

# **Attachment B**

**(to PacifiCorp's June 21, 2011  
Request for Amendment to SWRCB  
Resolution Nos. 2010-0024 and 2010-0049)**

# Klamath Hydroelectric Settlement Agreement

## Implementation Report

### Klamath Hydroelectric Project



FERC Project No. 2082



June 2011



## Executive Summary

This report highlights the accomplishments and activity related to implementation of the Klamath Hydroelectric Settlement Agreement since its execution on February 18, 2010.

### Dam Removal Funding

PacifiCorp sought, and on September 16, 2010 received, a final order from the Oregon Public Utility Commission authorizing dam removal surcharges for Oregon customers. The Oregon customer surcharge, with accrued interest, is designed to provide approximately \$184 million for dam removal in 2020. The trust accounts have a current balance of \$17.7 million as of May 31, 2011.

The California Public Utilities Commission issued a decision on May 6, 2011 approving a dam removal surcharge for California customers. The California surcharge, with accrued interest, is designed to provide approximately \$16 million in funding for dam removal in 2020.

The Oregon and California surcharges are designed to provide the full \$200 million capped amount PacifiCorp customers will contribute towards dam removal under the KHSA.

### Federal Legislation

Non-federal parties to the agreement, including PacifiCorp, agreed upon and completed consensus draft legislation that would implement both the Klamath Hydroelectric Settlement Agreement (KHSA) and the Klamath Basin Restoration Agreement. The measure was presented in August 2010 to Congressional offices and committees and the Administration and awaits action in Washington, D.C.

### Studies and Environmental Review

PacifiCorp continues to cooperate with relevant federal and state agencies in the environmental review and study processes outlined in the KHSA that will allow the Department of the

Interior to collect the necessary information to inform the Secretarial Determination on whether to proceed with facilities removal. Aspects of this cooperation include the transfer of project-related engineering and operational information necessary to develop a detailed plan for facilities removal, as well as close coordination on field sampling and site inspection work necessary to complete required studies.

### Interim Measures

PacifiCorp has begun implementing the 21 interim measures specified in the KHSA to adjust project operations and flow releases to improve environmental conditions, fund fish habitat enhancement projects and support fish disease research activities, and increase support for ongoing hatchery operations. Among the accomplishments is the development of a comprehensive coho salmon conservation strategy included in a Habitat Conservation Plan that will guide the implementation of interim measures to benefit coho salmon during the interim period prior to anticipated dam removal. In addition, a Hatchery and Genetics Management Plan for Iron Gate Hatchery has been developed in conjunction with the California Department of Fish and Game and early implementation of improvements to hatchery operations has begun. Other steps include continued support for comprehensive monitoring of Klamath River water quality and the initiation of studies that will help develop various water quality improvement projects that would be implemented following an affirmative Secretarial Determination to proceed with removal of the dams.

PacifiCorp is pleased with the progress made in implementing the KHSA and appreciates the efforts and involvement of the numerous KHSA parties, tribes, and involved state and federal agencies who have contributed to the implementation activities noted in this report.



## Contents

<b>1.0</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Background .....	1
<b>2</b>	<b>Parties to the Klamath Settlement Agreement.....</b>	<b>5</b>
<b>3</b>	<b>Funding .....</b>	<b>6</b>
3.1	Customer Contributions.....	6
3.1.1	Oregon Public Utility Commission Proceedings .....	6
3.1.2	California Public Utilities Commission Proceedings .....	6
3.1.3	Management of the Trust Accounts .....	7
3.2	State of California Funding .....	7
<b>4</b>	<b>Federal Legislation.....</b>	<b>8</b>
<b>5</b>	<b>Studies, Environmental Review, and Secretarial Determination.....</b>	<b>9</b>
<b>6</b>	<b>Interim Operations .....</b>	<b>10</b>
6.1	Lease of State-Owned Beds and Banks.....	10
6.2	Keno Transfer.....	10
6.3	Local Community Power .....	10
6.4	Abeyance of Section 401 Water Quality Certification Process.....	10
6.5	TMDLs .....	11
<b>7</b>	<b>Interim Measures Implementation .....</b>	<b>12</b>
7.1	Interim Measures Implementation Committee (IMIC) Meeting Dates and Members .....	12
7.2	Interim Conservation Plan Interim Measures and Endangered Species Act Regulatory Process .....	13
7.3	Interim Measure 2: California Klamath Restoration Fund / Coho Enhancement Fund .....	14
7.4	Interim Measure 3: Iron Gate Turbine Venting .....	15
7.5	Interim Measure 4: Hatchery and Genetics Management Plan .....	15
7.6	Interim Measure 5: Iron Gate Flow Variability .....	16
7.7	Interim Measure 6: Fish Disease Relationship and Control Studies .....	17
7.8	Interim Measure 7: J.C. Boyle Gravel Placement and/or Habitat Enhancement .....	18
7.9	Interim Measure 8: J.C. Boyle Bypass Barrier Removal .....	18
7.10	Interim Measure 9: J.C. Boyle Powerhouse Gage.....	19

7.11 Interim Measure 10: Water Quality Conference ..... 19

7.12 Interim Measure 11: Interim Water Quality Improvements ..... 20

7.13 Interim Measure 12: J.C. Boyle Bypass Reach and Spencer Creek Gaging ..... 21

7.14 Interim Measure 13: Flow Releases and Ramp Rates..... 22

7.15 Interim Measure 14: 3,000 cfs Power Generation ..... 22

7.16 Interim Measure 15: Water Quality Monitoring ..... 23

7.17 Interim Measure 16: Water Diversions ..... 24

7.18 Interim Measure 17: Fall Creek Flow Releases ..... 25

7.19 Interim Measure 18: Hatchery Funding..... 25

7.20 Interim Measure 19: Hatchery Production Continuity ..... 26

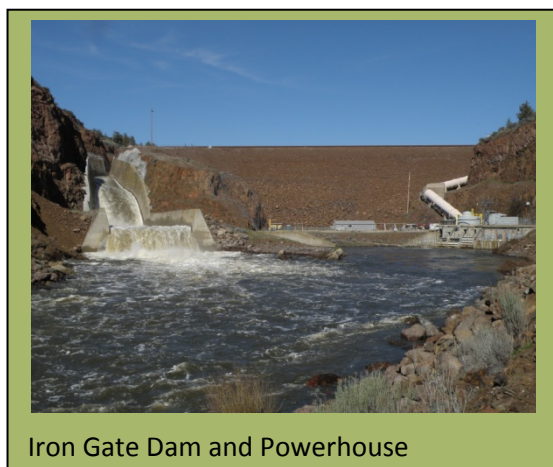
7.21 Interim Measure 20: Hatchery Funding After Removal of Iron Gate Dam ..... 27

7.22 Interim Measure 21: BLM Land Management Provisions ..... 27

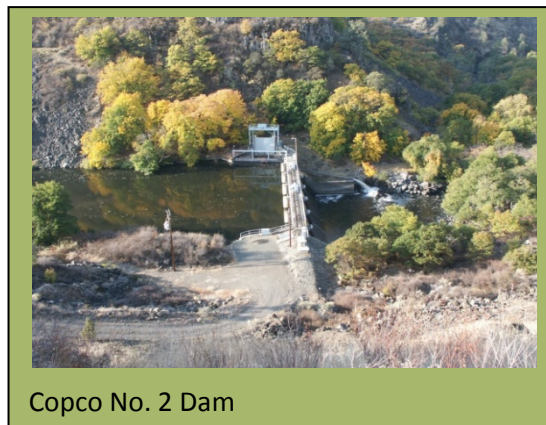
## 1.0 Introduction

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 (KHSAs). The KHSAs lay 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 KHSAs include 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 KHSAs also contain a set of interim measures that PacifiCorp will implement during the period prior to potential dam removal to improve water quality, fish habitat conditions, support and improve hatchery operations, and benefit environmental resources in the Klamath basin. A copy of the KHSAs can be found on PacifiCorp's website at:

[http://www.pacificorp.com/content/dam/pacificorp/doc/Energy\\_Sources/Hydro/Hydro\\_Licensing/Klamath\\_River/KHSAwSignatures.pdf](http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Klamath_River/KHSAwSignatures.pdf)



Iron Gate Dam and Powerhouse



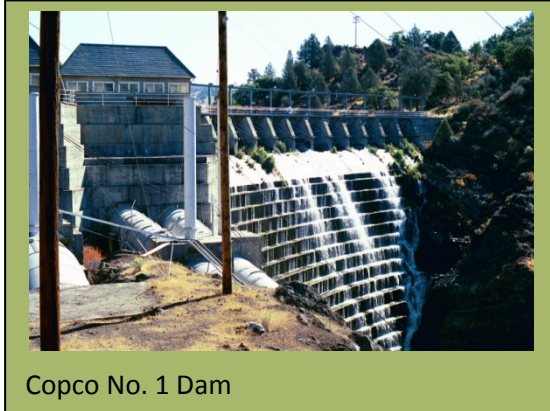
Copco No. 2 Dam

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

### 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. Operation of the Project, with the exception of Fall Creek, is made possible from water releases from the U.S. Bureau of Reclamation (Reclamation) from Upper Klamath Lake via Link River dam (RM 254.3).





Copco No. 1 Dam

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 rates<sup>1</sup> 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 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.

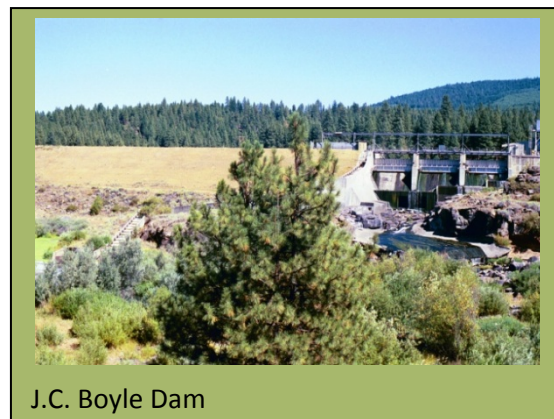
After five years of negotiations, the KHSA was signed by the involved parties on February 18, 2010 and identifies a process and path forward that provides for the decommissioning and removal of Iron Gate, Copco No. 2, Copco No. 1,

<sup>1</sup> 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.”

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. The Secretarial Determination is now underway and scheduled to be completed by March 31, 2012.

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



J.C. Boyle Dam

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 amended by 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.

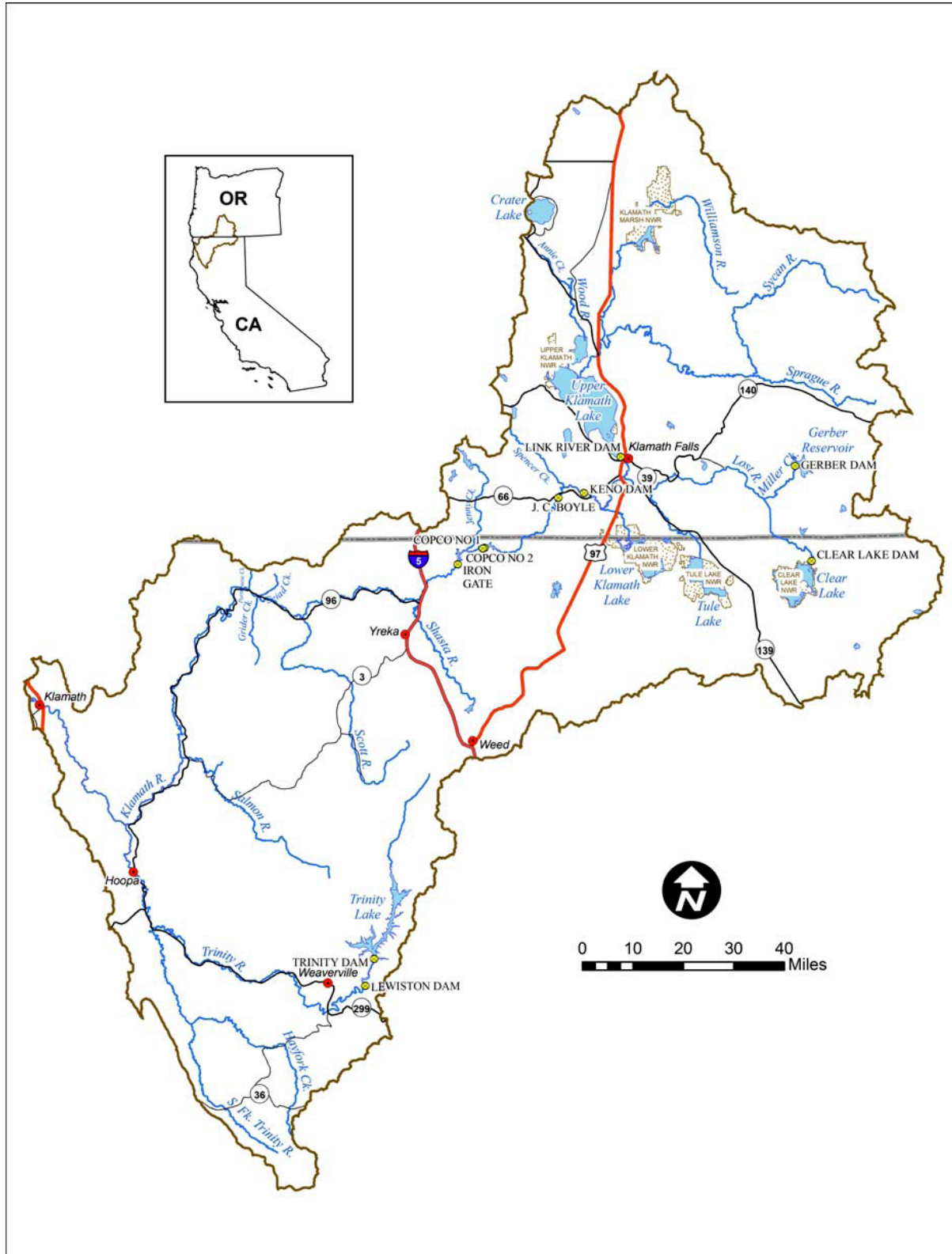


Figure 1  
Klamath Basin Map

## 2 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 Game  
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 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 Oregon Public Utility Commission with an independent financial institution. As of May 31, 2011, the balance of the Oregon customer dam removal trust accounts was as follows:

J.C. Boyle Trust Account	\$4,427,146.57
Copco 1, Copco 2, and Iron Gate Trust Account	<u>\$13,284,075.59</u>
<b>Total</b>	<b>\$17,711,222.16</b>

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 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 must be established by the California Public Utilities Commission before PacifiCorp can begin collecting the surcharge.

The CPUC final decision is available at:

[http://docs.cpuc.ca.gov/PUBLISHED/FINAL\\_DECISION/134812.htm](http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/134812.htm)

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

### **3.1.3 Management of the Trust Accounts**

Pursuant to KHSA Section 4.2.4, the States in consultation with the federal parties are to prepare draft trustee instructions for submission to the respective PUCs within six months of the Effective Date of the KHSA. This condition remains unmet. With the approval of the customer surcharges in both states, establishment of trustee instructions is necessary such that funds can be disbursed from the trust accounts following an affirmative Secretarial Determination, should that occur.

## **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, included 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 2012.

## 4 Federal Legislation

The non-federal parties to the KHSA have agreed upon and completed a consensus draft of a "Klamath Basin Act" that would implement both the KHSA and the Klamath Basin Restoration Agreement (KBRA) as separate titles in a bill. This measure was presented to Congressional offices, Committees and the Administration in August of 2010. Although no action was taken on the measure in the last months of the 111<sup>th</sup> Congress, non-federal signatories have respectfully requested that the 112<sup>th</sup> Congress enact the measure and provide Federal officers with the legal authorities necessary to implement KHSA. If approved by Congress and consistent with the KHSA, the Secretary of the Interior will determine whether to remove the Klamath Hydroelectric Project facilities based on the unique standard and procedures set forth in the KHSA. The non-federal parties to KHSA continue to work with the Congressional delegations from Oregon and California in support of introduction, hearing and enactment of the Klamath Basin Act in the first session of the 112<sup>th</sup> Congress.

## **5 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. Public NEPA scoping for the Secretarial Determination process was conducted during summer 2010. Information on the studies and NEPA process can be found at the website [KlamathRestoration.gov](http://KlamathRestoration.gov).

PacifiCorp has been fully cooperating with relevant federal and state agencies in the environmental review and study process, and the development, by the Department of the Interior, of a 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 many other activities to allow the Department of the Interior to develop necessary information for the Secretarial Determination process.



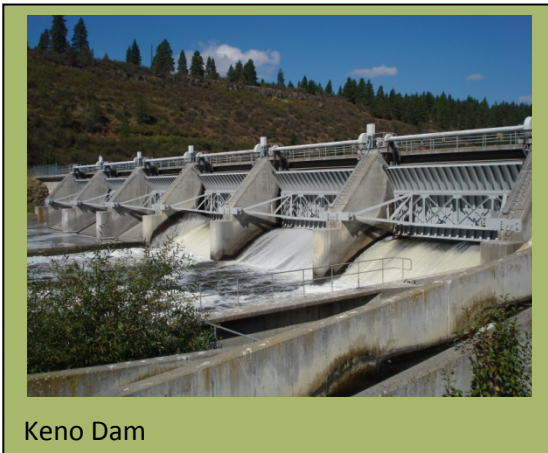
## 6 Interim Operations

### 6.1 Lease of State-Owned Beds and Banks

Pursuant to KHSA Section 2.5, PacifiCorp submitted special use applications to the Oregon Department of State Lands on April 16, 2010 for leases authorizing occupancy of submerged and submersible lands occupied by J.C. Boyle and Keno dams. PacifiCorp and the State of Oregon expect to execute leases for J.C. Boyle and Keno dams in June 2011.

### 6.2 Keno Transfer

Pursuant to KHSA Section 7.5.2, PacifiCorp and the Bureau of Reclamation (Reclamation) have conducted conference calls and shared information on the potential transfer of the Keno development to Reclamation. PacifiCorp has cooperated with Reclamation in completing a Safety of Dams Inspection of the Keno development, as well as transferring project drawings and information necessary for the Department of the Interior to complete the Keno facility study process described in KHSA Section 7.5.1. Reclamation is continuing its studies of Keno facility transfer and PacifiCorp and Reclamation are discussing the framework for a transfer agreement for the Keno facility. PacifiCorp and Reclamation expect to have an agreement in principle for Keno transfer shortly.



Keno Dam

### 6.3 Local Community Power

Pursuant to Section 5.3, Interior and PacifiCorp are in discussions regarding eligible irrigation loads that may qualify for federal power. When Interior has identified all loads that may transition to federal power, PacifiCorp and Interior plan to gather necessary load information to inform planning on the delivery of federal power to serve eligible loads, will develop a common standard for metering, communication, and infrastructure improvements necessary for irrigation loads to transition to federal power, as well as the likely costs involved. This process will develop cost information necessary for potential participants in this program to assess whether they wish to transition their irrigation loads to federal power.

### 6.4 Abeyance of Section 401 Water Quality Certification Process

The KHSA, at Section 6.5, provides for the abeyance of the 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. Abeyance of the 401 process relieves the states of the burden of processing certification applications during the Interim Period of dam removal analysis pursuant to the KHSA, but preserves the full authority of the states to condition the Project through the 401 certification process should dam removal under the KHSA not occur. During the Interim Period PacifiCorp is required to fund and implement Interim Water Quality Measures and other Measures pursuant to the KHSA.

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 licensing activities 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. On September 16, 2010, PacifiCorp filed a request to the SWRCB to amend its abeyance resolution to accommodate the fact that federal legislation was not introduced in Congress by June 18, 2010. A number of parties to the KHSA wrote the SWRCB to express support for this request and the abeyance resolution was amended on October 5, 2010 to incorporate a May 17, 2011 milestone for enacting federal legislation. Pursuant to the SWRCB's October 5, 2010 Resolution, the KHSA Parties have 90 days from May 17, 2011 to obtain a modification to the Resolution given that federal legislation has not yet been enacted.

prior to potential transfer of the Project to the Dam Removal Entity in 2020.

In a letter to the SWRCB dated August 25, 2010, PacifiCorp withdrew and simultaneously resubmitted its request for Section 401 certification from California in order to provide an additional year for the SWRCB to act on the certification request during the abeyance of the certification process. Similarly, in a letter to ODEQ dated January 10, 2011, PacifiCorp withdrew and simultaneously resubmitted its request for Section 401 certification from Oregon in order to provide an additional year for ODEQ to act on the certification request during the abeyance of the certification process.

## 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 Oregon Department of Environmental Quality's issuance of the "Upper Klamath and Lost River Subbasins Total Maximum Daily Load" (TMDL) on December 21, 2010. These plans specify the interim water quality measures that PacifiCorp will implement

## 7 Interim Measures Implementation

### 7.1 Interim Measures Implementation Committee (IMIC) Meeting Dates and Members

#### Purpose and Goal of Committee

The purpose of the Interim Measures Implementation Committee (IMIC or Committee) 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 Settlement. 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 Settlement.

Thursday, May 13, 2010  
9:00 a.m. – 3:00 p.m.  
Lloyd Center Tower, 9th Floor  
Conference Room 956  
Portland, Oregon

Wednesday, August 18, 2010  
9:00 a.m. – 2:00 p.m.  
Red Lion, Douglas Fir Room  
Medford, Oregon

Tuesday, November 16, 2010  
9:00 a.m. – 2:00 p.m.  
Best Western Sutter House, Room 250  
Sacramento, California

Thursday, February 10, 2011  
10:00 a.m. – 3:00 p.m.  
Lloyd Center Tower, 15th Floor  
Conference Room 15A  
Portland, Oregon

Tuesday, May 17, 2011  
11:00 a.m. – 4:00 p.m.  
Courtyard by Marriott, 600 Airport Road  
Medford, Oregon

#### Committee Members

IMIC Member	Organization
Mike Belchik	Yurok Tribe
Crystal Bowman	Karuk Tribe
Donna Cobb	California Department of Fish and Game
Clayton Creager	North Coast Regional Water Quality Control Board
Chip Dale	Oregon Department of Fish and Wildlife
Larry K. Dunsmoor	The Klamath Tribes
Kyle Gorman	Oregon Water Resources Department
Mary Graine	Oregon Water Resources Department
Tim Hemstreet	PacifiCorp
Nick Hetrick	U.S. Fish and Wildlife Service
Jon Hicks	Bureau of Reclamation
Steve Kirk	Oregon Department of Environmental Quality

IMIC Member	Organization
Curtis Knight	California Trout
R. Craig Kohanek	Oregon Water Resources Department
Mark Pisano	California Department of Fish and Game
Linda Prendergast	PacifiCorp
Mark Rockwell	Federation of Fly Fishers, N. CA Council
Steve Rothert	American Rivers
Jim Simondet	National Marine Fisheries Service
Renee Snyder	Bureau of Land Management
Glen H. Spain	Institute for Fisheries Resources
Chris Stine	Oregon Department of Environmental Quality
Bill Tinniswood	Oregon Department of Fish and Wildlife
S. Craig Tucker	Karuk Tribe
Jennifer Watts	State Water Resources Control Board
Ted Wise	Oregon Department of Fish and Wildlife
Paul Zedonis	U.S. Fish and Wildlife Service

## 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.*

PacifiCorp is applying to the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) for ESA Section 10 permits to address potential take of listed species that could occur during the interim

period prior to project removal under the KHSA. Since 2009, PacifiCorp has worked closely with NMFS and FWS to develop applications for ESA Section 10 permits consistent with agency regulations. In February, 2011, PacifiCorp filed an application for an ESA Section 10 permit with NMFS. The permit application developed with NMFS identifies a process to implement Interim Measures, including the Coho Enhancement Fund, turbine venting, and monitoring programs, in a way that will conserve listed coho salmon. After considering public comments on the application, NMFS will determine whether to issue an Incidental Take Permit that would authorize potential take associated with Project operations and Interim Measure implementation.

Similarly, PacifiCorp has developed an application for an ESA Section 10 permit with FWS to address potential take of sucker species that could potentially occur during the interim period, prior to Project removal. The application is still under development; however,

PacifiCorp envisions filing the application for processing by FWS in June 2011. The application identifies a protocol for implementing the Sucker Enhancement Fund, and contemplates operational changes to the East Side/West Side development that will avoid take of listed suckers. After considering public comments on the application, FWS will similarly determine whether to issue an Incidental Take Permit that would authorize potential take associated with Project operations and Interim Measure implementation.

### 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 Game (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 \$1,530,000 into the Coho Enhancement Fund since the Interim Conservation Plan was released in November, 2008. Since 2009, the NMFS and



Seiad Pond Off-Channel Pond Habitat

CDFG have selected 10 fund recipients to implement 20 projects to benefit cohosalmon. 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, preliminary designs and stakeholder identification to realign Seiad Creek to a natural course to enable coho salmon potential year round habitat access.
- Karuk Tribe: Seiad Creek Channel Restoration, Phase II, final design and permitting.
- 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 that will conserve and enhance more than 6 miles of Shasta river

habitat with fencing as well as providing livestock stock water lanes.

- Gary Black, Grenada Irrigation District: Huseman Ditch point of diversion fish passage improvements allowing for 4.7 miles of stream to retain cold water.
- Scott River Water Trust: Scott River water acquisition program enabling critical coho streams to remain connected to the Scott River.
- Mid Klamath Watershed Council: Coho Rearing Habitat Enhancement with creation and restoration of more than 10 cold water refugia areas at their confluence with the middle Klamath.
- Mid Klamath Watershed Council: Middle Klamath Restoration Prioritization Project identify coho projects that will provide the greatest species benefit.

#### 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. Based upon this initial testing, a blower system was installed in 2009 to determine if forced air introduction into the Iron Gate turbine draft tube would result in additional dissolved oxygen (DO) improvement in tailrace discharges. This initial system was tested inconclusively prior to its failure shortly after it became operational. PacifiCorp installed a new blower system at the Iron Gate

powerhouse in January 2010. This blower system was successfully tested after initial installation. Based upon dissolved oxygen monitoring below the Iron Gate powerhouse indicating DO levels were dropping below 85 percent saturation, the blower system was engaged on June 30, 2010. PacifiCorp conducted additional testing this fall and monitored DO improvement resulting from the operation of this blower system. Additional testing in 2011 will evaluate different modes of operation of the turbine venting system to determine optimum system operation on an ongoing basis.

#### 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 March 17, 2011, a Hatchery and Genetic Management Plan (HGMP) for the Iron Gate Hatchery Coho Salmon Program was submitted to NMFS. The HGMP program will operate in support of the Klamath River basin's coho salmon recovery efforts by conserving a full



New Netting over Raceways at Iron Gate

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. Active broodstock management, based on real-time genetic analysis, will reduce the rate of inbreeding that has occurred in the hatchery population over time. Additionally, the increased proportion of natural-origin fish in the total hatchery spawning population will increase population diversity and fitness. Hatchery culture practices under the HGMP program will increase egg-to-smolt survival rates by increasing survival during egg incubation and covering raceways with netting to reduce bird predation.

## 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,*

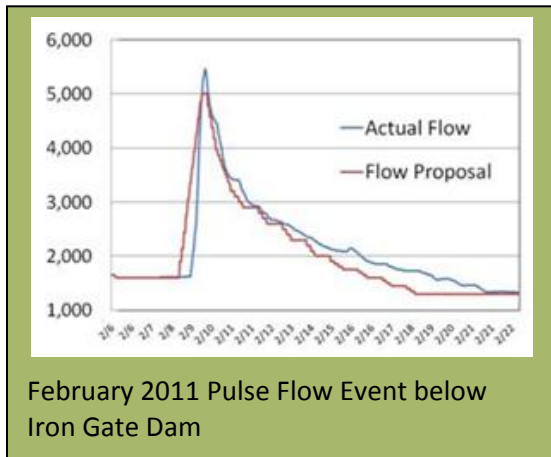
*upon a final Incidental Take Permit issued to PacifiCorp by NMFS becoming effective, annually develop fall and early winter flow variability plans and implement those plans. Any such plans shall have no adverse effect on the volume of water that would otherwise be available for the Klamath Reclamation Project or wildlife refuges.*

Specific procedures for implementing flow variability at Iron Gate dam are still under development, although NMFS has developed a recommended Fall Flow Variability Plan for Iron Gate Dam to assist in the implementation of variable flows at Iron Gate. Consistent with Term and Condition 2A of Reclamation's March 2010 Biological Opinion, a technical group including NMFS, Reclamation, PacifiCorp, USFWS, states, and tribes, met over the winter of 2011 to recommend changes to flows during the November through February 2011 time period and the delivery of variable flows at Iron Gate Dam. In response to a recommendation from the technical workgroup, and following agreements and clarifications between PacifiCorp, Reclamation, and NMFS regarding flow variability and coverage under the Endangered Species Act of PacifiCorp's actions necessary to implement flow variability, a planned pulse flow event began on February 9, 2011.



Iron Gate Dam Spillway

The pulse flow event resulted in flows below Iron Gate dam in excess of 5,000 cfs and was planned to use no more than the 18,600 acre-feet of water made available for the flow variability program as a result of lower Klamath River flows during October 2010. During the flow event, monitoring was conducted by several basin entities to assess the potential effectiveness of the flow event in improving habitat conditions in the Klamath River.



### 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; and
- Determine the relative contribution of species-specific genotypes of *Ceratomyxa shasta* from tributary and mainstem sources and determine seasonal myxospore abundance

PacifiCorp and NMFS have agreed to appropriate money from the Fish Disease Fund to implement these studies. This work is currently underway and preliminary results were presented at the Annual Fish Disease Meeting in Fortuna, CA on March 22, 2011.





## 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 agreed to form a technical subgroup to assist with study design. Representatives of this subgroup include ODFW, OWRD, BLM, and the Klamath Tribes. The subgroup helped develop a Scope of Work for consulting services and assisted with the selection of appropriate gravel placement locations. A consultant was selected to develop a gravel enhancement plan and a monitoring plan. These plans have been completed and reviewed by the IMIC and will serve as a basis for implementation actions under this interim measure.

Since access to the river will occur on BLM roads, the BLM has undertaken a NEPA analysis

to assess potential impacts from implementation of this interim measure. A scoping letter was issued by the BLM on April 27, 2011 and comments were due by May 26, 2011. The consultant is preparing an Environmental Assessment and developing the necessary permit applications for this measure. It is anticipated that gravel placement will start in the J.C. Boyle reach in fall 2011.

## 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.*

Since there is no direct access to this site in the J.C. Boyle bypass reach, a rock expansion technique, using a commercially available and non-hazardous material is proposed to fracture the boulders to manageable size pieces. This will eliminate the need for constructing a road and disturbing the hillside for equipment access. Once reduced to proper size, the rock will be removed by either a winch and snatch-block rigging system or a helicopter. Placement of the resulting rock will be performed in consultation with the regulatory agencies and it is intended to retain the upstream pool feature that now exists upstream of the bypass barrier location. All proposed work will be performed

during agency-approved in-water work periods. Since this project also crosses BLM roads, this action was included in the BLM scoping letter and Environmental Assessment mentioned above for Interim Measure 7.

### 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 U.S. Geological Survey 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](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 have begun planning for the water quality workshop. The goal of the workshop is to inform participants on water quality conditions in the Klamath River basin and engage invited experts and managers to evaluate several large-scale nutrient and organic matter reduction projects including the pilot studies conducted through Interim Measure 11. The NCRWCB has taken the lead on the steering committee that will oversee the workshop development and has been active in securing additional funds to support workshop activities. It is anticipated that the workshop will occur in fall/winter 2011 in Sacramento, California.

## 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.*

PacifiCorp and the IMIC selected a series of studies and pilot projects that will occur prior to the Secretarial Determination to develop necessary information to inform the selection of water quality improvement projects. These studies include:

### **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.



J.C. Boyle Reservoir

### **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.

### **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 DO conditions in J.C. Boyle reservoir. Information is being gathered on commercially-available technologies for improving DO in the reservoir, including oxygenation, air injection, and mechanical mixing. Elements of this study also include DO testing and a possible pilot project of applicable technologies.

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

This activity involves the evaluation of a cover or barrier in the vicinity of the Iron Gate dam intake for water quality control. The concept behind the intake cover or 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).

### **Test Treatment of Environmentally-Safe Algaecides in Copco Reservoir**

The purpose of activities proposed under this study is to conduct selective localized treatments of the environmentally-safe algaecides (e.g., Greenclean Pro) using water from Copco reservoir in isolated containers.

### **Klamath Tracking and Accounting Program**

PacifiCorp is working in cooperation with the NCRWQCB, ODEQ, and USEPA Regions 9 and 10 to develop a Klamath basin water quality improvement tracking and accounting program 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.

Work on these study plans is currently underway and updates are provided to the IMIC via quarterly meetings and conference calls.

### **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 mid-August and the gage is functional and logging data. PacifiCorp recently conducted field work to develop a rating for this gage during high flows in the Klamath River. For the Spencer Creek gage, PacifiCorp is in discussions with the Oregon Water Resources Department about contributing ongoing funding for the maintenance and telemetry of data from this existing gage and for migrating J.C. Boyle bypass gage data to the OWRD website. Gaging data for the Spencer Creek gage is available at the following website:

[http://apps2.wrd.state.or.us/apps/sw/hydro\\_near\\_real\\_time/display\\_hydro\\_graph.aspx?station\\_nbr=11510000](http://apps2.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<sup>4</sup> 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 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 Oregon Water Resources Department 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. 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 and was subsequently discussed at the December Technical Coordinating Committee and Klamath Basin Coordinating Committee meetings in Redding, California.



Water Quality Sampling In Copco Reservoir

## 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 third year (2011) 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, EPA 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>).

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>).

## 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 is not contemplated to occur until just prior to the reintroduction of anadromous fish above Copco reservoir 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 cubic feet per second (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 Game 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. Under this interim measure PacifiCorp has assumed funding 100 percent of these costs. PacifiCorp



has also purchased a fish marking system for the Iron Gate Hatchery to continue 25 percent constant fractional marking of chinook salmon produced at the hatchery, which was begun in 2009. The hatchery marking trailer was delivered to the hatchery in December 2010 and is now being used for the spring 2011 marking season. 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 is also working with CDFG to develop the specifications for a wet lab modular building to be used for reading tag data on returning adult salmon.



New Fish Marking Equipment at the Iron Gate Hatchery

## 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 has developed some preliminary alternatives for continued hatchery operations that will be evaluated with further engineering and economic study and is evaluating past work conducted during the relicensing process that evaluated hatchery operations. PacifiCorp has selected an engineering consultant to assist in the study.

### **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.*

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.*

The BLM Klamath Falls Resource Area (KFRA) provided PacifiCorp a final work plan for cultural resources, road maintenance, and invasive weed management on April 20, 2011 and funding of \$35,000 was provided to the BLM KFRA on May 2, 2011. The actions in the workplan are scheduled for immediate implementation. The KFRA workplan includes:

- Cultural Resources: Perform detailed monitoring of five cultural sites identified in the interim measure.
- Road Maintenance: Approximately 4.72 miles of road along the J.C. Boyle canal will be maintained. The KFRA conducted a road condition evaluation and determined the Road Management Plan to contain the following improvements: The extension of four culverts; cleaning eleven culverts, and installation of one new culvert. There will be annual maintenance for ditch cleaning to ensure the upgrades perform as required.
- Invasive Weed Management: The KFRA has outlined a ten year plan for addressing invasive weed management in the defined corridor. Years one and two will include surveying the weed populations and determining methods for eradication for years three through ten. The product of this

work will be information that will allow land managers to determine the best strategy for future integrated weed management activities in the future.





© June 2011 PacifiCorp