processing relicensing certification applications during the interim period prior to dam removal pursuant to the KHSA while preserving the full authority of the states to condition the Project through the 401 certification process should dam removal under the KHSA not occur and the relicensing process resume.

Under the KHSA, PacifiCorp has been funding and implementing various water quality-related interim measures that are intended to improve the understanding of basin-wide water quality issues in the Klamath River and work towards identifying solutions that may improve water quality conditions prior to dam removal as well as following potential removal of PacifiCorp's dams. Specific water quality-related interim measures include turbine venting at Iron Gate dam to improve dissolved oxygen concentrations in the Klamath River (Interim Measure No. 3), funding for a water quality technical workshop to investigate solutions to address Klamath River nutrient impairment (Interim Measure No. 10), and ongoing studies and pilot projects being implemented now to improve water quality and inform the planning and development of additional projects to improve Klamath basin water quality conditions (Interim Measure No. 11), as well as comprehensive basin-wide water quality monitoring to support dam removal permitting studies, nutrient removal projects, and public health monitoring (Interim Measure 15).

On March 19, 2010, PacifiCorp requested, on behalf of the Parties except the Oregon Department of Environmental Quality (ODEQ), that the California State Water Resources Control Board (SWRCB) and ODEQ hold in abeyance permitting and environmental review for PacifiCorp's relicensing during the Interim Period. This request was subsequently granted by ODEQ on March 29, 2010 and the SWRCB passed a resolution granting the abeyance, with conditions, on May 18, 2010.

The SWRCB's abeyance resolution expired in June 2013 and since that time PacifiCorp has

undertaken modifications to its 401 applications, in consultation with State Water Resources Control Board staff, to incorporate relevant technical information and the results of ongoing water quality studies into its certification application.

As required by the KHSA, PacifiCorp withdraws and resubmits its application for Section 401 certification from California and Oregon to preserve the authority of the states to issue Section 401 certifications should there be a return to the relicensing process. This practice ensures that there is no waiver of certification as a result of the focus of the KHSA parties on successful implementation of the KHSA. PacifiCorp most recently withdrew and resubmitted its requests for Section 401 certification from California and Oregon on December 2, 2013.

6.5 TMDLs

Pursuant to KHSA Section 6.3, PacifiCorp filed a "Plan for Implementing Management Strategies and Water Quality-Related Measures" with the Oregon Department of Environmental Quality and the North Coast Regional Water Quality Control Board on February 22, 2011. PacifiCorp's submittal of this plan was triggered under the KHSA by the NCRWQCB's approval of the "Klamath River Total Maximum Daily Load" (TMDL) on September 7, 2010 and by the Oregon Department of Environmental Quality's issuance of the "Upper Klamath and Lost River Subbasins Total Maximum Daily Load" on December 21, 2010. These plans specify the interim water quality measures that PacifiCorp will implement prior to potential transfer of the Project to the Dam Removal Entity in 2020.

7.0 Interim Measures Implementation

7.1 Interim Measures Implementation Committee Meeting Dates and Members

7.1.1 Purpose and Goals of the Interim Measures Implementation Committee

The purpose of the Interim Measures Implementation Committee (IMIC) is to collaborate with PacifiCorp on ecological and other issues related to the implementation of the Interim Measures set forth in Appendix D of the KHSA. The primary goals of the IMIC are: (i) to achieve consensus where possible; and (ii) timely implementation of the matters within

the scope of the IMIC’s responsibilities under the KHSA.

The IMIC meets quarterly and members can attend in person or via a conference line. These meetings typically consist of a technical review of study plans, updates on Interim Measure study progress, and review of technical reports. Since January 2013, the IMIC has agreed to hold its quarterly meetings in Yreka, California, which is a central location for most members.

Between June 2013 and June 2014, 4 meetings were held; two in 2013 (July 18 and October 16) and two in 2014 (January 16 and April 16). Representatives to the IMIC are shown in the following table.

7.1.2 IMIC Representatives

IMIC Member	Organization
John Hamilton	U.S. Fish and Wildlife Service
Mike Belchik	Yurok Tribe
Susan Corum	Karuk Tribe
Rick Carlson	Bureau of Reclamation
Donna Cobb	California Department of Fish and Wildlife
Clayton Creager	North Coast Regional Water Quality Control Board
Gary Curtis	California Department of Fish and Wildlife
Larry K. Dunsmoor	The Klamath Tribes
Micah Gibson	Yurok Tribe
Kyle Gorman	Oregon Water Resources Department
Mary Grainey	Oregon Water Resources Department
Chelsea Aquino	Bureau of Land Management
Mark Hampton	National Marine Fisheries Service
Tim Hemstreet	PacifiCorp
Nick Hetrick	U.S. Fish and Wildlife Service
Robert M. Hooton	Oregon Department of Fish and Wildlife
Curtis Knight	California Trout

IMIC Member	Organization
Linda Prendergast	PacifiCorp
Erin Ragazzi	California State Water Resources Control Board
Mark Rockwell	Federation of Fly Fishers, N. CA Council
Steve Rothert	American Rivers
Jim Simondet	National Marine Fisheries Service
Glen H. Spain	Institute for Fisheries Resources
Chris Stine	Oregon Department of Environmental Quality
Parker Thaler	California State Water Resources Control Board
Bill Tinniswood	Oregon Department of Fish and Wildlife
S. Craig Tucker	Karuk Tribe
Jane Vorpapel	California Department of Fish and Wildlife
Ted Wise	Oregon Department of Fish and Wildlife

7.2 Interim Conservation Plan Interim Measures and Endangered Species Act Regulatory Process

Section 6.2 of the KHSA provides as follows:

PacifiCorp shall apply to the Services pursuant to ESA Section 10 and applicable implementing regulations to incorporate the Interim Conservation Plan measures, including both Appendix C (ICP Interim Measures) and the Interim Conservation Plan measures for protection of listed sucker species not included in Appendix C, into an incidental take permit.

Since 2009, PacifiCorp has worked closely with the National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service (USFWS) to develop applications for ESA Section 10 permits consistent with agency regulations.

Coho Salmon Habitat Conservation Plan

In February, 2011, PacifiCorp filed an application for an ESA Section 10 permit with NMFS. The permit application developed with NMFS includes a Habitat Conservation Plan (HCP) that identifies a process to implement measures that will avoid, minimize and mitigate the effects of Project operations on coho salmon and attain the biological goals and objectives described in the HCP's coho conservation strategy. Such measures include 1) implementing habitat enhancement activities through a Coho Enhancement Fund, 2) implementing flow releases and turbine venting at Iron Gate dam to improve habitat conditions for coho salmon in the Klamath River, 3) funding research actions on Klamath River fish disease, 4) retrieval and passage of large wood debris trapped at PacifiCorp's facilities, and 5) monitoring to assess the benefits of these measures.

On February 24, 2012, NMFS issued a final Incidental Take Permit that authorizes potential incidental take of coho salmon that could occur

as a result of PacifiCorp's interim operation of the Project consistent with the terms of the Habitat Conservation Plan. On April 30, 2012, PacifiCorp filed its first annual report with NMFS documenting activities undertaken in 2012 to implement the HCP. Activities conducted under the HCP to date include operational adjustments to improve dissolved oxygen in flow releases from Iron Gate powerhouse, the implementation of habitat enhancement projects to benefit coho salmon below Iron Gate dam funded through PacifiCorp's Coho Enhancement Fund, fish disease research, development of a hatchery and genetics management plan, delivery of flows from Iron Gate dam in support of Reclamation's regulatory requirements, and monitoring and adaptive management.

PacifiCorp also developed a Gravel Augmentation Plan as required by the HCP, which was submitted to NMFS for review and approved. Gravel augmentation immediately below Iron Gate dam is scheduled to occur in late summer 2014.

The HCP also requires water quality data collection and analysis. PacifiCorp submitted a final Water Quality Monitoring Plan to NMFS on February 24, 2013, including procedures to monitor water temperature and dissolved oxygen at designated monitoring sites. In May 2013, PacifiCorp completed arrangements with the U.S. Geological Survey (USGS) to install and collect continuous water temperature data in the Klamath River at Orleans. Since 2008, continuous monitoring of water temperature and dissolved oxygen has occurred in the Klamath River below Iron Gate Dam. Data collected will be used to an Annual Water Quality Monitoring Report to be submitted to



Klamath River Coho Salmon

NMFS to evaluate consistency with the water quality objectives contained in the Coho HCP.

Sucker Habitat Conservation Plan

In August, 2011, PacifiCorp filed an application for an ESA Section 10 permit with USFWS, including a draft Habitat Conservation Plan, to address potential incidental take of sucker species that could occur during the interim period prior to Project removal. PacifiCorp submitted a revised Habitat Conservation Plan to USFWS in late 2012 and public comments on PacifiCorp's application were solicited in March 2013. On February 20, 2014 USFWS issued a final Incidental Take Permit that authorizes potential incidental take of listed suckers that could occur as a result of PacifiCorp's interim operation of the Project consistent with the terms of the Habitat Conservation Plan.

The Sucker HCP identifies a conservation strategy consisting of substantial shutdown of the East Side and West Side hydroelectric developments, continued support for an important restoration project on the Williamson River Delta, and a protocol for implementing a Sucker Conservation Fund that will avoid, minimize, and mitigate take of listed suckers.

7.3 Interim Measure 2: California Klamath Restoration Fund / Coho Enhancement Fund

PacifiCorp shall establish a fund to be administered in consultation with the California Department of Fish and Wildlife (after providing notice and opportunity for comment to the State Water Resources Control Board and North Coast Regional Water Quality Control Board) and NMFS to fund actions within the Klamath Basin designed to enhance the survival and recovery of coho salmon, including, but not limited to, habitat restoration and acquisition. PacifiCorp has provided \$510,000 to this fund in 2009 and shall continue to provide this amount of funding annually by January 31 of each subsequent

year in which this funding obligation remains in effect. Subject to Section 6.1.1, this funding obligation shall remain in effect until the time of decommissioning of all of the Facilities in California.



PacifiCorp has provided funding of \$3,060,000 into the Coho Enhancement Fund since the Interim Conservation Plan was released in November, 2008. Since 2009, NMFS and CDFW have selected 24 projects to benefit coho salmon. PacifiCorp has developed a partnership with the National Fish and Wildlife Foundation (NFWF) to administer the fund. This partnership allows Coho Enhancement Fund grant recipients to be eligible for additional funding through other grant programs, further enhancing the conservation benefit of the fund. The recipients of Coho Enhancement Fund grants thus far are:

- Karuk Tribe: Seiad Creek Channel Restoration, Phase I, II and III: Engineering designs, permitting and stakeholder identification to realign Seiad Creek to a natural course to enable coho salmon potential year round habitat access.
- Mid Klamath Watershed Council: Seiad Creek Off-Channel Pond Habitat Construction.
- Siskiyou County Resource Conservation District: Fish Passage Improvement in the Scott River.
- Siskiyou County Resource Conservation District: Denny Ditch Fish Screen.
- Emmerson Investments: Shasta River Coho Habitat Project to conserve and enhance

more than 6 miles of Shasta river habitat with fencing as well as providing livestock stock water lanes.

- Grenada Irrigation District: Huseman Ditch point of diversion fish passage improvements allowing for 4.7 miles of instream cold water retention.
- Scott River Water Trust: Scott River water acquisition program enabling critical coho streams to remain connected to the Scott River. This project has gone through 2 award cycles.
- Mid Klamath Watershed Council: Coho Rearing Habitat Enhancement to create and restore more than 10 tributary cold water refugia areas at their confluences with the middle Klamath.
- Mid Klamath Watershed Council: Middle Klamath Restoration Prioritization Project to identify coho projects that will provide the greatest species benefit.
- Mid Klamath Watershed Council: Tributary Fish Passage Improvement Project to create fish passage at the mouths and in the lower reaches of 72 Mid Klamath Subbasin tributaries.
- Yurok Tribe: Lower Klamath Coho Habitat Enhancement and Monitoring for construction of an off-channel habitat feature in McGravey Creek, CA to increase juvenile coho salmon rearing capacity.
- Mid Klamath Watershed Council: Seiad/West Grider Coho Winter Rearing Habitat Project to create two off-channel ponds to improve winter habitat.
- Mid Klamath Watershed Council: Mid Klamath Coho rearing Habitat Enhancement Project to enhance habitat complexity.
- Caltrans District 2: Replace existing culvert on Fort Goff Creek and replace with a single-span bridge. Project will restore channel to provide coho fish passage and enhanced habitat.
- Mid Klamath Watershed Council: Stanshaw Creek water rights evaluation. This project will address limiting factors for coho

salmon. This project has gone through 2 funding cycles.

- Mid Klamath Watershed Council: Tributary Coho Rearing Habitat Improvement. This project will create and/or enhance off-channel rearing and thermal refugia for coho salmon.
- Montague Water Conservation District: Shasta River Flow Augmentation Project. Yurok Tribe: Restoring Off-Estuary Habitat. This project will enhance habitat in the Lower Hoopaw Creek to benefit coho salmon.
- Mid Klamath Watershed Council: Mid Klamath Off-Channel Coho Rearing Habitat. This project will create approximately 22,000 square feet of critical off-channel winter and summer coho rearing habitat at 4 different locations.
- Scott River Watershed Council: Juvenile Coho Habitat Improvement using Beaver Dams. Beaver and beaver dam analogues will be used to improve the quantity and quality of coho rearing habitat in the Scott River and its tributaries.

A Technical Review Team was formed in 2012 and held its first meeting in June 2012. The Technical Review Team will meet annually to review existing projects funded under the Coho Enhancement Fund and to recommend possible adaptive management changes, if warranted, based, in part, on the results of monitoring data developed from funded projects.

7.4 Interim Measure 3: Iron Gate Turbine Venting

PacifiCorp shall implement turbine venting on an ongoing basis beginning in 2009 to improve dissolved oxygen concentrations downstream of Iron Gate dam. PacifiCorp shall monitor dissolved oxygen levels downstream of Iron Gate dam in 2009 and develop a standard operating procedure in consultation with NMFS for turbine venting

operations and monitoring following turbine venting operations in 2009.

Passive venting of the Iron Gate turbine was successfully tested at the Iron Gate powerhouse in the fall of 2008 and PacifiCorp installed a blower system at the Iron Gate powerhouse in January 2010 to enhance the effectiveness of turbine venting. The combined system was tested in 2010 and demonstrated an ability to significantly increase DO levels. PacifiCorp has been implementing turbine venting on an ongoing basis and developed a turbine venting Standard Operation Procedure (SOP) in early 2013 consistent with the terms of PacifiCorp's incidental take permit for coho salmon.

7.5 Interim Measure 4: Hatchery and Genetics Management Plan

Beginning in 2009, PacifiCorp shall fund the development and implementation of a Hatchery and Genetics Management Plan (HGMP) for the Iron Gate Hatchery. PacifiCorp, in consultation with the National Marine Fisheries Service and the California Department of Fish and Game, will develop an HGMP for approval by NMFS in accordance with the applicable criteria and requirements of 50 C.F.R. § 223.203(b)(5). To implement the HGMP, PacifiCorp, in consultation with NMFS and CDFG, will develop and agree to fund an adequate budget. When completed, CDFG shall implement the terms of the HGMP at Iron Gate Hatchery in consultation with PacifiCorp and NMFS. Funding of this measure is in addition to the 100 percent funding described in Non-ICP Interim Measure 18.

On September 16, 2010, a Hatchery and Genetic Management Plan (HGMP) for the Iron Gate Hatchery Coho Salmon Program was submitted to NMFS by CDFW following collaborative work among NMFS, CDFW and PacifiCorp to develop the application. The HGMP program will operate in support of the Klamath River basin's coho salmon recovery efforts by conserving a

full range of the existing genetic, phenotypic, behavioral and ecological diversity of the coho salmon run.

The program's conservation measures, including genetic analysis, broodstock management, and rearing and release techniques, will maximize fitness and reduce straying of hatchery fish to natural spawning areas. In 2010, in cooperation with CDFW and NMFS, PacifiCorp began funding an active broodstock management program at Iron Gate Hatchery. The program is based on real-time genetic analysis of coho spawning broodstock and reduces the rate of inbreeding in the hatchery coho population that has occurred in the hatchery over time.

Additionally, changes have been made to increase the proportion of natural-origin fish in the total hatchery coho spawning population. These measures are anticipated to increase population diversity and fitness. Hatchery culture practices under the HGMP program are also being improved to increase egg-to-smolt survival rates by increasing survival during egg incubation and covering raceways with netting to reduce bird predation. In the fall of 2011, state-of-the-art moist-air incubators were installed at the hatchery as a measure to improve egg incubation survival.

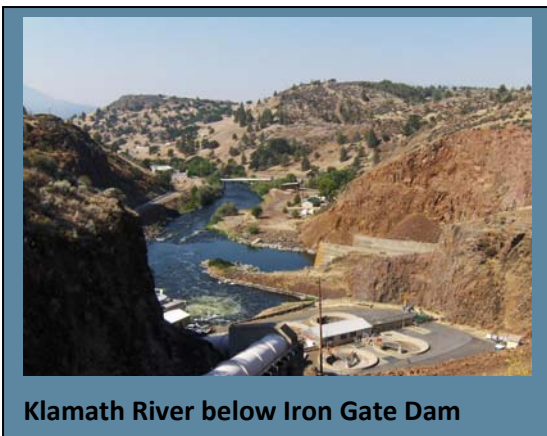
NMFS published the HGMP and associated documents in February, 2013 to solicit public review and comment to inform its evaluation of the HGMP and a decision about whether to approve the HGMP. The California Hatchery Scientific Review Group recommended that the Iron Gate HGMP be approved in its April 2012 report. The HGMP is under review and final approval by NMFS is expected in 2014.

7.6 Interim Measure 5: Iron Gate Flow Variability

In coordination with NMFS, USFWS, States and Tribes, PacifiCorp and Reclamation shall annually evaluate the feasibility of enhancing fall and early winter flow

variability to benefit salmonids downstream of Iron Gate Dam, subject to both PacifiCorp's and Reclamation's legal and contractual obligations. In the event that fall and early winter flow variability can feasibly be accomplished, PacifiCorp, in coordination with NMFS, USFWS, and Reclamation will, upon a final Incidental Take Permit issued to PacifiCorp by NMFS becoming effective, annually develop fall and early winter flow variability plans and implement those plans. Any such plans shall have no adverse effect on the volume of water that would otherwise be available for the Klamath Reclamation Project or wildlife refuges.

PacifiCorp has been implementing variable flow releases at Iron Gate dam consistent with the direction of the Bureau of Reclamation, in fulfillment of Term and Condition 2A of Reclamation's March 2010 Biological Opinion, resulting in several variable flow events in the fall and winter of 2012-2013 that have occurred as requested by Reclamation following the recommendations of a technical group including NMFS, Reclamation, PacifiCorp, USFWS, States, and Tribes.



Klamath River below Iron Gate Dam

The recently-issued joint biological opinion on Reclamation's Klamath Project for 2013-2023 includes provisions for more variable flow releases from Iron Gate dam to provide benefits to listed species. PacifiCorp works closely with Reclamation to coordinate river operations and dam releases in a manner that achieves Reclamation's flow requirements below Iron

Gate dam while also meeting operational and other regulatory objectives of Reclamation and PacifiCorp.

In May, 2014, a pulse flow of 1,900 cfs was released from Iron Gate dam using water stored in PacifiCorp's hydroelectric reservoirs due to water supply limitations in the Upper Klamath Basin. The pulse flow was initiated in response to fish disease monitoring conducted in the Klamath River that indicated high disease loading. Fish disease researchers monitored disease conditions before, during, and after the pulse flow in order to better understand the relationships between flow and disease mechanisms in order to inform future management actions.

7.7 Interim Measure 6: Fish Disease Relationship and Control Studies

PacifiCorp has established a fund in the amount of \$500,000 in total funding to study fish disease relationships downstream of Iron Gate Dam. Research proposals will be solicited and agreed upon by PacifiCorp and NMFS for the purpose of determining that the projects are consistent with the criteria and requirements developed by PacifiCorp and NMFS in the ESA review process applicable under Settlement Section 6.2. PacifiCorp will consult with the Klamath River Fish Health Workgroup regarding selection, prioritization, and implementation of such studies, and such studies shall be consistent with the standards and guidelines contained in the Klamath River Fish Disease Research Plan and any applicable recovery plans.

Humboldt State University, Oregon State University, and the Karuk and Yurok Tribes collaborated on a research proposal to examine how management actions could be focused to reduce the incidence of ceratomyxosis. Specific studies as part of the proposal include:

- Determine combinations of water hydraulics and sediment compositions that produce mortality in polychaetes;
- Measure the response of selected polychaete populations in the Klamath River to any experimental control actions over appropriate temporal and spatial scales;
- Determine the relative contribution of species-specific genotypes of *Ceratomyxa shasta* from tributary and mainstem sources and determine seasonal myxospore abundance; and
- Develop mathematical models to improve the understanding of *Ceratomyxa shasta* dynamics and provide opportunities for management (e.g., flow manipulations).

PacifiCorp and NMFS have agreed to appropriate money from the Fish Disease Fund to implement these studies. Results from these studies include several technical reports and a published journal article that are available on PacifiCorp's website under the Habitat Conservation Plan tab.

7.8 Interim Measure 7: J.C. Boyle Gravel Placement and/or Habitat Enhancement

Beginning on the Effective Date and continuing through decommissioning of the J.C. Boyle Facility, PacifiCorp shall provide funding of \$150,000 per year, subject to adjustment for inflation as set forth in Section 6.1.5 of the Settlement, for the planning, permitting, and implementation of gravel placement or habitat enhancement projects, including related monitoring, in the Klamath River above Copco Reservoir. Within 90 days of the Effective Date, PacifiCorp, in consultation with the IMIC, shall establish and initiate a process for identifying such projects to the Committee, and, upon approval of a project by the Committee, issuing a contract or providing funding to a third party approved by the Committee for implementation of the project. The

objective of this Interim Measure is to place suitable gravels in the J.C. Boyle bypass and peaking reach using a passive approach before high flow periods, or to provide for other habitat enhancement providing equivalent fishery benefits in the Klamath River above Copco Reservoir. Projects undertaken before the Secretarial Determination shall be located outside the FERC project boundary.

The IMIC and PacifiCorp collaborated on the development a gravel enhancement plan and a monitoring plan, which serves as a basis for ongoing implementation actions under this interim measure.



Gravel Augmentation in the J.C. Boyle Reach of the Klamath River

Since access to the river to implement this measure will occur on BLM roads, the BLM conducted a NEPA analysis to assess potential impacts from implementation of this interim measure. The BLM issued a Finding of No Significant Impact (FONSI) in October 3, 2011.

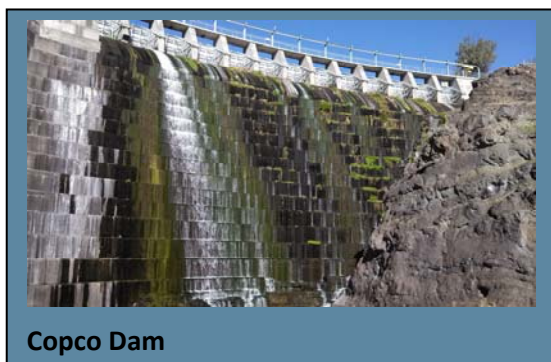
Since 2011, approximately 1,600 cubic yards of gravel has been added to six sites in the Klamath River below J.C. Boyle dam. Monitoring is being conducted and additional gravel placement is scheduled to occur in October 2014.

7.9 Interim Measure 8: J.C. Boyle Bypass Barrier Removal

Within 90 days of the Effective Date, PacifiCorp, in consultation with the

Committee, shall commence scoping and planning for the removal of the sidecast rock barrier located approximately 3 miles upstream of the J.C. Boyle Powerhouse in the J.C. Boyle bypass reach. Upon Concurrence, and in accordance with a schedule approved by the Committee, PacifiCorp shall obtain any permits required for the project under Applicable Law and implement removal of the barrier. If blasting will be used, PacifiCorp shall coordinate with ODFW to ensure the work occurs during the appropriate in-water work period. The objective of this Interim Measure is to provide for the safe, timely, and effective upstream passage of Chinook and coho salmon, steelhead trout, Pacific lamprey, and redband trout.

PacifiCorp worked with the IMIC to scope the bypass barrier removal and with the Bureau of Land Management to evaluate the effects of the project, which resulted in a Finding of No Significant Impact. With necessary permitting completed, PacifiCorp undertook the removal of the potential barrier on October 22, 2012 during the agency-approved in-water work period. The barrier was removed using a snatch block rigging system to remove rocks and boulders from the river channel above the high water line to create unimpeded fish passage. USFWS, NMFS, BLM and ODFW reviewed the photos, and depth and velocity measurements taken once the barrier was removed and have agreed that the fish passage concern has been resolved.



Copco Dam

7.10 Interim Measure 9: J.C. Boyle Powerhouse Gage

Upon the Effective Date, PacifiCorp shall provide the U.S. Geological Survey (USGS) with continued funding for the operation of the existing gage below the J.C. Boyle Powerhouse (USGS Gage No. 11510700). Funding will provide for continued real-time reporting capability for half-hour interval readings of flow and gage height, accessible via the USGS website. PacifiCorp shall continue to provide funding for this gage until the time of decommissioning of the J.C. Boyle Facility.

PacifiCorp is continuing to provide the USGS with funding for the operation of the existing gage below the J.C. Boyle powerhouse (USGS Gage No. 11510700). This gage data is available at:

http://waterdata.usgs.gov/usa/nwis/uv?site_no=11510700.

7.11 Interim Measure 10: Water Quality Conference

PacifiCorp shall provide one-time funding of \$100,000 to convene a basin-wide technical conference on water quality within one year from the Effective Date of this Settlement. The conference will inform participants on water quality conditions in the Klamath River basin and will inform decision-making for Interim Measure No. 11, with a focus on nutrient reduction in the basin including constructed wetlands and other treatment technologies and water quality accounting. PacifiCorp, the North Coast Regional Water Quality Control Board, and the Oregon Department of Environmental Quality, will convene a steering committee to develop the agenda and panels.

PacifiCorp, the NCRWQCB and ODEQ formed a steering committee to organize the workshop, which was conducted from September 11-13, 2012 in Sacramento, California. The goal of the workshop was to inform participants on water

quality conditions in the Klamath River basin and engage invited experts and managers to evaluate large-scale nutrient and organic matter reduction technologies for application in the Klamath basin. The NCRWQCB has taken the lead on the steering committee and the California Coastal Conservancy matched PacifiCorp's funding to assist with workshop planning and pre-and- post workshop reports. A consultant team has been hired to develop these report materials. The workshop was held on September 11-13, 2012 in Sacramento, California with over 100 invited participants attending. A report on the outcomes from the workshop activities is available at:

http://www.stillwatersci.com/case_studies.php?cid=68).

7.12 Interim Measure 11: Interim Water Quality Improvements

The purpose of this measure is to improve water quality in the Klamath River during the Interim Period leading up to dam removal. The emphasis of this measure shall be nutrient reduction projects in the watershed to provide water quality improvements in the mainstem Klamath River, while also addressing water quality, algal and public health issues in Project reservoirs and dissolved oxygen in J.C. Boyle Reservoir. Upon the Effective Date of the Settlement until the date of the Secretarial Determination, PacifiCorp shall spend up to \$250,000 per year to be used for studies or pilot projects developed in consultation with the Implementation Committee regarding the following:

- *Development of a Water Quality Accounting Framework*
- *Constructed Treatment Wetlands Pilot Evaluation*
- *Assessment of In-Reservoir Water Quality Control Techniques*
- *Improvement of J.C. Boyle Reservoir Dissolved Oxygen*

By the date of the Secretarial Determination, PacifiCorp shall develop a priority list of projects in consultation with the Implementation Committee. The priority list will be informed by, among other things, the information gained from the specific studies conducted before the Secretarial Determination and the information generated at the water quality conference specified in Interim Measure 10. Should the Secretary of Interior render an Affirmative Determination, PacifiCorp shall provide funding of up to \$5.4 million for implementation of projects approved by the Oregon Department of Environmental Quality (ODEQ) and the State and Regional Water Boards, and up to \$560,000 per year to cover project operation and maintenance expenses related to those projects, these amounts subject to adjustment for inflation as set forth in Section 6.1.5 of this Settlement. Recognizing the emphasis on nutrient reduction projects in the watershed while also seeking to improve water quality conditions in and downstream of the Project during the Interim Period, the Parties agree that up to 25 percent of the funding in this measure for pre- Secretarial Determination studies and post-Secretarial Determination implementation may be directed towards in-reservoir water quality improvement measures, including but not limited to J.C. Boyle.

Consistent with the intent of this interim measure, studies are being conducted to address Klamath River nutrient reduction while also addressing water quality issues in Project reservoirs. Work on the study plans and draft technical reports on the studies are prepared for the IMIC to review. After review and responding to comments from the IMIC, work plans for water quality studies and technical reports are finalized. The studies that have been pursued to date through Interim measure 11 are described fully below.

7.12.1 Evaluation of Treatment by Wetlands

This study includes the following tasks: 1) use of wetland design tools to provide estimates of wetland size requirements to achieve nutrient load reductions at various assumed levels (including levels required in the TMDL); 2) an assessment of pretreatment methods options to enhance the effectiveness of a constructed treatment wetland; and 3) identification of logical next steps to more specifically ascertain the types, sizes, configurations, and locations of potential treatment wetlands. A draft report was distributed to the IMIC for review in March 2012. The report presents detailed information on the applicability of wetlands to address Klamath River nutrient impairment and presents several potential supplemental technologies to enhance treatment by wetlands. These technologies include constructed emergent vegetation surface flow wetland systems, submerged aquatic vegetation systems, periphyton-based treatment systems, various supplemental chemical treatment approaches, and systems combining chemical, settling and solids separation, and filtration. Each of these supplemental technologies are described, including their relative effectiveness, advantages and disadvantages, costs, and potential for application in the Upper Klamath basin.

A presentation of study results was provided to the IMIC in April 2011 and a final report was released in August 2012, which is available on PacifiCorp's website. The final report has informed discussions of constructed wetlands treatment as a tool to reduce Klamath River nutrient concentrations in the water quality workshop, to which PacifiCorp provided funding under Interim Measure 10.

7.12.2 Evaluation of Organic Matter Removal for Keno Reservoir

This study includes an assessment of the potential use of hydrodynamic separation and/or screening to remove phytoplankton and

larger particulate matter from the water as a means to reduce nutrient and organic matter loading in the Klamath River. Field tests of hydrodynamic separation were conducted in 2011, 2012 and 2013. A draft technical report on these results was distributed to the IMIC in April 2013. PacifiCorp is in the process of reviewing comments and anticipates releasing a final report in July 2013. Continued work on this



Organic Matter Separation Test Unit at A-Canal Fish Screen

technology is proposed for 2013-2014 to assess performance objectives that would be necessary to achieve meaningful water quality improvements, which will then inform the development of costs for such a system.

7.12.3 Evaluation of J.C. Boyle Reservoir Dissolved Oxygen Improvement

The purpose of this study is to conduct planning for, and testing of, technologies for improving dissolved oxygen (DO) conditions in J.C. Boyle reservoir. Information is being gathered on commercially available technologies for



Supersaturated Dissolved Oxygen (SDOX®) Test Unit

improving DO in the reservoir, including oxygenation, air injection, and mechanical mixing. Elements of this study also include DO testing and a pilot project of direct DO injection into J.C. Boyle reservoir.

During 2011, study activities included field assessment of a specific oxygenation method with potential application to J.C. Boyle reservoir – the Supersaturated Dissolved Oxygen (SDOX®) system. The SDOX® technology involves withdrawing a small stream of water from the body of water to be treated, bringing that stream up to a pressurized saturation tank where oxygen gas is pre-dissolved into the stream to achieve a supersaturated DO concentration. The stream of water is then re-injected back into the main water body, thereby increasing the DO concentration in the receiving water. A pilot demonstration, conducted in September 2011, showed a rise in DO levels within the reservoir.

A final report on the assessment of DO improvement technologies that may be applicable to J.C. Boyle was submitted to the IMIC in July 2013.

7.12.4 Testing of Intake Cover for Water Quality Control in Iron Gate Reservoir

This study involves the evaluation of a cover, or barrier, at the Iron Gate dam intake to improve the quality of water discharged from the powerhouse as an interim measure. The concept behind the intake barrier is to control the depth at which water is withdrawn from the reservoir into the intake, and thereby potentially enhance water quality downstream of Iron Gate dam by excluding or reducing the potential entrainment of biomass from blooms of cyanobacteria (blue-green algae) and potential associated algal toxins (i.e., microcystin).

In 2011, 2012, and 2013, PacifiCorp successfully tested the deployment of a barrier in front of the Iron Gate dam intake. The purpose of the 2011 test was to design and construct a 12-foot

intake barrier and evaluate if the barrier could be safely and successfully deployed and retrieved from the intake without disrupting project operations. Subsequent work in August 2012 evaluated water quality effects below Iron Gate dam during cover deployment as well as changes in the withdrawal zone within the reservoir. In 2013, a more detailed bathymetric survey yielded a more refined understanding of the velocity field in this area, confirming previous observations (the bulk of the water approaches the intake tower from the north) and identifying potentially complex hydrodynamics in certain areas.

During the intake barrier deployment, these study tasks were completed:

- Velocity measurements were collected near the front of the intake tower to assess the depths at which water enters the intake tower without the cover and with the cover in place;



- Water quality probe measurements of water temperature, dissolved oxygen, pH downstream of Iron Gate Dam were collected to assess changes in Klamath River conditions with and without the cover in place. In addition, vertical water quality measurements of water temperature, dissolved oxygen, and pH were collected to characterize reservoir conditions during the experiment; and

- Nutrient and algal grab samples were collected in the river downstream to assess water quality impacts of lowering the cover.

Based on the initial results from the field work, it appears that the effectiveness of the cover employed for the study may be limited temporally as hydraulics around the intake readjust following cover deployment, although short-term improvements in water quality may occur. A draft technical report was submitted to the IMIC in April 2013 for review. PacifiCorp is currently addressing comments and revising study plans to evaluate potential future work in 2014. This work would include development of hydraulic/hydrodynamic modeling tools that may be used to assess potential geotextile curtain design and placement to reduce the potential entrainment of biomass from cyanobacteria blooms in the reservoir.

7.12.5 Pilot Study of Algal Conditions Management in Copco and Iron Gate Reservoirs

The purpose of this study is to conduct a localized application of an environmentally safe, hydrogen peroxide-based algaecide that is commonly employed throughout the country to reduce blue-green algae concentrations in drinking water reservoirs, lakes and water bodies used for public recreation. PacifiCorp has been evaluating various algaecides as a potential tool to locally improve water quality conditions in high public use areas of its reservoirs since 2008. Prior studies have used water from Copco reservoir in isolated containers to evaluate the effects of applying algaecide in order to determine whether such treatment may be effective at reducing algae concentrations without increasing microcystin concentrations as result of algal cell lysing. The study conducted in 2012 built upon previous studies in which the application of a hydrogen peroxide-based algaecide demonstrated effectiveness at reducing both algal cell density while also reducing microcystin concentrations.

While algaecide treatment is likely not economic or feasible for fully addressing algal

concerns in Project reservoirs, this study is intended to assess whether algaecide may be one of many potential tools for managing reservoir water quality conditions in local portions of Project reservoirs (such as public access areas). Preliminary study results indicate that algaecide can be successful in reducing algal concentration while also reducing microcystin concentrations.

In 2013, PacifiCorp isolated a portion of Long Gulch Cove in Iron Gate reservoir with a geotextile curtain to evaluate different treatment depths so that the persistence of the effects of the treatment could be evaluated.

A draft report on the study results was submitted for the IMIC's review in April 2013, and PacifiCorp is currently evaluating comments on the draft report. A final report with a response to comments is expected in July 2013. Future study work in this area includes earlier application of the algaecide to assess its effectiveness in preventing a large cyanobacteria bloom.



7.12.6 Klamath Tracking and Accounting Program

PacifiCorp is working in cooperation with the North Coast Regional Water Quality Control Board (NCRWQCB), Oregon Department of Environmental Quality (ODEQ), and United States Environmental Protection Agency (USEPA) Regions 9 and 10 and other interested parties in developing the Klamath Tracking and Accounting Program (KTAP) through which

water quality improvements can be tracked and investments in water quality improvements can be identified to maximize the benefits of water quality improvement investments. A Protocol Handbook was completed in 2012 and PacifiCorp remains engaged in this process.

PacifiCorp participated in the April 2011 KTAP training and has contracted with The Freshwater Trust (TFT) on a nutrient reduction pilot project in the Klamath River basin. TFT will assist in evaluating the protocols developed by KTAP that will account for and track the water quality benefits derived from restoration projects. The goal of the pilot project is to reduce phosphorus loads through livestock exclusion and use the KTAP protocols and analytical tools to track and account for the resulting phosphorus reductions.

7.12.7 Planning and Design for a Demonstration Wetlands Facility Adjacent to the Klamath River

PacifiCorp proposes the concept of a demonstration wetlands facility (DWF) adjacent to the upper Klamath River to provide an important opportunity for interested stakeholders and researchers to investigate the site-specific requirements, effectiveness, feasibility, and costs of wetland technologies in the Upper Klamath basin. This information would be valuable for future planning, design, and ultimate implementation of wetland technologies to improve water quality in the Upper Klamath basin.

Based on IMIC recommendations, PacifiCorp formed a Technical Advisory Committee (TAC) comprised of local and regional water quality experts from state, federal, tribal and private organizations to move forward with further DWF planning during 2013-2014. Since October 2013, the TAC has been engaged in at least monthly conference calls to discuss various aspects and concepts of the DWF. A draft plan was submitted to the TAC in April 2014 and is still in the review process. A site visit to potential DWF sites is scheduled for July 2014

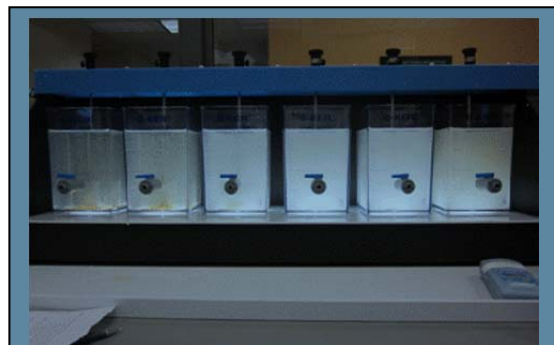
and a final study plan is expected in August 2014.

7.12.8 Pilot Study of Nutrient Reduction Methods in Klamath Basin Water Bodies

The purpose of this study is to conduct a proof-of-concept level investigation of potential approaches to reducing nutrient concentrations, notably phosphorus (P), as a means for overall water quality improvement in Upper Klamath Lake (UKL), Keno Reservoir, and the Klamath River and reservoirs (J.C. Boyle, Copco, and Iron Gate) downstream. This pilot study will assess the effects of treating isolated volumes of water from the area to reduce nutrient concentrations (and associated algae growth and biomass effects) through flocculation, binding, or sequestration experiments in discrete containers (i.e., bench scale testing).

A draft study plan outlining six different potential treatment agents was reviewed by the IMIC. Based on the IMIC and the TAC recommendations, a final study plan approach using four agents is being implemented in July 2014. The four agents selected for the laboratory-based bench testing, including:

- Lanthanum-modified bentonite clay (Phoslock™)
- Aluminum-modified zeolite (Z2G1 or Aqual P™)
- Polyaluminum hydroxychloride (PACI)
- Alum (aluminum sulfate buffered with sodium aluminate)



Jar testing setup for laboratory bench testing

7.13 Interim Measure 12: J.C. Boyle Bypass Reach and Spencer Creek Gaging

PacifiCorp shall install and operate stream gages at the J.C. Boyle Bypass Reach and at Spencer Creek. The J.C. Boyle Bypass Reach gaging station will be located below the dam and fish ladder and fish bypass outflow, but above the springs in order to record flow releases from J.C. Boyle Dam. The Spencer Creek gage will utilize an existing Oregon Water Resources Department gaging location. It is assumed that the required measurement accuracy will be provided using stage gaging at existing channel cross-sections with no need for constructed weirs. The installed stream gages shall provide for real-time reporting capability for half-hour interval readings of flow and gage height, accessible via an agreed-upon website, until such time as it is accessible on the USGS website. The Spencer Creek gage shall be installed in time to provide flow indication for Iron Gate Flow Variability (ICP Interim Measure 5). Both gages shall be installed and functional prior to September 1, 2010. Installation of the bypass gage, and measurement and maintenance shall conform to USGS standards. The Spencer Creek gage will be maintained according to USGS standards, as applicable.

PacifiCorp completed installation of the J.C. Boyle bypass reach gage in 2011 and the gage is functional and logging data. Gaging data for the J.C. Boyle bypass reach gage is available at:

<http://www.pacificorp.com/es/hydro/hl/wr/kr.html>

Gaging data for the Spencer Creek gage is available at the following website:

http://apps.wrd.state.or.us/apps/sw/hydro_near_real_time/display_hydro_graph.aspx?station_nbr=11510000

7.14 Interim Measure 13: Flow Releases and Ramp Rates

PacifiCorp will maintain current operations including instream flow releases of 100 cubic feet per second (cfs) from J.C. Boyle Dam to the J.C. Boyle bypass reach and a 9-inch per hour ramp rate below the J.C. Boyle powerhouse prior to transfer of the J.C. Boyle facility.

Provided that if anadromous fish have volitional passage to the J.C. Boyle bypass reach after removal or partial removal of the lower dams and before J.C. Boyle is transferred, PacifiCorp will operate J.C. Boyle as a run of river facility with a targeted ramp rate not to exceed 2 inches per hour, and flows will be provided in the J.C. Boyle bypass reach to provide for the appropriate habitat needs of the anadromous fish species. The operation will also avoid and minimize take of any listed species present. Daily flows through the J.C. Boyle powerhouse will be informed by reservoir inflow gages below Keno Dam and at Spencer Creek. Provided further that if anadromous fish have volitional passage upstream of Iron Gate Dam before the Copco Facilities are transferred, PacifiCorp will operate the remaining Copco Facility that is furthest downstream as a run of the river facility with a targeted ramp rate not to exceed 2 inches per hour and coordinate with NMFS and FWS to determine if any other flow measures are necessary to avoid or minimize take of any listed species present. In either event, flows in the respective bypass reaches will be based on species-specific habitat needs identified by the IMIC.

The Parties agree that if dam removal occurs in a staged manner, J.C. Boyle is intended to be the last dam decommissioned. If, however, the Secretarial Determination directs a different sequence for Decommissioning and Facilities Removal, then the Parties

shall Meet and Confer to identify adjustments necessary to implement the Secretarial Determination in a manner that is consistent with PacifiCorp's Economic Analysis.

PacifiCorp is maintaining flow releases and ramp rates consistent with the existing FERC license and the requirements of applicable biological opinions as contemplated by this interim measure.

7.15 Interim Measure 14: 3,000 cfs Power Generation

Upon approval by OWRD in accordance with Exhibit 1, PacifiCorp may divert a maximum of 3,000 cfs from the Klamath River at J.C. Boyle dam for purposes of power generation at the J.C. Boyle Facility prior to decommissioning of the facility. Such diversions shall not reduce the minimum flow releases from J.C. Boyle dam required of PacifiCorp under Interim Measure 13. The implementation of this interim measure shall not: reduce or adversely affect the rights or claims of the Klamath Tribes or the Bureau of Indian Affairs for instream flows; affect the operation of Link River dam or Keno Dam or any facility of the Klamath Reclamation Project; or otherwise adversely affect lake levels at Upper Klamath Lake, flows in Link River, or Keno reservoir elevations. Within 9 months of the Effective Date, PacifiCorp and the Committee shall develop a protocol for quantifying and managing any additional flows in the Klamath River made available through implementation of the KBRA and for coordinating with operation



Juvenile Coho Salmon

of the J.C. Boyle Facility the timing and manner of release of such KBRA flows to meet fish habitat needs.

As contemplated by this interim measure and pursuant to the Water Rights Agreement between PacifiCorp and the State of Oregon contained in Exhibit 1 of the KHSA, the OWRD issued a limited license to PacifiCorp on April 20, 2010, authorizing diversions to the J.C. Boyle powerhouse of up to 3,000 cfs. This limited license was renewed on March 9, 2011, and again on May 24, 2012. During the August 18, 2010 meeting, the IMIC discussed the framework of a protocol to quantify and manage any additional flows in the Klamath River made available through implementation of the KBRA and to coordinate the release of those flows with the operation of the J.C. Boyle facility. The protocol was reviewed and approved by the IMIC at the November 16, 2010 meeting.

7.16 Interim Measure 15: Water Quality Monitoring

PacifiCorp shall fund long-term baseline water quality monitoring to support dam removal, nutrient removal, and permitting studies, and also will fund blue-green algae (BGA) and BGA toxin monitoring as necessary to protect public health. Funding of \$500,000 shall be provided per year. The funding shall be made available beginning on April 1, 2010 and annually on April 1 until the time the dams are removed. Annual coordination and planning of the monitoring program with stakeholders will be performed through the Klamath Basin Water Quality Group or an entity or entities agreed upon by the Parties and in coordination with the appropriate water quality agencies. The Regional Board and ODEQ will take responsibility for ensuring that the planning documents will be completed by April 1 of each year. Monitoring will be performed by the Parties within their areas of regulatory compliance or Tribal responsibility or, alternatively, by an entity or entities

agreed upon by the Parties. Monitoring activities will be coordinated with appropriate water quality agencies and shall be conducted in an open and transparent manner, allowing for participation, as desired, among the Parties and water quality agencies.

Significant disputes that may arise between the Parties, or with the Regional Board, regarding the monitoring plan content or funding will be resolved by the Implementation Committee, acting on input and advice, as necessary, from the water quality agencies. Notwithstanding the forgoing, the Oregon Department of Environmental Quality and the California State Water Resources Control Board shall make final decisions regarding spending of up to \$50,000 dedicated to BGA and BGA toxin monitoring as necessary to protect public health.

PacifiCorp is now in the sixth year (2014) of funding baseline water quality monitoring consistent with this interim measure, which was begun under the AIP. Annual planning, coordination and monitoring for Interim Measure 15 is done collaboratively with PacifiCorp, ODEQ, NCRWQCB, USEPA Region 9, the Karuk and Yurok Tribes, and Reclamation. The baseline monitoring program occurs over approximately 250 miles of river and reservoirs waters from Link dam near Klamath Falls to the Klamath River estuary near Klamath, CA throughout most of the year. Parameters measured include basic water quality (temperature, dissolved oxygen, pH, and conductivity) and a suite of nutrients.

The public health monitoring component is intended to provide timely information that can be used to inform public health agencies if cyanobacteria are present, generating toxins of concern; and to determine the need to post warning notices and issue advisories for the reservoirs and/or areas of the river. The public health monitoring is done on a more frequent basis (e.g., weekly) at public access points along Copco and Iron Gate reservoirs and the Klamath

River. Water samples are rushed for analysis and results are immediately forwarded to public health entities. Bi-weekly public health memos that summarize all the public health data are provided by each monitoring entity to California’s Klamath Basin Monitoring Program (KBMP) website (<http://www.kbmp.net/blue-green-algae-tracker>).



Water Quality Sampling in Iron Gate Reservoir

Interim Measure 15 water quality monitoring is coordinated to ensure appropriate quality assurance protocols and standard operating procedures, with transparency a key element of the program. Study plans, laboratory comparison memos, annual summary reports and data are available on the KBMP website (<http://www.kbmp.net>).

A special study by the Karuk and Yurok tribes was begun in 2011 and is continuing for characterizing the periphyton algal community in the Klamath River. The lack of periphyton community information has been identified as a data gap in the understanding of Klamath River water quality and the development of this data will be useful for assessing long-term changes that may occur with planned dam removal.

7.17 Interim Measure 16: Water Diversions

PacifiCorp shall seek to eliminate three screened diversions (the Lower Shovel Creek Diversion – 7.5 cfs, Claim # S015379; Upper Shovel Creek Diversion – 2.5 cfs, Claim # S015381; and Negro Creek Diversion – 5 cfs, Claim # S015380) from

Shovel and Negro Creeks and shall seek to modify its water rights as listed above to move the points of diversion from Shovel and Negro Creeks to the mainstem Klamath River. Should modification of the water rights be feasible, and then successful, PacifiCorp shall remove the screened diversions from Shovel and Negro creeks associated with PacifiCorp's water rights prior to the time that anadromous fish are likely to be present upstream of Copco reservoir following the breach of Iron Gate and Copco dams. To continue use of the modified water rights, PacifiCorp will install screened irrigation pump intakes, as necessary, in the Klamath River. The intent of this measure is to provide additional water to Shovel and Negro creeks while not significantly diminishing the water rights or the value of ranch property owned by PacifiCorp. Should costs for elimination of the screened diversions and installation of a pumping system to provide continued use of the water rights exceed \$75,000 then the Parties will Meet and Confer to resolve the inconsistency.

Implementation of this measure to relocate irrigation diversions on tributaries above Copco Reservoir is not contemplated to occur until just prior to the reintroduction of anadromous fish as a result of potential dam removal.

7.18 Interim Measure 17: Fall Creek Flow Releases

Within 90 days of the Effective Date and during the Interim Period for the duration of its ownership while this Settlement is in effect, PacifiCorp shall provide a continuous flow release to the Fall Creek bypass reach targeted at 5 cfs. Flow releases shall be provided by stoplog adjustment at the diversion dam and shall not require new facility construction or the installation of monitoring equipment for automated flow adjustment or flow telemetry.

Additionally, if anadromous fish have passage to the Fall Creek following removal of the California dams, flows will be provided in the Fall Creek bypass reach to provide for the appropriate habitat needs of the anadromous fish species of any kind that are naturally and volitionally present in the Fall Creek bypass reach. Flows will be based on species specific habitat needs identified by the IMIC. The operation will also avoid and minimize take of any listed species present.

Pursuant to Interim Measure 17, PacifiCorp adjusted instream flow releases in the Fall Creek bypass reach from 0.5 cfs to 5 cfs on May 18, 2010. The additional instream flow release is being provided through an existing bypass culvert at the Fall Creek diversion dam. PacifiCorp's operations staff monitors this flow release during the course of their routine visits to the Fall Creek diversion dam to ensure that the instream flow is maintained.

7.19 Interim Measure 18: Hatchery Funding

Beginning in 2010, PacifiCorp shall fund 100 percent of Iron Gate Hatchery operations and maintenance necessary to fulfill annual mitigation objectives developed by the California Department of Fish and Wildlife in consultation with the National Marine Fisheries Service and consistent with existing FERC license requirements. PacifiCorp shall provide funding of up to \$1.25 million dollars per year for operations and maintenance costs, subject to adjustment for inflation as set forth in Section 6.1.5 of the Settlement. These operations and maintenance costs shall include a program for 25 percent fractional marking of chinook at the Iron Gate Hatchery facilities as well as the current 100 percent marking program for coho and steelhead. Labor and materials costs associated with the 25 percent fractional marking program (fish marking, tags, tag recovery, processing, and data entry) shall be included within these

operations and maintenance costs. This operations and maintenance funding will continue until the removal of Iron Gate Dam.

PacifiCorp will provide one-time capital funding of \$1.35 million for the 25 percent fractional marking program. This funding will include the purchase of necessary equipment (e.g., electrical upgrades, automatic fish marking trailer, tags and a wet lab modular building for processing fish heads). PacifiCorp will ensure the automatic fish marking trailer is available for use by April 2011. PacifiCorp is not responsible for funding the possible transition to a 100 percent Chinook marking program in the future.



PacifiCorp owns the Iron Gate Hatchery and the current Project license requires PacifiCorp to fund 80 percent of Iron Gate Hatchery operations and maintenance costs, with the remainder provided by CDFW. However, under this interim measure PacifiCorp has assumed funding 100 percent of these costs. Consistent with the interim measure, PacifiCorp purchased a fish marking system for the Iron Gate Hatchery to provide 25 percent constant fractional marking of Chinook salmon produced at the hatchery, which was begun in 2009. The marking trailer was first used in the spring of 2011. The increased marking percentage at Iron Gate hatchery is expected to provide better data on the contribution of the hatchery to basin salmon escapement, which should

improve fisheries management. PacifiCorp worked closely with CDFW on the specification and purchase of a wet lab modular building to be used by CDFW for reading tag data on returning adult salmon. This building was completed in September 2012 and will improve acquisition of this important resource management information.

7.20 Interim Measure 19: Hatchery Production Continuity

Within 6 months of the Effective Date of the Settlement, PacifiCorp will begin a study to evaluate hatchery production options that do not rely on the current Iron Gate Hatchery water supply. The study will assess groundwater and surface water supply options, water reuse technologies or operational changes that could support hatchery production in the absence of Iron Gate Dam. The study may include examination of local well records and the feasibility of increasing the production potential at existing or new hatchery facilities in the basin.

Based on the study results, and within 6 months following an Affirmative Determination, PacifiCorp will propose a post-Iron Gate Dam Mitigation Hatchery Plan (Plan) to provide continued hatchery production for eight years after the removal of Iron Gate Dam. PacifiCorp's 8 year funding obligation assumes that dam removal will occur within one year of cessation of power generation at Iron Gate Dam. If dam removal occurs after one year of cessation of power generation at Iron Gate Dam, then the Parties will Meet and Confer to determine appropriate hatchery funding beyond the 8 years. PacifiCorp's Plan shall propose the most cost effective means of meeting hatchery mitigation objectives for eight years following removal of Iron Gate Dam. Upon approval of the Plan by the California Department of Fish and Game and the National Marine Fisheries Service, PacifiCorp will begin

implementation of the Plan. Plan implementation may include PacifiCorp contracting with the owners or administrators of other identified hatchery facilities and/or funding the planning, design, permitting, and construction of measures identified in the Plan as necessary to continue to meet mitigation production objectives. Five years after the start of Plan implementation, PacifiCorp, the California Department of Fish and Game and the National Marine Fisheries Service shall meet to review the progress of Plan implementation. The five year status review will also provide for consideration of any new information relevant to Plan implementation. Plan implementation shall ultimately result in production capacity sufficient to meet hatchery mitigation goals for the eight year period being in place and operational upon removal of Iron Gate Dam.

PacifiCorp has begun the study to evaluate hatchery production options that do not rely on the current Iron Gate Hatchery water supply. PacifiCorp engineering and environmental staff are researching available water supply options in the area and historic records on hatchery water supply options considered at the time Iron Gate Hatchery was constructed. PacifiCorp, in consultation with CDFG, has developed preliminary alternatives for continued hatchery operations that are being evaluated with further engineering and economic analysis to develop a feasibility study of potential hatchery alternatives that could be employed following the removal of Iron Gate dam.

7.21 Interim Measure 20: Hatchery Funding After Removal of Iron Gate Dam

After removal of Iron Gate Dam and for a period of eight years, PacifiCorp shall fund 100 percent of hatchery operations and maintenance costs necessary to fulfill annual mitigation objectives developed by the California Department of Fish and

Game in consultation with the National Marine Fisheries Service. The hatchery mitigation goals will focus on Chinook production, with consideration for steelhead and coho, and may be adjusted downward from current mitigation requirements by the California Department of Fish and Game and National Marine Fisheries Service, in consultation with the other Klamath River fish managers, in response to monitoring trends.



State-of-the-Art Marking and Recording Equipment at Iron Gate Hatchery

No implementation actions have occurred for this interim measure given that this requirement begins only following removal of Iron Gate dam.

7.22 Interim Measure 21: BLM Land Management Provisions

Beginning in 2010 and continuing until transfer of the J.C. Boyle facility, PacifiCorp shall fund land management activities by the Bureau of Land Management as specified in this interim measure. BLM will provide PacifiCorp an annual Work Plan for the management measures described below for road maintenance, invasive weed management, cultural resource management, and recreation. The Work Plan will include the status of Work Plan tasks from the prior year, a description of the prioritized tasks for the upcoming year, and their estimated costs.

PacifiCorp or BLM will mutually establish the annual delivery date of the Work Plan taking into consideration fiscal and maintenance calendars and may request a meeting to coordinate the content of the plan. PacifiCorp will provide funding within 60 days of concurring with the Work Plan. Administrative services, environmental review or permitting efforts, if necessary, to implement actions under the funds shall not require additional PacifiCorp funding beyond the amounts specified below.

A. PacifiCorp shall provide up to \$15,000 per year to BLM towards projects identified through the coordination process described above for the purpose of road maintenance in the Klamath Canyon. This funding will be used to annually maintain the access road from State Highway 66 to the J.C. Boyle Powerhouse and terminate at the BLM Spring Island Boat Launch. Remaining funds will be used to do non-recurring road maintenance work on roads within the Canyon as mutually agreed upon in writing by BLM and PacifiCorp.

B. PacifiCorp shall provide up to \$10,000 per year to BLM for use by the Oregon Department of Agriculture (ODA) towards projects identified through the coordination process described above for the purpose of integrated weed management of invasive weed species along the road system and river corridor within the Klamath Canyon. Noxious weed control projects will be coordinated with Siskiyou County to ensure that weeds are controlled along the river corridor from the Oregon-California boundary to the top of Copco Reservoir.

C. PacifiCorp shall provide up to \$10,000 per year to BLM towards projects identified through the coordination process described above for the management of the following 5 BLM cultural sites which are within, or partially within, the T1 terrace of the J.C. Boyle full flow reach: 35KL21/786, 35KL22, 35KL24, 35KL558, and 35KL577.

Management of additional sites with these funds can occur with mutual written agreement between PacifiCorp and BLM.

D. PacifiCorp shall provide up to, but no more than, \$130,000 in funding for the development and implementation of a Road Management Plan to be implemented during the Interim Period. The Road Management Plan shall be developed by BLM and PacifiCorp and will determine priorities for operation and maintenance, including remediation or restoration of redundant or unnecessary facilities, of the shared BLM/PacifiCorp road system within the Klamath River Canyon from J.C. Boyle Dam to the slack water of Copco Reservoir.

For 2014, the BLM will continue to use funding under this interim measure for cultural resources, road maintenance, and invasive weed management. Recent actions implemented under this interim measure include the following:

- Cultural Resources: Perform detailed monitoring and re-recording of cultural sites including updating baseline data for each of the sites, including site location and sketch maps, site conditions, and the acquisition of new GIS data.
- Road Maintenance: In 2013, approximately 4.78 miles of Topsy Road road from Highway 66 to Topsy Campground were graded and additional road surfacing will be completed between J.C. Boyle dam and Highway 66.
- Invasive Weed Management: the BLM has outlined a ten year plan for addressing invasive weed management in the defined corridor. The product of this work will be information that will allow land managers to determine the best strategy for future integrated weed management activities. Work now underway will include treatments for invasive weeds within 4,390 acres of the Klamath River Canyon in both Oregon and California.



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