

**Findings and Recommendations Pursuant to the Endangered Species Act
and Finding of No Significant Impact Pursuant to the
National Environmental Policy Act for the Issuance of a
Endangered Species Act, Section 10(a)(1)(B) Incidental Take Permit
(TE-52096A), Associated with Implementation of the
Habitat Conservation Plan for PacifiCorp's Klamath Hydroelectric Project
Interim Operations, Klamath County, Oregon
and Siskiyou County, California**

December 2013

**U.S. Fish and Wildlife Service
Klamath Falls Fish and Wildlife Office,
Klamath Falls, Oregon**

Acronyms and Abbreviations

BiOp	Biological Opinion
CDFG	California Department Fish and Game
CEQ	Council on Environmental Quality
cfs	cubic feet per second
DO	dissolved oxygen
DOI	U.S. Department of Interior
DPS	Distinct Population Segment
DRE	Dam Removal Entity
EA	Environmental Assessment
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FERC	Federal Energy Regulatory Commission (or “Commission”)
HCP	Habitat Conservation Plan
IA	Implementing Agreement
ITP	Incidental Take Permit
KHSA	Klamath Hydroelectric Settlement Agreement
MW	Megawatt (=1 million watts of electrical power)
NCWCB	North Coast Regional Water Quality Control Board
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
RM	river mile
SONCC	Southern Oregon and Northern California Coast (coho salmon)
UKCAN	Upper Klamath Conservation Action Network
USBR	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service

Introduction

This document includes the U.S. Fish and Wildlife Service (Service) Findings and Recommendations pursuant to the Endangered Species Act of 1973, as amended (ESA), which provide an administrative record of how the proposed Habitat Conservation Plan (HCP) under review satisfies each of the permit issuance criteria under section 10(a)(2)(B) of the ESA and in the Service's implementing regulations for the ESA [50 CFR 17.22(b)(2) and 17.32(b)(2)]. These Findings and Recommendations also include our responses to public comments received on the HCP and Draft Environmental Assessment and a recommendation for permit issuance or denial. Parts I – VI of this document are relevant to these Findings and Recommendations.

This document also includes a concise summary of the Environmental Assessment (EA) for PacifiCorp's proposed Interim Operations Habitat Conservation Plan for Lost River and Shortnose Suckers, conducted pursuant to the regulations of the National Environmental Policy Act (NEPA) of 1969 (40 CFR 1506.6). It briefly explains why the EA and other documents made available during the public comment period support our Finding of No Significant Impact (FONSI) and the reasons why the proposed action will not have a significant effect on the human environment. Parts I, II, VII and VIII of this document are relevant to this FONSI. The EA and proposed HCP describe the project in detail. The EA and HCP also describe the conservation measures that would be implemented to avoid, minimize, and mitigate take of the federally-endangered Lost River sucker (*Deltistes luxatus*) and shortnose sucker (*Chasmistes brevirostris*), that are expected to occur as a result of project implementation.

I. DESCRIPTION OF THE PROPOSAL

The Service proposes to issue an incidental take permit (ITP or Permit) to PacifiCorp (Applicant or Permittee) under the authority of Section 10(a)(1)(B) and Section 10(a)(2) of the ESA. The Applicant seeks an ITP for federally-endangered Lost River and shortnose suckers in connection with the normal operation and maintenance of the Klamath Hydroelectric Project (Project) located on the Klamath River in southern Oregon and northern California. The two endangered sucker species are the only "covered species" included in the Permit.

Upon the issuance of the ITP, the Applicant would receive a combined annual incidental take authorization for the Lost River sucker and shortnose sucker of approximately: 1,400,000 larvae, 6,700 juveniles, and 25 adults due to harassment, and 10,000 sucker eggs, 66,000 larvae, 500 juveniles, and up to five adult suckers due to lethal take (USFWS 2013b). Seven hydroelectric facilities would be covered by the HCP: East Side and West Side facilities located on the Link River in Oregon; Keno and J.C. Boyle Dams on the Klamath River in Oregon; and Copco No. 1, Copco No. 2, and Iron Gate Dams located on the Klamath River in California. The ITP would authorize take of covered species in association with covered activities for the 10-year permit term, subject to renewal.

Alternatives Considered

The Service considered two alternatives in the EA: (1) the Proposed Action Alternative; and (2) the No Action Alternative. A number of other alternatives were also considered, but eliminated from further consideration for reasons described in Chapter 2 of the EA.

No Action Alternative

Under the no action alternative, the Service would not issue an ITP to PacifiCorp, and as a result PacifiCorp would not have incidental take authorization for Lost River and shortnose sucker during the 10-year interim period prior to potential Project removal or the issuance of a new Federal Energy Regulatory Commission (FERC) license for the Project. The no action alternative would also mean deferring or not implementing the additional conservation or mitigation measures outlined in the HCP. The Project would continue to operate under the terms and conditions of the existing FERC license in a manner consistent with current operations, which does not include all of the avoidance, minimization, mitigation, and conservation measures based on Project impacts identified by the Service in the 2007 FERC biological opinion (BiOp; USFWS 2007) or identified in PacifiCorp's HCP (PacifiCorp 2013).

Proposed Action (Covered Activities)

The proposed action is the issuance of an ITP by the Service for take of Lost River and shortnose suckers and the associated implementation of avoidance, minimization, and mitigation measures by the Applicant that would be implemented under an approved HCP. The proposed avoidance, minimization and mitigation measures are based on analyses contained in the Service's 2007 FERC BiOp (USFWS 2007), the 2007 FERC Final Environmental Impact Statement (FERC 2007), and the Applicant's HCP (PacifiCorp 2013); they are intended to avoid, minimize, and mitigate the impacts of incidental take of Lost River and shortnose suckers resulting from interim operation of the Project to the maximum extent practicable pursuant to Section 10(a)(1)(B) of the ESA. The term of the proposed ITP is 10 years. A summarized comparison of the basic differences in implementation and operation between the No Action and Proposed Action alternatives is found below in Table 1.

The specific impacts associated with the no action and proposed action is presented in greater detail in Section 4 (*Environmental Consequences*) of the EA.

Table 1. Comparison of Effects on Resources Associated with the Proposed Action and No Action Alternatives

Resource	No Action	Proposed Action
Water Resources <ul style="list-style-type: none"> • Hydrology • Water Quality 	<p>Hydrology: Current conditions in the Upper Klamath Basin reaches, downstream reservoirs, and Klamath River would continue as managed under biological opinions from the Service (NMFS and USFWS 2013).</p> <p>Water Quality: Poor water quality conditions would continue without any mitigating actions unless directed by other regulatory mechanisms (e.g. total maximum daily load (TMDL)).</p>	<p>Hydrology: Same as no action, but slightly higher for 1-mile reach between Link River Dam and East Side and West Side powerhouse tailraces due to reduced diversions by PacifiCorp for hydroelectric purposes.</p> <p>Water Quality: Same or better than the no action.</p>
Biological	Upper Klamath River System: No	Upper Klamath River System:

<p>Resources</p> <ul style="list-style-type: none"> • Upper Klamath River System • Keno, J.C. Boyle, Copco, and Iron Gate Reservoirs • Klamath River Downstream of Iron Gate 	<p>change from effects of current conditions</p> <p>Reservoirs: No change from effects of current conditions</p> <p>Klamath River Downstream of Iron Gate: No change from current conditions.</p>	<p>Benefits to Lost River sucker and shortnose sucker by reducing mortality impacts (e.g., entrainment, ramping) and other impacts (e.g., false attraction to tailraces) at East Side and West Side developments. Additional benefits to habitat conditions, such as improved nursery habitat, resulting from sucker recovery initiatives.</p> <p>Reservoirs: Same as no action.</p> <p>Klamath River Downstream of Iron Gate: Same as no action.</p>
<p>Socioeconomics and Environmental Justice</p>	<p>Direct and indirect effects from employment would continue similar to current conditions.</p>	<p>Minor gains in employment due to direct and indirect economic benefits from sucker recovery activities funded by the Applicant as part of the HCP.</p>
<p>Cultural Resources</p>	<p>No change from current conditions.</p>	<p>Same as no action.</p>

Covered Activities

Activities covered under the ITP (“covered activities”) include those activities that are necessary to operate and maintain Project facilities during the permit term as well as specific mitigation and conservation measures identified in the HCP. Hydroelectric generation is the primary activity conducted at Project facilities, with the exception of the Keno development, which does not include power-generating equipment. Many of these activities are governed by the existing FERC license or agreements with other entities (e.g., with U.S. Bureau of Reclamation [Reclamation]) or through voluntary commitments made by the Applicant. The majority of these activities were considered in the Service’s 2007 BiOp; therefore, the terms and conditions of the 2007 BiOp served as the basis for developing the avoidance, minimization, and mitigation measures contained in the HCP (PacifiCorp 2013). Detailed descriptions of Project facilities and their operations are provided in Chapter IV (*Current Conditions*) of the HCP. Detailed information on HCP Covered Activities can be found in Chapter 2 of the Applicant’s HCP (PacifiCorp 2013).

As described in the HCP, the covered activities necessary to operate and maintain Project facilities include the following:

- Operate and maintain the spill gates at Link River Dam for regulation and releases of flows from Link River Dam to maintain flow to the East Side and West Side water conveyance features.
- Operate and maintain Link River Dam pursuant to PacifiCorp’s agreements with Reclamation to provide instream flow and ramp rate releases from Link River Dam, including: (1) flows and ramp rates in accordance with Reclamation’s operational directives

to PacifiCorp; and (2) flows and ramp rates to meet Project minimum flow and ramp rate requirements in accordance with PacifiCorp's FERC license and to facilitate Project operation and maintenance

- Operate and maintain the East Side and West Side canals and flow lines following shutdown of the East Side and West Side powerhouse facilities.
- Operate and maintain Keno Dam, spill gates, and fish ladder.
- Regulate the water level upstream of Keno Dam in accordance with the agreement with Reclamation (per PacifiCorp's existing FERC license) and for irrigation withdrawal activities.
- Operate and maintain J.C. Boyle Dam, fish bypass system, water conveyance system, turbines, and powerhouse facilities.
- Maintain an instream flow release from the J.C. Boyle Dam to the river of not less than 100 cubic feet per second (cfs) (per PacifiCorp's existing FERC license).
- Regulate flows from J.C. Boyle Dam and powerhouse during normal operations such that ramping rates of flow in the river do not exceed 9 inches per hour (as measured at the United States Geological Survey [USGS] gage located 0.5 mile downstream of the J.C. Boyle powerhouse) per PacifiCorp's existing FERC license.
- Operate and maintain Copco No. 1 and Copco No. 2 Dams, water conveyance systems, turbines, and powerhouse facilities.
- Operate and maintain Iron Gate Dam (and associated appurtenances), penstocks, turbines, and powerhouse facilities.
- Regulate releases from Iron Gate Dam in accordance with instream flow and ramping rate requirements (as measured at the USGS gage located 0.5 mile downstream of Iron Gate dam) established in the current Operations Plan for Reclamation's Klamath Project and per PacifiCorp's existing FERC license.
- Regulate water levels in Keno, J.C. Boyle, Copco, and Iron Gate Reservoirs.

The avoidance, minimization, mitigation and conservation measures comprising the Sucker Conservation Strategy in the HCP also are covered activities. The Sucker Conservation Strategy derives from portions of the Service's 2007 FERC BiOp (USFWS 2007) that identified reasonable and prudent measures to minimize incidental take of listed suckers associated with the Project. To address the potential take of listed suckers, from the interim operations, the Applicant has identified several interim conservation measures. These selected measures include:

- Substantially reducing operations at the East Side and West Side powerhouses within 30 days of issuance of the ITP to avoid and minimize entrainment of listed suckers at these generating facilities. These facilities would remain substantially shut down until eventual decommissioning of the facilities.

- Supporting activities to enhance the survival and recovery of listed sucker species by funding additional sucker recovery initiatives during the period extending from shut down of the East Side and West Side developments until the end of the permit.
- Developing and implementing a flow monitoring program to evaluate potential impacts to suckers at Project facilities.

Detailed descriptions of the avoidance, minimization, mitigation and conservation measures in the categories listed above are provided in Chapter VI (*Conservation Program*) of the HCP (PacifiCorp 2013).

Effects from the Covered Activities as a Result of Implementation of the Proposed Action

Implementation of the proposed action will result in adverse effects from the covered activities, but the effects on fish will be less than under the no action alternative because there will be no turbine mortality at the East Side and West Side facilities. Adverse effects under the proposed action include injury or mortality associated with operations at Project facilities: (1) spillway and turbine entrainment of fish; (2) false attraction at Project tailraces; (3) stranding and ramp rate effects; (4) migration barriers; (5) reservoir fluctuations; and (6) habitat loss and degradation owing to reduced changes in water quality, reduced instream flows, and loss of wetlands. Additionally, there will be a 3.8 megawatt (MW) loss of renewable energy resulting from the shutdown of the East Side and West Side facilities. These effects are further discussed in Chapter 4 (*Environmental Consequences*) of the EA.

Permit Area

The Applicant operates the Project, located in southern Oregon and northern California (Figure 1) under a license issued by FERC for Project No. 2082. The Project consists of eight developments. 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), and 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 located at RM 196.3. The Fall Creek facility does not affect listed species and therefore is not included in the HCP and thus will not be further mentioned in this document. The East Side and West Side developments are located near Klamath Falls, Oregon, just downstream of Link River Dam at the outlet of Upper Klamath Lake at RM 254.3. Link River Dam is owned by Reclamation, but the Applicant operates the dam at Reclamation's direction. Reclamation's operations at the Link River Dam include specified flow releases to comply with the recent joint BiOp relating to the effects on listed sucker species in Upper Klamath Lake and coho salmon in the Klamath River below Iron Gate Dam (NMFS and USFWS 2013). PacifiCorp also generates electricity at the East Side and West Side facilities using water diverted at the Link River Dam.



FIGURE 1

Map of Klamath River basin showing locations of rivers and lakes, and the Klamath Hydroelectric Project facilities.

The East Side facilities consist of: (1) 670 feet of mortar and stone canal; (2) an intake structure; (3) 1,729 feet of 12-foot-diameter, wood-stave flow line; (4) 1,362 feet of 12-foot-diameter, steel flow line; (5) a surge tank; and (6) a powerhouse. Maximum diversion capacity for the East Side powerhouse is 1,200 cfs.

The West Side facilities consist of: (1) a 5,575-foot-long, concrete-lined and unlined canal; (2) a spillway and discharge structure; (3) an intake; (4) 140 feet of 7-foot-diameter steel penstock; and (5) a powerhouse. The maximum diversion capacity of the West Side powerhouse is 250 cfs. Water at Link River Dam either flows over the dam or is diverted to East Side or West Side developments, after which it enters the Link River and flows to Keno Reservoir.

Maintenance of the two facilities consists of gate repairs, flow line and powerhouse maintenance, vegetation control in and around the dam and flow lines, and dam structural repairs. The frequency of such maintenance is dependent upon the maintenance schedule for each piece of equipment and equipment repairs. Maintenance also occurs to address conditions identified by the FERC in annual facility inspections.

Detailed descriptions of other Project facilities and their operations are provided in Chapter IV (*Current Conditions*) of the HCP. The permit area includes the Applicant's existing Project facilities and the adjacent water and land areas potentially influenced by Project maintenance and operations, including the mainstem Klamath River and reservoirs from Link River Dam downstream to Iron Gate Dam (see Figure 1).

Permit Term

The term of the proposed ITP (referred to herein as "permit term" or "term of the ITP") would be for 10 years from issuance. The ITP would authorize the incidental take of covered species (i.e., the Lost River and shortnose suckers) that may occur as a result of operating the Project and implementing related conservation measures.

Impacts Analyzed

Based on both internal and external scoping of the proposed Federal action of permit issuance, the following effects were analyzed in Chapter 4 (*Environmental Consequences*) of the EA:

- Water Resources
 - Water Quantity and Quality
- Renewable Energy
 - Hydroelectric Power
- Biological Resources
 - Listed Species
 - Anadromous Fishes
 - Other Fishes
- Socioeconomics
 - Employment
 - Recreation
- Environmental Justice
- Cultural Resources
 - National Historic Sites
 - Important Tribal Sites

II. PUBLIC COMMENT

The Service published a Notice of Availability of the HCP, draft EA, and receipt of an application for the ITP by the Applicant for the proposed action in the *Federal Register* on January 28, 2013 (78 FR 5830-5832). Publication of the notice initiated a 60-day comment period that ended on March 29, 2013. An informational public meeting was held at the Service's office in Klamath Falls on February 20, 2013, to inform the public of the availability of the draft HCP and draft EA and to answer questions. The Service received comments both in hard copy and electronically from the public, and State and Federal agencies. These comments and the Service's responses are attached.

III. ESA DECISION: INCIDENTAL TAKE PERMIT CRITERIA – ANALYSIS AND FINDINGS

Analysis of Biological Effects to ESA Listed, Proposed, and Candidates Species

The effects to Lost River and shortnose suckers from operating the Project for the permit term likely include: spillway and turbine mortality, stranding and ramp-rate effects, effects from reservoir fluctuations, effects of migration barriers and false attractions, and water quality effects (USFWS 2007, PacifiCorp 2013). Effects to the endangered suckers and their critical habitat were further analyzed in the ESA Section 7 BiOp associated with issuance of the ITP (USFWS 2013b). The BiOp determined that adverse effects to the suckers would be much less under the proposed action than historically occurred. With implementation of the conservation measures proposed by the Applicant, sucker mortality attributable to PacifiCorp's operations of the East Side and West Side turbines will be greatly reduced because the turbines at these facilities will not operate, except for brief (<1 day) testing or other non-generation uses until the facilities are decommissioned. As a result of taking the turbines offline, take of Lost River and shortnose suckers will be substantially reduced because most of the current take is occurring at the East Side and West Side turbines.

The BiOp determined that implementation of the conservation strategy under the HCP is likely to reduce mortality of suckers by 90 percent. Total combined annual estimates of take of suckers that will likely occur as a result of authorization of the ITP are approximately: 1,400,000 larvae, 500 juveniles, and 25 adults due to harassment, and 10,000 sucker eggs, 66,000 larvae, 500 juveniles, and up to five adults due to lethal take (USFWS 2013b).

The Service determined that authorization of the ITP will not likely lead to jeopardy of the listed suckers or adverse modification of their critical habitat because: (1) the amount of authorized take under the proposed HCP is reduced substantially (90 percent reduction) from historic levels; (2) most of the authorized take is of sucker eggs and larvae that are produced annually in large numbers; (3) sucker populations in the hydropower reservoirs are not self-supporting and are likely dependent on upstream populations to maintain themselves; (4) were it not for the reservoirs that are part of the Project, habitat for the Lost River and shortnose suckers would not exist below Keno Dam; (5) none of the Lost River and shortnose suckers that occur in the reservoirs below Keno Dam have adequate upstream access for suckers and therefore, these fish do not contribute to reproducing populations upstream that are essential for recovery; and (6)

adverse effects to designated critical habitat for the suckers by the Project are confined to the Keno Reservoir, which represents a small fraction (approximately 1 percent of critical habitat by area) of the total amount of designated critical habitat for the two species.

Conservation Strategy

The Sucker Conservation Strategy identifies take minimization and mitigation measures that respond directly to the sources of potential take that may occur as a result of the Applicant's covered activities during interim operations. The approach of the strategy focuses on two substantive conservation components for listed sucker species. First, the Applicant will avoid or minimize potential take associated with its covered activities by substantially reducing operations at its East Side and West Side hydroelectric facilities within 30 days after issuance of the ITP. Further operation of the turbines, if any, at the East Side and West Side facilities prior to decommissioning of these facilities will occur only during times when take of listed suckers is unlikely to occur; however, a flow of approximately 80 cfs will be maintained in the East Side wood-stave flow line to maintain its structural integrity prior to decommissioning. Second, the Applicant will improve habitat conditions for listed suckers by facilitating the implementation of specific habitat enhancement projects consistent with the Service's revised recovery plan (USFWS 2013a) and supporting the Williamson River Delta Restoration Project managed by The Nature Conservancy (TNC).

The overarching biological goals of the HCP are to mitigate impacts of the taking resulting from the operations of the Project and contribute to the recovery of the Lost River sucker and shortnose sucker in the permit area during the interim period by reducing threats and restoring habitat. These goals would be achieved through implementation of measures that avoid or minimize the direct effects of PacifiCorp's Project operations (e.g., turbine mortality) on individual suckers and by funding enhancement efforts that translate into benefits for listed suckers. Specific goals and objectives of the conservation strategy are described in the HCP (PacifiCorp 2013).

The conservation or mitigation measures incorporated into the HCP include the following:

- Substantially reducing operations at the East Side and West Side developments within 30 days of issuance of the ITP to eliminate turbine mortality of listed suckers at these facilities. These facilities would remain substantially shut down until eventual decommissioning of the facilities.
- Supporting activities to enhance the survival and recovery of listed sucker species by funding additional sucker recovery initiatives during the period extending from reduced operations of the East Side and West Side developments until the end of the permit term.
- Developing and implementing a flow-monitoring program to evaluate potential take of suckers at Project facilities.

Implementation of the HCP would result in an estimated 90 percent reduction in the lethal take of listed suckers (USFWS 2013b). Implementation of the HCP also would contribute to improved habitat that would benefit the recovery of Lost River and shortnose suckers.

The overarching biological goals of the HCP are to avoid, minimize, and mitigate impacts of the taking resulting from the operations of the Project and contribute to the recovery of the Lost River sucker and shortnose sucker in the permit area during the interim period by reducing

threats and restoring habitat. These goals would be achieved through implementation of measures that avoid or minimize the direct effects of PacifiCorp's Project operations (e.g., entrainment) on individual suckers and by funding enhancement efforts that translate into benefits for listed suckers. Specific goals and objectives of the conservation strategy are described below.

Measures Undertaken to Achieve Conservation Objectives

The first objective of the conservation strategy is to avoid entrainment of listed suckers at the East Side and West Side hydroelectric facilities. To address this objective the Applicant would substantially reduce operations at the East Side and West Side facilities within 30 days of the date of issuance of the ITP by the Service. The majority of estimated take of listed suckers associated with Project operations is related to entrainment through the turbines at the East Side and West Side facilities. With shutdown of the turbines at the East Side and West Side facilities during the period when young suckers are present, potential Project impacts on listed suckers at these facilities would be avoided, and the residual sources of potential take would mostly be restricted to the downstream reservoirs where suckers contribute less to the overall population viability due to their inability to return upstream. A small amount of take is anticipated to result from flow moving through the East Side flow line, but this take will be much reduced relative to that resulting from historic turbine entrainment.

Under the HCP, the operation of the East Side and West Side turbines would cease; however, the facilities themselves would remain in place until they are decommissioned through the FERC licensing process. Decommissioning is not a covered activity under this HCP. PacifiCorp will continue to maintain the facilities such that limited operations for testing or maintenance purposes are possible prior to decommissioning of the facilities. As discussed in Chapter VI of the HCP, further turbine operations of these facilities prior to decommissioning, if any, would occur only for brief periods for testing and maintenance purposes. Such operations, if done, would occur when take of listed suckers is unlikely to occur, such as during times of low species presence (i.e., outside the June-October period of concern for entrainment). As noted in the HCP, PacifiCorp will contact the Service no later than 30 days before any such operations for testing and maintenance purposes to provide information on the planned operations and allow the Service to recommend possible modifications of the planned operations to avoid take of listed suckers.

The second conservation objective under the HCP is to increase or enhance sucker habitat. To address this objective, the Applicant will facilitate activities that improve sucker habitat or otherwise promote the survival and recovery of listed sucker species. The Applicant will accomplish this by establishing a fund, the "Sucker Conservation Fund," to support sucker recovery actions and providing continued support of the Williamson River Delta Restoration Project for the duration of the permit term.

The Applicant will provide funding for these enhancement projects, but third parties undertaking habitat projects and research studies must obtain all necessary State and Federal permits and authorizations prior to conducting such activities. Thus, the environmental analysis for these conservation measures contained in the HCP and EA is general in nature, but it should help expedite future permitting processes and any related environmental analyses required for specific projects.

Sucker Recovery Initiatives

Within 90 days following issuance of the ITP, PacifiCorp will make an initial contribution of \$40,000 to the Sucker Conservation Fund to support initiatives that promote sucker recovery. PacifiCorp will also support recovery initiatives by contributing an additional \$30,000 to the fund on the fourth anniversary of the ITP and another \$30,000 on the seventh anniversary (PacifiCorp 2013). The total fund contribution over the permit term will be \$100,000. The amount allocated for habitat improvement is intended to mitigate population-level impacts of the estimated take.

Recommendations for projects to be funded by the Sucker Conservation Fund will be provided by the Klamath Sucker Recovery Program. The revised recovery plan for the Lost River sucker and shortnose sucker (USFWS 2013a) calls for the establishment of a program comprised of interested parties and entities to coordinate implementation of recovery actions identified in the plan as necessary for recovery of these species. This recovery program will consist of Federal and State agencies, nongovernmental organizations, Tribal partners, and private stakeholders. Because it is comprised of experts in the fields relevant to sucker recovery and is generally responsible for the implementation of the revised recovery plan including prioritization and coordination of activities, the Klamath Sucker Recovery Program will be in a position to provide informed recommendations to PacifiCorp concerning utilization of the Sucker Conservation Fund for projects and actions that will best support recovery efforts. PacifiCorp will verify project selections to ensure they are consistent with HCP goals, HCP objectives and ITP requirements.

ESA- Cumulative Effects

Cumulative effects under the ESA are those impacts of future State, Tribal, and private actions that are reasonably certain to occur within the area of the action, and are subject to consultation. There are no Tribal lands within the action area from the Link River to Iron Gate Dam. Future Federal actions will be subject to the consultation requirements established in Section 7 of the ESA, and therefore are not considered cumulative to the proposed action.

The following non-Federal activities are proposed in the action area:

- 1) The State of Oregon is enlarging its fish screening program in the Klamath Basin. Following completion of adjudication, diversions will require water measurement devices and fish screens. This will result in a significant reduction in entrainment of juvenile and adult suckers greater than 1.2 inches (30 mm) total length.; however, we have no information to quantify this benefit.
- 2) The Upper Klamath Conservation Action Network (UKCAN) works collaboratively to restore watershed processes through adaptive management. UKCAN takes an ecosystem approach, and the group focuses on conservation priorities that will benefit suckers, including restoration activities to improve both water quality and physical processes. UKCAN has developed restoration priority actions at finer geographic scales and refines those priorities as new information is made available. Due to the funding processes, UKCAN is uncertain about the amount of restoration work that will occur in

the future. However, given the amount of focused effort and the involvement of several key organizations in the Upper Klamath Basin, progress is expected toward the group's priorities over the next 10 years.

- 3) Now that the Lost River and Klamath River TMDL in California and Oregon is completed (ODEQ 2010), governmental and private entities contributing to the degradation of water quality in those rivers are required to develop and implement water quality management plans that reduce nutrient loading and aid in the improvement of water quality in the Klamath River, which should benefit suckers.

Most of the non-Federal actions listed above will improve water quantity, water quality, and habitat in areas that support listed suckers, including Upper Klamath Lake, its tributaries and the Keno Reservoir. Screening will reduce entrainment of suckers and improve overall survival. Habitat restoration will increase the amount and quality of areas important to complete sucker life cycles. Water quality improvement projects will work towards addressing a major factor limiting listed sucker recovery in the Upper Klamath Basin. If water quality is improved in Keno Reservoir, this area would likely support a substantial population of adult suckers and/or provide habitat to support larval and juvenile suckers that eventually may return to Upper Klamath Lake as adults. Therefore, the effects of the proposed action, combined with future State, Tribal, and private actions, will likely result in beneficial cumulative effects to listed suckers over the next 10 years; however, none of the benefits can be quantified at this time because specific project details are not available.

IV. FINDINGS FOR PERMIT ISSUANCE CRITERIA

1. The taking will be incidental.

Any take of listed species resulting from Project operations under the HCP will be incidental to otherwise lawful activities required to operate and maintain the Project as described in the HCP under covered activities.

2. The Permittee will, to the maximum extent practicable, avoid, minimize and mitigate the impacts of taking listed species and other covered species.

The HCP contains measures intended to avoid, minimize, and mitigate the impact of the taking of Lost River and shortnose suckers. The Permittee will implement all avoidance, minimization, and mitigation measures described in the HCP for the projected future incidental take of the Lost River and shortnose suckers. The Permittee will avoid or minimize take associated with its covered activities by substantially reducing operations at its East Side and West Side hydroelectric facilities within 30 days after issuance of the ITP.

Additionally, within 90 days following issuance of the ITP, the Applicant will make an initial contribution of \$40,000 to the Sucker Conservation Fund to support initiatives that promote sucker recovery. The Applicant will also support recovery initiatives by contributing an additional \$30,000 to the fund on the fourth anniversary of the ITP and another \$30,000 on the seventh anniversary (PacifiCorp 2013). The total fund

contribution over the permit term will be \$100,000. The amount allocated for habitat improvement is intended to mitigate population-level impacts of the estimated take. The Applicant will also provide continued support of the Williamson River Delta Restoration Project for the duration of the permit term.

The avoidance and minimization measures proposed by the applicant to substantially reduce operations at the East and West Side facilities will reduce take from what is currently occurring. The effects of the take that cannot be avoided will be mitigated through funding of sucker conservation projects identified through the Klamath Sucker Recovery Implementation Program. Further measures the applicant could take to minimize or mitigate take would not provide a proportional benefit relative to the cost of implementation.

3. The taking will not appreciably reduce the likelihood that the species will survive and recover in the wild.

The ESA's legislative history establishes the intent of Congress that this issuance criterion be identical to a finding of "not likely to jeopardize" under Section 7(a)(2) [see 50 CFR 402.02]. As a result, approval of the Applicant's permit application has been reviewed by the Service under Section 7 of the ESA. In a BiOp (USFWS 2013b), which is incorporated by reference, the Service concluded that the approval of the Applicants' permit application would not likely jeopardize the continued existence of the Lost River and shortnose suckers. The effects of the Project on Lost River and shortnose suckers under the HCP are not anticipated to substantially impair their ability to survive and recover because:

- 1) Most of the take is of sucker eggs and larvae that are produced in large numbers every year and have naturally-low survival rates.
- 2) Most of the sucker larvae and juveniles that leave Upper Klamath Lake and move downstream through the Project reservoirs and dams will likely die from causes unrelated to the Project because of predators and parasites, lack of suitable physical habitat, and poor water quality.
- 3) Most or all of the Lost River and shortnose suckers in the Klamath River reservoirs are likely waifs that have dispersed downstream from Upper Klamath Lake rather than originating from successful reproduction in the reservoirs.
- 4) Because there are no fish ladders downstream of Link River Dam designed for suckers, the Lost River and shortnose suckers in the reservoirs below Keno are isolated and therefore do not contribute to upstream sucker populations that are essential for the recovery of the species.
- 5) The hydropower reservoirs that comprise the Project are artificial habitats that were not present prior to construction of the dams in the 20th Century.

- 6) Effects of the Project to critical habitat for the suckers are limited to the Keno Reservoir, which represents 1 percent of designated critical habitat.
- 7) The reduction in take that would occur under the proposed action should increase sucker populations downstream of the Link River Dam if other factors allow for survival.
- 8) Under the Sucker Conservation Strategy to be implemented as part of the proposed action, \$100,000 will be made available by the Applicant for habitat enhancement or other activities that will benefit the Lost River and shortnose suckers. Those activities should aid in the recovery of the species.

4. The Permittee will ensure that adequate funding for the Habitat Conservation Plan and procedures to deal with unforeseen circumstances will be provided.

All of the measures identified in the HCP, including Applicant's commitment to monitoring, will be funded through the Applicant's operating budget for the life of the permit. The Applicant is financially solid and derives income from wholesale and retail electricity sales to more than 1.7 million customers as a regulated, investor-owned utility doing business in six western states. The Applicant has sufficient revenue to cover the cost of implementing and funding the measures proposed in the HCP.

The Applicant estimates ongoing implementation costs for the HCP to be in excess of \$300,000 over the course of the Permit Term. This does not account for the loss in generation resulting from the shutdown of the East Side and West Side facilities or the staff costs and expenses related to HCP implementation. Expected costs to implement the HCP are based upon the following elements:

- Funding of \$100,000 to implement measures benefitting Lost River and shortnose suckers through the Sucker Conservation Fund.
- Annual funding of about \$20,000 for the Williamson River Delta Restoration Project.
- Costs to implement flow operations, monitoring and maintenance activities related to HCP implementation.
- Salary and expenses for PacifiCorp staff involved in implementing HCP measures.

Based on these elements, the Applicant will include the costs to implement the HCP in its 10-year business plan and operating budget. These costs will then be included in rate cases before the public utility commissions in the states where the Applicant provides electrical service. If the public utility commissions determine these costs to be a prudent expenditure, the commissions will set electric rates at a level that will allow the Applicant to recover the costs through rates for electricity sales to its customers.

As identified in Section 7.1 of the Implementing Agreement, the Applicant shall, by April 30 of each year during the term of the ITP, provide the Service with a letter from Applicant's general manager with authority over Covered Activities verifying that funding has been deposited with a third party administrator for the Sucker Conservation Fund in an amount

adequate to ensure compliance with the Plan. The Applicant is also required to submit annual reports prepared by the third party administrator detailing expenditures made during the preceding calendar year and the current balance of the funds. The third party administrator and the Applicant shall each certify the accuracy of information contained in such reports. These reports are intended to help the Service ensure that adequate funding will be provided to implement the HCP and that funding sources at the required annual levels are reliable and will meet the purposes of the HCP. In addition, the funding schedule for the Sucker Conservation Fund outlined in the Sucker Conservation Strategy (Section VI) of the HCP provides for mitigation funding to be available in advance of operations that have the potential to result in incidental take. This ensures that mitigation funding is available prior to potential incidental take occurring and allows for sucker recovery initiatives to be adequately planned and implemented.

5. Other measures, as required by the Service of the Applicant, have been met.

The HCP has incorporated all elements necessary for issuance of a Section 10(a)(1)(B) permit and other elements otherwise required by the Service.

V. GENERAL CRITERIA AND DISQUALIFYING FACTORS – ANALYSIS AND FINDINGS

The Service has no evidence that the permit application should be denied on the basis of criteria and conditions set forth in 50 CFR 13.21(b)-(c).

VI. RECOMMENDATIONS ON ISSUANCE OF PERMIT

Based on these findings with respect to the permit application, the HCP, the EA for this project, I recommend issuance of a Section 10(a)(1)(B) ITP to the Applicant for incidental take of the Lost River and shortnose suckers in accordance with the PacifiCorp's Proposed Interim Operations Habitat Conservation Plan for Lost River and Shortnose Suckers.



Deputy Regional Director
Pacific Southwest Region
Fish and Wildlife Service

FEB 20 2014

Date

VII. FINDING OF NO SIGNIFICANT IMPACT – NEPA DECISION

Effects of the Proposed Action on the Human Environment

The attached Environmental Assessment (EA) was prepared to analyze and disclose potential environmental impacts pursuant to NEPA. Only the EA and those documents made available during the public comment period were used in this Finding of No Significant Impact (FONSI). The EA supports the following findings.

Water Resources

Covered activities under the proposed action include ceasing operation of the turbines at PacifiCorp's East Side and West Side developments. As a result of substantially reducing operations at these facilities, water not diverted into the East Side and West Side water conveyances for hydroelectric generation would instead be released at Link River Dam. Therefore, water flowing between Link River Dam and the powerhouse tailraces, a distance of about 1 mile, would increase, and turbulence at the East Side and West Side powerhouse tailrace outfalls would be substantially reduced.

All flow releases from the Project would still continue to be regulated by existing operational plans, developed in consultation with the Service and the National Marine Fisheries Service (NMFS), to protect the federally-listed Lost River sucker, shortnose sucker, coho salmon, and their designated critical habitats. Reclamation would continue to manage Upper Klamath Lake elevations to meet ESA requirements, Tribal trust responsibilities, and contractual irrigation demands of the Klamath (Irrigation) Project; PacifiCorp would continue to operate Link River Dam based upon operational directives from Reclamation.

Downstream of Link River Dam, surface water volumes would continue to be controlled by Reclamation operations, but under the proposed action most flows would be passed through the Link River Dam spillway gates rather than through hydroelectric turbines. Hydrologic conditions from Keno Reservoir downstream through Iron Gate Dam would remain similar to current conditions, governed by existing ESA requirements and agreements between PacifiCorp, Reclamation, California Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, NMFS, and the Service. Substantially reducing operations of the East Side and West Side developments and using the Link River Dam exclusively to manage flows in the Link River would not measurably affect downstream hydrology.

Water quality conditions under the proposed action would be similar to the no action alternative. Curtailing operations of the East Side and West Side facilities would result in greater discharge of Upper Klamath Lake water into the 1-mile portion of Link River between the Link River Dam and the East Side and West Side powerhouse tailraces, which could have some beneficial effects (e.g., increased flow and higher dissolved oxygen levels) in this reach. Water quality conditions would be unchanged in all other downstream areas affected by the Project.

Implementation of the sucker recovery initiatives as part of the HCP could have short-term, localized water quality impacts from restoration activities (e.g., increased turbidity), but overall these initiatives would either not influence or improve water quality conditions in the Upper Klamath Basin. For example, a potential recovery project funded under the HCP might consist of adding gravel to increase spawning habitat at one or more of the shoreline areas of Upper Klamath Lake where the suckers now spawn. Such a project might produce short-term increases in suspended sediment, but would not affect lake-wide water quality.

Renewable Energy

The Service does not anticipate that the proposed action would substantially affect the Applicant's ability to meet the region's power needs. The combined hydroelectric capacity of the East Side and West Side facilities is only 3.8 MW, while that of the entire Klamath Hydroelectric Project is 169 MW (FERC 2007). Thus, this shutdown only represents a 2 percent loss of power production when compared to full efficiency. Additionally, the Applicant already undertakes seasonal shutdown of the East Side and West Side hydroelectric developments from July 15 to November 15 to reduce impacts to listed suckers (PacifiCorp 2013); loss of power production during this shutdown period represents a portion of the 2 percent loss of power production included in the proposed action. Additionally, the Applicant has made substantial increases in its generation capacity through the purchase of contracted and company-built wind-powered energy amounting to 1,400 MW since 2006 (PacifiCorp 2011), thus the Service does not anticipate that the loss of 3.8 MW of capacity will have a significant adverse effect on the region's power supplies.

Biological Resources

Adverse effects to suckers and other fishes associated with operation of the East Side and West Side facilities would be substantially reduced upon shutdown within 30 days of ITP issuance. This would benefit these species by reducing mortality at these facilities by as much as 90 percent and will likely result in the elimination of potential adult mortality at these facilities. False attraction flows at the tailrace discharges would also be substantially reduced. For example, reductions in false attraction flows at the East Side and West Side powerhouse tailraces under the proposed action could increase the number of adult suckers using the Link River Dam fish ladder. This would increase sucker populations in Upper Klamath Lake where they are self-sustaining. Mortality of listed suckers could still occur, as a result of flow releases over the spillway at Link River Dam.

The near complete shutdown of the East Side and West Side facilities would substantially reduce the totals for Project-related mortality of suckers of all life stages throughout the entire system as a result of the reduced mortality associated with passage through the turbines at the East Side and West Side facilities.

Aside from entrainment, the Service has indicated that the remaining impacts associated with Project operations downstream of the East Side and West Side facilities are unlikely to have a substantial adverse effect on the overall populations of listed suckers (USFWS 2007, 2013b). The Project reservoirs downstream of Keno Dam create artificial habitat conditions in which suckers may reside as compared to riverine conditions that would not support Lost River and shortnose suckers. The numbers of listed suckers in the downstream reservoirs are low based on previous studies (Desjardins and Markle 2000).

The actions undertaken through the Sucker Conservation Fund would mitigate the impacts of the taking caused by entrainment at Project dams downstream of Link River Dam that cannot be avoided. These actions also would contribute to meeting the biological goals and objectives of the revised sucker recovery plan (USFWS 2013a) by mitigating the impacts of take associated with false attraction, instream flows and habitat availability, stranding (reservoir fluctuations), and migration barriers. As previously described, the impact of the potential take reasonably attributable to Project operations is low because few fish, relative to the population as a whole, would be taken. In addition, all of the take would occur downstream of Keno Dam, where individual suckers do not contribute to the current populations of listed sucker species.

Actions undertaken through the Sucker Conservation Fund would be directed by the Service to support the conservation goals and objectives in the revised sucker recovery plan (USFWS 2013a). Decisions on many of the specific projects to be implemented under the Sucker Conservation Fund have not been made. However, the likely projects will be prioritized and selected based on actions recommended in the revised recovery plan (USFWS 2013a), and as otherwise recommended by the Klamath Sucker Recovery Program and other entities with sucker expertise. For example, projects being considered for funding that could provide substantial conservation benefits include enhancement of spawning areas along the east side of Upper Klamath Lake and improvement of juvenile rearing areas. Also, these funds may leverage and be combined with funds from other sources to implement larger projects with even greater benefits.

The Sucker Conservation Fund provides the flexibility to focus the mitigation on actions that create the greatest benefit for suckers, regardless of the proximal cause. Therefore, this measure is expected to mitigate the impact of take by making habitat improvements or otherwise increasing survival and recruitment to the adult population (e.g., trapping and transporting adults from reservoirs downstream of Keno Dam to the Upper Klamath Lake where they can contribute to the population).

Continued funding of The Nature Conservancy's Williamson River Delta Restoration Project would also further mitigate the impacts associated with the operation of downstream facilities by contributing to the restoration of the historic form and function of the riparian corridor in the Williamson River Delta and improving habitat complexity through increased variety and quantities riparian vegetation. Native riparian vegetation provides a productive medium for zooplankton on which larval suckers feed. These areas not only provide physical protection from predators, but also rich feeding grounds for young fish. Actions to increase wetland areas would likely contribute to reducing nutrients in the lake. Relatively high quality water from the interior western wetlands could provide refuge to larval suckers in the fringe wetland habitats; these fringe wetlands, in their current condition, are seasonally inundated with poor Upper Klamath Lake water (e.g., low dissolved oxygen, high pH, high unionized ammonia) along the southern perimeter of the Williamson River property. Investment in improvements in the Williamson River Delta addresses habitat limitations in an important part of the suckers' range (USFWS 2013a).

As part of implementing PacifiCorp's HCP and the terms and conditions of the ITP, the Service and PacifiCorp will select projects that maximize conservation benefits of actions undertaken through the Sucker Conservation Fund. Given the minimal residual impacts following reduction of take at East Side and West Side facilities, the amount of funding allocated for habitat

improvement should be sufficient to mitigate the population-level impact of the estimated take. This conclusion is based on the low level of take associated with operation during the permit term (e.g., non-lethal take of three adult suckers annually) and the fact that the fish taken at Keno Dam and the downstream facilities are part of a sink population that does not contribute to the sucker population. Therefore, any increased survival and recruitment to the adult population in Upper Klamath Lake and its tributaries achieved by the actions funded by the Sucker Conservation Fund will represent a positive contribution to the population and an offset of take anticipated during the permit term.

Under the proposed action, the Service anticipates there would be no adverse effect on other native fish species (e.g., redband trout) in the Upper Klamath Basin. Conditions in the Upper Klamath River system would remain similar to current conditions. Upper Klamath Lake supports a trophy-sized trout fishery and a small fishery for yellow perch; the Service anticipates these fisheries would likely continue unchanged.

Keno, J.C. Boyle, Copco, and Iron Gate Reservoirs

Downstream of Link River Dam, surface water volumes would continue to be largely controlled by Reclamation operations and flow releases at Link River Dam. All flow releases would continue to be regulated by existing operational plans, developed in consultation with the Service and NMFS, to protect the ESA-listed Lost River sucker, shortnose sucker, coho salmon, and their designated critical habitats. For this reason, the potential for impacts to Lost River sucker and shortnose sucker in Keno, J.C. Boyle, Copco, and Iron Gate Reservoirs, and in related Klamath River reaches, would be the same as under the no action alternative. Impacts from entrainment and stranding would continue to occur. Similarly, impacts to other fish species would be the same as under the no action alternative.

Under the proposed action, impacts to other fish species will be unchanged relative to the no action alternative. Entrainment of fishes at the Keno, J.C. Boyle, Copco, and Iron Gate facilities under the proposed action will not change. The proposed action also will not change conditions affecting redband trout and other fish species upstream of Iron Gate Dam, including Project-related impacts on flow fluctuations, water quality, the amount of available habitat, and the ability of fish to migrate (FERC 2007, USDOJ and CDFG 2013).

Klamath River Downstream of Iron Gate Dam

Listed suckers have not been observed to occur in the Klamath River below Iron Gate Dam. This area lacks lake habitats necessary for Lost River and shortnose sucker rearing and is outside the historic geographic range of the suckers and is not part of the original habitat complex necessary for completion of their life cycles (USFWS 2007).

Under the proposed action, Reclamation would continue to manage Upper Klamath Lake to meet ESA requirements and contractual irrigation demands of Reclamation's Klamath Project. Downstream of Iron Gate Dam, surface water volumes would continue to be primarily influenced by Reclamation operations and flow releases at Link River Dam. All flow releases at Iron Gate Dam would continue to be regulated by existing operational plans, developed in consultation with the NMFS, to protect the coho salmon and its designated critical habitats. For this reason, the potential for impacts to coho salmon, Chinook salmon, steelhead, Pacific lamprey, green sturgeon and other native fishes downstream of Iron Gate Dam would be the same as under the no action alternative. Impacts from the presence of dams and resulting altered

natural hydrology would continue to occur, as well as impacts from high temperatures and low dissolved oxygen levels. Similarly, impacts to other fish species would be the same as under the no action alternative.

Socioeconomics and Environmental Justice

It is not anticipated that issuance of a 10-year ITP for the Project will negatively impact any of the socioeconomic resources in and around the permit area or downstream of Iron Gate Dam. The Service anticipates that the action alternative would continue to influence social and economic conditions in the six-county study area in a manner similar to the no action alternative.

Changes in employment are not expected given the continuing need for a maintenance crew to work at the East Side and West Side facilities prior to any future decommissioning and the fact that these employees will continue to operate and maintain other remaining Project facilities. There would continue to be direct and indirect benefits associated with employment. In addition, the proposed action would add new funds to the local economy for the purpose of habitat restoration. The Sucker Enhancement Fund and the Applicant's contribution to the Williamson River Delta Restoration Program would have direct benefits associated with employment and items such as goods purchase and equipment rentals, as well as indirect regional benefits (e.g., service sector employment). Habitat protection and improvement projects considered in the HCP (under the Sucker Enhancement Fund) will provide a positive effect of the opportunity to provide jobs to tribal and non-tribal members involved in restoration projects.

The Service does not anticipate that the proposed action would affect recreation opportunities. Reducing operations of the East Side and West Side developments would result in flow increases in the 1-mile reach downstream of Link River Dam. This is not anticipated to affect recreation. As described above, the action alternative is not expected to change existing conditions for coho salmon, Chinook salmon, or steelhead populations downstream of Iron Gate Dam, and therefore we do not anticipate any project-related impacts to sport-fishing, commercial fishing, or tribal fishing.

Because there would be no project-related adverse impacts on social and economic conditions or recreational and commercial fishing activities, including Tribal fisheries, minority and low income populations would not be disproportionately adversely affected by the proposed action. Therefore, there would be no environmental justice impacts under this alternative.

Minority or low income populations will not be disproportionately adversely impacted by the action alternative. A potential beneficial impact is anticipated for Indian tribes in the area from reduction in potential take of suckers, which have cultural and historical significance to the tribes.

Cultural Resources

The action alternative would not impact cultural or historic resources, including sites, districts, structures, or objects listed in or eligible for listing in the National Register. Because the Project affects the Klamath River mainstem, and most of the conservation measures proposed in the HCP are likely to occur within active river and stream channels, or within existing Project facilities, the Service believes no historic or cultural properties are at risk. Additionally, future HCP-funded habitat enhancement projects will need to undergo their own permitting actions, including a review of potential effects to cultural or historic resources that may occur within the

project area. Conservation measure projects funded through the Sucker Conservation Fund in the HCP have been considered in a general sense as part of the action alternative, but specific project planning with detailed site plans will need to be developed before these funds will be used to implement projects. When this project planning occurs, a review of historic and cultural resources within the potentially affected area may be needed depending on the circumstances. Although the action alternative would result in shutdown of the East Side and West Side developments, future decommissioning of these developments would be considered through a FERC decommissioning process, which would be conducted consistent with the requirements of Section 106 of the National Historic Preservation Act.

NEPA - Cumulative Effects

According to the Council on Environmental Quality's regulations for implementing NEPA (50 CFR §1508.7), an action may cause cumulative effects on the environment if its effects overlap with the effects of other past, present, and reasonably foreseeable future actions. This section describes what the Service believes are cumulative impacts occurring in the area of the Proposed Action. The Service has not included future dam removal, decommissioning of Project facilities, or the establishment of volitional fish passage above Iron Gate Dam as cumulative effects. Such actions, if they occur, would occur beyond the time frame that is reasonably foreseeable.

Water Quantity and Quality

Other past, present, and reasonably foreseeable future actions that overlap with the proposed action have affected and will continue to affect water quantity and quality conditions in the proposed action area. The Service believes that the proposed action would not cause an increase in adverse cumulative effects on these conditions. To the contrary, we believe the proposed action would reduce cumulative effects on these conditions for listed species because the Applicant would reduce diversions into the East Side and West Side powerhouses that are adversely impacting the endangered Lost River sucker and shortnose sucker.

Most of the water available to the Project comes from Upper Klamath Lake, part of Reclamation's Klamath [Irrigation] Project. The Klamath Project, which has been in existence since 1905, uses water from the Klamath and Lost Rivers to supply agricultural water users in southern Oregon and northern California. A portion of the water diverted from Upper Klamath Lake and the Klamath River for irrigation purposes returns to the Klamath River, along with certain return flows from the Lost River into the Keno Reservoir.

Since about 1992, Reclamation has modified Link River Dam operations to benefit the shortnose and Lost River suckers. To protect these fish, the Service required that water levels in Upper Klamath Lake be managed within specific elevation limits. In 1999, in response to ESA listing of coho salmon, NMFS provided a BiOp and an associated incidental take statement to Reclamation containing terms and conditions that require Reclamation to provide for specific instream flows at Iron Gate Dam and PacifiCorp to operate the dam to release those specified instream flows and implement identified ramping rates. Now and in the foreseeable future, Reclamation must maintain Upper Klamath Lake elevations and river flows below Iron Gate Dam through implementation of the conditions specified in the BiOps issued by the Service and NMFS. Inflows to the Project are largely the result of releases from the Link River Dam and withdrawals or return flows from Reclamation's Klamath Project. The relatively small active

storage of the Project reservoirs (compared to available storage in Upper Klamath Lake) will continue to limit the effects of PacifiCorp's operations on flow conditions in the Klamath River, particularly during flooding events or extremely dry periods that are largely beyond PacifiCorp's control.

Water quality in Upper Klamath Lake and in releases from the lake at Link River Dam is seasonally impaired, due to warm water temperatures and nutrient enrichment. Implementation of the Total Daily Maximum Load (TMDL) for Upper Klamath Lake (ODEQ 2002) and the subsequent reduction in phosphorous loading to the lake should, over time, improve water quality within the lake and in releases from Link River Dam. Implementation of the TMDLs for the Klamath River (ODEQ 2010, NCWCB 2010) would build on the existing TMDL for Upper Klamath Lake and allocate nutrient loads to the Klamath River from point and non-point sources throughout the Upper Klamath Basin. Once loads have been established, National Pollution Discharge Elimination System permit holders and agricultural land owners would become eligible to apply for funding to implement measures to reduce the nutrient loads leaving their properties and entering the Klamath River. If implemented successfully, this program would provide benefits to water quality throughout the Klamath River. The Service anticipates the TMDL program could lead to some water quality improvements during the term of the permit.

Construction of the Project dams resulted in areas of the river where the physical processes that control water quality have experienced a shift, as the processes in the reservoirs are different relative to the river environment. Although water quality at times meets applicable state water quality criteria (typically during the winter, high flow months) the water quality within some of the Project reservoirs (i.e., Keno, Copco, and Iron Gate Reservoirs) is lake-like, within which high inflowing loads of nutrients and organic matter cause algal blooms and depression of dissolved oxygen to levels that adversely affect fish and other aquatic biota (ODEQ 2010, NCWCB 2010). Additionally, blue-green algal blooms in Project Reservoirs, especially Copco No. 1 and Iron Gate Reservoirs, result in the seasonal release of toxins that are potentially harmful to humans and other animals (Kann 2008, Kann and Corum 2009, USDOJ and CDFG 2013).

Biological Resources

Other actions that overlap with the proposed action have affected and will continue to affect habitat conditions for the two ESA-listed sucker species in the proposed action area. The Service believes that the proposed action would not cause an increase in adverse cumulative effects on these conditions. To the contrary, we believe the proposed action would reduce cumulative effects on these conditions for listed species because the Applicant would cease diversions into the East Side and West Side powerhouses, which are adversely impacting the endangered Lost River and shortnose suckers, and would take actions to improve habitat conditions for these species over the next 10 years.

Habitat conditions for the two ESA-listed sucker species have been degraded over the past 150 years by agriculture, grazing, forestry, and urbanization (NRC 2004, FERC 2007). Nearly all streams and rivers in the Klamath Basin have been degraded by the loss of riparian vegetation, geomorphic changes, introduction of return flows from agricultural drainage ditches and water pumped from drained wetlands, stream channelization, dams, and flow reductions from agricultural and hydroelectric diversions (ODEQ 2002, NRC 2004, FERC 2007, ODEQ 2010, NCWCB 2010). Wetland losses have been especially harmful for sucker populations because

wetlands provide habitat for larval and juvenile suckers and have important water quality functions. Along the perimeter of Upper Klamath Lake, about 40,000 acres of wetlands have been diked and drained for agriculture, and extensive amounts of wetland have been drained elsewhere in the upper basin (ODEQ 2002).

In the 2007 FERC BiOp, the Service indicated that the loss of approximately 85,000 acres of historical wetlands that connected with the Klamath River above the present location of Keno Dam has reduced the historically available habitat for sucker larvae and juveniles (USFWS 2007). In that opinion, we concluded that construction of Keno Reservoir contributed to the loss of these wetland values, including an unknown amount of wetlands loss from assumed facilitation of agricultural conversion of lands by Keno Reservoir, an unknown amount of wetlands loss due to maintenance dredging of Keno Reservoir, about 230 acres of wetlands loss or degradation due to reduced water surface elevation fluctuations at Keno Reservoir, and degradation of approximately 1,600 acres of existing emergent wetlands along the east side of Keno Reservoir near the Klamath Straits Drain (USFWS 2007).

Collectively, the impact of the historical loss of habitat, including wetlands in Upper Klamath Lake and Keno Reservoir, on the listed sucker population is likely significant. Continued operations under the no action alternative would continue to prevent the re-establishment of former wetland habitat because operations would moderate water level fluctuations in Keno Reservoir that support and maintain habitat. Given that PacifiCorp does not control Upper Klamath Lake levels, continued operations under the no action alternative would not affect potential habitat losses upstream of Link River Dam. However, the extent of these impacts and allocation of the responsibility for these is uncertain, as is the increment of effect contributed by PacifiCorp's continued operations over the interim period. PacifiCorp operates Keno Dam pursuant to a contract with Reclamation that requires Keno Reservoir elevations be maintained at water surface elevations between 4085.0 and 4086.5 feet. PacifiCorp historically has maintained the elevation at about 4085.5 feet to help stabilize flows entering diversion canals to Reclamation's Klamath Project. In consideration of PacifiCorp's limited discretionary ability to control lake levels in Keno Reservoir and the short duration of interim operations, the impacts associated with habitat loss due to operations under the no action alternative is likely low.

The Project has likely killed suckers entrained through turbines at the mainstem developments downstream from Link River Dam (FERC 2007, USFWS 2007). Upstream migration of suckers is blocked by the Copco Dams, which do not have fish ladders, and at J.C. Boyle and Keno Dams, which have ladders that do not meet criteria for sucker passage and likely block their passage (FERC 2007, USFWS 2007). As mentioned above, the few suckers that have been found in Copco and Iron Gate Reservoirs are thought to be "waifs," which are suckers washed down from suitable upstream habitats and are essentially considered "lost" to the source sucker populations because there is no upstream passage for suckers below Keno. Prior to the construction of the Project, the Klamath River downstream of the Keno Dam did not include any lake or reservoir habitat suitable to support rearing of these species. Based on their limited swimming ability compared to salmonid fishes, any suckers that moved downstream past the high gradient rapids in the Keno and J.C. Boyle peaking reaches that were present before dam construction also were unlikely to be able to return upstream to suitable rearing habitat (FERC 2007, USFWS 2007, USDOJ and CDFG 2013).

Other actions that overlap with the proposed action have affected and will continue to affect habitat conditions for anadromous fishes in the proposed action area and in the Klamath River downstream. The Service believes that the proposed action would not cause a change in cumulative effects on these conditions. The proposed action would not alter current conditions in the Klamath River downstream of Iron Gate Dam, where anadromous fishes occur. The main activities under the proposed action related to improving conditions for the sucker species will occur well upstream of Iron Gate Dam, and are therefore not expected to have an affect downstream of Iron Gate Dam.

Further, the Service notes that NMFS has issued an ITP to PacifiCorp that authorizes taking of listed coho salmon downstream of Iron Gate Dam resulting from PacifiCorp's Project operations (77 FR 14734). Issuance of the ITP requires implementation of PacifiCorp's Coho Conservation Strategy, which is described in the Interim Operations HCP for Coho Salmon (PacifiCorp 2012). The coho salmon HCP includes conservation measures that avoid, minimize, or mitigate for take of listed coho salmon from PacifiCorp's operations. In the separate EA for the coho salmon HCP (NMFS 2011), NMFS concludes that issuing the ITP would result in beneficial effects to coho salmon, as well as to Chinook salmon, steelhead, and other species, downstream of Iron Gate Dam. Issuing the ITP would not significantly adversely affect Lost River and shortnose suckers or other aquatic species occurring in the Klamath River above Iron Gate Dam.

The overall distribution and abundance of Pacific lamprey on the Pacific Coast has been severely reduced due to effects associated with hydropower development (FERC 2007). The construction of numerous mainstem and tributary dams has reduced the amount of habitat that is accessible for freshwater spawning and rearing of this species over most of its range (FERC 2007). Although a substantial amount of habitat suitable for lampreys remains accessible in the Klamath River Basin, accounts given by tribal elders indicate that the number of lampreys in the river has declined precipitously from historic levels. The cause of the declines is under review.

Socioeconomics and Environmental Justice

The proposed action would not contribute significantly to any socioeconomic or environmental justice concerns related to past, present, or reasonably foreseeable future actions in and around the Project Area. The issuance of a 10-year ITP for the Project and associated HCP conservation mitigation measures would not adversely affect use and value of surrounding lands for agriculture, recreational and fishing activities, and other components of the regional economy. The issuance of a 10-year ITP for the Project and associated HCP conservation mitigation measures would support some regional employment and income as a result of habitat restoration activities leading to projects that would utilize local resources (e.g., contractors and suppliers). Because there would be no Project-related adverse impacts on social and economic conditions or recreational and commercial fishing activities, including Tribal fisheries, minority and low income populations would not be disproportionately adversely affected by the proposed action.

Land Use and Development

The proposed action would not contribute significantly to any land use and development impacts related to past, present, or reasonably foreseeable future actions in and around the project area. European settlement of the basin since the mid-1800s has significantly altered the natural landscape and developed native habitats into land uses such as irrigated agriculture, mining

areas, timber production zones, and residential and commercial development. This human development has significantly altered the natural environment in the Upper Klamath Basin.

The Service anticipates land use will not change significantly during the permit term; however, expansion of commercial and residential uses and developments is likely to occur. Once development and associated infrastructure (roads, drainage, water development, etc.) are established, any associated impacts to aquatic species are expected to be permanent. Impacts on water quality and other habitat conditions that may be related to infrastructure development would be expected to be regulated under applicable state and local laws.

The Service also anticipates that agricultural activities will not change significantly during the permit term. Agricultural activities in the permit area include grazing, dairy farming, and the cultivation of crops. Impacts on water quality and other habitat conditions that may be related to agricultural activities would be expected to be regulated under applicable laws.

Cultural Resources

The proposed action would not contribute significantly to any cultural resources effects related to past, present, or reasonably foreseeable future actions in and around the project area. The issuance of a 10-year ITP for the Project and associated HCP conservation mitigation measures would not adversely affect cultural resources. The Service anticipates land use conditions will not change significantly during the permit term; however some land disturbance from expansion of commercial and residential uses and developments is likely to occur. Impacts on cultural resources conditions that may be related to such land disturbance activities would be expected to be regulated under applicable laws protecting cultural resources.

Climate Change

Climate change likely poses a high threat to fish and other aquatic species within the permit area, particularly salmonids because of their dependence on cool water (Barr et al. 2010). The current climate in the permit area is generally warm, and long-term modeled regional average temperatures show a large temperature increase, with average ambient temperatures increasing by as much as 3° C in the summer and by 1° C in the winter; annual precipitation in this area is predicted to trend downward over the next century (Barr et al. 2010). Average water temperatures in the lower Klamath River are already increasing by about 0.5° C per decade (Bartholow 2005). Additionally, snowpack in upper elevations of the Klamath Basin is predicted to decrease with changes in response to changes in temperature and precipitation (Barr et al. 2010). Decreases in stream flows during the summer, especially in sub-basins dominated by groundwater input, have occurred in the Klamath Basin (Mayer and Naman 2011). It is likely that during the proposed action 10-year permit term the Klamath River basin would experience some degree of rising temperatures due to climate change (probably less than 1° C), even though climate models are generally run over long time series such as 50 or 100 years.

Climate change could affect habitat conditions for suckers by degrading water quality, reducing snowpack, and increasing agricultural water demand. Higher temperatures could exacerbate current water quality conditions by increasing the episodes of peak summer temperatures when die-offs are most likely to occur. Higher temperatures could also increase water use by agriculture because evapotranspiration would increase and the water needs of crops would be greater. Climate change will likely have gradual adverse effects on suckers and other fish and

aquatic organisms; however, these effects will occur over a long time period (i.e., decades). Recovery efforts that restore habitat, such as will occur with issuance of a 10-year ITP for the Project and associated HCP conservation mitigation measures, will likely occur more rapidly.

VIII. CONCLUSION

It is my determination that the proposed action is not a major Federal action significantly affecting the quality of the human environment under section 102(2)(c) of the NEPA. Accordingly, an Environmental Impact Statement on the proposed action is not required. An Environmental Assessment has been prepared in support of this finding and is attached. The Environmental Assessment is available from the Service's Klamath Falls Fish and Wildlife Office upon request.



Deputy Regional Director
Pacific Southwest Region
Fish and Wildlife Service

FEB 20 2014

Date

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Responses to Comments on Draft Environmental Assessment and Proposed Habitat Conservation Plan for PacifiCorp's Klamath Hydroelectric Project Interim Operations Plan for the Endangered Lost River and Shortnose Suckers

Comment	Comment	Response
BOR-1	Upon review, Reclamation noted the incorporation by reference, of a draft document developed by Reclamation, entitled Link River Fish Stranding and Prevention Salvage Plan dated April 4, 2011 (Plan) in both the DEA and HCP. Reclamation also noted the inclusion of the minimum flow requirements and ramping rates related to operations at Link River Dam outlined in the fish stranding and prevention Plan. Upon further review and consideration, Reclamation and the Service have determined that the Plan needs to be updated, as circumstances surrounding the development of and conditions associated with the Plan have changed. Reclamation has also determined it is no longer feasible to operate to the target minimum flows and ramp rates identified in the current Plan. This decision was based on informal discussions with the Service prompted by negative Endangered Species Act-listed species presence during stranding assessments. Enclosure B provides the results of fish stranding assessments that have occurred while operating under the fish stranding and prevention plan. Reclamation requests both the DEA and HCP be modified in accordance with this comment, particularly with regard to removal of operational requirements such as minimum flow targets and ramping rates.	The draft document entitled <i>Link River Stranding and Prevention Salvage Plan</i> (Plan) dated April 4, 2011 was included by PacifiCorp in the HCP because it was the most current protocol for conducting fish salvages associated with the Link River Dam. Based on their comment, Reclamation no longer will be using that plan. Therefore, the HCP will be revised to reflect this change.
BOR-2	HCP page 1, para 1. Please consider revising sentence to further clarify. "Upper Klamath Lake Project" is not a common reference associated with Reclamation. Consider removing "Project" and just leave as "Upper Klamath Lake".	The recommended changes have been made in the HCP.
BOR-3	HCP General/page 2, para 2. "Klamath Irrigation Project" is not a term normally used to describe the area as a whole. Please refer to the irrigation project as "Reclamation's Klamath Project"	The recommended changes have been made in the HCP.
BOR-4	HCP page 9. Footnote 4 refers to the stranding assessment. Please consider removing.	See response to comment BOR-1 above.
BOR-5	HCP page 10. Bullet 5 and Footnote 6. Please modify the bullet to state that releases from Iron Gate dam will be "in accordance with current and future annual Operations Plans and associated Biological Opinions for Reclamation's Klamath Project ... "	Comment Noted. Section II of the HCP describes how PacifiCorp proposes to implement the terms of Biological Opinions for Reclamation's Klamath Project.
BOR-6	HCP pages 12 & 43. <i>Catostomus rimiculus</i> is given on each page for the scientific name for both Klamath smallscale and Jenny Creek sucker. Could indicate on p 43 that Jenny Creek sucker are an isolated group of smallscale suckers citing Rossa and Parker 2007.	The recommended changes have been made in the HCP.

BOR-7	Page 15, para 3. Please modify the sentence to state" to comply with the USFWS 2008 BiOp and the NMFS 2010 BiOp for operation of Reclamation's Klamath Project relating to the ,respectively". Further, if this process has not been finalized by the time the upcoming joint Biological Opinion is released, please update accordingly to ensure the best available information is included in the HCP.	See response to BOR-5 above.
BOR-8	HCP page 17, para 3. Please revise sentence to read "The 1968 contract between PacifiCorp and Reclamation for the operation of Keno Reservoir generally requires that water surface elevations be maintained of between 4,085.0 and 4,086.5 feet above mean sea level (USBR datum)."	The recommended changes have been made in the HCP.
BOR-9	HCP page 23, para 3. Please remove reference to target minimum flows at Link River Dam and associated fish stranding assessment. Details and circumstances surrounding these minimum flows make it no longer feasible to operate in this manner.	See response to comment BOR-1 above.
BOR-10	HCP page 24, para 6. Please remove reference to target ramp rates at Link River Dam and associated fish stranding assessment. Details and circumstances surrounding these minimum flows make it no longer feasible to operate in this manner.	See response to comment BOR-9 above.
BOR-11	HCP page 25, para 1. Please remove paragraph. The references to fish assessment and potential salvage efforts should be removed.	See response to comment BOR-9 above.
BOR-12	HCP page 40. Could use more current species status reports such as Hewitt et al 2011 and 2012 (USGS).	The HCP has been updated to include these reports that were not available to PacifiCorp when the HCP analysis was completed.
BOR-13	HCP page 73, para 2. Is the Klamath Sucker Recovery Program and the Recovery Implementation Team analogous? If so, the name of that team should be updated to provide for consistency between sucker protection documents (i.e. PacifiCorp HCP and Reclamation's 2012 Biological Opinion and anticipated joint BO.)	The Recovery Implementation Team or RIT is part of the Klamath Sucker Recovery Program that is a component of the Service's 2013 Revised Klamath Sucker Recovery Plan.
BOR-14	HCP page 79-80. Please delete the last two sentences of Item 1. to read "The amount of water that passes through Keno dam is determined by upstream accretions and depletions, and contractually mandated water surface elevations for Keno Reservoir. Therefore does not have discretion over the level. at that facility."	The recommended changes have been made in the HCP.
BOR-15	HCP General. A citation for the Kyger and Wilkens 2010 cited in text is not included in the References section.	The HCP has been updated to include the proper citation, which is: Kyger, C. and A. Wilkens. 2010. Endangered Lost River and shortnose sucker distribution and relative abundance in Lake Ewauna, and use of the Link River dam fish ladder, Oregon: Annual Report 2010. Klamath Basin Area Office, Bureau of Reclamation, U.S.

		Department of Interior, Klamath County, Oregon.
BOR-16	DEA page 7. Please remove reference to fish stranding assessment.	See response to comment BOR-1 above.
BOR-17	DEA page 17, para 4. Please remove entire paragraph. Reclamation has determined that the Plan may need to be updated. Therefore any references to the target minimum flows and ramp rates included in the assessment should be removed.	See response to comment BOR-1 above.
BOR-18	DEA page 17, para 5. Please revise sentence to read "The 1968 contract between PacifiCorp and Reclamation for the operation of Keno Reservoir generally requires that water surface elevations be maintained of between 4,085.0 and 4,086.5 feet above mean sea level (USBR datum)."	The recommended changes have been made in the Final EA.
BOR-19	DEA page 33, para 2. Please remove reference to stranding assessment minimum flows and ramp rates.	See response to comment BOR-1 above.
BOR-20	DEA page 33, para 3. During the time that the stranding assessment has been implemented there have been no stranded suckers observed when flows have been below the minimum levels to activate the stranding reconnaissance portion of the assessment.	The Service believes that the referenced paragraph in the Draft EA is correct; the impacts to suckers from potential stranding are relatively low. The information that Reclamation has provided confirms this assumption.
BOR-21	DEA General. A citation for the Kyger and Wilkens 2010 cited in text is not included in the References section.	The Final EA has been updated to include the proper citation, which is: Kyger, C. and A. Wilkens. 2010. Endangered Lost River and shortnose sucker distribution and relative abundance in Lake Ewauna, and use of the Link River dam fish ladder, Oregon: Annual Report 2010. Klamath Basin Area Office, Bureau of Reclamation, U.S. Department of Interior, Klamath County, Oregon.
BOR-22	DEA page 34, para 5. Please remove reference to minimum flows at Link River Dam.	The Final EA has been modified to state "The minimum flow requirements below Link River Dam determined through discussions between Reclamation, PacifiCorp and the Service, which would continue under the no action alternative, would likely avoid significant losses of habitat that would result at lower flows (USFWS 2007)."
BOR-23	DEA page 34. Based on the results of fish stranding assessments, other fish species appear to be more at risk than endangered suckers due to fish stranding as a result of minimum flows and ramp rates in the Link River. Consider revising this section.	Since the focus of the conservation strategy contained in the HCP is listed sucker species and there are no other listed fish species in the vicinity, the EA evaluates the impacts of the proposed action on these species.
BOR-24	DEA page 39, para 4. Please remove "Irrigation" from Klamath Irrigation Project when referencing Reclamation's Klamath Project.	The recommended changes have been made in the Final EA.
BOR-25	DEA page 3, para 3. The following sentence 'The KHS recognizes the intention of the parties to the agreement that the Clean Water Act section 401 process for the FERC relicensing of the Project be held in abeyance pending the outcome of the	The recommended changes have been made in the Final EA.

	Secretary of the Interior's determination regarding dam removal.' Is not entirely accurate. Section 6.5 Abeyance of Relicensing Proceeding of the KHSA does not mention the Secretarial Determination and the parties cannot hold this in abeyance that is the purview of the California State Water Resources Control Board and Oregon Department of Environmental Quality. This sentence should be deleted as it is not needed in this paragraph.	
BOR-26	DEA General, page 33. Please define the boundaries of Lake Ewauna earlier in the document. Inclusion of a section on the Action Area early in the document would be helpful.	The recommended changes have been made in the Final EA.
BOR-27	DEA page 22, para 4. Misspelled genus names for Blue chub and Tui chub. Correct to: <i>Siphateles bicolor</i> and <i>Gila coerulea</i> .	The recommended changes have been made in the Final EA.
BOR-28	DEA page 24, para 2. Misspelled genus names for chub. Correct to: <i>Siphateles</i> and <i>Gila</i>	The recommended changes have been made in the Final EA.
BOR-29	Enclosure B. Link River Stranding Assessment Reports; 2/27/13.	Enclosure B data noted. See response to comment BOR-1 above.
ODFW-1	In this vein ODFW believes that the conservation actions contained in PacifiCorp's proposed interim HCP and the Proposed Action in the Services' DEA when implemented during the interim time frame leading up to the potential removal of PacifiCorp's four hydro-electric facilities as stipulated in the February 18, 2010 KHSA, will help conserve and protect the ESA-listed Lost River sucker and the shortnose sucker.	Comment noted. The Service concurs with ODFW's view that actions contained in PacifiCorp's HCP will help conserve and protect Lost River and shortnose suckers.
ODFW-2	ODFW's emphasizes that support of measures contained in the PacifiCorp's proposed interim HCP is predicated on the "interim" nature of the program. The brevity of our comments is likewise based on the "interim" status of the proposed HCP. Given the possibility that circumstances might arise resulting in the termination of the KHSA, ODFW recommends that the interim take authorization contain conditions strictly limiting the period of applicability to the 10 year time frame. It should be clearly stated as a requirement that PacifiCorp will have to re-consult with the Service following the 10 year time period as to potential impacts and mitigation options of continuing to operate with their Project in place. In the event that incidental take associated with Project operations is not authorized under Section 7 of the ESA prior to the end of the initial 10-year term of the ITP, and PacifiCorp initiate's discussions with the Service to extend the term of the ITP additional opportunity for public comment should be required.	The proposed term for the Section 10 permit is ten (10) years. The permit would authorize the incidental take of covered species that could occur as a result of operating the Klamath Hydroelectric Project during the permit term and implementing the conservation actions contained in the HCP. In making any decision about the potential extension of the term of the permit term, the Service would determine whether an extension would be consistent with all applicable laws and regulations, including a consideration of whether any new information exists indicating effects of the action that were not previously considered. If extension of the HCP is consistent with applicable laws and regulations, the Service may extend the term of the ITP.
COS-1	NEPA Review of the ITP must be integrated within or tiered off of the EIS/EIR for Klamath Facilities Removal. The public comment period for the Draft	Although unrelated to the review of PacifiCorp's application for an ITP pursuant to the Sucker HCP, the Department of the Interior released a Final Environmental Impact Statement (EIS) for Klamath

	Environmental Impact Statement and Environmental Impact Report for Klamath Facilities Removal closed on November 21, 2011. More than 16 months have elapsed, and the Department of the Interior has still not issued a final document, which would include legally-required responses to all comments submitted.	Facilities Removal on April 4, 2013, which included a response to comments.
COS-2	It is obvious that the Interior Department is moving ahead with piecemeal implementation of the Klamath Hydroelectric Settlement Agreement (KHSAs) and the Klamath Basin Restoration Agreement (KBRA), despite the lack of Congressional authorization, the lack of approval of California funding, the lack of a final EIS/EIR, the lack of a Record of Decision by the Interior Department, and the lack of a Notice of Determination by the California Department of Fish and Wildlife.	The Service respectfully disagrees with this commenters characterizations. PacifiCorp has applied for an ESA Section 10 permit pursuant to applicable laws and regulations. The Service will evaluate PacifiCorp's application in accordance with applicable permit issuance criteria.
COS-3	Section 6.2 of the KHSAs provides that PacifiCorp will seek an incidental take permit based on the Interim Conservation Plan included in Appendix C of the KHSAs, as the company is now doing through submission of the proposed Habitat Conservation Plan (HCP). This proposal is part and parcel of the KHSAs. The result of this piecemeal approach to implementing the KHSAs is the piecemeal analysis that has been put forth in the draft Environmental Assessment (EA) for the ITP, which is a clear violation of NEPA.	Comment noted. See response to COS-2 provided above.
COS-4	To comply with NEPA requirements to analyze connected actions and cumulative impacts, the environmental review of the ITP must be incorporated in the EIS/EIR for Klamath Facilities Removal or tiered off of that document once it is complete.	See response to comment COS-1 above.
COS-5	A Finding of No Significant Impact is not warranted given the acknowledged levels of take, the substantial scientific questions surrounding sucker population trends, and the need for consideration of other alternatives. The HCP acknowledges substantial levels of take at the East Side and West Side developments. With the offer to terminate operation of those facilities, it then improperly transfers that "baseline" level of illegal take as an offset for future take at other project facilities. This condition alone rises to the level of a significant environmental impact.	The avoidance measures contained in the HCP for the East Side and West Side developments do not transfer take as an offset for future take at other project facilities. Instead, the shutdown of these facilities proposed in the HCP avoids and minimizes the take associated with covered activities. In addition, PacifiCorp has proposed other conservation measures to further avoid, minimize, and mitigate the effects of take on the covered species.
COS-6	Given the complex history and multitude of agency reviews and actions surrounding the suckers, the draft EA is completely inadequate in reviewing and analyzing the ITP in the context of the biological opinions, recovery plans, critical habitat designation, and all of the research and study that has been conducted under the guise of informing the Secretarial Determination on dam removal.	The Service has complied with applicable laws and DOI and Service policy in development of the EA.

COS-7	<p>The admissions regarding take by various project facilities also completely undermines the arguments for removal of the lower four dams. This is why review of the ITP must be undertaken in conjunction with the larger review of Klamath Facilities Removal, so proposed solutions can be properly weighed against alternatives.</p>	<p>Section 5 of the HCP characterizes PacifiCorp's estimates of potential take associated with the projects. Table 3 in the HCP notes PacifiCorp's view that estimates of take may not necessarily reflect actual take associated with its facilities. In any case, PacifiCorp has taken steps to identify measures to avoid, minimize, and mitigate the potential effects of take on covered species.</p>
COS-8	<p>Under these circumstances, a Finding of No Significant Impact is not warranted, and an environmental impact statement must be prepared, including analysis of a reasonable range of alternatives.</p>	<p>The findings and determinations in the Service's EA will, as appropriate, address the basis for a Finding of No Significant Impact.</p>
COS-9	<p>The HCP should not have been entangled with the KHSA and dam removal.</p> <p>Discussion throughout the draft EA, as well as the recent designation of critical habitat, make clear that the lower four dams on the Klamath River are far removed from having any effect on the status or potential recovery of the Lost River and shortnose suckers. As a stand-alone proposal, the HCP would have been focused on upper basin facilities, conditions, and actions that would relate directly to recovery. Instead, a tremendous amount of superfluous and distracting analysis is directed toward cheerleading dam removal. The entanglement of ITP with the larger dam removal effort is an unfortunate millstone around its neck.</p>	<p>See response to comment COS-2 above.</p>
COS-10	<p>The actions of the Fish and Wildlife Service in advancing the ITP once again reflect a lack of coordination with local government.</p> <p>Under a proper NEPA process, Siskiyou County would seek to engage with the Fish and Wildlife Service as a cooperating agency to assist in a thorough and complete environmental review. Unfortunately, the processes surrounding the KHSA and KBRA have run so far off the rails, it only bears mention now as a matter of record.</p> <p>Before the Secretary of the Interior announced the indefinite deferral of determination on dam removal, Siskiyou County had issued a notice of intent to sue for lack of compliance with coordination statutes and violations of NEPA, the Endangered Species Act, the Federal Power Act, the Federal Advisory Committee Act, and other laws. The latest actions surrounding the ITP only demonstrate that the Interior Department continues down a misguided path that will lead to further delay and discord instead of moving forward with realistic solutions that will provide reliable water supplies, minimize costs for taxpayers and ratepayers, and continue the trends we are seeing in exploding salmon populations.</p>	<p>See responses to comments COS-1 to COS-7 above.</p>
JONES-1	<p>A look at the HCP shows a woefully inadequate range of alternatives that fails to reflect the critical</p>	<p>The Service's Section 7 Biological Opinion will evaluate</p>

	<p>situation of particularly the short-nosed sucker which is on the verge of extinction in its primary habitat in Upper Klamath Lake (UKL) and its tributaries.</p>	<p>the action area for the proposed covered activities.</p> <p>The HCP identifies a range of measures to avoid, minimize, and mitigate the potential take associated with Covered Activities. These measures directly respond to the sources of potential take that may occur as a result of PacifiCorp's interim operations. The Biological Opinion will evaluate the effects of the proposed action on the listed species. The Service concludes the EA contains a reasonable range of alternatives to the proposed action.</p>
JONES- 2	<p>Such alternatives would include installing screens on the PacifiCorp Dam and mitigation that would include an intensive study to determine the spawning areas of sucker fish in Lake Ewauna and the area down to Keno dam to see why and if these fish are able to reproduce successfully.</p>	<p>See response to JONES-1.</p>
JONES-3	<p>Suckers do not need streams to migrate as evidenced by the suckers that spawn on the east side of UKL. It may very well be that there are springs in this area that allow the suckers to spawn and the dams are killing a majority of the offspring from this area.</p>	<p>The suckers use a variety of habitat types, including in streams and rivers. The HCP (Section III) includes descriptions of habitat types and conditions used by the suckers.</p>
JONES-4	<p>More study is needed to see if the 40,000 adult and juvenile sucker fish that are killed each year by the dam are from Upper Klamath Lake or from Lake Ewauna and the Keno reach. 40,000 fish exceeds the estimated number of adult shortnose sucker left in UKL. Fish counters have already determined the sucker fish do not migrate from Lake Ewauna to Upper Klamath Lake; they can also determine whether adult fish migrate down to Lake Ewauna; and in what numbers. If the U.S. Fish and Wildlife (USFW) service has this information; they did not provide it in the PHC.</p>	<p>The estimated mortality of 39,900 suckers associated with turbines at the Klamath Hydroelectric Project facilities is for larval stage suckers, not adult and juvenile (HCP Table 5, page 71). The PacifiCorp HCP and the EA utilized the best publically-available information on local sucker populations and habitat conditions. Because adult sucker populations in Upper Klamath Lake have experienced an estimated 80 percent reduction in numbers in the past decade, the take estimates are less in the HCP biological opinion.</p>
JONES-5	<p>Screens were excluded from consideration for reasons not acceptable under the ESA. The ESA in section 10 (a) (1) (b) 2. says the applicant for an ITP "will, to the maximum extent practicable, minimize and mitigate the impact of such taking." The elimination of an alternative providing for the installation of screens; does not meet this test.</p> <p>Instead, the preferred alternative includes mitigation measures that have already failed to save juvenile sucker fish. This alternative calls for an expansion of the so-called sucker nursery in the lower Williamson River area. As long as toxic algae exists in UKL and the PH water levels are not brought back to historic levels; this effort will not save one juvenile sucker fish past the die-off period in August.</p>	<p>The Service disagrees with that the installation of screens is an alternative that must be considered in detail. The HCP proposes cessation of project operations to avoid entrainment of suckers. A discussion of this measure is located at Section V of the HCP.</p> <p>With regard to mitigation measures, along with the Williamson River Delta Restoration Project, PacifiCorp proposes in the HCP to establish and implement a Sucker Conservation Fund (Fund) in consultation with the Service. This Fund will enable implementation of recovery actions identified in the Service's revised Recovery Plan for the Lost River sucker and the shortnose sucker.</p>
JONES-6	<p>The only ones that have benefited from this effort are environmental organizations like the Nature Conservancy and the Klamath Tribes that have been showered with government and private money alike</p>	<p>Comment noted.</p>

	<p>by PacifiCorp; not the sucker fish. The losers have been the ordinary citizens of Klamath County that have seen this productive farmland taken off the tax rolls and a resulting economic loss from lost productivity. These expanded shallow water areas have also increased predation on all sucker fish, adults and juveniles alike.</p>	
JONES-7	<p>The dams should stop operating until new fish screens are installed like they were on the North Umpqua. On March 27, 2013 Dean Brockbank, a PacifiCorp spokesman, said in a guest editorial in the Klamath Falls Herald and News that the Klamath dams represent between 1 and 2 percent of PacifiCorp's overall energy production Surely, this production can be curtailed for a period of time to ensure the sucker's survival in one of the few remaining health habitats.</p>	<p>See response to comment JONES-5 above.</p>
JONES-8	<p>The EA is inadequate because it contains little information on the sucker fish in the area most likely to be heavily impacted; the Keno reach and Lake Ewauna sucker fish populations. More study needs to be done to determine whether killing 40,000 fish a year through the dam; will not result in as ESA Section 10 (1) (b) 4. says "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild."</p>	<p>The Service has complied with applicable laws and DOI and Service policy in development of the EA. As we explained in the DEA, the effects of the Project on Lost River and shortnose suckers survival and recovery is smaller than it might otherwise be because of current lack of successful spawning and rearing downstream of Upper Klamath Lake.</p>
JONES-9	<p>The EA also fails to determine how to bring UKL back to historic norms that were lost under the mismanagement of the USFS. That is the only way to determine whether mitigation measures will be effective. The USFS needs to commit the resources to determine what is causing 100% percent juvenile sucker mortality in UKL in August of each year and develop a plan to counteract the problem.</p>	<p>The purpose of the EA is to evaluate the environmental effects related to Service's action related to issuance of an ESA Section 10(a)(1)(B) permit to PacifiCorp.</p>
JONES-10	<p>This cries out for a full environmental impact statement. If the USFS does not have the money to accomplish this; it could be funded by PacifiCorp through the ITP process.</p>	<p>If the Service concludes that the proposed action will not have a significant impact on the environment, then development of an environmental impact statement is not required. The Service's determination regarding the impacts of the proposed action on the environment is discussed further in its findings documents.</p>
JONES-11	<p>The EA strategy is to throw money at the problem of juvenile sucker fish survival by promoting a strategy that has already failed to save juvenile suckers. From PacifiCorp's point-of-view, \$300,000 is a cheap way to buy protection from future biological opinions through the no-surprise clause. This clause should be eliminated from the EA.</p> <p>No one else, including the Klamath Farmers has been offered "no surprise" protection from future biological opinions. If the opinions are based on solid science; everyone should abide by them with a time period allowed to get in compliance. If they are not valid; they should be thrown out by the courts and responsible parties held accountable.</p>	<p>The conservation strategy contained in the HCP consists of the shutdown of hydroelectric facilities with the greatest effects on listed suckers as well as funding to implement projects to mitigate remaining project effects on listed suckers.</p> <p>No Surprises assurances and related regulatory requirements are described in applicable Service regulations located at 50 C.F.R. Part 17. Applicants for ESA Section 10(a)(1)(B) permits may qualify for these assurances so long as their permit application meets applicable permit issuance criteria.</p>

JONES-12	<p>In summary, more study needs to be done before determining whether the killing of 40,000 fish a year by the dams meets the requirements for a taking permit under the ESA. A full Environmental Impact Statement is needed.</p> <p>The "no surprise" clause should be removed to insure all citizens are treated the same.</p>	See responses to comments JONES-10 and JONES-11 above.
JONES-13	<p>The USFW has the power and authority to stop PacifiCorp from harming the sucker fish. If they want to assert they are not harming the fish; the burden of proof is on them to prove it. That means they pay for government supervised studies. All it takes is some backbone on the part of USFW management. They do not have the right to stop paying for measures that keep them from harming sucker fish.</p>	Comment noted. See response to JONES-1 above.