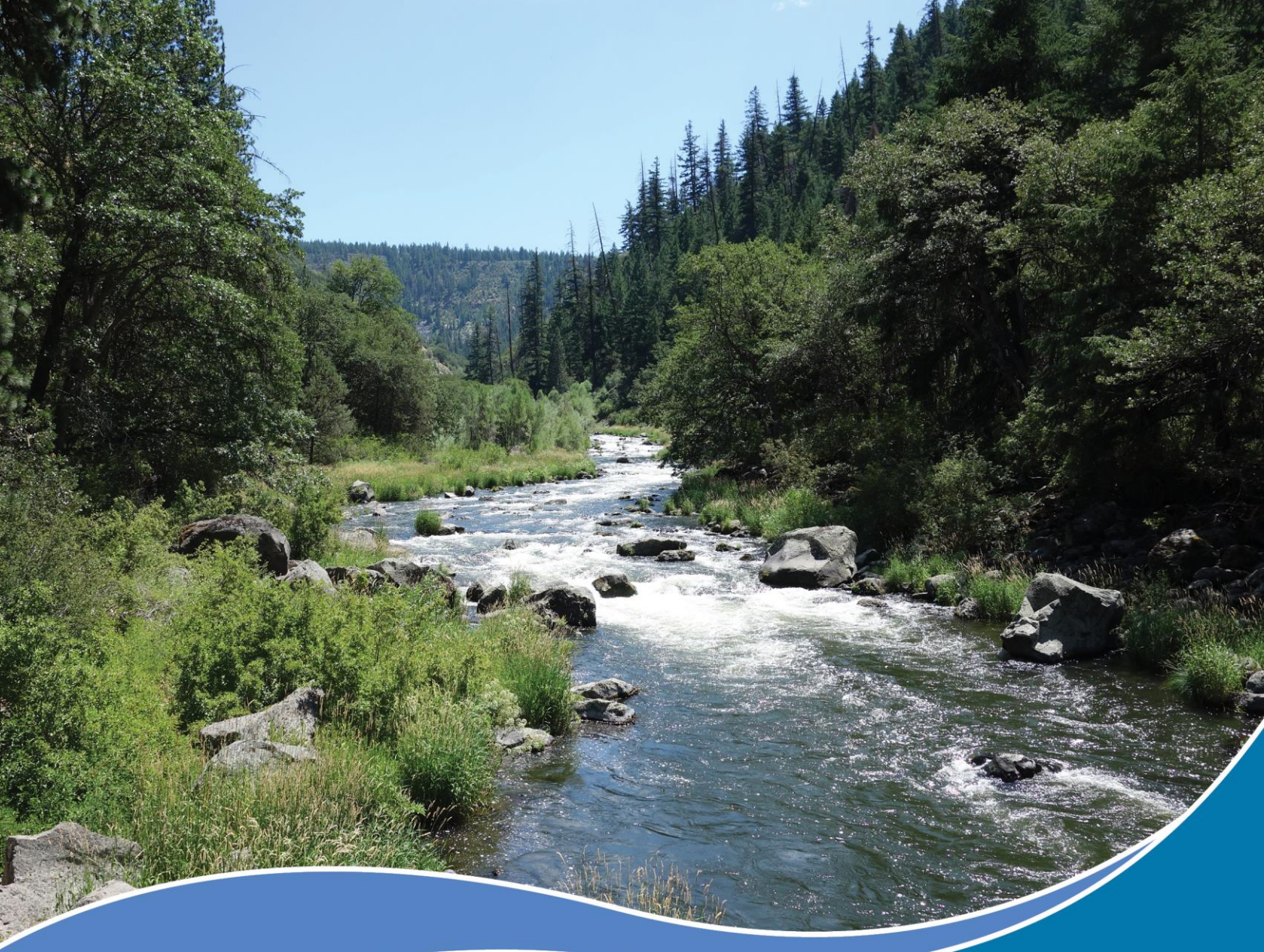
UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Klamath River Renewal Corporation	**Project Nos. 14803-001;**
PacifiCorp	**2082-063**

AMENDED APPLICATION FOR SURRENDER OF LICENSE FOR MAJOR PROJECT AND REMOVAL OF PROJECT WORKS

EXHIBIT F
Historic Properties Management Plan



Lower Klamath Project

Historic Properties Management Plan (HPMP)

KLAMATH
RIVER RENEWAL
CORPORATION

February 2021

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Acronyms and Abbreviations

AB 52	Assembly Bill 52
ACHP	Advisory Council on Historic Preservation
ADI	Area of Direct Impacts
AIRFA	American Indian Religious Freedom Act
ALSA	Amended License Surrender Application
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
ca.	circa
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
C.F.R.	Code of Federal Regulations
cfs	cubic feet per second
Copco	California–Oregon Power Company
CRHR	California Register of Historical Resources
CRS	Cultural Resource Specialist
CRWG	Cultural Resources Working Group
DDP	Definite Decommissioning Plan
DPR	Department of Parks and Recreation
EIR	Environmental Impact Report
EL.	elevation
EO	Executive Order
FERC	Federal Energy Regulatory Commission
FIC	Field Inventory Corridor
FLPMA	Federal Land Policy and Management Act
FTR	Final Technical Report
GIS	geographic information system
HABS	Historic American Building Survey
HAER	Historic American Engineering Survey
HALS	Historic American Landscape Survey
HPMP	Historic Properties Management Plan

KHP	Klamath Hydroelectric Project
KHSA	Klamath Hydroelectric Settlement Agreement
KRHP	Klamath River Hydroelectric Project
LKP	Lower Klamath Project
LOC	Library of Congress
LOW	Limits of Work
LSO	License Surrender Order
LVPP	Looting and Vandalism Prevention Plan
MIDP	Monitoring and Inadvertent Discovery Plan
MOA	Memorandum of Agreement
msl	mean sea level
MW	megawatt
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NFS	National Forest System
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Association
NPS	National Park Service
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
PRC	Public Resources Code
Project	Decommissioning of the Lower Klamath River Project
Renewal Corporation	Klamath River Renewal Corporation
RM	river mile
SCR	Sensitive Cultural Resource
SHPO	State Historic Preservation Officer
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional Cultural Property
TCR	Tribal Cultural Resource
THPO	Tribal Historic Preservation Officer
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Service
U.S.	United States

U.S.C.	United States Code
USFS	United States Forest Service

Key Definitions

This Historic Properties Management Plan (HPMP) uses several terms to describe the location of the Project and cultural resources. The following definitions describe these terms and their uses in this document, which are intended to be consistent with federal and state laws.

Archaeological isolate: An archaeological isolate in Oregon is defined as one (1) to nine (9) artifacts discovered in a location that appears to reflect a single event, loci, or activity (Oregon Revised Statutes [ORS] 192.005). The presence of any feature advances the find into a site status. Similar guidelines will be followed in California, where a written policy for isolate definition is not provided. Alternatively, on lands managed by federal agencies, the policies of those agencies will be followed.

Archaeological object: The federal definition of an archaeological object is a material thing of functional, aesthetic, cultural, historical, or scientific value that may be, by nature or design, movable yet related to a specific setting or environment (36 Code of Federal Regulations [C.F.R.] § 60.3). The State of Oregon defines an archaeological object as comprising the physical evidence of an indigenous and subsequent culture, including material remains of past human life including monuments, symbols, tools, facilities, and technological by-products, that is at least 75 years old[1] (ORS 192.005). The State of California defines an archaeological object as a manifestation primarily artistic in nature or relatively small in scale and simply constructed. Although it may be movable by nature or design, an object must be associated with a specific setting or environment. The object should be in a setting appropriate to its significant historical use, role, or character; for example, a fountain or boundary marker (14 California Code of Regulations [CCR] Appendix A).

Archaeological site: The federal definition of an archaeological site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself maintains historical or archeological value regardless of the value of any existing structure (36 C.F.R. § 60.3). The term "archaeological site" refers to a site that is eligible for or is listed on the National Register of Historic Places (NRHP; historic properties) as well as sites that do not qualify for the NRHP. The State of Oregon defines an archaeological site as ten (10) or more artifacts (including lithic debitage) or a feature likely to have been generated by patterned cultural activity within a surface area reasonable to that activity (a form of density measure), that is at least 75 years old[2] (ORS 358.905). The State of California defines an archaeological site as a bounded area of a resource having archaeological deposits or features defined in part by the character and location of such deposits or features (14 CCR Appendix A).

Area of Direct Impact (ADI): The ADI of the Project Area of Potential Effect (APE) corresponds geographically to the Project's Limits of Work (LOW). The LOW refers to the physical extent of on-the-ground construction activities associated with dam decommissioning and removal, reservoir restoration activities, safety zone,

[1] Because Section 106 of the National Historic Preservation Act (NHPA) applies, this Project will use the NRHP guideline of 50 years.
[2] Because Section 106 of the NHPA applies, this Project will use the NRHP guideline of 50 years.

the Yreka pipeline crossing relocation, and improvements to Fall Creek Hatchery. The LOW also includes rim stability areas around Copco Lake and the floodproofing habitable structures within the modeled post-dam removal floodplain, which occurs between Iron Gate Dam and the Klamath River-Humbug Creek confluence in California. The ADI expands on the LOW to include the complete boundaries of archaeological sites (buffered 40 meters) that intersect the LOW or are within 40 meters of the LOW and the modeled post-dam removal floodplain.

Area of Potential Effects (APE): The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist (36 C.F.R. § 800.16(d)). The Project's APE is primarily established as a 0.5-mile-wide area extending from the shoreline of each side of the Klamath River from the upper reach of the J.C. Boyle Reservoir to the river mouth at the Pacific Ocean. However, around the reservoirs where topography is more open and rolling, the APE extends at least an additional 0.5 mile to create a minimum 1-mile-wide area in these locations for addressing potential for indirect effects primarily related to potential viewshed alterations from reservoir removal. Due to the potential for landscape-level visual changes, the APE around each reservoir may extend beyond the 1-mile-wide area to include areas that are within sightlines of the reservoirs and ADI.

Associated funerary object: Objects reasonably believed to have been placed with human remains as part of a death rite or ceremony. The use of the adjective "associated" refers to the fact that these items retain their association with the human remains with which they were found and that these human remains can be located. It applies to all objects that are stored together as well as objects for which adequate records exist permitting a reasonable reassociation between the funerary objects and the human remains that they were buried with (25 United States Code [U.S.C.] § 3001 (3)(A)).

Burial Site: Any natural or prepared physical location, whether originally below, on, or above the surface of the earth, into which as part of the death rite or ceremony of a culture, individual human remains are deposited (25 U.S.C. § 3001 [1]; ORS 358.905).

Construction area: Refers to areas where construction activities will occur in the Project area.

Construction monitoring: Direct oversight of ground-disturbing activities by a qualified monitor/tribal advisor within areas where there is a high potential for inadvertent discoveries and/or where historic properties are known to exist and must be avoided.

Cultural patrimony: An object having ongoing historical, traditional, or cultural importance central to the Native American group or culture itself, rather than property owned by an individual Native American, and which, therefore, cannot be alienated, appropriated, or conveyed by any individual regardless of whether or not the individual is a member of the Indian tribe or Native Hawaiian organization and such object shall have been considered inalienable by such Native American group at the time the object was separated from such group (25 U.S.C. § 3001 (3)(D)).

Cultural resources: Locations of human activity, occupation, or use. Cultural resources are not defined in federal law but include archaeological, historic, or architectural sites, structures, or places with important

public and scientific uses and locations of traditional cultural or religious importance to specific social or cultural groups (BLM n.d.).

Curation: The management and preservation of a collection according to professional museum and archival practices, including, but not limited to (1) Inventorying, accessioning, labeling, and cataloging a collection; (2) Identifying, evaluating, and documenting a collection; (3) Storing and maintaining a collection using approved methods and containers and under environmental conditions and physically secure controls following industry standards; (4) Periodically inspecting a collection and taking such actions as may be necessary to preserve it; and (5) Providing access and facilities to study a collection and handling, cleaning, stabilizing, and conserving a collection in such a manner as to preserve it (USFS 2015).

Definite Decommissioning Plan: The Project's Definite Decommissioning Plan (Renewal Corporation 2020) details removal limits construction access, staging and disposal sites, demolition methods, imported materials, and waste disposal for each of the four dam facilities. Other key components include measures to reduce effects to aquatic and terrestrial resources, road and bridge improvements, relocation of the City of Yreka's pipeline across Iron Gate Reservoir and associated diversion facility improvements, demolition of various recreation facilities adjacent to the reservoirs, recreation improvements, downstream flood control improvements, groundwater system improvements, water supply improvements, and fish hatchery modifications and improvements.

Footprint: The geographic LOW as presented in the Definite Decommissioning Plan (Renewal Corporation 2020). In addition, the Project footprint extends below Iron Gate Dam to Humbug Creek, in California, a distance encompassing approximately 83 river miles (RMs).

Historic property: This term is defined in 36 C.F.R. § 800.16(l)(1) as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP…" The term "includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to and Indian tribe or Native Hawaiian organization and that meet the National Register criteria."

Historic Properties Management Plan (HPMP): As defined by the Federal Energy Regulatory Commission, an HPMP is a plan for considering and managing effects on historic properties of activities associated with constructing, operating, and maintaining hydropower projects.

Human remains: The States of California and Oregon define the term "human remains" or "remains" as the body of a deceased person, regardless of its stage of decomposition, and cremated remains (California Health and Safety Code § 7001 [2018]; ORS 97.010 [2007]). The regulations of the Native American Graves and Repatriation Act (NAGPRA [Public Law 101-601; 25 U.S.C. §§ 3001-3013]) define human remains as the physical remains of the body of a person of Native American ancestry. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets. For the purposes of determining cultural affiliation, human remains incorporated into a funerary object, sacred object, or object of cultural patrimony must be considered as part of that item (43 C.F.R. § 10.2 (d)).

Inadvertent discovery: Any discoveries of human skeletal remains, artifacts, archaeological sites, or any other cultural resources during ground disturbing or monitoring activities. The Section 106 process addresses "post-review discoveries" under 36 C.F.R. § 800.13. The Native American Graves Protection and Repatriation Regulations (43 C.F.R. § 10.2 (g)(4)) define an inadvertent discovery as the unanticipated encounter or detection of human remains, funerary objects, sacred objects, or objects of cultural patrimony found under or on the surface of federal or tribal lands pursuant to Section 3 (d) of NAGPRA.

Klamath River Hydroelectric Settlement Agreement: Settlement (2010, amended 2016) agreed to by PacifiCorp, the United States, the States of California and Oregon, and other parties for resolving a pending Federal Energy Regulatory Commission (FERC) relicensing proceeding by establishing a process for potential facilities removal and operation of the Klamath River Hydroelectric Project until that time.

Limits of work (LOW): Refers to the physical extent of on-the-ground construction activities associated with dam decommissioning and removal, reservoir restoration activities, safety zone, the Yreka pipeline crossing relocation, and improvements to Fall Creek Hatchery. The LOW also includes rim stability areas around Copco Lake and the floodproofing of habitable structures within the modeled post-dam removal floodplain, which occur between Iron Gate Dam and the Klamath River-Humbug Creek confluence in California.

Looted: A looted antiquity is one recovered from the ground in an unscientific manner. The antiquity is decontextualized, and physical integrity is jeopardized (Gerstenblith 2016). The term "looting" is applied to illegal excavation and artifact theft at archaeological sites (USFS 2015).

Memorandum of Agreement: An agreement document between federal agencies and others stipulating how adverse effects of federal actions on historic properties will be resolved under Section 106 and its governing regulations.

Lower Klamath River Project (Lower Klamath Project): Refers to four hydroelectric developments on the Klamath River: J.C. Boyle, California–Oregon Power Company (Copco) No. 1, Copco No. 2, and Iron Gate. The Klamath River Renewal Corporation (Renewal Corporation) has applied to FERC to surrender the license for the Lower Klamath Project for the purpose of implementing the Klamath River Hydroelectric Settlement Agreement, as amended in 2016.

Parcel B lands: Project lands subject to transfer by Renewal Corporation to the States or to a designated third-party designee once Renewal Corporation has met all surrender license conditions.

Project: The Renewal Corporation's comprehensive plan to physically remove the Lower Klamath River Project and achieve a free-flowing condition and volitional fish passage, site remediation and restoration, and avoidance of adverse downstream impacts.

Project area: Refers to the area defined by the FERC boundary of the Lower Klamath Project. Such boundaries encompass lands and waters between the upper reach of J.C. Boyle Reservoir (RM 234.1) and the toe of Iron Gate Dam (RM 193.1). This definition of Project area is used for purposes of the Definite Decommissioning Plan. It may be revised for purposes of environmental review under the National

Environmental Policy Act, the California Environmental Quality Act, or other applicable laws, in future procedures.

Sacred object: Specific ceremonial objects that are needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present-day adherents (25 U.S.C. § 3001 (3)(C)).

Site condition monitoring: Repeat, periodic site inspections to an individual archaeological site to assess changes over time to site integrity.

Traditional Cultural Property (TCP): Refers to a property that is eligible for inclusion in the NRHP based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. TCPs are rooted in a traditional community's history and are important in maintaining the continuing cultural identity of the community.

Tribal Cultural Resource (TCR): TCRs are defined in California Public Resources Code (PRC) Section 21074(1)(a) as either a site, feature, place or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the affected tribe, and that is: listed or eligible for listing in the national or California Register of Historical Resources, or in a local register of historical resources; or a resource that the lead agency determines is a tribal cultural resource. California Native American tribes traditionally and culturally affiliated with the geographic area of a project may have expertise concerning their TCRs (PRC Section 21080.3.1).

Undertaking: Consists of the Renewal Corporation's measures to remove the four hydroelectric developments, remediate and restore the reservoir sites, and avoid or minimize adverse impacts downstream that FERC will be approving as part of the license surrender order.

Vandalism: In cultural resource management context, the willful destruction or spoiling of archaeological and historic sites, including graffiti, defacement, demolition, removal, and other criminal damage (USFS 2015).

Chapter 1: Overview and Executive Summary

1. OVERVIEW AND EXECUTIVE SUMMARY

1.1 Purpose of the HPMP

The Lower Klamath River Project (Lower Klamath Project) (FERC No. 14803) consists of four hydroelectric developments on the Klamath River: J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate. The Klamath River Renewal Corporation (Renewal Corporation) has applied to the Federal Energy Regulatory Commission (FERC) to surrender the license for the Lower Klamath Project for the purpose of implementing the Klamath River Hydroelectric Settlement (KHSA) (2010, as amended in 2016), which establishes a process for the removal of the hydroelectric developments, as agreed to by PacifiCorp, the United States, the States of California and Oregon, and other parties.

The Renewal Corporation is the entity responsible for facilities removal under the KHSA. The Definite Decommissioning Plan (DDP) is filed as Exhibit A-1 of the Amended License Surrender Application (ALSA) and is the Renewal Corporation's comprehensive plan to physically remove the Lower Klamath Project and achieve a free-flowing condition and volitional fish passage, site remediation and restoration, and avoidance of adverse downstream impacts ("the Project") (Renewal Corporation 2020).

This Historic Properties Management Plan (HPMP) has been prepared on behalf of the Renewal Corporation as the management tool for considering and managing effects associated with the decommissioning of the Lower Klamath Project on historic properties. The following are the primary goals of this HPMP:

- Support management of historic properties within the Project's Area of Potential Effects (APE).
- Follow FERC requirements (18 Code of Federal Regulations [C.F.R.] §§ 4.51 and 16.8) for the identification, evaluation, and treatment of historic properties potentially affected by the Project.
- Follow applicable federal and state laws and regulations regarding the management of historic properties, including Section 106 of the National Historic Preservation Act (NHPA), as amended (54 United States Code [U.S.C.] § 300101 et seq.).
- Satisfy the stipulations of a Memorandum of Agreement (MOA).
- Satisfy the commitments to mitigation developed under California's Assembly Bill 52 (AB 52).
- Ensure appropriate interagency coordination of activities that have the potential to affect historic properties in the APE.
- Establish a process for consulting with agencies, tribes, local jurisdictions, other interested parties, and the public during the implementation of the HPMP.
- Establish procedures for properly protecting and managing historic properties for the duration of FERC's license surrender process.

1.2 Executive Summary

To create a free-flowing river to allow volitional fish passage, the Renewal Corporation will deconstruct the J.C. Boyle Dam and Powerhouse, Copco No. 1 Dam and Powerhouse, Copco No. 2 Dam and Powerhouse, and Iron Gate Dam and Powerhouse, and associated features. To meet the objective for volitional fish passage, a restoration program will be implemented in the previously inundated areas in the former reservoir footprints, on the mainstem of the Klamath River, and on high-priority tributaries within the original Lower Klamath Project reservoirs. Such restoration will involve assisted sediment evacuation and residual sediment stabilization; tributary reconnection, selective post-drawdown grading to provide volitional fish passage, revegetating through native plantings; and enhancing aquatic habitat.

Section 106 of the NHPA requires FERC to take into account the effect of its undertakings on historic properties. An undertaking includes any project, activity, or program requiring a federal permit, license, or approval. Under the Federal Power Act (16 U.S.C. Part 12), FERC's issuance of the License Surrender Order (LSO) for the Lower Klamath Project is an undertaking subject to Section 106.

Section 106 is implemented through the Advisory Council on Historic Preservation's (ACHP) regulations, "Protection of Historic Properties" (36 C.F.R. Part 800). For the Lower Klamath Project's decommissioning as part of the current Project, FERC has entered into an MOA with the ACHP and State and/or Tribal Historic Preservation Office (SHPO/THPO), in addition to concurring parties such as the licensee, tribes, and other involved parties. The MOA is incorporated by reference into the LSO. The Renewal Corporation, as the applicant, bears the responsibility of implementing the terms of the MOA, which includes the preparation and implementation of this HPMP to manage and/or mitigate effects on cultural resources that are eligible for the National Register of Historic Places (NRHP). Eligible resources are referred to as "historic properties."

As the FERC licensee and consistent with FERC's authorization under 36 C.F.R. § 800.2(c)(2), the Renewal Corporation consulted with the ACHP; United States (U.S.) Department of Agriculture Forest Service (USFS) (Klamath National Forest and Six Rivers National Forest); U.S. Department of Interior Bureau of Land Management (BLM) Redding District and Klamath Falls Resource Area, Lakeview District; U.S. Bureau of Reclamation (USBR), U.S. Army Corps of Engineers (USACE); Indian tribes (including the Klamath Tribes, Shasta Indian Nation, Modoc Nation, Karuk Tribe, Yurok Tribe Yurok Reservation, Shasta Nation, Quartz Valley Indian Community of the Quartz Valley Reservation of California, Confederated Tribes of Siletz Indians of Oregon, Resighini Rancheria, Cher-Ae Heights Indian Community of Trinidad Rancheria, and the Hoopa Valley Tribe), Oregon and California SHPOs, and other interested parties. This consultation included teleconferences, in-person meetings, written correspondence, and emails that discussed various components of the Section 106 compliance process, including an invitation to consult, identification of an Area of Potential Effect (APE), methods to identify historic properties, evaluation of cultural resources, and assessment of the undertaking's potential for effects to historic properties.

Following 36 C.F.R. Part 800, the Renewal Corporation defined an APE for the Project and inventoried archaeological, cultural, and historic properties within the APE. Following the completion of the data collection and inventory process, the Renewal Corporation evaluated identified properties and made recommendations on the NRHP eligibility of each resource (defined in 36 C.F.R. § 60.4). The identification

and evaluation process completed to date was reported in the Cultural Resources Final Technical Report (under development).

Prior to the initiation of the Section 106 process, the Renewal Corporation applied to the California State Water Resources Control Board (State Water Board) for water quality certification for the proposed Project, pursuant to Section 401 of the Clean Water Act. The State Water Board is the lead agency for the California Environmental Quality Act (CEQA), which requires analysis of impacts. For the Environmental Impact Report (EIR) for the Lower Klamath Project License Surrender, the State Water Board addressed impacts to historical and Tribal Cultural Resources (TCRs) (State Water Board 2018). AB 52 amended Section 5097.94 of the Public Resources Code (PRC) to require consideration of TCRs in CEQA review. As part of the State Water Board impacts analysis, the Renewal Corporation has committed to implementing specific mitigation measures developed through consultation as part of the AB 52 process. These mitigation measures, which include the preparation of this HPMP, are proposed for FERC's approval as a term of the Lower Klamath Project LSO.

This HPMP describes the historic properties identified, measures to avoid and minimize effects to historic properties, and mitigation of historic properties adversely affected by the Project. In addition, this HPMP provides the Renewal Corporation a summary of the regulatory context for the identification, evaluation, protection, and management of cultural resources in the Project's APE. Lastly, the HPMP prescribes a process for consultation between the Renewal Corporation and the agencies, tribes, local jurisdictions, and other interested parties during the evaluation of cultural resources, assessment of effects, and treatment of historic properties for the duration of FERC's hydroelectric license surrender process. The Renewal Corporation developed this HPMP following guidelines jointly issued by FERC and the ACHP (FERC 2002) and by obtaining comments from agencies, tribes, and other interested parties through a Cultural Resources Working Group (CRWG). The HPMP prepared by PacifiCorp (2006) for the Klamath Hydroelectric Project (KHP; FERC Project No. 2082) is also referenced in this document.

The Renewal Corporation is responsible for managing and treating effects of the Project on historic properties. Close cooperation among all parties will be essential to protect and manage historic properties in the APE. Implementation of this HPMP will mitigate potential adverse effects of the Project on historic properties. The Renewal Corporation is committed to responsible stewardship of these properties by following applicable federal, state, and local laws and regulations in consultation with oversight agencies and affected Indian tribes and community groups.

The HPMP consists of 12 chapters. This first chapter describes how the KPMP is intended to be used and the statutory and regulatory authority under which it has been developed.

Chapter 2 provides background information, including descriptions of the existing hydroelectric facilities and Project actions.

Chapter 3 describes the efforts to identify historic properties, including a description of results from completed surveys, while Chapter 4 describes known historic properties.

Chapter 5 outlines Project management and preservation goals and priorities for archaeological properties, Traditional Cultural Properties (TCPs), and built environment resources.

Chapter 6 details expected Project effects on historic properties.

Chapter 7 outlines mitigation and management measures for historic properties, including archaeological and built environment resources.

Chapter 8 includes provisions for archaeological procedures and resolution of adverse effects to sites, as well as procedures for responding to looting and vandalism, protection of confidentiality, and artifact and document curation.

Chapter 9 outlines other programs applicable to the HPMP, including law enforcement and agency coordination, public information and interpretation, culturally significant plant enhancement, and endowment.

Chapter 10 details the HPMP's implementation procedures, including HPMP coordination, staff training, internal review procedures, amendments, annual reporting, consultation meetings, and dispute resolution.

Chapter 11 lists references used in the HPMP.

Chapter 12, the final chapter, lists HPMP preparers.

Five appendices are included in this document:

- Appendix A – Maps of the APE/ADI
- Appendix B – Historic Context Report
- Appendix C – Monitoring and Inadvertent Discovery Plan
- Appendix D -- Looting and Vandalism Prevention Plan (LVPP)
- Appendix E – Correspondence on the HPMP

1.3 Authority

1.3.1 FERC License Surrender Order

This HPMP is being prepared to satisfy the requirements of FERC's LSO issued under the agency's authority pursuant to the Federal Power Act. The LSO also includes the MOA pursuant to FERC's obligations under Section 106 of the NHPA. Under 36 C.F.R. § 800.14(b)(1), the preparation of the MOA is consistent with the approach used by FERC for decommissioning projects. Executed by FERC, Oregon and California SHPOs, and ACHP, the MOA contains a stipulation that requires the Renewal Corporation to prepare and implement this HPMP in consultation with FERC, tribes, California and Oregon SHPOs, local jurisdictions, and other

interested parties. The MOA, and therefore the HPMP, will remain in force until the Renewal Corporation fulfills the applicable requirements of the LSO, as determined by FERC.

In the event that another federal agency not initially a part to or subject to this MOA receives an application for funding/license/permit related to the LSO as described in this MOA, that agency may fulfill its Section 106 responsibilities by stating, in writing, that it concurs with the terms of the MOA and notifying FERC, Oregon and California SHPOs, and the ACHP.

1.3.2 California State Water Board/AB-52 Mitigation Measures

This HPMP has also been prepared to comply with mitigation developed under California AB 52. Prior to federal involvement, the Renewal Corporation applied to the State Water Board for water quality certification pursuant to Section 401 of the Clean Water Act. The State Water Board is the lead agency for CEQA, which requires analysis of impacts. For the Draft EIR for the Lower Klamath Project License Surrender, the State Water Board addressed impacts to historical resources and TCRs (State Water Board 2018). The California AB-52-amended PRC Section 5097.94 requires consideration of TCRs in CEQA review. As part of the State Water Board impacts analysis, The Renewal Corporation has committed to implementing specific mitigation measures developed through consultation as part of the AB 52 process. These mitigation measures will be proposed for FERC's approval as a term of the Lower Klamath Project LSO and include the following:

- Mitigation Measure TCR-1 – Develop and Implement HPMP/Tribal Cultural Resources Management Plan
- Mitigation Measure TCR-2 – Develop and Implement a Looting and Vandalism Prevention Program
- Mitigation Measure TCR-3 – Develop and Implement an Inadvertent Discovery Plan
- Mitigation Measure TCR-4 – Provide Endowment for Post-Project Implementation

1.4 Statutory and Regulatory Context

In addition to Section 106 of the NHPA and the Federal Power Act, the Project is subject to additional federal and state statutes and regulations governing human remains and burials, cultural resources, historic properties, and tribal outreach consultation. This section provides an overview of the NHPA as well as those additional statutes and regulations. This HPMP concurrently complies with the NHPA and these additional statutes and regulations, including California AB 52.

1.4.1 Federal Laws, Regulations, Standards, and Guidelines

Federal laws provide for the protection and management of cultural resources for projects that are subject to federal jurisdiction, including permitting, licensing, and land management. The applicability of these laws depends upon the specific authorities of the federal agencies involved, the types of resources affected, the government-to-government relationship of federal agencies to tribes, and the types of activities occurring on federal lands. The following is a list of statutes, regulations, and guidance that may apply to the decommissioning of the Klamath River Project.

Report on Historical and Archaeological Resources

Regulations in the Report on Historical and Archaeological Resources (18 C.F.R. § 4.51(f)(4)) implement FERC's responsibilities under the Federal Power Act regarding compliance with federal cultural resource protection laws in the agency's licensing of existing hydroelectric projects.

Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects

FERC prepared these guidelines in conjunction with the ACHP to assist hydropower project licensees in the development of HPMPs, in order to consider and manage the effects of the Project on historical properties.

American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act (AIRFA; 42 U.S.C. § 1996) promotes federal agency consultation with tribes on activities that may affect their traditional religious rights and cultural practices. These include, but are not limited to, access to sacred sites, freedom to worship through ceremonial and traditional rights, and use and possession of objects considered sacred. These rights and practices may be associated with, and lend significance to, a property. Archaeological site protection is a federal activity related to AIRFA, because it directs the various agencies to consult with Native traditional religious leaders in a cooperative effort to develop and implement policies and procedures that will aid in determining how to protect and preserve Native American cultural and spiritual traditions (Carnett 1991).

Antiquities Act of 1906

The Antiquities Act of 1906 (Public Law 59–209, 34 Stat. 225, 54 U.S.C. §§ 320301–320303) historically has been used as the basis for federal protection of cultural and paleontological resources on federal lands. The act authorizes the government to regulate the disturbance of objects of antiquity on federal lands through the responsible managing agency and to prosecute individuals responsible for the unauthorized damage or removal of such objects. The law also regulates and establishes a permit system for legitimate study of archeological resources and protection from looting.

Archaeological Resources Protection Act of 1979 (ARPA)

The ARPA (Public Law 96–95 as amended, 93 Stat. 721, codified at 16 U.S.C. §§ 470aa–470mm) was enacted in 1979 and confers ownership of archaeological resources found on federally owned and tribal lands, with exceptions now provided in Native American Graves Protection and Repatriation Act (NAGPRA). ARPA was enacted to protect archaeological sites, artifacts, and human remains on federal lands from looting by providing effective law enforcement and penalties for convicted violators. ARPA makes it illegal to excavate or damage archaeological resources found on federal public or Native lands without a permit, and to sell, purchase, exchange, transport, or receive archaeological resources that were excavated illegally under federal, state, or local law. ARPA also calls for the preservation of objects and associated records in a suitable repository once recovered from a site. ARPA sets up guidelines for the proper procedures for

obtaining permits and permission to excavate archaeological sites on public lands by qualified individuals (NPS 2019a).

Executive Order 11593 – Protection and Enhancement of the Cultural Environment (1971)

Executive Order (EO) 11593 directs the federal government to provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the nation through management of federally owned sites, structures, and objects of historical, architectural, or archaeological significance. The order directs the federal government, in consultation with the ACHP, to institute procedures to assure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance.

Federal Land Policy and Management Act of 1976

Management of cultural resources on the public lands is primarily determined by the Federal Land Policy and Management Act of 1976 (FLPMA [Public Law 94-579; 90 Stat. 2743, U.S.C. §§ 1701-1782]). The FLPMA establishes public land policy and guidelines for its administration and provides for the management, protection, development, and enhancement of public lands. FLPMA requires that public lands administered by the BLM be managed in a manner that protects the quality of their scientific values.

Bureau of Land Management 8100 and 8140 Manuals

BLM Manual Section 8100 (The Foundations for Managing Cultural Resources) provides BLM managers with basic information and general summary guidance for managing cultural resources (BLM 2004). More detailed information, policy direction, and operating procedures are found in the subsidiary Manual Sections and Handbooks in the BLM 8100 series.

BLM Manual Section 8140 (Protecting Cultural Resources) provides general guidance for protecting cultural resources from natural or human-caused deterioration; for making decisions about recovering significant cultural resource data when it is impossible or impractical to maintain cultural resources in a nondeteriorating condition; for protecting cultural resources from inadvertent adverse effects associated with BLM land use decisions, pursuant to the NHPA, the National Environmental Policy Act (NEPA), EO 11593, and the national Programmatic Agreement, and for controlling unauthorized uses of cultural resources (BLM 2019).

National Historic Preservation Act of 1966

The NHPA (Public Law 89-665, 54 U.S.C. § 300101 et seq.) establishes the federal government's policy on historic preservation and the programs, including the NRHP, through which that policy is implemented. The Act established a federal policy of cooperation with other nations, tribes, states, and local governments to protect historic sites and values. Together with its implementing regulations, the NHPA authorized the NRHP, created the ACHP, provided further considerations for National Historic Landmarks, and created procedures for approved state and local government programs (Carnett 1991). In addition, regulatory

provisions accompanying the NHPA required the SHPOs to prepare and implement state historic preservation plans.[3]

Section 106 of the NHPA (54 U.S.C. § 300101 et seq.) and its implementing regulations, "Protection of Historic Properties" (36 C.F.R. Part 800), require that federal agencies take into account the effects of their undertakings (e.g., issuing a federal permit) on historic properties (cultural resources listed in or determined eligible for inclusion in the NRHP [(36 C.F.R. § 800.1(a)) and to afford the ACHP and SHPO a reasonable opportunity to comment on an undertaking. The NRHP is a list kept by the Secretary of the Interior of "districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering and culture" (36 C.F.R. § 60.1(a)). Criteria applied in the NHPA Section 106 process to determine whether a property is eligible for nomination to the NRHP are in 36 C.F.R. § 60.4. If significant (i.e., NRHP eligible or listed) resources are identified, then federal agencies are directed to seek ways to avoid, minimize, or mitigate any adverse effects.

Section 101(d)(6)(A) of the NHPA allows properties of traditional religious and cultural importance to a tribe to be determined eligible for inclusion in the NRHP. Cultural institutions, lifeways, culturally valued viewsheds, places of cultural association, and other valued places and social institutions must also be considered under NEPA, EO 12898, and sometimes other authorities (EO 13006, EO 13007, NAGPRA).

Major amendments to the NHPA in 1980 provided support for archaeological resources protection through EO 11593, which required federal agencies to develop programs to inventory and evaluate historic resources (Carnett 1991). The amendments also authorized federal agencies to charge reasonable costs for such activities to federal permittees and licensees (Carnett 1991).

Native American Graves Protection and Repatriation Act of 1990

The NAGPRA (25 U.S.C. § 3001) supports consultation with Native groups when Native burials may be, or are accidentally, disturbed by an action on federal lands, and for inventorying and repatriating collections already held by federal museums and institutions. Native human remains, funerary objects, sacred objects, and objects of cultural patrimony as defined in NAGPRA, encountered on federal land in connection with an undertaking, shall not be intentionally excavated or removed without a permit under the ARPA (16 U.S.C. § 470cc) and consultation with the appropriate tribes. NAGPRA regulations apply only to federally managed lands.

NAGPRA is a comprehensive approach to the disposition of Native American human remains and cultural items. The Act addresses the rights of lineal descendants, Indian tribes, and Native Hawaiian organizations to Native American cultural items, including human remains, funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA specifies special treatment for Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA stipulates that illegal trafficking in human remains and cultural items may result in criminal penalties.

[3] State of California historic preservation plan: http://ohp.parks.ca.gov/pages/1069/files/10%20comb.pdf; State of Oregon historic preservation plan: https://www.oregon.gov/oprd/HCD/docs/2018_2023_shpo_plan.pdf.

NAGPRA has two main purposes. One is to require that federal agencies and museums receiving federal funds inventory holdings of Native American funerary remains and funerary objects. They must also provide written summaries of other cultural items. This helps to forge paths for federal agencies and Native tribes to work together in identifying and returning human remains and funerary objects.

The second purpose is to give Native American burial sites greater protection. NAGPRA requires that Indian tribes and Native Hawaiian organizations be consulted when archaeological investigations are anticipated or when cultural items are unexpectedly uncovered.

Three primary components characterize NAGPRA. First, under certain circumstances, NAGPRA provides for the restitution of newly discovered human remains and associated burial items discovered on federally owned or controlled land to Native American tribes. Second, NAGPRA provides a mechanism for the restitution to Native American tribes of human remains, associated and unassociated burial goods, sacred objects, and objects of cultural patrimony that are in the collections of federal agencies and museums that receive federal funding. Third, NAGPRA prohibits trafficking in Native American human remains without the right of possession, as provided under NAGPRA, and in cultural items that were obtained in violation of NAGPRA.

Organic Act of 1897 (USFS Land)

The Organic Act (Title 16, U.S.C. §§ 473-478, 479-482, 551) is the original act governing the administration of National Forest System (NFS) lands. It is one of several federal laws under which the USFS operates. Under this act, the Secretary of Agriculture may make regulations and establish services necessary to regulate the occupancy and use of NFS lands and preserve them from destruction. Persons violating the act or regulations adopted under it are subject to fines or imprisonment. The Organic Act is one authority used to issue Permits for Archaeological Investigations.

Prohibitions in 36 C.F.R. Part 261

The Secretary of Agriculture's regulations (36 C.F.R. Part 261) provide in part for regulating the occupancy and use of archaeological sites on national forest lands. ARPA sets two criteria that must be met by national forests in considering whether a site or artifact is significant for protection: (1) The site or artifact must be at least 100 years of age; and (2) Must be of archaeological interest. However, on federal land, other statutes and regulations provide protections for resources that are not protected under ARPA.

1.4.2 State Laws and Regulations

California

California has several laws and regulations that protect archaeological sites and Native American tribal cultural resources.

- AB 52 (Chapter 532, Statutes 2014) establishes a consultation process with all California Native American tribes on the Native American Heritage Commission List (federally and non-federally

recognized tribes). Recognizes tribal cultural resources, considers tribal cultural values in determination of project impacts and mitigation, and requires tribal notice and meaningful consultation. AB 52 required an update to CEQA Guidelines to include questions related to impacts to tribal cultural resources. See also CEQA, below.

- PRC Section 5024.1 established the California Register of Historical Resources (CRHR) and criteria to determine significance, eligible properties, and nomination procedures.
- PRC Section 5097.5 makes any unauthorized removal or destruction of archaeological or paleontological resources on sites located on public land a misdemeanor. Public lands are those owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.
- PRC Section 5097.9 prohibits the interference with the free expression of Native American religion as provided in the U.S. Constitution and the California Constitution and severe or irreparable damage to any Native American-sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine on public property, except on a clear and convincing showing that the public interest and necessity so require.
- PRC Section 5097.98 states that if the county coroner determines that discovered human remains are Native American, the coroner is required to contact the Native American Heritage Commission, which is then required to determine the "Most Likely Descendant" to inspect the burial and to make recommendations for treatment or disposition of the remains and any associated burial items.
- PRC Section 5097.99 prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions.
- PRC Section 21074 defines tribal cultural resources as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the CRHR, or included in a local register; a resource determined by the lead agency to be significant to a California Native American tribe.
- PRC Section 21083.2 provides that if a project may affect a resource that has not met the definition of an historical resource set forth in Section 21084, then the lead agency may determine whether a project may have a significant effect on "unique" archaeological resources; if so, an EIR shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, such resources must be avoided; if they cannot be avoided, mitigation measures shall be required. The law also discusses excavation as mitigation; discusses the costs of mitigation for several types of projects; sets time frames for excavation; defines "unique and nonunique archaeological resources"; provides for mitigation of unexpected resources; and sets financial limitations for compliance with this section.
- PRC Section 21084.1 provides that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historic resource; the section further defines a "historical resource" and describes what constitutes a "significant" historical resource.
- Title 14, California Code of Regulations (CCR) Section 4307 states that no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.

- CEQA Guidelines (Title 14, CCR) include sections that address archaeological and historic resources, including Section 15126.4, "Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects," which discusses impacts of a historical resource and mitigation through avoidance, preferably by preservation in place, or by data recovery through excavation conducted following an adopted data recovery plan if avoidance or preservation in place is not feasible; Section 15064.5, "Determining the Significance of Impacts to Archaeological and Historical Resources," which defines the term "historical resources" and explains when a project may be deemed to have a significant effect on historical resources and defines terms used in describing those situations, as well as CEQA's applicability to archaeological sites; and Section 15064.7, "Thresholds of Significance," which encourages agencies to develop thresholds of significance to be used in determining potential impacts and defines the term "cumulatively significant."
- California Penal Code Section 622.5 states that anyone who willfully damages an object or thing of archaeological or historic interest can be found guilty of a misdemeanor.
- California Health and Safety Code Section 7050.5 states that if human remains are discovered during construction, the person(s) responsible for the excavation or their agent is required to contact the county coroner. Section 7050.5 establishes intentional disturbance, mutilation or removal of interred human remains as a misdemeanor. This section requires that further excavation or disturbance of land, upon discovery of human remains outside of a dedicated cemetery, cease until a county coroner makes a report. The county coroner must contact the Native American Heritage Commission (NAHC) within 24 hours if the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the remains to be those of a Native American.
- California Health and Safety Code Section 7051 governs the removal of human remains from internment, or from a place of storage while awaiting internment or cremation, with the intent to sell them or to dissect them with malice or wantonness as a public offense punishable by imprisonment in a state prison.
- California Health and Safety Code Section 7052 stipulates felony offenses related to human remains, stating that willing mutilation of, disinterment of, removal from a place of disinterment of any remains known to be human are felony offenses.
- California Health and Safety Code Section 7054 concerns depositing human remains outside of a cemetery and exempts reburial of Native American remains pursuant to PRC Section 5097.94 from definition of a misdemeanor.
- California Health and Safety Code Sections 8010-8011 contain the provisions of the California Native American Graves Protection and Repatriation Act of 2001. This act establishes a state repatriation policy intent that is consistent with and facilitates implementation of the federal NAGPRA. The act strives to ensure that all California Indian human remains and cultural items are treated with dignity and respect. It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. It also states an intent for the state to provide mechanisms for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

- California Penal Code Section 622.5 establishes as a misdemeanor the willful injury, disfiguration, defacement, or destruction of any object or thing of archaeological or historical interest or value, whether situated on private or public lands.
- California Penal Code 623 establishes as a misdemeanor the disturbing or alteration of any archeological evidence in any cave without the written permission of the owner of the cave, punishable by up to 1 year in the county jail or a fine not to exceed $1,000, or both.
- California Penal Code 7050.5 declares the intentional disturbance, mutilation, or removal of interred human remains as a misdemeanor crime and requires that further excavation or disturbance of land must cease upon discovery of human remains outside of a dedicated cemetery, until a county coroner makes a report. The code requires a county coroner to contact the NAHC within 24 hours if the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the remains to be those of a Native American.

Oregon

Oregon State laws are applicable to non-federal public and private lands in Oregon. Oregon Revised Statutes (ORS) that apply to cultural resources include the following:

- ORS 97.740–97.760, which protect Indian graves and protected objects and establish procedures for their treatment
- ORS 192.501, which protects the confidentiality of information on archaeological sites
- ORS 358.905–358.995, which provide overall policy guidance on archaeological objects and sites
- ORS 390.235–390.237, which require a permit from the Oregon State Parks and Recreation Department before archaeological materials can be excavated from public lands or within a known archaeological site, following the Oregon Administrative Rules (OAR) for the permitting (OAR 736-051-0000 to 0090).

1.5 Participants in HPMP Development

Pursuant to its responsibilities under the NHPA, FERC initiated consultation with the California and Oregon SHPOs through the "Notice of Applications" on December 10, 2016. Within the Notice, FERC designated PacifiCorp and the Renewal Corporation as the Commission's "non-federal representative for carrying out informal consultation" pursuant to 36 C.F.R. § 800.2(c)(4). Following that designation, the Renewal Corporation extended invitations to consult with other federal and state agencies, tribes, local jurisdictions, and other interested parties.

1.5.1 Cultural Resources Working Group

To initiate Section 106 compliance, the Renewal Corporation formed a CRWG in August 2017. The purpose of the group is to compile information to assist FERC with regulatory compliance and to ensure open communication among all consulting parties. Invited members to the CRWG include PacifiCorp; the Oregon and California SHPOs, USFS (Klamath National Forest); BLM (Redding and Klamath Falls Field Offices);

USACE (San Francisco District); USBR; and representatives of the Klamath Tribes, Modoc Nation (formerly Modoc Tribe of Oklahoma), Shasta Indian Nation, Shasta Nation, Karuk Tribe, Yurok Tribe, Quartz Valley Indian Community of the Quartz Valley Reservation of California, Cher'Ae Heights of the Trinidad Rancheria, Confederated Tribes of the Siletz Indian Reservation, Resighini Rancheria, and the Hoopa Valley Tribe.

CRWG meetings focused on a broad range of topics, including an overview of the Section 106 process; the Project schedule and updates; restoration and recreation planning; APE; cultural resource identification methods, NRHP evaluation of potentially affected sites (Phase II); and development of the MOA, LVPP, Monitoring and Inadvertent Discovery Plan (MIDP), and this HPMP. In conjunction with the CRWG meetings, and at the request of tribal participants, the Renewal Corporation has also hosted Tribal Caucuses, held before each CRWG meeting and open to tribal representatives only. In addition, the Renewal Corporation has taken part in meetings with individual tribes on an as-requested basis. Individual meetings have been held with the Klamath Tribes, Modoc Nation, Shasta Indian Nation, Shasta Nation, Quartz Valley Indian Reservation, Karuk Tribe, Yurok Tribe, and Resighini Rancheria. A major goal of the CRWG has been to provide input on documents designed to assist the Renewal Corporation with compliance with Section 106 requirements.

1.5.2 Local Jurisdictions and Other Consulting Parties

In addition to federal agencies, tribes, and state agencies, the Renewal Corporation has also invited local jurisdictions and other potentially interested organizations to consult under Section 106 of the NHPA. While some parties expressed an interest in the Project, none have attended or otherwise participated in the CRWG.

1.5.3 HPMP Consultation Procedures and Protocols

Since FERC issued its Notice of Applications on December 10, 2016, the Renewal Corporation has consulted with federal agencies, SHPOs, tribes, and other stakeholders concerning various components of the HPMP, including the APE, process for identifying and evaluating historic properties, assessment of effects, MIDP, and the LVPP. Having received input from these parties during consultation meetings and/or written correspondence, a Draft HPMP [will be] was distributed to the CRWG for review and comment consistent with the FERC guidelines. Comments received from the participants were taken into account by the Renewal Corporation, and the document was revised accordingly.

Chapter 2: Background Information

2. BACKGROUND INFORMATION

This section provides an overview of the Lower Klamath Project removal activities, beginning with a general description and introduction to the four existing hydroelectric developments.

2.1 Location

The Lower Klamath Project is along the upper Klamath River in Klamath County, Oregon (south-central Oregon) and Siskiyou County, California (north-central California), approximately 200 miles upstream from the Pacific Ocean (Figure 2-1). The Lower Klamath Project encompasses the lands and waters between the upper reach of J.C. Boyle Reservoir, at river mile (RM) 234, and the toe of Iron Gate Dam, at RM 193. The nearest principal cities are Klamath Falls, Oregon, located about 15 miles northeast of the upstream end of the Project area; Medford, Oregon, 45 miles northwest of the downstream end of the Project area; and Yreka, California, 20 miles southwest of the downstream end of the Project area. Figure 2-1 is a map of the Lower Klamath Project hydroelectric facility locations.

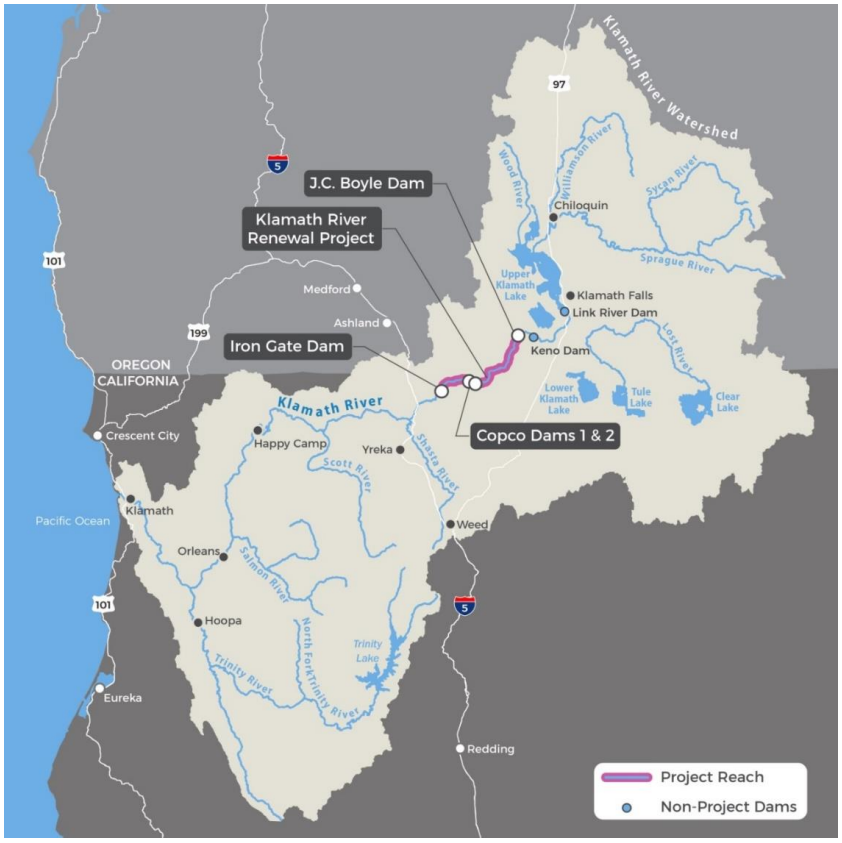


Figure 2-1 Klamath Basin watershed and Lower Klamath Project hydroelectric facility locations

2.2 Existing Hydroelectric Facilities and Fish Hatcheries

The Lower Klamath Project existing hydroelectric facilities and existing fish hatcheries are described in Renewal Corporation 2020, and a summary is provided below.

2.2.1 J.C. Boyle

The J.C. Boyle development (originally known as the Big Bend development) is located between RM 224.7 (dam) and RM 220.4 (powerhouse) on the Klamath River in Oregon (PacifiCorp 2004). The development includes the dam and intake structure, reservoirs, water conveyance system, scour hole, and the powerhouse and substation. The J.C. Boyle Dam is a 68-foot-tall concrete and earth fill dam that is approximately 700 feet long. The dam impounds approximately 3,495 acre-feet of water, at a reservoir elevation (EL.) 3,796 feet in a narrow reservoir with a surface area of approximately 420 acres (FERC 2018). A concrete pool and weir fish ladder (approximately 569 feet long with 63 pools) is located along the abutment wall between the embankment and concrete sections to provide upstream fish passage at the dam (PacifiCorp 2004). J.C. Boyle Reservoir supplies water through a concrete conveyance system comprised of a 600-foot siphon and pipeline, a 2-mile-long concrete power canal, a 1,660-foot-long low-pressure tunnel, and two 956-foot-long by 10.5-foot-diameter surface-mounted high-pressure steel penstocks. The conveyance system extends to a powerhouse containing two units with an authorized capacity of 98 megawatts (MW) (FERC 2018). There is also an eroded scour hole downstream of the forebay structure. The development includes a switchyard, substation, and transmission lines. Recreation facilities at J.C. Boyle include the Topsy Campground and boat launch, Pioneer Park east and west units and boat launches, Spring Island whitewater boating launch, and numerous dispersed shoreline recreations sites.

2.2.2 Copco No. 1

The Copco No. 1 dam and associated facilities are located on the Klamath River between RM 204 and RM 198 in Siskiyou County, California. The Copco No. 1 hydroelectric facilities consist of a 230-foot-high (measured from the lowest point of the foundation excavation to the spillway crest) by 415-foot-long dam with a spillway section containing 13 Tainter gates and an abandoned and concrete-plugged diversion tunnel and concrete inlet control structure. The reservoir is 1,000 surface acres and contains about 33,724 acre-feet of total storage capacity at elevation 2,607.5 (FERC 2018). The two 10-foot-diameter (reducing to 8-foot-diameter) steel penstocks feed Unit No. 1 in the powerhouse. The right intake houses four vertical-lift gates. A single, 14-foot-diameter (reducing to two 8-foot-diameter) steel penstock close to the river feeds Unit No. 2. The powerhouse contains two units at an authorized capacity of 20 MW. The development also contains a switchyard, substation, and transmission lines (FERC 2018). Recreation facilities at Copco No. 1 include Mallard and Copco Cove with boat launches.

2.2.3 Copco No. 2

The Copco No. 2 development powerhouse is located immediately downstream of Copco No. 1 at RM 198.3 in California. The Copco No. 2 reservoir is small (approximately 40 acres), with a storage capacity of 73 acre-

feet at EL. 2,483 feet) and is located immediately downstream of Copco No. 1 dam. The Copco No. 2 dam is a 33-foot-tall concrete gravity diversion dam with a 132-foot-long earth fill embankment section at the right abutment. The development also includes a 145-foot-long overflow spillway with five 26- by 11-foot radial (Tainter) gates and a 4,863-foot-long water conveyance system. The conveyance system includes a 2,440-foot concrete-lined tunnel, 1,313-foot wood-stave penstock, an additional 1,110 feet of concrete-lined tunnel, two steel penstocks approximately 375 feet long, and a surge tank (FERC 2018). The Copco No. 2 Powerhouse has two units, and an authorized capacity of 27 MW (FERC 2018). The Copco No. 2 development also includes a switchyard, substation, and transmission lines. The bypass reach is approximately 1.5 miles long. The Copco 2 development does not contain recreation facilities accessible by the public (PacifiCorp 2004).

2.2.4 Iron Gate

The Iron Gate facilities comprise the farthest downstream Lower Klamath Project development in California located between RM 196.8 (dam) and RM 190.0 (powerhouse). The dam and associated facilities consist of an approximately 944 surface-acre reservoir with 58,794 acre-feet of storage capacity at EL. 2,328.0 (FERC 2018). The dam has a height of 189 feet from the rock foundation to the dam crest at EL. 2,343.0 feet mean sea level (msl). Iron Gate also has fish trapping and holding facilities located on the random fill area at the dam toe. The top of the random fill area is at EL. 2,189.0 feet msl. High (EL. 2,310.0 feet msl) and low-level (EL. 2,250 feet msl) intakes for the fish facility water are incorporated into the dam. In 2003, PacifiCorp modified Iron Gate Dam to raise the dam crest elevation from EL. 2,343 feet msl to El. 2,348 feet msl. The modifications included construction of a sheetpile wall extension along the dam crest, anchored into the existing dam structure. Additional riprap materials were placed on the upstream face of the dam to protect those areas inundated by higher reservoir elevations. This work included shotcrete protection at the top of the spillway and spillway chute (PacifiCorp 2004).

The spillway crest is 727 feet long and consists of a concrete ogee and slab placed over the excavated rock ridge. The upper part of the channel is partly lined with concrete. At the end of the chute, a flip-bucket terminal structure is located approximately 2,150 feet downstream of the toe of the dam (PacifiCorp 2004). The Iron Gate Powerhouse has one unit with an authorized capacity of 18 MW, a switchyard, substation, and transmission lines. The powerhouse is located at the base of the dam on the left bank. The Iron Gate development also includes the Iron Gate fish hatchery, which raises steelhead, coho salmon, and Chinook salmon, and includes a fish trapping and holding facility. The hatchery complex includes an office, incubator building, rearing ponds, fish ladder with trap, visitor information center, and employee residences. Up to 50 cubic feet per second (cfs) is diverted from the Iron Gate reservoir to supply the 32 raceways and fish ladder. The hatchery is operated by the California Department of Fish and Wildlife (CDFW) (PacifiCorp 2004). Recreation facilities at Iron Gate include the Fall Creek day-use area and boat launch, campgrounds, and other boat launch areas and dispersed shoreline sites.

2.2.5 Iron Gate Hatchery

Iron Gate Hatchery was constructed in 1962 to mitigate for lost anadromous salmonid spawning and rearing habitat between Copco No. 2 Dam and Iron Gate Dam. The Iron Gate Hatchery is approximately 0.5 mile

downstream of Iron Gate Dam, adjacent to the Bogus Creek tributary. The main hatchery complex includes an office, incubator building, rearing/raceway ponds, fish ladder with trap, settling ponds, visitor information center, and four employee residences. The collection facility is at Iron Gate Dam and includes a fish ladder consisting of twenty 10-foot weir-pools that terminate in a trap, a spawning building, and six 30-foot circular holding ponds. The Iron Gate Hatchery operates with a gravity-fed, flow-through system that has five discharge points into the Klamath River. The Iron Gate Hatchery obtains its water supply from Iron Gate Reservoir. Two subsurface influent points at a depth of approximately 17 feet and 70 feet, respectively, deliver water to Iron Gate Hatchery. Up to 50 cfs are diverted from the Iron Gate Reservoir to supply the 32 raceways and fish ladder. The existing spawning facility discharges through the main ladder and steelhead return line. An overflow line drains excess water from the aeration tower. The hatchery facility also has a discharge at the tailrace that supplies the auxiliary ladder or fish discharge pipe, and two flow-through settling ponds for hatchery effluent treatment that converge to a single discharge point. The historical mitigation goals include a release of 6,000,000 Chinook salmon (5,100,000 fingerlings and 900,000 yearlings), 75,000 coho salmon yearlings, and 200,000 steelhead yearlings, annually. The Southern Oregon Northern California Coast coho salmon Evolutionarily Significant Unit, which includes coho salmon produced at Iron Gate Hatchery, is listed as threatened under the federal Endangered Species Act and the California Endangered Species Act. The Renewal Corporation will demolish the existing fish collection facility at the toe of Iron Gate Dam and the water supply intake and associated infrastructure along with the dam and hydropower developments.

2.2.6 Fall Creek Hatchery

California Oregon Power Company built the Fall Creek Hatchery in 1919 as compensation for loss of spawning grounds due to the construction of Copco No. 1 Dam. Six of the original rearing ponds remain (two above Copco Road and four below the road). CDFW last used these ponds from 1979 through 2003 to raise approximately 180,000 Chinook salmon yearlings, which they released into the Klamath River at Iron Gate Hatchery. Although the raceways remain and CDFW continues to run water through them, they have not produced fish since 2003, when CDFW moved all mitigation fish production to Iron Gate Hatchery. There are two existing diversion structures (Diversion A and Diversion B). Diversion A is the primary diversion for the water supply, and Diversion B is the secondary diversion under current and future operating conditions. The facility retained its water rights but needs substantial renovation to become operational.

2.3 Project Description

To create a free-flowing river to allow volitional fish passage, the Renewal Corporation will remove the J.C. Boyle Dam and Powerhouse, Copco No. 1 Dam and Powerhouse, Copco No. 2 Dam and Powerhouse, and Iron Gate Dam and Powerhouse, as well as associated features. Associated features vary by development, but generally include powerhouse intake structures, embankments, and sidewalls, penstocks and supports, decks, piers, gatehouses, fish ladders and holding facilities, pipes and pipe cradles, spillway gates and structures, diversion control structures, aprons, sills, tailrace channels, footbridges, powerhouse equipment, distribution lines, transmission lines, switchyards, original cofferdam, portions of the Iron Gate Fish Hatchery, residential facilities, and warehouses. The removal also includes site remediation and restoration, including

areas previously inundated by the reservoirs; measures to avoid or minimize adverse downstream impacts; and all associated permitting for such actions.

As described in the DDP (Renewal Corporation 2020), the removal will be completed within an approximate 20-month period. The removal schedule includes a 9-month period of site preparation and partial drawdown at Copco No. 1. To access the dams for deconstruction, the Renewal Corporation will perform a controlled reservoir drawdown using both existing and modified infrastructure for approximately 4 to 6 months depending on water year type. Dam demolition will occur over approximately 6 to 8 months using multiple techniques, including contained blasting and hydraulic excavators.

Road maintenance, improvements, and rehabilitation; culvert replacements; and bridge protection, strengthening, or replacement will occur at numerous locations within the Lower Klamath Project Limits of Work (LOW)[4] to support construction activities. The removal activities also involve the relocation of the Yreka water conveyance pipeline, Fall Creek Hatchery improvements, and the removal of recreation facilities adjacent to the reservoirs.

To meet the objective for volitional fish passage, a restoration program will be implemented in the previously inundated areas in the former reservoir footprints, on the mainstem of the Klamath River, and on high-priority tributaries within the original Lower Klamath Project reservoirs. Such restoration will involve assisted sediment evacuation and residual sediment stabilization; tributary reconnection, selective post-drawdown grading to provide volitional fish passage, revegetating through native plantings; and enhancing aquatic habitat.

The DDP (Renewal Corporation 2020) describes the decommissioning activities in three phases: Phase 1 Pre-Drawdown; Phase 2 Drawdown; and Phase 3 Post-Drawdown (Table 2-1). Phase 1 and Phase 2 involve activities up to the final reservoir drawdown, including those activities that occur during the final reservoir drawdown immediately prior to the physical removal of the facilities. Phase 3A includes the physical removal of the facilities from the river and in-channel grading. Phase 3B includes site restoration and other ancillary work (e.g., recreation sites, Yreka water line, and fish hatchery activities). The DDP provides the proposed schedule for the decommissioning of the Lower Klamath Project (Renewal Corporation 2020).

During the Phase 2 Drawdown, the Renewal Corporation (through its contractor) will draw down the water surface elevation in each reservoir as low as possible to help accumulated sediment evacuation and to create a dry work area for development removal activities. Based on the stability analyses and assessments, the maximum recommended drawdown rate is 5 feet per day (Renewal Corporation 2020:29, 35).

After the Phase 2 Drawdown is accomplished, remaining reservoir sediments will be stabilized to the extent feasible, and dam and hydropower development removal will begin under Phase 3A. Full reservoir restoration and other ancillary work will begin during Phase 3B.

[4] The LOW is a geographic area that encompasses the pre-drawdown, drawdown, and post-drawdown activities and may or may not expand beyond the FERC boundary associated with the Lower Klamath Project.

Table 2-1 Phases for Decommissioning and Schedule

Phase	Title	Description	Expected Start (earliest, any development)	Expected Finish (latest, any development)
Phase 1	Pre-Drawdown	Includes all activities up to the initiation of drawdown such as construction and site access and powerhouse/water conveyance modifications	July 2022	January 2023
Phase 2	Drawdown	Includes all activities during the initial drawdown, which will occur approximately from January 1–March 15, and the final reservoir drawdown, which will occur when the water surface elevation is at the historic coffer dam, otherwise considered the Klamath River historic channel. This phase is immediately prior to the physical removal of the facilities.	January 1, 2023	March 15, 2023
Phase 3A	Post-Drawdown Facility Removal	Includes all activities associated with removing the physical facilities, and in-channel grading.	March 2023	October 2023
Phase 3B	Post-Drawdown Site Restoration and Ancillary Site Improvements	Includes all activities occurring post-facility removal, including site restoration and other ancillary work (e.g., recreation sites, Yreka water line, fish hatchery activities.	January 2022*	September 2024

Notes: Compilation of tables in Chapter 5 of the DDP (Renewal Corporation 2020), using the earliest start and latest finish dates for any development. * Some site restoration activities will begin as early as January 2022, while others will occur post-drawdown.

2.3.1 Phase 1: Pre-Drawdown and Phase 2: Drawdown

Overview

The DDP describes the Phase 1 Pre-Drawdown and Phase 2 Drawdown activities related to Construction and Site Access, Powerhouse and Water Conveyance Modifications, and Reservoir Drawdown Stages for each hydroelectric facility. Table 2-2 summarizes the activities by facility (Renewal Corporation 2020).

Table 2-2 Summary of Phase 1: Pre-Drawdown and Phase 2: Drawdown Activities by Facility

Facility	Construction and Site Access Improvements	Powerhouse and Water Conveyance Modifications	Reservoir Drawdown
J.C. Boyle	None	None	Four stages

Facility	Construction and Site Access Improvements	Powerhouse and Water Conveyance Modifications	Reservoir Drawdown
Copco No. 1	Construct and improve roads, temporary bridge, work platform at base of spillway	Construct one outlet on dam, dredge upstream, modify reservoir operations	Three stages
Copco No. 2	Develop temporary access roads/track	Remove downstream historic cofferdam, excavate material in the downstream channel at Spillway Bay No. 1, dispose of materials at approved on-site disposal location	Three stages
Iron Gate	Construct access to tunnel across base of dam and work platform, access road	Partially line diversion tunnel and remove weir at outlet	Two stages

Note: Compiled from the DDP (Renewal Corporation 2020).

Ancillary Pre-Drawdown Site Improvements

As part of the larger dam decommissioning effort, the Renewal Corporation will install the Yreka water supply line and move fish hatchery operation to Falls Creek Fish Hatchery.

Yreka Water Supply Line

The Yreka water supply line traverses the upper end of Iron Gate Reservoir. The Renewal Corporation has reached agreement with the City of Yreka to construct a new segment of buried pipeline in the immediate vicinity of the existing waterline crossing. The new section of the pipeline will tie into the existing buried pipeline at either end. The pipeline will be temporarily routed across the Daggett Road Bridge until the new pipeline is constructed following drawdown. Following drawdown, a trench will be dug across the Klamath River for the construction of the new pipeline. The trench will be dug behind a cofferdam and will be constructed in two stages to allow the river to be routed around the work zone.

Fall Creek Hatchery Improvements

The existing Iron Gate Hatchery facilities are part of the Lower Klamath Project, and they are operated by CDFW. Pursuant to KHSA, the Renewal Corporation has consulted with CDFW regarding hatchery facilities. With the removal of Iron Gate Dam, the Renewal Corporation will remove the water intake and fish capture, holding, and spawning facilities of the Iron Gate Hatchery. The functions and goals of the existing Iron Gate Hatchery will be replaced by the reopening and operation of the Fall Creek Hatchery by CDFW until the license surrender is effective. The Renewal Corporation will demolish the existing fish collection facility located at the toe of the Iron Gate Dam. The Renewal Corporation proposes to upgrade the plumbing and reconstruct the Fall Creek Hatchery to be operated by CDFW. The Fall Creek Hatchery will be located on

PacifiCorp lands outside of the boundaries respectively of the Lower Klamath Project or the Klamath Project, P-2082. The Renewal Corporation, PacifiCorp, and CDFW will enter into a lease or similar legal arrangement for this purpose, to ensure that the Renewal Corporation (as future licensee) has adequate control over the lands and waters associated with this facility for compliance with the applicable condition of the LSO.

2.3.2 Phase 3A: Post-Drawdown Facility Removal

Phase 3A Post-Drawdown Facility Removal includes the physical removal of the facilities from the river and in-channel grading. Each of the developments are described for activities related to (1) Dam Removal and Volitional Fish Passage Channel Construction; (2) Water Conveyance Decommissioning; (3) Powerhouse, Substation, and Ancillary Facilities Removal. For Iron Gate, a fourth category is included to describe Fish Hatchery Decommissioning Activities (Renewal Corporation 2020) (Table 2-3).

Table 2-3 Summary of Phase 3A Post-Drawdown Facility Removal Activities by Facility

Facility	Dam Removal and Volitional Fish Passage Channel Construction	Water Conveyance Decommissioning	Powerhouse, Substation, and Ancillary Facilities Removal	Fish Hatchery Decommissioning Activities
J.C. Boyle	Construct and improve roads; remove dam concrete and fish ladder; remove earthfill embankment; remove cofferdam and accumulated sediment	Remove 14-foot-diameter pipeline; close the power canal and remove buildings and equipment; bury tunnel portal inlet; leave Power Canal Access Road in place; fill scour hole; dispose of steel penstocks	Remove powerhouse and all associated structures; remove J.C. Boyle village (demolish all buildings)	N/A

Facility	Dam Removal and Volitional Fish Passage Channel Construction	Water Conveyance Decommissioning	Powerhouse, Substation, and Ancillary Facilities Removal	Fish Hatchery Decommissioning Activities
Copco No. 1	Complete diversion tunnel; remove concrete dam; excavate material upstream or downstream of the dam; remove the diversion tunnel cofferdam	Remove penstocks	Remove powerhouse, switchyard, transmission lines, and ancillary structures	N/A
Copco No. 2	Remove dam and embankment; construct fish passage channel and install riprap for erosion on stream banks near dam	Demolish intake structure, wood-stave penstock, and steel penstocks; backfill with local materials	Remove powerhouse and ancillary structures; remove Copco Village (demolish all buildings)	N/A
Iron Gate	Remove embankment; install riprap/erosion protection; construct fish passage channel	Remove concrete from spillway; remove penstock; fill intake and outlet of diversion tunnel opening	Remove powerhouse and ancillary structures; decommission Iron Gate substation	Remove fish facilities and piping

Notes: Condensed from the DDP (Renewal Corporation 2020). N/A = not applicable

2.3.3 Phase 3B: Post-Drawdown Site Restoration and Ancillary Site Improvement Activities

After the physical dam removal and the majority of in-water work occurs (Phases 1, 2, and 3A), the Renewal Corporation will implement site restoration activities, including planting, evaluating volitional fish passage barriers that may develop, and invasive exotic vegetation management, to stabilize and restore the river.

Site Restoration

Site restoration is the primary activity to support the overall habitat restoration goal for coho salmon, fall-run and spring-run Chinook salmon, winter-run and summer-run steelhead, redband trout, and Pacific lamprey. Therefore, site restoration will be an active part of all phases of the decommissioning. The restoration is primarily tied to the removal of the four dams and associated infrastructure, but there will be additional restoration of the former reservoirs as well. To be sensitive to cultural resources and minimize costly restorations in difficult access areas, the restoration will focus on the mainstem of the Klamath River, high priority tributaries, and natural springs and will include the primary restoration areas identified in the following sections. Restoration details are outlined in detail in the Reservoir Area Management Plan developed in consultation with governmental agencies and tribes.

The site restoration effort will include streams and floodplain restoration, upland restoration, revegetation, and invasive exotic vegetation management. On floodplains, the Renewal Corporation will remove un-natural sediment stored on historic floodplains, protect streambanks from erosion, and improve hydrologic connectivity to off-channel areas and the floodplain. Upland restoration will focus on re-grading former dam sites with natural materials and using soil erosion control. Revegetation will occur in wetland, riparian, and upland planting zones. Invasive exotic vegetation management will commence during pre-removal activities and continue for 2 years after removal.

Ancillary Post-Drawdown Site Improvements

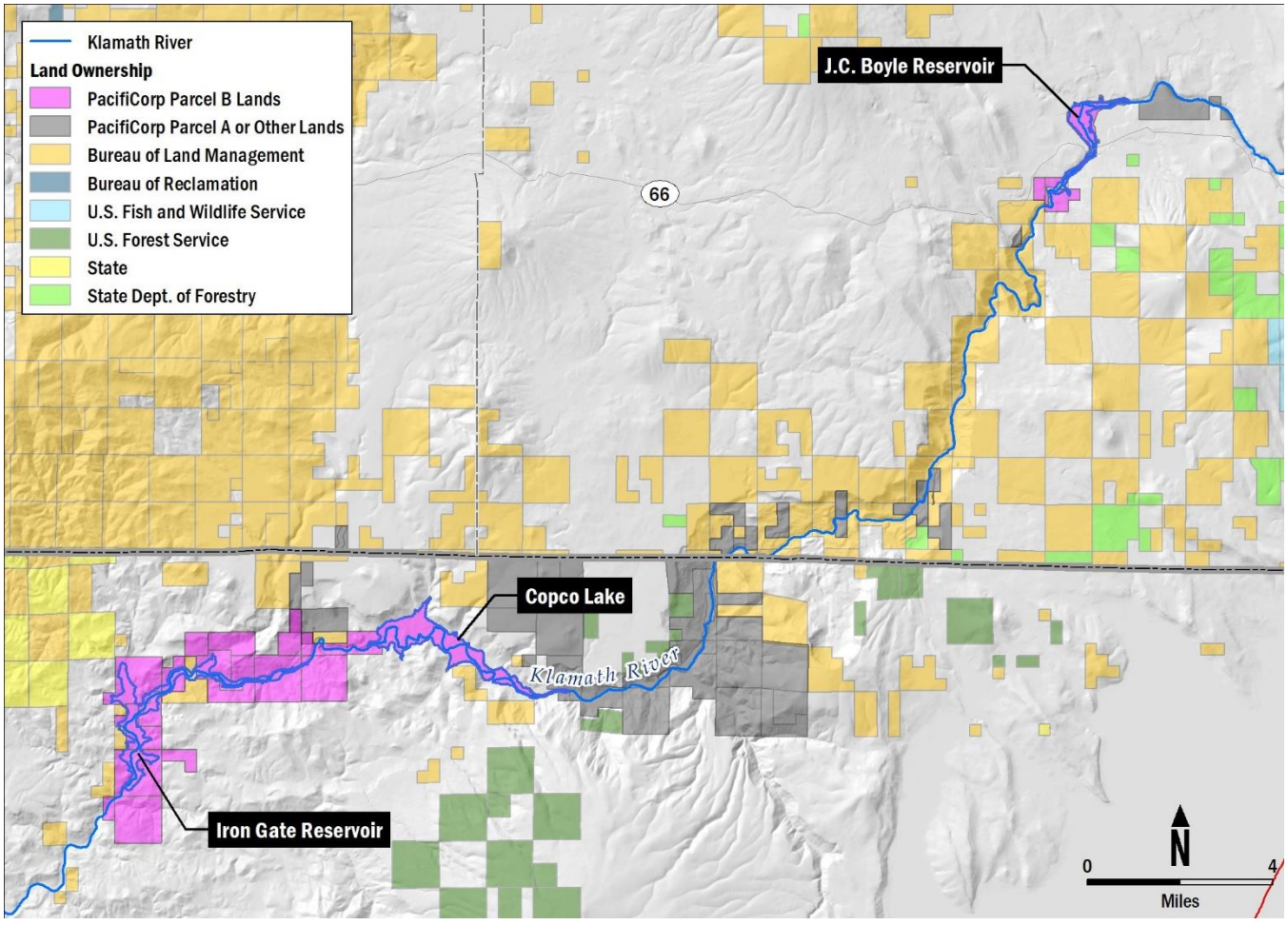
Ancillary post-removal site improvements include recreation improvements. The Renewal Corporation is drafting a Recreation Facilities Plan, in coordination with stakeholders including commercial and private boaters, anglers, and tribes. The Renewal Corporation proposes changes to existing recreation sites included in the current license. These sites are listed on Table 4-1 in the DDP (Renewal Corporation 2020:56). Following the effective date of license surrender, the Renewal Corporation will transfer Project lands to the States of California and Oregon (Parcel B lands) or a designee. The Renewal Corporation has consulted with the States to confirm that that, after the effective date for license surrender, they will assume responsibility for operation and maintenance of the sites.

2.3.4 Transfer of Parcel B Lands

Decommissioning activities will primarily occur on lands that will be owned and managed by the Renewal Corporation at the time of implementation of this HPMP. Measures from the HPMP will be implemented on BLM land consistent with agency manuals, policies, and guidelines.

Project lands subject to transfer by the Renewal Corporation to the States or to a designated third-party designee once the Renewal Corporation has met all license surrender conditions are referred to as "Parcel B lands." The process by which private Parcel B lands will be transferred is outlined in KHSA Section 7.6.4. First, PacifiCorp will transfer Parcel B lands associated with the Project to the Renewal Corporation before decommissioning begins. PacifiCorp will continue to operate and maintain the proposed Lower Klamath Project and will assume the financial and legal liabilities for the developments pending surrender of the transferred license. However, the Renewal Corporation alone will remove the dams. Once the Renewal Corporation has completed facilities removal and all surrender conditions have been satisfied, the Renewal Corporation will transfer ownership of these lands to the respective States or to a designated third-party transferee.

The general Project location and locations of Parcel B lands subject to transfer from the Renewal Corporation to the States are provided in Figure 2-2.



Source: 2012 EIS/R (USBR and CDFG 2012)

Figure 2-2 Map depicting land ownership, including Parcel B lands

Chapter 3: Identification of Historic Properties

3. IDENTIFICATION OF HISTORIC PROPERTIES

3.1 Area of Potential Effects (APE) and Area of Direct Impacts (ADI)

The Renewal Corporation, in consultation with federal agencies, Oregon and California SHPOs, tribes, and other consulting parties, has developed an APE. This section describes the APE as required by 36 C.F.R. Part 800. It then describes the ADI, which is a subset of lands within the APE subject to direct physical effects associated with the Project. The APE and ADI are depicted on maps in Appendix A.

3.1.1 Area of Potential Effects (APE)

The APE is defined in 36 C.F.R. § 800.16(d) as the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." Furthermore, the APE "is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

Defining an APE provides FERC and consulting parties with a basis for understanding the geographic extent of anticipated impacts from an undertaking, which is necessary to properly plan the level of effort for historic properties identification, evaluation, and effects assessments. To confirm the consideration of possible downstream effects below Iron Gate Dam, as well as within the river reaches between J.C. Boyle Dam and Copco Lake, a geographically broad APE is proposed. This APE allows for the examination of potential effects on the surrounding cultural landscape, a potentially NRHP-eligible riverscape, and other identified TCPs, Sacred Sites, and/or archaeological or historic districts located within Klamath River Canyon between J.C. Boyle and Iron Gate Reservoirs that are not in the ADI.

The proposed APE is primarily a 0.5-mile-wide area on each side of the Klamath River from the upper reach of the J.C. Boyle Reservoir to the river mouth at the Pacific Ocean (Appendix A). However, around the reservoirs where topography is more open and rolling, the APE extends at least an additional 0.5 mile to create a minimum 1-mile-wide area on each side of the reservoirs to address the potential for visual effects primarily related to viewshed alterations resultant from reservoir removal. Due to the potential for landscape-level visual changes, the APE around each reservoir may extend beyond the 1-mile-wide area to ensure inclusion of areas that are within sight lines of the reservoirs and ADI. The viewshed analysis is based on bare earth (e.g., no trees, vegetation, or other obstructions) inter-visibility, where geographic information system (GIS) application determines direct sight lines from one position to another considering intervening topography using a digital elevation model. Based on these results, the maximum extent of the APE has been set at 2 miles from the ADI. This distance incorporates most areas with direct sight lines to each reservoir

and ADI component yet excludes areas where adverse visual impacts are less likely based on distance and the probability of vegetation screening.

3.1.2 Area of Direct Impacts (ADI)

The Renewal Corporation has defined an ADI within the APE that delineates where there are anticipated direct physical impacts, particularly those areas that will be subject to ground disturbance, such as dam facility removal and reservoir restoration activities. The ADI generally corresponds with the LOW, which refers to the physical extent of on-the-ground construction activities (i.e., demolition and removal) and restoration activities per the DDP (Renewal Corporation 2020). In addition, the ADI extends between Iron Gate Dam (RM 193.1) and Humbug Creek (RM 174.0) in California to account for downstream flood control improvements for habitable structures located within the preliminary 100-year floodplain.

3.1.3 Land Ownership and Management

The ADI boundary includes 4,755.16 acres (as of January 2020). Prior to transfer to the States, the Renewal Corporation will own and manage 2,870.74 acres of Parcel B lands, which account for approximately 60.4 percent of the proposed ADI, including the land containing most of the Project powerhouses; portions of the transmission lines, conduits, canals, and dam facilities; and land underlying the Project reservoirs, Klamath River, and tributary streams. PacifiCorp will retain ownership of Fall Creek lands and other lands, totaling approximately 106 acres (2.2 percent). Approximately 304.79 acres (6.4 percent) are federally owned: portions of the J.C. Boyle canal and the entire powerhouse as well as portions of Iron Gate Reservoir are on BLM land (253.8 acres; 5.3 percent), while the USFS administers lands (50.99 acres, 1.1 percent) that fall within the revised 100-year floodplain below Iron Gate Dam (exclusive of Parcel B lands). Private ownership by others accounts for 1,473.5 acres (31 percent). No state lands are included in the ADI.

Lands within the APE situated below the Iron Gate Dam are generally held by private interests but also include parcels managed by the U.S. Bureau of Indian Affairs (BIA) and included within the reservation boundaries of the Yurok Tribe of the Yurok Reservation, Hoopa Valley Tribe, Quartz Valley Indian Tribe, and Resighini Rancheria. The Project also includes lands held by the BIA in trust for the Karuk Tribe in addition to lands held in fee-simple status by the Karuk Tribe. Contemporary land use includes hydroelectric generation, fish management, livestock grazing, recreation, and timberlands.

ADI lands are listed in Table 3-1. Land acreages calculated for use in the HPMP employed ESRI's ArcGIS (ArcMap) software. The acreages are current to the date presented on the cover of the HPMP.

Table 3-1 Lands of the United States within the ADI

Feature	Ownership Type	Acres	Percent of ADI
ADI Boundary	N/A	4,755.16	N/A
Parcel B Lands	Renewal Corporation	2,870.74	60.37%
Fall Creek Lands	PacifiCorp	48.73	1.02%

Feature	Ownership Type	Acres	Percent of ADI
Other PacifiCorp Lands	PacifiCorp	57.40	1.21%
BLM Lands	Federal	253.80	5.34%
USFS Lands	Federal	50.99	1.07%
All other lands	Private	1,473.50	30.99%

Notes: There are no state or tribal lands within the ADI boundary. ADI = Area of Direct Impact; N/A = not applicable

3.1.4 Proposed Changes to the APE

Federal agencies, SHPOs, tribes, and other consulting parties will be consulted if changes to the APE are proposed by the Renewal Corporation, consistent with the HPMP provisions for annual reporting (see Section 10.7). The Renewal Corporation may send proposed changes to the APE outside of the annual reporting calendar, but the consultation timelines will remain consistent with the general consultation requirements of this HPMP (see Chapter 10).

3.2 Cultural Resources Studies

3.2.1 Archaeology, Ethnography, TCPs, and Klamath Cultural Landscape

Cultural resources studies conducted in support of PacifiCorp's KHP relicensing study (PacifiCorp 2004, 2006), the USBR's 2010 Klamath Facilities Removal EIR (CardnoENTRIX 2012), and the Renewal Corporation's Lower Klamath Project (LKP) provide a comprehensive overview of known and potential historic properties that may be affected by planned actions. Presented below is a description of the studies that have been completed and those that will be required to identify historic properties that may be affected by Project activities. The cultural resources studies are divided into two sections: (1) archaeology, ethnography, TCPs, and the Klamath Cultural Riverscape; and (2) built environment resources. Since many of the Project's historic properties were first identified as part of an earlier KHP relicensing study (PacifiCorp 2004, 2006), a description of those cultural resources identification and evaluation efforts is also provided. A detailed discussion of the environmental, precontact, and historic setting for these resources is presented in Appendix B, *The Lower Klamath Project: Historic Context Report.*

Klamath Hydroelectric Relicensing Project (FERC No. 2082)

Cultural resources studies conducted by PacifiCorp in the early 2000s for the KHP (FERC License No. 2082) relicensing encompassed existing developments on the mainstem Klamath River, including the four dams that will be removed by the current Project. PacifiCorp's 2006 HPMP summarizes the various studies that were conducted between 2003 and 2006. The studies included cultural resource background research; pedestrian field surveys to inventory and record historic and archaeological resources; preparation of cultural resource context statements to facilitate evaluation of historic and archaeological resources for NRHP eligibility; ethnographic studies conducted to identify TCPs, Sensitive Cultural Resources (SCRs), and possible delineation of an NRHP-eligible ethnographic riverscape; a study of effects on cultural resources of

processes related to geomorphology; and an evaluation of historic hydroelectric Project facilities. Detailed results of these technical studies and confidential cultural resource information were presented in the confidential *Final Technical Report for Cultural Resources* (PacifiCorp 2004, 2006) submitted to FERC.

Archaeological Sites

For its KHP relicensing study, PacifiCorp defined a 5,775-acre Field Inventory Corridor (FIC) for pedestrian cultural resources survey that included the original FERC Project boundary (No. 2082), riparian and hydrologically connected areas along Project-affected reaches, and culturally sensitive lands within the Klamath River Canyon from ridgetop to ridgetop. Also inventoried was a short distance of land downstream from Iron Gate Dam to just below the Iron Gate Hatchery. PacifiCorp's inventory documented 165 archaeological sites within the FIC, including 112 precontact, 36 historic-period, and 13 multiple component sites. PacifiCorp identified three levels of NRHP eligibility for identified sites: eligible (38 sites), not eligible (31.5 sites), and potentially eligible/undetermined (109.5 sites). Eligible sites included those resources that were designated as historic properties on the basis of sufficient existing information about them to draw that conclusion. Those sites identified as not eligible lack attributes necessary for their inclusion in the NRHP. Potentially eligible/undetermined sites included those that would require more intensive, subsurface investigations to obtain information necessary to determine if they are or are not eligible for the NRHP under Criterion D. Neither the California nor Oregon SHPO has concurred with the NRHP evaluations offered in the PacifiCorp Final Technical Report (FTR) (PacifiCorp 2004, 2006).

Forty-eight of the archaeological sites in the current Project's ADI consist of resources documented in PacifiCorp's KHP cultural resources inventory. These resources are listed in Table 3-4.

Archaeological Districts

PacifiCorp's HPMP (2006:6-20, 6-21) for the KHP relicensing study identified three potential precontact archaeological districts that corresponded with Project reservoirs. Table 3-2 provides a summary of the proposed precontact archaeological districts within PacifiCorp's Project area (FERC boundary). For the J.C. Boyle Reservoir in Oregon, the Spencer Creek District was named for a group of eight sites found at the mouth of the Keno reach in the Klamath River Canyon (at and near the mouth of Spencer Creek). In California, two archeological districts were identified, comprising a cluster of five sites in the Copco Reservoir/Stateline area (Shovel Creek District) and a group of three sites in the Iron Gate Reservoir area (Fall Creek District). Determinations of NRHP eligibility of these proposed districts were not completed during earlier relicensing studies and have been addressed as part of the current Project. Table 3-2 provides summary information for PacifiCorp's potential archaeological districts as listed in their 2006 HPMP.

Table 3-2 Information for PacifiCorp's (2006) Proposed Archaeological Districts

Site No.	Site Type	Contribution of Site to NRHP Eligibility
J.C. Boyle Reservoir Area, Oregon – Spencer Creek District		
35KL2399	Lithic Scatter, Food Processing	Potentially eligible (D)

Site No.	Site Type	Contribution of Site to NRHP Eligibility
J.C. Boyle Reservoir Area, Oregon – Spencer Creek District		
35KL2401	Habitation/Village Site; Lithic Scatter, Milling Station, Petroglyph	Eligible (Criterion D)
35KL2430	Habitation/Village Site; Lithic Scatter, Petroglyph	Potentially eligible (Criterion D)
35KL1942	Lithic Scatter, Possible Pit Features	Potentially eligible (Criterion D)
35KL2397	Lithic Scatter, Food Processing, Possible Pit Features	Potentially eligible (Criterion D)
35KL2397	Habitation/Village Site; Lithic Scatter, Food Processing, Petroglyph	Eligible (Criterion D)
35KL2411	Lithic Scatter, Food Processing	Potentially eligible (Criterion D)
35KL2412	Lithic Scatter, Food Processing	Potentially eligible (Criterion D)
Copco Reservoir/Stateline Area, California – Shovel Creek District		
CA-SIS-1839-H	Habitation/Village Site; Lithic Scatter, Food Processing	Potentially eligible (Criterion D)
(unrecorded)	(Not recorded; contains cremation features)	(unknown)
CA-SIS-2567	Possible Pit Features; Lithic Scatter, Milling Stations	Potentially eligible (Criterion D)
CA-SIS-2578 (Locus 1)	Habitation/Village Site; Lithic Scatter, Food Processing	Eligible (Criterion D)
CA-SIS-2578 (Locus 2)	Lithic Scatter, Food Processing; Ceremonial Site	Potentially eligible (Criterion A)
Iron Gate Reservoir Area – Fall Creek District		
CA-SIS-2403	Village Site; Lithic Scatter, Food Processing, Pit Features	Eligible (Criterion D)
CA-SIS-2239/3923	Village Site; Lithic Scatter, Food Processing, Pit Features	Eligible (Criterion D)
CA-SIS-3933	Village Site; Lithic Scatter, Food Processing, Milling Stations, Petroglyphs	Eligible (Criteria C and D)

Note: Table information from PacifiCorp (2006: Table 6.1-2).

Of the three potential districts identified by PacifiCorp, one is within the current Project ADI: the Iron Gate Reservoir Area–Fall Creek District, consisting of three precontact or multiple component sites at the mouth of Fall Creek (CA-SIS-2239/3923, CA-SIS-2403, and CA-SIS-3933). Although CA-SIS-2403 is located above the Copco No. 2 Village bridge and considered to be within the Copco area of the Project, both CA-SIS-2239/3923 and CA-SIS-3933 are located downstream of the bridge (in the Iron Gate reservoir area); spatially, these are adjacent to one other at the mouth of the Copco No. 2 reach. The Fall Creek/Klamath

River confluence area was an extensively used location of precontact period settlement and represents an important site complex within the Upper Klamath River area. The three archaeological sites contain complex surface data that allowed researchers to deem the sites eligible for the NRHP under Criterion D at the survey level (PacifiCorp 2004); formal NRHP evaluation of these sites is pending. In addition, the large quantity of cupule boulders at CA-SIS-3933 represents important aesthetic values of local American Indians, and PacifiCorp (2004) also considered the site eligible for the NRHP under Criterion C (PacifiCorp 2004).

Ethnographic Information and TCPs

PacifiCorp (2004, 2006) sponsored tribal ethnographic studies, prepared by the Klamath, Shasta, Karuk, and Yurok Tribes, which combined ethnography with extensive oral interviews to identify TCPs/SCRs and analyze Project effects on them. These studies reviewed and researched background literature and tribal archives of published and unpublished studies, recorded oral histories, and maps. The studies also included oral history interviews of elders and site visits. The tribal ethnographic reports discuss the data gathering methods that were used, the results of the work, and the source materials referred to. Three tribal ethnographic reports were attached to the FTR (PacifiCorp 2004). Final tribal reports (kept confidential) were submitted to PacifiCorp and FERC. Section 4.3, *Traditional Cultural Properties*, provides additional information regarding these properties.

Klamath Cultural Riverscape

PacifiCorp investigated fishery resources, water quality, riparian vegetation, wildlife, erosion, and other aspects of the natural (and cultural) environment outside of the tribal ethnographic work scopes. PacifiCorp provided funding for an investigation of the feasibility of nominating the Klamath River corridor from Upper Klamath Lake to the mouth of the river at the Pacific Ocean as a traditional cultural riverscape. PacifiCorp contracted with the Yurok Tribal Heritage Preservation Officer, Dr. Thomas Gates, to prepare a regulatory analysis for a Klamath River TCR related to the relicensing.

The Klamath River Inter-Tribal Fish and Water Commission incorporated information from the tribal ethnographic studies, in addition to information provided by the Hoopa Valley Tribe, into an integration report (King 2004) that focused on the Klamath River. The entire length of the river was identified as a type of cultural or ethnographic landscape, termed the Klamath Cultural Riverscape, due to the relationship between the Klamath Tribes, Shasta, Karuk, Hoopa, and Yurok Tribes and the river and its resources (Gates 2003; King 2004). A portion of the proposed Klamath Cultural Riverscape is included within the current Project ADI.

The characteristics that contribute to the riverscape's cultural character include natural and cultural elements such as the river itself; its anadromous and resident fish; its other wildlife and plants; and its cultural sites, uses, and perceptions of value by the tribes (King 2004). Gates (2003) and King (2004) recommended the Klamath Cultural Riverscape as eligible for the NRHP based on its association with broad patterns of tribal environmental stewardship, spiritual life, and relationships between humans and the non-human world. The riverscape and/or ethnographic reports and eligibility determination have not been submitted by a federal agency to the Oregon and California SHPOs for NRHP-eligibility concurrence (USBR

and CDFG 2012: Vol. 1, 3.13-29). PacifiCorp noted that the riverscape as defined by King (2004) falls within the authority of several agencies and many private land holdings. Therefore, the report also addresses future studies or actions that could be undertaken by PacifiCorp and/or the federal agencies and states with jurisdiction in the basin (FERC; USACE; U.S. Department of the Interior [USBR, BLM, and BIA]; U.S. Department of Agriculture [USFS]; U.S. Department of Commerce [National Marine Fisheries Service]; and the States of Oregon and California) whose actions are potentially affecting historic properties. The concept of moving this study forward and proceeding with formal evaluation of the riverscape has been raised in meetings with affected tribes as part of informal consultation conducted for the current decommissioning effort. Because the ADI incorporates only a portion of the larger riverscape, tribes have expressed different opinions, and no resolution has been reached with regard to moving forward with further evaluation work or whether these studies should be forwarded to the SHPO for additional consultation and eligibility consideration.

Lower Klamath Project (FERC No. 14803)

Since 2017, the Renewal Corporation has completed a range of cultural resources studies to help with identification of historic properties in the Project ADI. Archaeological studies include supplemental inventory and site record updates, a historical landscape analysis, a submerged resources analysis, geoarchaeological sensitivity modeling, and NRHP evaluation of sites.

Record Searches

As part of the Klamath Hydroelectric Relicensing (FERC 2007) and Klamath River Dam Removal (USBR 2012) studies, PacifiCorp (2004) and CardnoENTRIX (2012) completed cultural resources records searches of previous archaeological research and historical information. These earlier record searches provided baseline resource data for the current Project through 2012. In 2017, the Renewal Corporation completed an updated records search and literature review for the Project to add information for the intervening 5-year period, or through 2017.

The 2017 the Renewal Corporation records search area extended from the outlet of the Klamath River at the southern end of Upper Klamath Lake in Klamath County, Oregon (RM 255), downstream to the confluence of Klamath River and Humbug Creek in Siskiyou County (RM 174), for a total of 81 river miles. The section of river below Iron Gate Dam (the most downstream Project dam) was included in the first records search because this area lies within the altered 100-year floodplain following dam removal, where cultural resources have the potential to be affected. The records search area encompassed a 0.5-mile-wide zone, extending on either side of the shorelines of Lake Ewauna, Link River, J.C. Boyle Reservoir, Copco Lake, and Iron Gate Reservoir, or from the center point of the Klamath River in areas where a flowing river exists. The records search identified 502 previously recorded cultural resources, comprising a broad range of archaeological sites, built environment resources, isolated finds, and a few locations of an undetermined resource type (Table 3-3). Detailed information regarding the Renewal Corporation record searches is provided in Appendix L of the Project's Definite Plan (2018).

Table 3-3 Summary of Previously Recorded Cultural Resources for Oregon and California (2017 Records Search)

Resource Type	Component Type					
	Precontact	Historic	Multiple	Ethnographic Only	Unknown	Total
Archaeological Site	162	83	44	--	1	290
Ethnographic	--	--	--	1	--	1
Built Environment	--	24	3	--	--	27
Isolated Find	158	17	--	--	1	176
Undetermined	--	--	--	--	8	8
Total	320	124	47	1	10	502

Archaeological Inventory and Site Record Updates

Record search information specific to the Project ADI identified 80 previously recorded archaeological sites, including 20 in Klamath County, Oregon, and 60 in Siskiyou County, California. Between 2017 and 2019, the Renewal Corporation conducted several phases of archaeological inventory to identify historic properties located in previously unsurveyed areas of the Project ADI. the Renewal Corporation's field inventories examined a total of 137.18 acres and identified and recorded 12 new archaeological sites (LKP numbers), for a current total of 92 sites in the ADI (as of March 2020).

In addition to the inventory, the Renewal Corporation monitored and updated site records for 44 of the previously recorded archaeological sites located on PacifiCorp Parcel B lands. Previously recorded archaeological sites located in the ADI, but not PacifiCorp Parcel B land (e.g., Iron Gate Dam to Humbug Creek and other select areas), have not been monitored or updated. Additional survey areas located outside the LOW were identified for pedestrian survey as part of definition of the Project APE, as well as based on recommendations derived during informal consultation with tribes and consulting parties.

Archaeological Sites in the ADI

The Project ADI includes 92 archaeological sites identified through record searches, site record updates, and archaeological inventories conducted by the Renewal Corporation (2017–2019), PacifiCorp (2004), and other Upper Klamath River researchers (Table 3-4). The geographic distribution of these sites consists of 22 sites in the J.C. Boyle Reservoir area, in Oregon, and 70 sites in California, including 26 in the Copco Lake area, 24 in the Iron Gate Reservoir area, and 20 in the area between Iron Gate Dam and Humbug Creek. To date, none of the 92 archaeological sites has been formally evaluated for NRHP eligibility.

Table 3-4 Recorded Archaeological Sites in the ADI

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
35KL0013	J.C. Boyle	Precontact rockshelter, lithic scatter, pit feature. Excavated in 1959.	Part	Yes	PacifiCorp Parcel B / Private	Yes	Unevaluated
35KL0014	J.C. Boyle	Precontact rockshelter, lithic scatter, human burial. Excavated in 1959.	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
35KL0015	J.C. Boyle	Precontact village, lithic scatter, bedrock milling stations, and possible pit feature; historic artifact scatter; Moonshine Falls	No	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
35KL1408	J.C. Boyle	Precontact lithic scatter	No	No	No	No	Unevaluated
35KL1472	J.C. Boyle	Precontact lithic scatter	No	Yes	No	No	Unevaluated
35KL1941	J.C. Boyle	Precontact lithic scatter; historic refuse scatter associated with McCollum Lumber Mill	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
35KL1942	J.C. Boyle	Precontact village, lithic scatter, pit features, cupule boulder	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
35KL1943	J.C. Boyle	Precontact village; historic artifact scatter	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
35KL1944	J.C. Boyle	Precontact lithic scatter	No	Yes	PacifiCorp Parcel B/ Private	No	Unevaluated
35KL2397	J.C. Boyle	Precontact village, lithic scatter, and boulder features	Yes	Yes	PacifiCorp Parcel B	Yes	Unevaluated
35KL2398	J.C. Boyle	Precontact lithic scatter	No	Yes	PacifiCorp Parcel B	Yes	Unevaluated
35KL2399	J.C. Boyle	Precontact lithic scatter; historic irrigation ditch and artifact scatter	No	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
35KL2401	J.C. Boyle	Precontact village, lithic scatter, and boulder features	No	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
35KL2411	J.C. Boyle	Precontact lithic scatter	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
35KL2412	J.C. Boyle	Precontact lithic scatter	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
35KL2428	J.C. Boyle	Precontact village, lithic scatter	Part	Yes	PacifiCorp Parcel B / Private	Yes	Unevaluated
35KL2430	J.C. Boyle	Precontact village, lithic scatter, and milling station	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
35KL2434	J.C. Boyle	Historic logging camp	No	Yes	BLM	Yes	Unevaluated
35KL2435	J.C. Boyle	Precontact lithic scatter	No	Yes	PacifiCorp Parcel B	Yes	Unevaluated
35KL2981	J.C. Boyle	Precontact bedrock feature; reassessed by Renewal Corporation as non-cultural	No	Yes	PacifiCorp Parcel B	No	Unevaluated
CA-SIS-155	Iron Gate Dam to Humbug Creek	Precontact village	No	No	No	No	Unevaluated
CA-SIS-156	Iron Gate Dam to Humbug Creek	Precontact village with midden	No	No	No	No	Unevaluated
CA-SIS-157	Iron Gate Dam to Humbug Creek	Precontact village, pit depression, midden	No	No	No	No	Unevaluated
CA-SIS-158	Iron Gate Dam to Humbug Creek	Precontact lithic scatter	No	No	No	No	Unevaluated
CA-SIS-159	Iron Gate Dam to Humbug Creek	Precontact lithic scatter	No	Yes	No	No	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
CA-SIS-161	Iron Gate Dam to Humbug Creek	Precontact village, lithic scatter	No	No	No	No	Unevaluated
CA-SIS-264	Iron Gate Dam to Humbug Creek	Precontact isolated burial	No	No	No	No	Unevaluated
CA-SIS-326	Iron Gate	Precontact village, lithic scatter, pit features, and hearths. Excavated in 1960.	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-328	Iron Gate Dam to Humbug Creek	Precontact lithic scatter	No	No	No	No	Unevaluated
CA-SIS-329	Iron Gate Dam to Humbug Creek	Precontact lithic scatter, midden; historic artifact scatter	No	Yes	No	No	Unevaluated
CA-SIS-522	Iron Gate to Humbug Creek	Empire Quartz Mine	No	No	No	No	Unevaluated
CA-SIS-536	Iron Gate Dam to Humbug Creek	Klamathon townsite and lumber mill	No	No	No	No	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
CA-SIS-632	Iron Gate Dam to Humbug Creek	Precontact village, lithic scatter, pit depression, cupule boulder; historic mining camp with features	No	No	No	No	Unevaluated
CA-SIS-873	Iron Gate Dam to Humbug Creek	Precontact lithic scatter	No	Yes	No	No	Unevaluated
CA-SIS-1670	Iron Gate	Precontact village, lithic and ground stone scatter	No	Yes	PacifiCorp Parcel B	No	Unevaluated
CA-SIS-1671	Copco	Klamath Lake Railroad Grade	No	No	PacifiCorp Parcel B/ Fall Creek	No	Unevaluated
CA-SIS-1840	Copco	Precontact village	Part	Yes	No	No	Unevaluated
CA-SIS-2129	Iron Gate	Historic irrigation ditch	No	Yes	PacifiCorp Parcel B / Private/BLM	No	Unevaluated
CA-SIS-2239/3923	Iron Gate	Agueda-Daggett Ranch with features and apple orchard; village site with lithic scatter	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-2264	Copco	Precontact village	No	No	No	No	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
CA-SIS-2403	Iron Gate	Precontact village, lithic scatter, house pits, and bedrock milling feature; historic ranching features and artifacts	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-2576	Copco	Precontact village	Yes	Yes	PacifiCorp Parcel B	No	Unevaluated
CA-SIS-2579	Copco	Precontact lithic scatter and feature	Part	Yes	PacifiCorp Parcel B / Private	No	Unevaluated
CA-SIS-2824	Copco	Historic Copco No. 1 guest house foundation and chimney	No	Yes	PacifiCorp Parcel B	No	Unevaluated
CA-SIS-2825	Copco	Precontact lithic scatter; Copco No. 1 labor camp/Camp Ward	No	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3913	Copco	Precontact lithic scatter, cupule boulder	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3914	Copco	Precontact lithic scatter	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3915	Copco	Precontact lithic scatter	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3916	Copco	Historic railroad trestle	No	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3917	Copco	Historic refuse scatter	No	No	PacifiCorp Parcel B	Yes	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
CA-SIS-3918	Copco	Historic refuse scatter	No	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
CA-SIS-3919	Iron Gate	Precontact lithic scatter	No	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3920	Copco	Precontact lithic and ground stone scatter; historic artifacts, road bed, rock wall on Cushman/Raymond Ranch	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
CA-SIS-3921	Copco	Precontact village, lithic scatter, pit depressions, midden	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
CA-SIS-3922	Copco	Copco No. 1 Village dump	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
CA-SIS-3924	Copco	Possible precontact village, lithic scatter	Part	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
CA-SIS-3925	Copco	Precontact lithic scatter	No	Yes	PacifiCorp Parcel B/ Private	Yes	Unevaluated
CA-SIS-3926	Copco	Possible precontact village, lithic scatter; historic artifact scatter	Part	Yes	PacifiCorp Parcel B / Private	Yes	Unevaluated
CA-SIS-3927	Copco	Historic refuse scatter and feature	No	Yes	PacifiCorp Fall Creek	Yes	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
CA-SIS-3928	Copco	Historic rock wall	No	Yes	PacifiCorp Fall Creek /Private	Yes	Unevaluated
CA-SIS-3930	Iron Gate	Precontact lithic scatter	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3933	Iron Gate	Precontact lithic scatter, cupule boulders; Spearin homestead artifact scatter	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3934	Iron Gate	Historic rock piles from field clearing, fire rings	No	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3935	Iron Gate	Precontact village site	No	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3936	Iron Gate	Historic rock piles and rock alignments	No	No	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3937	Iron Gate	Historic rock wall	No	No	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3938	Iron Gate	Precontact lithic scatter	No	No	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3939	Iron Gate	Precontact rockshelter; historic artifact scatter	No	No	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3940	Iron Gate	Precontact village, lithic and ground stone scatter, pit depressions; Manuel Franklin homestead with artifact scatters and features	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
CA-SIS-3942	Iron Gate	Historic rock wall with fence posts and gate	Part	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3943	Iron Gate	Historic rock wall	No	No	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-3944	Iron Gate	Historic rock wall	No	No	PacifiCorp Parcel B/ Private	Yes	Unevaluated
CA-SIS-3945	Iron Gate	Historic rock piles from field clearing on Wanaka homestead	No	Yes	PacifiCorp Parcel B	Yes	Unevaluated
CA-SIS-4134	Iron Gate Dam to Humbug Creek	Precontact lithic scatter; historic mining site with features	No	No	No	No	Unevaluated
CA-SIS-4303	Iron Gate Dam to Humbug Creek	Historic artifact scatter, mining trenches	No	No	No	No	Unevaluated
CA-SIS-4427	Iron Gate Dam to Humbug Creek	Historic rock wall, pit depression, rock shoring	No	No	No	No	Unevaluated
CA-SIS-4999	Iron Gate Dam to Humbug Creek	Historic mine tailings	No	No	No	No	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
CA-SIS-5000	Iron Gate Dam to Humbug Creek	Historic rock wall	No	No	No	No	Unevaluated
CA-SIS-5255	Iron Gate Dam to Humbug Creek	California-Oregon stage road	No	No	No	No	Unevaluated
CA-SIS-5256	Iron Gate Dam to Humbug Creek	Historic water conveyance ditch	No	Yes	No	No	Unevaluated
LKP-2017-2	Iron Gate	Historic artifact scatter	No	Yes	PacifiCorp Parcel B	No	Unevaluated
LKP-2018-6	Iron Gate	Precontact lithic scatter; historic rock pile	No	Yes	PacifiCorp Parcel B	No	Unevaluated
LKP-2018-7	Iron Gate	Precontact lithic scatter	No	Yes	PacifiCorp Parcel B	No	Unevaluated
LKP-2018-8	Copco	Copco No. 1 construction camp	No	Yes	PacifiCorp Parcel B	No	Unevaluated
LKP-2018-11	Copco	Historic labor camp	No	Yes	PacifiCorp Parcel B	No	Unevaluated
LKP-2018-14	J.C. Boyle	Precontact village, lithic scatter	No	Yes	PacifiCorp Parcel B	No	Unevaluated
LKP-2018-15	Iron Gate	Historic rock wall	No	Yes	PacifiCorp Parcel B	No	Unevaluated

Site No.	Location	Site Description	Submerged	In LOW	Landowner	Site Identified in PacifiCorp KHP Study	NRHP Eligibility Recommendation
LKP-2019-3	Copco	Precontact lithic scatter; Fall Creek Fish Hatchery	No	Yes	PacifiCorp Fall Creek	No	Unevaluated
LKP-2019-4	Copco	Historic refuse scatter	Part	Yes	PacifiCorp Parcel B/ Private	No	Unevaluated
LKP-2019-5	Copco	Historic road	Part	Yes	PacifiCorp Parcel B / Private	No	Unevaluated
LKP-2019-9	Iron Gate	Precontact lithic scatter; historic telegraph pole	No	Yes	PacifiCorp Parcel B	No	Unevaluated
LKP-2019-10	J.C. Boyle	Precontact lithic scatter; historic artifact scatter	No	No	No	No	Unevaluated

Notes: ADI = Area of Direct Impact; KHP = Klamath Hydroelectric Project; LOW = Limits of Work; NRHP = National Register of Historic Places

About half (n=42) of the 92 archaeological sites consist of precontact resources associated with Native American use (Table 3-5). The precontact sites include habitation sites such as house pit villages and areas with cultural midden, field camps, limited occupation sites, rock feature sites, sheltered camps, and task-specific sites.

Table 3-5 Recorded Archaeological Sites in the ADI by Component Type

Area	Component Type			Total
	Precontact	Historic	Multiple	
J.C. Boyle Reservoir	16	1	5	22
Copco Lake	10	12	4	26
Iron Gate Reservoir	7	10	7	24
Iron Gate Dam to Humbug Creek	9	8	3	20
Total	42	31	19	92

Note: ADI = Area of Direct Impact

One-third (n=31) of the 92 archaeological sites comprise historic-period resources associated largely with European American use. The historic-period sites are associated with themes related to agriculture and ranching, hydroelectric generation, recreation, resource extraction (lumbering and mining), rural sites, and transportation.

The remaining 20 percent of the Project ADI archeological sites are multiple component properties that contain both precontact and historic-period resources.

Historical Landscape Analysis

The Renewal Corporation conducted a historical landscape analysis to assist with identification of (1) non-submerged historic properties within the Project ADI, and (2) archaeological resources and historic properties that may be submerged under J.C. Boyle, Copco, and Iron Gate reservoirs. While cultural resources inventory of the Project ADI is complete (13.41 acres remain as of March 2020), pedestrian survey of the submerged reservoir areas is not possible until after reservoir drawdown is finished. As part of dam decommissioning, the Renewal Corporation will complete a Post-Reservoir Drawdown Inventory that will include pedestrian survey of all previously inundated areas following standard inventory procedures. NRHP evaluation will be completed for all resources identified during the post-drawdown inventory.

The Renewal Corporation conducted a historical landscape analysis to identify locations where post 1850s-era settlement and resource developments occurred within the ADI, including for potentially submerged resources. The materials for this analysis included the review of the General Land Office records, including California plat maps (1856, 1876, 1880, and 1881) and surveyor's notes; Oregon plat maps (1858, 1874, 1881, 1900, and 1917) and surveyor's notes; a variety of published and manuscript resources (Beckham 2006; Boyle 1976; Kramer 2003a, 2003b; PacifiCorp 2004; and United States Geological Survey (USGS) maps. Other map searches included the David Rumsey collection, Northwestern California map collection at

Humboldt State University, Library of Congress digital collections, and Online Archive of California. Historical landscape information was digitized into a GIS format.

The Renewal Corporation completed the review of the J.C. Boyle Collection (MI 165306) housed at the Southern Oregon Historical Society in Medford, Oregon. This archive holds photo albums, newspaper clippings, maps, manuscripts, financial records, and Copco annual reports belonging to Copco Engineer J.C. Boyle and pertaining predominately to construction of Copco No. 1 dam and reservoir. This archive provided a valuable source of information concerning the pre-inundation historical landscape of the Copco No. 1 area and other information regarding cultural and historical resources that may be anticipated during reservoir drawdown. In addition, archival and historical landscape research was conducted at local county repositories and historical societies to supply information regarding cultural and historical resources that may be anticipated during reservoir drawdown.

Submerged Resources Analysis

Bathymetric surveys completed by the Renewal Corporation in 2018 provided information regarding submerged topography and physiographic features of the Project reservoirs. Using this information, together with additional information gained from the historical landscape analysis and archival research, GIS analysis of the reservoir areas was completed to identify potential locations of submerged cultural resources. The GIS study, together with cultural resources information from tribal consultations, has identified the locations of submerged precontact and historic-period resources and TCPs. Table 3-6 provides a preliminary list of submerged resources that have been identified to date. Because these resources are currently unavailable for study, their NRHP eligibility (and status as historic properties) remains unevaluated. For the J.C. Boyle Reservoir, anticipated submerged archaeological remains include footings from former bridges, a crib dam near Spencer Creek bridge, former road alignments, features associated with former stage stations, a segment of the Applegate Trail, and features and/or artifacts associated with the McCollum sawmill or other sawmills. Review of ethnographic literature for the J.C. Boyle Reservoir area (Spier 1930) did not identify precontact or ethnographic resources.

Precontact/ethnographic resources include 15 potential Shasta Indian village sites for the Copco Lake and Iron Gate Reservoir areas identified by Heizer and Hester (1971) based on information collected by earlier ethnographers (Dixon 1907; Kroeber 1925; Merriam 1926). These village sites may manifest as areas having cultural remains such as flaked stone detritus and tools, ground stone tools, pottery, rock alignments, human burials, and culturally modified soil (midden).

Anticipated submerged historic period remains for the Copco Lake and Iron Gate Reservoirs focus on the numerous ranch complexes, as well as other community, transportation, and lumbering features identified on historic maps and in archival records. Potential ranch complexes may manifest as areas containing building materials, foundations, domestic debris, livestock equipment, rock walls, and water containment remains, among others. Pilings, building materials, and railroad ties may denote transportation-related remains associated with former bridges and railroads. Although the former Beaver Creek cemetery was relocated to Hornbrook Cemetery before inundation of Copco Lake, other cemetery features may still be

present beneath reservoir waters, including field stones or depressions marking potential human remains that were not relocated and have possibly been subject to water erosion.

Table 3-6 Potential Submerged Cultural Resources

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
JCB-1	Spencer Creek Fish Hatchery	J.C. Boyle	1952 Aerial Photograph and USGS Topographic Map	Yes	Yes
JCB-1A	LKP-2018-14, possible house pit depression	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-2	LKP-2018-14, possible house pit depression	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-2A	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-3	35KL2430, possible house pit depression	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-3A	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-4	35KL2430, possible house pit depression	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-4A	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-5	35KL2428, possible house pit depression	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-5A	Applegate Trail, Emigrant Road	J.C. Boyle	Aerial photograph; 1955 USGS topographic map; 2019 Bathymetric Review	Part	Yes
JCB-6	McCollum Lumber Mill, log boom feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-8	Oregon Route 66 bridge abutments	J.C. Boyle	2019 Bathymetric Review	Part	Yes
JCB-8A	Southern Pacific Railroad grade	J.C. Boyle	2019 Bathymetric Review	Part	Yes
JCB-9	Chase Bridge, Pokegama Sugar Pine Lumber Company crib dam and wagon bridge	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-9A	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Part	Yes
JCB-11	McCollum Lumber Mill, possible artifact	J.C. Boyle	2019 Bathymetric Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
JCB-12	McCollum Lumber Mill, possible artifact	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-13	Unknown depression	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-14	Unknown depression	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-15	Unknown feature of interest	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-49	Possible corral or building	J.C. Boyle	1952 Aerial Photograph; 2019 Bathymetric Review	Yes	Yes
JCB-106	Linear feature: ¼-Section line / Fence line	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-107	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-108	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Part	Yes
JCB-109	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-110	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-111	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-112	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-113	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Part	Yes
JCB-117	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Yes	Yes
JCB-118	Unknown linear feature	J.C. Boyle	2019 Bathymetric Review	Part	Yes
JCB-119	Two-track road	J.C. Boyle	1955 USGS Topographic Map; 2019 Bathymetric Review	Part	Yes
JCB-154	Two-track road	J.C. Boyle	1897 Ashland, OR 1:250000 map; 2017 Historical Landscape Review	Part	Yes
JCB-164	Applegate Trail, migrant road from 1847 to early 1870s – southern route	J.C. Boyle	1858 G.L.O. Map; 2017 Historical Landscape Review	Part	Yes
CL-2	Barn No. 4, Lennox Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-3	Barn No. 2, Lennox Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-4	Residence, Lennox Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
CL-5	Residence / Stagehouse, Harrison and Kitty Ward Ranch	Copco	1881 G.L.O Map; 2017 Historical Landscape Review	Yes	Yes
CL-6	Barn, Lennox Ranch	Copco	1881 G.L.O Map; 2017 Historical Landscape Review	Yes	Yes
CL-32	Possible house foundation or fenced enclosure, Raymond Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-33	Barn foundation	Copco	2019 Bathymetric Review	Yes	Yes
CL-34	Garden area, William and Mary Ward Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-35	Beaver Creek Cemetery	Copco	2019 Bathymetric Review	Yes	Yes
CL-36	Unknown artifact or feature, Hahn Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-37	Two-track road, Spannaus Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Part	Yes
CL-37A	Possible house pit village, Harrison and Kitty Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-38	Rock wall, Spannaus Ranch	Copco	2019 Bathymetric Review	Part	Yes
CL-38A	Wing dam, Copco No. 1 Dam	Copco	2019 Bathymetric Review	Yes	Yes
CL-39	Wagon road, Stone-Edwards Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Part	Yes
CL-39A	Depression, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-40	Fence Line, Stone-Edwards Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-40A	Depression, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-41	Orchard fence line, Stone-Edwards Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-41A	Depressions, Lennox Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-42	Possible feature	Copco	2019 Bathymetric Review	Yes	Yes
CL-42A	Fence line, Stone-Edwards Ranch	Copco	2019 Bathymetric Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
CL-43	Corral, Lennox ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-43A	Fence line, Stone-Edwards Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-44	Fence line, Stone-Edwards Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-45	Linear feature, Stone-Edwards Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-47	Fence line, Lennox Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-48	Fence line, Lennox Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-49	Two-track road, Stone-Edwards/Lennox Ranches	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-53	Two-track road, Lennox Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-55	Two-track road, Raymond Ranch	Copco	2019 Bathymetric Review	Part	Yes
CL-55A	Possible extension of CA-SIS-3924, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-56	Fence line, Raymond Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-57	G. Picard's Field, Parks Ranch	Copco	1881 G.L.O Map; 2017 Historical Landscape Review	Part	Yes
CL-57A	Fence line, Raymond Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-58	Fence line, Raymond Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-59	Linear feature, Raymond Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-60	Linear feature, Raymond Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-61	Fence line, Lennox Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-62	Linear feature, Lennox Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-63	Linear feature, Raymond Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-64	Two-track road, Raymond Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Part	Yes
CL-65	Fence line, Raymond Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-66	Two-track road, Wards Canyon	Copco	2019 Bathymetric Review	Yes	Yes
CL-67	Augustus Kempler's Meadow / Chase Ranch	Copco	1881 G.L.O. Map; 2017 Historical Landscape Review	Part	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
CL-67A	Fence line, Harrison and Kitty Ward Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-68	Fence line, Harrison and Kitty Ward Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-69	Fence line, Harrison and Kitty Ward Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-70	Two-track road, Harrison and Kitty Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-71	Possible rock wall, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-72	Fence line, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-73	Fence line, William and Mary Ward Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-74	Possible fence line, Picard's Field / Parks Ranch	Copco	2019 Bathymetric Review	Part	Yes
CL-75	Linear feature, Keaton Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-76	Linear feature, Keaton Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-78	Possible rock wall, Stone-Edwards Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-89	Original location of Copco No. 1 Dam	Copco	2019 Bathymetric Review	Yes	Yes
CL-92	Fence line, Harrison and Kitty Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-93	Fence line, Harrison and Kitty Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-94	Fence line, Harrison and Kitty Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
CL-95	Fence line, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-96	Fence line, Harrison and Kitty Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-96A	Corral, Lennox Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-97	Fence line, Harrison and Kitty Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-97A	Barn No. 4, Lennox Ranch, alternate location	Copco	Topographic Map; 2019 Bathymetric Review	Yes	Yes
CL-98	Fence line, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-98A	Barn No. 2, Lennox Ranch, alternate location	Copco	Topographic Map; 2019 Bathymetric Review	Yes	Yes
CL-99	Fence line, Harrison and Kitty Ward Ranch and William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-99A	Barn, Raymond Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-100	Two-track road, William and Mary Ward Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Part	Yes
CL-100A	Residence, Raymond Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-101	Irrigation ditch, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-101A	Barn, Stone-Edwards Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-102	Fence line, Lennox Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-103	Fence line, Lennox Ranch	Copco	2019 Bathymetric Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
CL-103A	Barn, Spannaus Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-104	Fence line, Lennox Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-105	Fence line, Lennox Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-105A	Building, Spannaus Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-106	Building, Spannaus Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-124	Residence, H.P. Edwards House, Stone-Edwards Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-125	Residence, W. Stone House, Stone-Edwards Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-126	Ethnographic Shasta Indian Village #69	Copco	Literature Review	Yes	Yes
CL-126A	Outbuilding, Raymond Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-127	Ethnographic Shasta Indian Village #73	Copco	Literature Review	Yes	Yes
CL-127A	Barn, Harrison and Kitty Ward Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-128	Ethnographic Shasta Indian Village #70	Copco	Literature Review	Yes	Yes
CL-128A	Garden, Harrison and Kitty Ward Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-129	Orchard No. 1, Harrison and Kitty Ward Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes
CL-130	Orchard No. 2, Harrison and Kitty Ward Ranch	Copco	1910 SEP&L Company Map; 2017 Historical Landscape Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
CL-132	Residence, William and Mary Ward Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-133	Barn, William and Mary Ward Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-138	Building foundation, Lennox Ranch	Copco	1910 SEP&L Company Map; 2019 Bathymetric Review	Yes	Yes
CL-139	Foundation #1, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-140	Foundation #2, William and Mary Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-185	Chase Bridge on the Hahn Ranch	Copco	Literature Review	Part	Yes
CL-189	Bridge at the Stone-Edwards Ranch	Copco	Literature Review	Yes	Yes
CL-190	Dip wheel #1 on the Stone-Edwards Ranch	Copco	1910 SEP&L Company Map	Yes	Yes
CL-191	Dip wheel #2 on the Stone-Edwards Ranch	Copco	1910 SEP&L Company Map	Yes	Yes
CL-193	Dip wheel, Lennox Ranch	Copco	1910 SEP&L Company Map	Yes	Yes
CL-200	Ward Bridge abutments, Harrison and Kitty Ward Ranch	Copco	2019 Bathymetric Review	Yes	Yes
CL-204	Ethnographic Shasta Indian Village #71	Copco	Literature Review	Yes	Yes
CL-208	Ethnographic Shasta Indian Village #72	Copco	Literature Review	Yes	Yes
IG-10	Two-track road, Aguada-Daggett Ranch	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-11	Klamath Lake Railroad Spur	Iron Gate	2019 Bathymetric Review	Part	Yes
IG-12	Linear feature, Aguada-Daggett Ranch	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-13	Two-track road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-14	Historic Copco Road	Iron Gate	2019 Bathymetric Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
IG-15	Historic Copco Road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-16	Structure	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-16A	Klamath Lake Railroad grade	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-17	Klamath Lake Railroad bridge abutment	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-17A	Rock wall	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-18	Steel Bridge Railroad Station	Iron Gate	2019 Bathymetric Review	Part	Yes
IG-18A	Two-track road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-19	Unknown feature	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-19A	Linear feature	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-20	Culvert	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-20A	Rock wall	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-21	Culvert	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-21A	Rock wall	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-22	Rock wall	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-22A	Possible house pit village	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-23	Two-track road	Iron Gate	2019 Bathymetric Review	Part	Yes
IG-23A	Culvert	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-24	Rock wall	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-24A	Bridge abutments	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-25	Rock wall	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-25A	Trough	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-26	Rock wall	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-26A	Unknown feature	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-27	Constructed feature	Iron Gate	2019 Bathymetric Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
IG-27A	Two-track road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-28	Structure	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-28A	Trail	Iron Gate	2019 Bathymetric Review	Part	Yes
IG-29	Suspension bridge	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-29A	Two-track road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-30	Two-track road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-30A	Klamath Lake Railroad abutments	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-31	Klamath Lake Railroad siding	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-31A	Two-track road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-32	Two-track road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-33	Two-track road	Iron Gate	2019 Bathymetric Review	Part	Yes
IG-35	Bulldozer cut	Iron Gate	2019 Bathymetric Review	Part	Yes
IG-36	Bulldozer cut	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-50	Alternate location for CA-SIS-326 village	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-51	Elie's Camp	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-52	Structure, Herzog's Place	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-53	Unknown feature	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-54	Road Crossing	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-56	Camp Creek Fish Egg Collection Station	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-68	Building	Iron Gate	1941 USGS Macdoel, CA topographic map; 2017 Historical Landscape Review	Yes	Yes
IG-81	Two-track road	Iron Gate	2019 Bathymetric Review	Part	Yes
IG-82	Two-track road	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-83	Klamath Lake Railroad grade	Iron Gate	2019 Bathymetric Review	Part	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
IG-84	Rock wall	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-85	Trail	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-105	Ethnographic Shasta Indian Village #64	Iron Gate	Literature Review	Part	Yes
IG-106	Ethnographic Shasta Indian Village #63	Iron Gate	Literature Review	Yes	Yes
IG-107	Ethnographic Shasta Village #60	Iron Gate	Literature Review	Yes	Yes
IG-108	Ethnographic Shasta Indian Village #61	Iron Gate	Literature Review	Yes	Yes
IG-109	Ethnographic Shasta Indian Village #59	Iron Gate	Literature Review	Part	Yes
IG-110	Ethnographic Shasta Indian Village #58	Iron Gate	Literature Review	Part	Yes
IG-111	Ethnographic Shasta Indian Village #57	Iron Gate	Literature Review	Part	Yes
IG-114	Linear feature	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-115	Linear feature	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-116	Linear feature	Iron Gate	2019 Bathymetric Review	Yes	Yes
IG-123	Structure	Iron Gate	1922 USGS Iron Gate topographic map; 2017 Historical Landscape Review	Yes	Yes
IG-131	Ethnographic Shasta Indian Village #66	Iron Gate	Literature Review	Part	Yes
IG-135	Lowood School	Iron Gate	1922 USGS Iron Gate topographic map; 2017 Historical Landscape Review	Yes	Yes
IG-136	Irrigation Ditch	Iron Gate	1881 G.L.O. Map; 2017 Historical Landscape Review	Yes	Yes
IG-136A	Lowood School, Alternate Location	Iron Gate	1922 USGS Iron Gate topographic map; 2017 Historical Landscape Review	Yes	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
IG-137	Lowood School, Alternate Location	Iron Gate	1922 USGS Iron Gate topographic map; 2017 Historical Landscape Review	Yes	Yes
IG-157	Trail	Iron Gate	1941 USGS Macdoel, CA 125000 map; 2017 Historical Landscape Review	Part	Yes
IG-159	Trail in Long Gulch	Iron Gate	1941 USGS Macdoel, CA 125000 map; 2017 Historical Landscape Review	Part	Yes
IG-159A	Copco No. 2 Dam railroad spur	Iron Gate	Literature Review	Part	Yes
IG-160	Steel truss Railroad Bridge and Station	Iron Gate	Literature Review	Part	Yes
IG-161	Thomas J. Greive Ranch	Iron Gate	Literature Review	Part	Yes
IG-162	Martin Frain and J. S. Baker Sawmill	Iron Gate	Literature Review	Yes	Yes
IG-163	Frank Miller Homestead	Iron Gate	Literature Review	Yes	Yes
IG-164	Anton DeSoza Ranch	Iron Gate	Literature Review	Yes	Yes
IG-165	Herzog's Place	Iron Gate	Literature Review	Yes	Yes
IG-166	Lowood School, Alternate Location	Iron Gate	Literature Review	Yes	Yes
IG-167	Anton Burch Ranch	Iron Gate	Literature Review	Yes	Yes
IG-168	Elie's Camp / Hearn's Flat	Iron Gate	Literature Review	Yes	Yes
IG-169	Manuel Franklin Ranch	Iron Gate	Literature Review	Part	Yes
IG-171	Wagon bridge, Burch Ranch	Iron Gate	Literature Review	Yes	Yes
IG-174	Two-track road	Iron Gate	1881 G.L.O. Map; 2017 Historical Landscape Review	Part	Yes
IG-186	Two-track road	Iron Gate	1881 G.L.O. Map; 2017 Historical Landscape Review	Part	Yes
IG-201	Possible village location (IG-1)	Iron Gate	Literature Review	Part	Yes
IG-202	Possible village location (IG-3)	Iron Gate	Literature Review	Part	Yes
IG-203	Road in Long Gulch, Manuel Franklin Ranch	Iron Gate	1922 USGS Iron Gate topographic map; 2017 Historical Landscape Review	Part	Yes

ID	Potential Resource Noted	Reservoir	Source	Resource Submerged?	Resource in LOW?
IG-205	Klamath Lake Railroad crossing at Long Gulch, Manuel Franklin Ranch	Iron Gate	Topographic Map	Yes	Yes
IG-206	Long Gulch Crossing #1	Iron Gate	Topographic Map	Yes	Yes
IG-207	Long Gulch Crossing #2	Iron Gate	Topographic Map	Yes	Yes

Notes: CA = California; G.L.O. = General Land Office; LOW = limits of work; OR = Oregon; SEP&L = Siskiyou Electric Power & Light Company; USGS = United States Geological Survey

Geoarchaeological Sensitivity Model

The Renewal Corporation completed a geoarchaeological sensitivity model to help guide post-decommissioning cultural resources monitoring locations by addressing possible vertical depth and horizontal areas where resources would be most likely to exist. The geoarchaeological sensitivity model was created using topographic surface information, historical topographic surface information, modeled sediment thickness, geomorphic units, geologic units, currently documented cultural resource locations, and possible submerged resource locations.

NRHP Eligibility Evaluations

NRHP eligibility recommendations offered by PacifiCorp for the 165 archaeological sites associated with the KHP relicensing study, including those now part of the LKP, have not been formalized or concurred upon by the California or Oregon SHPOs. The Renewal Corporation has proposed NRHP evaluation (Phase II testing) of sites on Parcel B lands located within the ADI to provide the information needed for FERC, as the Project's lead agency, in consultation with the SHPOs, to make a determination of NRHP eligibility and assess the Project's effects on historic properties in the ADI. Execution of the Phase II study is pending.

3.2.2 Built Environment Resources

Klamath Hydroelectric Relicensing Project (FERC No. 2082)

In 2003, PacifiCorp recognized the KHP as an NRHP-eligible historic district for its significant association with the industrial and economic development of Southern Oregon and Northern California (Kramer 2003a, 2003b). To support this recognition, PacifiCorp completed a historic context statement for the KHP that provided background information as a prelude to conducting a review of potential historic significance under NHPA Section 106 (Kramer 2003a). The historic context traced the development of the KHP's components from the earliest history of electrical generation in the region to the completion of Iron Gate Dam in 1962. The context statement also included a brief analysis of the social, economic, and industrial history of the Southern Oregon and Northern California Klamath-Siskiyou region.

PacifiCorp also completed a Request for Determination of Eligibility report for the KHP (Kramer 2003b). The eligibility report documented resources within the KHP's seven developments or complexes: Link River Complex, Keno Dam Complex, J.C. Boyle Complex, Copco No. 1 Complex, Copco No. 2 Complex, Fall Creek Complex, and Iron Gate Complex. PacifiCorp offered recommendations as to whether these "complexes" and their resources were eligible for the NRHP and defined the period of historic significance for the KHP as 1903–1958.

PacifiCorp's study was based on a survey of the hydroelectric development resources and excluded non-hydroelectric resources, such as bridges and residences outside of the KHP development but within the

current Project ADI. The study also omitted transmission lines originating within the hydroelectric developments and some of the associated power substations within the ADI.

In September 2003, CH2M Hill completed survey inventory forms for California and Oregon that documented the overall Klamath River Hydroelectric Project (KRHP) historic district (Durio 2003). With respect to the current ADI, PacifiCorp's 2003 analysis identified the Copco No. 1, Copco No. 2, and J.C. Boyle complexes, along with most of their primary components, as contributing to the eligible KRHP historic district. In contrast, Iron Gate Complex and its constituent resources (1962) and the Iron Gate Fish Hatchery (1966) were recommended as non-historic and non-contributing. The Oregon SHPO concurred with the eligibility determinations related to J.C. Boyle complex. The California SHPO did not provide concurrence for the eligibility determinations related to Copco No. 1, Copco No. 2, and the Iron Gate complexes, or for the Fall Creek Hatchery, which was included in the evaluations of Fall Creek hydroelectric development.

In 2018, the Renewal Corporation reevaluated these four hydroelectric developments and the Fall Creek Hatchery and updated the NRHP eligibility evaluations (see Section 4.2.2). The Renewal Corporation has also evaluated the historic resources within California for eligibility under the CRHR criteria for designation; however, those evaluations are relevant only to California resources and are not included in this report.

Lower Klamath Project (FERC No. 14803)

Historic resource studies completed by the Renewal Corporation in support of the Project include (1) repository research; (2) select field survey of previously undocumented built environment resources located in the ADI, principally associated with the private properties located between Iron Gate and Humbug Creek and situated around Copco Lake; and (3) three Historic Resources Studies involving hydroelectric, transportation, and private property resources. Each of these components is detailed below. Additional information related to NRHP eligibility of hydroelectric resources is provided in Chapter 4.

Repository Research

To better understand the historic context of the built environment resources in the Project ADI, the Renewal Corporation conducted research at the following repositories for historical information, maps, and other relevant sources. Table 3-7 provides a listing of the repositories. On-site research was conducted at all locations, except for Oregon State University, the University of Oregon, and The National Archives at Seattle, which were researched on-line.

Table 3-7 List of Repositories

Repositories	
Bureau of Land Management 2795 Anderson Avenue #25, Klamath Falls, OR 97603 (541) 885-4114	Klamath County Library 126 S. 3rd Street, Klamath Falls, OR 97601 (541) 882-8894
Klamath County Museum 1451 Main Street, Klamath Falls, OR 97601 (541) 882-1000	Klamath County Surveyor 305 Main Street #2, Klamath Falls, OR 97601 (541) 883-4696

Repositories	
Multnomah County Library 801 SW 10th Avenue, Portland, OR 97205 (503) 988-5123	National Archives at Seattle 6125 San Point Wy NE, Seattle, WA 98115 (206) 336-5125 (Obtained finding aids and research guidance via email but did not visit the facility.)
Oregon Department of Fish and Wildlife 1850 Miller Island Road West, Klamath Falls, OR 97603 (541) 883-5732	Oregon Historical Society 1200 SW Park Avenue, Portland, OR 97205 (503) 222-1741
Oregon Institute of Technology Shaw Historical Library 3201 Campus Drive, Klamath Falls, OR 97601 (541) 885-1686	Oregon State University Corvallis, OR (Research conducted on university's online database only.)
PacifiCorp 825 NE Multnomah Street Portland, Oregon 97232 (888) 221-7070	Siskiyou County Assessor 311 4th St. #108, Yreka, CA 96097 (530) 842-8036
Siskiyou County Building Department 806 S. Main St., Yreka, CA 96097 (530) 842-8260	Southern Oregon Historical Society 106 N. Central Avenue, Medford, OR 97501 (541) 773-6536
Southern Oregon University Hannon Library 1250 Siskiyou Boulevard, Ashland, OR 97520 (541) 552-6442	University of Oregon Aerial Photograph Collection https://library.uoregon.edu/maps/aerial
University of Oregon Special Collections Knight Library 1501 Kincaid Street, Eugene, OR 97403-1299 (541) 346-3053	

In addition to conducting the above repository research, the Renewal Corporation also investigated the following sources:

- Aerial photography databases (historicaerials.com)
- Archival photographs provided by PacifiCorp
- Boise State Digital Collections
- Digital photography collections (California State University at Chico, Los Angeles Public Library)
- Digital newspaper and genealogy databases: newspapers.com, genealogybank.com, ancestry.com, chroniclingamerica.loc.gov [Library of Congress], oregonnews.uoregon.edu [historic Oregon newspapers], cdnc.ucr.edu [California digital newspaper collection].
- Google Books (digitalized books, magazines, journals, newsletters)
- Google Scholar (technical and scientific articles)
- Hathitrust Digital Library
- JSTOR (scholarly and scientific articles)

- Technical and Environmental reports obtained online
- United States Geological Survey maps

Field Survey

The Renewal Corporation conducted architectural inventories in the Project ADI located between Iron Gate Dam and Humbug Creek and around Copco Lake using a combination of pedestrian and windshield survey. The surveys encompassed lands within the Project ADI owned by PacifiCorp and by private individuals. Pedestrian surveys were conducted with permission on PacifiCorp lands (Parcel B lands). Windshield reconnaissance surveys were conducted near privately owned lands. The teams accessed the survey sites through a combination of public roads and Project access roads. PacifiCorp escorts provided access to facility sites not open to the public. The survey teams documented resources using geospatial technology, photography, and digital tablets. The survey teams took photographs and notes in the field to develop narrative descriptions and integrity analyses for each resource. This documentation was embedded into interactive geospatial maps.

The survey teams recorded each resource's form, design, construction materials, use, condition, historical integrity, and spatial relationship to other resources. Historic photographs and previous documentations were reviewed to assess all seven aspects of historic integrity (location, design, setting, materials, workmanship, feeling, and association). When recording resources in California, resources were recorded on California Department of Parks and Recreation (DPR) forms for primary records; building, structure, object records; and/or district records.

For the survey of any previously recorded built environment resources, the Renewal Corporation compared the existing conditions and historical integrity of previously recorded historic resources to those recorded on site forms. Updates to the survey forms were provided where significant changes to resource condition or integrity were observed.

Additional Properties in the ADI and/or LOW (Private Property) Pending Evaluation

During 2019 reconnaissance-level field surveys, the Renewal Corporation performed a windshield architectural survey and aerial photography review of private properties (at least 45 years old) within the California portion of the ADI located between Iron Gate Dam and Humbug Creek. Associated effects in this area would be related to fluctuations in river elevation after dam decommissioning. Moving or increasing elevation to building would minimize effects from changes in the river elevation but would potentially affect the historical integrity of resources. The properties are found along the Klamath River near Hornbrook, California; the Klamath River Community; and along the shore of Copco Lake. These commercial, residential and recreational properties may have local significance under NRHP Criterion A in the areas of Entertainment/Recreation and Community Development and Planning. Additional field survey and research is required to fully evaluate NRHP eligibility. For the Hornbrook Area, Table 3-8 (Hornbrook) and Table 3-9 (Klamath River Community) provide each identified property's name or type, address, construction date, and buildings/structures. This information was gathered through reconnaissance-level field observations,

available photographs, Siskiyou County assessor data, and internet research. For the Copco Lake area, a general description of potentially historic properties is provided.

Hornbrook Area

The Renewal Corporation identified four private properties in the ADI near Hornbrook, California, that may be affected by the Project. The properties were built between 1937 and 1971 and are situated on the north bank of the Klamath River, east of Interstate 5 and west of Iron Gate Dam.

Table 3-8 Private Properties on the Klamath River in the Hornbrook Area

Property	Address	Construction	Buildings/Structures
Fish Hook Restaurant	6930 Copco Road	ca. 1941	Situated on same parcel as Klamath River Resort/Blue Heron RV Park, RV Park office, and modern private residence. Fish Hook Restaurant consists of a one-story building and small shed.
R-Ranch Klamath River Campground	225 Ditch Creek Road	1971	Old Children's Lodge, R-Ranch Lodge, two restrooms, and several campsites with electrical hookups for recreational vehicles. Campground shares 5,000-acre property with Cottonwood Campground, headquarters and stables, bunkhouse, gun range, and A-Frame building.
Klamath River Country Estates Owners' Association Campground Facilities and Office	4701-4799 Whitefish Place	ca. 1970	Storage building, lodge, office, restroom, shed, pool equipment shed, propane tank, mobile home, pedestrian bridge, and campground.
Single-Family Residence	13624 Hornbrook Road	1937	House with detached garage built into the riverbank.

Klamath River Community

The Renewal Corporation identified 24 properties in the Klamath River Community area built between 1925 and circa (ca.) 1975 that may be affected by the Project. The properties are situated west of Interstate 5 along State Highway 96 and Klamath River Road in an area known as the Klamath River Community.

Table 3-9 Private Properties in the Klamath River Community Area

Property	Address	Construction	Basic Property Information
Multi-Family Property	904 State Highway 96	1925	At least six buildings, including three houses and three sheds. Oldest house built in 1925 and other houses likely date to 1980s.
Single-Family Residence	1131 State Highway 96	ca. 1950	Single-story house.
Nueman Property	1920 State Highway 96	ca. 1950	One-story cabin, one-story former restaurant building, one-story house, pump house, and shed.
Multi-Family Property	1936 State Highway 96	1957	Original two-story house with attached garage built in 1957 and two-story manufactured home with an attached garage built in 1964.
Multi-Family Property	1942 State Highway 96	ca. 1950	Two houses spaced several yards apart and detached garage. One dwelling has single-story and other dwelling has one-and-a-half stories.
Single-Family Residence	2014 State Highway 96	ca. 1950	Single-story house with basement, rock wall near riverbank.
Single-Family Residence	2020 State Highway 96	ca. 1969	Single-story house with shed.
Single-Family Residence	2032 State Highway 96	ca. 1975	Two-story house.
Single-Family Residence	2100 State Highway 96	ca. 1973	Mobile home and shed.
Single-Family Residence	4617 State Highway 96	ca. 1975	Single-story house and detached garage.
Multi-Family Property	4830 State Highway 96	ca. 1970	Two single-story houses.
Single-Family Residence	4834 State Highway 96	1971	Single-story house and greenhouse.
Single-Family Residence	4730 State Highway 96	Unknown	House.
Multi-Family Property	5125 Klamath River Road	1968	Two single-story houses and a detached garage/workshop. One of the houses is manufactured.
Multi-Family Property	5215 Klamath River Road	ca. 1970	Two single-story houses.
Single-Family Residence	Unknown (west of 5215 Klamath River Road)	1961	Mobile home.

Property	Address	Construction	Basic Property Information
Multi-Family Property	5231 Klamath River Road	ca. 1975	Modern single-family house, manufactured house, storage building, and well house.
Multi-Family Property	5814 State Highway 96	ca. 1970	Two mobile homes, a garage, and multiple sheds.

Copco Lake Area

Based on windshield survey and aerial photographs, the Renewal Corporation has identified approximately 50 properties in the Copco Lake area that may be affected by the Project. The residential/recreational properties, many with boat docks, are clustered primarily along the lakesides of Copco Road, Quail Lane, and Ager Beswick Road. Copco Road and Quail Lane extend along Copco Lake's north shore. Ager Beswick Road extends along Copco Lake's south shore. County assessor data indicates that construction dates for the Copco Lake residences date to as early as 1935, with many built in the mid to late 1960s, after completion of Iron Gate Dam and Reservoir, and the associated improvements made to sections of Copco Road. Aerial photographs indicate about a dozen more potentially historic properties further west along Ager Beswick Road towards Copco Dam No. 1, in areas such as Keaton Cove. These properties have not yet been surveyed or researched as they are located on private land.

Many of the Copco Lake properties identified during field survey and desktop research have boat docks or ramps that extend into Copco Lake and appear to have been built for recreational and residential use. In addition to potential local significance under NRHP Criterion A in the areas of Entertainment/Recreation, certain properties such as the 1960s A-frame residences observed along Ager Beswick Road may have local significance under NRHP Criterion C in the area of Architecture.

Historic Resource Studies

The Renewal Corporation completed three Historic Resource Studies focused on historic resources within the ADI that had the potential to be affected by the Project. These three studies involved the following categories of resources: (1) Hydroelectric, (2) Transportation, and (3) Private Property. The Renewal Corporation completed these surveys, inventories, and evaluations to identify historic properties within the Project ADI that are eligible for and/or listed in the NRHP. These investigations were completed following the Secretary of the Interior's Standards for Archaeology and Historic Preservation under the guidance of professionals that meet the Secretary of the Interior's Standards for Archaeology and Historic Preservation Professional Qualification Standards (36 C.F.R. Part 61).

The Hydroelectric Resource Study evaluated the KRHP, which consists of seven hydroelectric developments along the Klamath River in Southern Oregon and Northern California. This study focused on the KRHP and four of the hydroelectric developments within: J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate. Except for J.C. Boyle, which is in Oregon, each of the hydroelectric developments is in California. Based on the scope of this Project, the Renewal Corporation did not evaluate the Link River, Keno, and Fall Creek hydroelectric developments, which are also within the KRHP but will not be impacted by the Project. The Renewal

Corporation evaluated each of the four hydroelectric developments and their built resources, including bridges, road sections, and culverts. As a result of the study, the Renewal Corporation identified five NRHP-eligible historic districts subject to Project effects: the KRHP, J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate. The KRHP is a previously identified historic district. When the KRHP historic district was identified in 2003, J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate were evaluated as contributing or non-contributing to the KRHP. The Renewal Corporation study evaluated these four hydroelectric developments as discrete historic districts within the larger KRHP historic district as well as potential contributors to the KRHP historic district. In addition, the Renewal Corporation identified four individually eligible resources that may be subject to Project effects: Copco No. 1 dam, Copco No. 2 powerhouse, Copco No. 2 water conveyance system, and Fall Creek School (Copco No. 2).

The Transportation Resource Study evaluated bridges, road sections, and culverts within the ADI but outside the boundaries of the hydroelectric historic districts. The Renewal Corporation evaluated bridges, road sections, and culverts inside the boundaries of the hydroelectric historic districts as contributing or non-contributing resources to the district. As a result of the study, the Renewal Corporation identified one NRHP-eligible bridge that may be subject to Project effects**:** Dry Creek bridge.

The Private Property Resource Study focused on commercial, residential, and recreational properties within the California portion of the ADI, along the Klamath River corridor. These properties are situated along the shorelines of the Klamath River (Hornbrook and Klamath River Community) and Copco Lake. Note that the Copco Lake residences have Montague addresses but are about 25 miles northeast of the City of Montague. Further survey and investigation may be required to identify NRHP-eligible properties within these areas that are subject to Project effects; however, as these investigations would need to occur on private property, the information may not be able to be collected.

Chapter 4: Historic Properties

4. HISTORIC PROPERTIES

4.1 NRHP Evaluation

Cultural resources identified in the ADI were assessed for their NRHP eligibility based on established evaluation criteria (36 C.F.R. Part 60), their historic significance, and integrity. The NRHP is the official federal list of historic properties, including districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. A historic property (i.e., NRHP-eligible) may be of national, state, or local significance.

The Renewal Corporation's NRHP assessment relied on a multifaceted program that included extensive archival research, historical landscape analysis, geoarchaeological modeling, inventory and recordation of archaeological sites and built environment resources, limited subsurface testing of archaeological sites, and tribal consultation to identify TCPs and other tribal cultural resources.

The significance of a property is best judged and explained when it is evaluated within its historic context or how it relates to its geographic area, prevailing historical themes, and chronological period (Wyatt 2009). By exploring the patterns or trends by which a specific occurrence, property, or site is understood, its meaning and comparative significance within history is made clear (NPS 1997). Historic contexts serve as the framework within which NRHP criteria are applied to specific properties. A key principle of historic contexts is that resources, properties, and events do not occur in isolation but reflect larger historical developments, associations, and/or patterns.

After identifying the relevant historic context with which a property is associated, four criteria of evaluation were considered to assess NRHP significance. These criteria serve as the standards by which every property nominated to the NRHP is judged. The criteria are written broadly to recognize the nation's wide variety of historic properties and to identify the range of resources and kinds of significance that qualify properties for NRHP listing. The criteria recognize associative, design, and information values, as listed in 36 C.F.R. Part 60.

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess historic integrity, and

- Are associated with events that have made significant contributions to the broad pattern of our history (Criterion A); or
- Are associated with the lives of persons significant in our past (Criterion B); or
- Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); or
- Have yielded, or may be likely to yield, information important in history or prehistory (Criterion D).

To be listed in the NRHP, a property must not only be shown to be significant under one or more criteria, but it also must have integrity (NPS 2000). The NRHP recognizes seven aspects or qualities that, in various combinations, define integrity (NPS 1997). The seven aspects of integrity are location, design, setting, materials, workmanship, feeling, and association.

Location is the place where the historic property was constructed or the place where the historic event occurred. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons.

Setting is the physical environment of a historic property. It refers to the historic character of the place in which the property played its historical role. It involves how, not just where, the property is situated and its historical relationship to surrounding features and open space. The physical features that constitute the historic setting of a historic property can be either natural or built and include such elements as topography, vegetation, paths or fences, and the relationships between buildings and other features or open spaces

Design is the combination of elements that create the historic form, plan, space, structure, and style of a property. This includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials. Design can also apply to districts and to the historic way in which the buildings, sites, or structures are related.

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. If the property has been rehabilitated, the historic materials and significant features must have been preserved. The property must also be an actual historic resource, not a re-creation; a property whose historic features have been lost and then reconstructed is usually not eligible.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history. It is the evidence of artisans' labor and skill in constructing or altering a building, structure, object, or site. It may be expressed in vernacular methods of construction and plain finishes or in highly sophisticated configurations and ornamental detailing. Examples of workmanship in historic buildings include tooling, carving, painting, graining, turning, and joinery.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character. For example, a rural historic district which retains its original design, materials, workmanship, and setting will relate the feeling of agricultural life in the nineteenth century.

Association is the direct link between an important historic event or person and a historic property. A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character.

Although not listed in the seven aspects of historic integrity, the National Park Service (NPS) does allow the physical condition of a property to be taken into consideration when evaluating property type and integrity as

part of the assessment of historic context. The evaluation should state how the particular property meets the integrity requirements for its type. When a property is disqualified for loss of integrity, the evaluation statement should focus on the kinds of integrity expected for the property type, those that are absent for the disqualified property, and the impact of that absence on the property's ability to exemplify architectural, historical or research values within a particular historic context. The integrity of the property in its current condition, rather than its likely condition after a proposed treatment, should be evaluated. Factors such as structural problems, deterioration, or abandonment should be considered in the evaluation only if they have affected the integrity of the significant features or characteristics of the property (NPS 2019b).

It is recognized that all properties change over time, and it is not necessary for one to retain all historic physical characteristics or features. It must, however, retain essential physical features that enable it to convey its historic identity that define why it is significant and when it was significant (NPS 1997).

If a resource is determined eligible for the NRHP, Section 106 of the NHPA and its implementing regulations (36 C.F.R. Part 800) require that effects of a proposed project on that resource be determined. If NRHP listed or eligible properties are identified and will be adversely affected by the project implementation, then measures to avoid, minimize, or otherwise mitigate any adverse effects must be taken. If adverse effects are anticipated, the ACHP, SHPO, tribes (if they ascribe significance to the resource), and other consulting parties must be provided an opportunity to review and comment on these measures. The public and other applicable consulting parties must also be notified of Project impacts upon historic properties. The ACHP has adopted regulations (36 C.F.R. Part 800) that implement these consultation and notice requirements.

Historic properties include those that are in ruin on or below the ground, or “Archaeological” by definition, and those that are above-ground, or “Built Environment.” Each of these categories is described separately.

4.2 Districts

4.2.1 Archaeological Districts

A discussion of archaeological districts is pending the results of the Phase II study.

4.2.2 Built Environment Multiple Property Districts

The Renewal Corporation identified five NRHP-eligible historic districts that will be subject to Project effects. The Renewal Corporation evaluated the KRHP historic district as well as the discrete, potentially eligible historic districts within the larger KRHP, specifically Copco No. 1, Copco No. 2, Iron Gate (California), and J.C. Boyle (Oregon). The Renewal Corporation also evaluated the Fall Creek Hatchery (California), another potential historic district within the APE.

The Renewal Corporation also identified four individually eligible resources within the historic districts that will be subject to Project effects:

- Copco No. 1 dam

- Copco No. 2 powerhouse
- Copco No. 2 water conveyance system
- Fall Creek School (Copco No. 2)

The Renewal Corporation also identified one NRHP-eligible bridge that may be subject to Project effects:

- Dry Creek bridge

Further survey and investigation are required to identify NRHP-eligible properties within the areas that are subject to Project effects on private property. This includes the area between Iron Gate Dam and Humbug Creek and around Copco Lake.

NRHP regulations define historic districts (36 C.F.R. § 60.3(d)) as follows:

> *A geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.*

The four hydroelectric-related historic districts in California and Oregon are now owned and operated by PacifiCorp under FERC License No. 2082. Each is a discrete historic district with significant concentrations of related resources that contributed to the early development and distribution of electricity in the Southern Oregon and Northern California region. Each discrete historic district also contributes to the larger KRHP, a noncontiguous historic district that follows the Klamath River through certain areas of Southern Oregon and Northern California. The KRHP and its four constituent historic districts appear to be eligible under NRHP Criterion A in the area of Commerce as components of a regionally significant, locally owned and operated private utility and in the area of Industry for substantially increasing electrical capacity to promote expansion of the regional timber, agriculture, and recreation industries (Kramer 2003b). In addition, the KRHP is significant under NRHP Criterion A in the area of Conservation for its controversial role in regional fish management activities mandated as mitigation for environmental and biological harm caused by the KRHP dams. The KRHP is also significant under NRHP Criterion C in the area of Engineering as its hydroelectric developments embody the distinctive characteristics of early- and mid-twentieth-century hydroelectric developments that implemented technological advances in their conceptions, designs, and construction, and that demonstrate the functional interconnections of the unified KRHP system. Under Criterion C, the KRHP also best represents the work of master hydro-engineer John C. Boyle, who was important to regional hydroelectric development and who began his association with the KRHP as a young engineer surveying Copco No. 1 for the Siskiyou Electric Power & Light Company.

Certain historic resources within the districts appear to be individually eligible for the NRHP, such as the Copco No. 1 dam, which is significant under NRHP Criterion C in the area of engineering. The Copco No. 2 powerhouse and the Fall Creek School appear to be individually eligible under NRHP Criterion C in the area of architecture.

Each of the four potential hydroelectric historic districts and their contributing resources were documented in California or Oregon SHPO historic resource documentation forms, depending upon location. Copco No. 1, Copco No. 2, and Iron Gate historic districts were documented in California DPR forms. DPR 523A (primary) forms were completed for each district and each contributing resource within a district. DPR 523D (district) forms were completed for each district, providing an overall historic context for the district and a list of contributing and non-contributing resources. DPR 523A and 523B (building, structure, object) forms were completed for each contributing resource within a district and for each individually eligible resource within a district. J.C. Boyle historic district and its contributing resources were documented in individual Oregon Historic Sites Database forms.

Fall Creek Hatchery, a potential historic district within the APE, was also evaluated for NRHP eligibility. Fall Creek Hatchery has regional significance under NRHP Criterion A in the area of Conservation for its pioneering role in early twentieth-century fish management and science in Northern California. DPR 523A and 523D forms were completed for Fall Creek. Due to lack of integrity, Fall Creek Hatchery appears to be not eligible for the NRHP and, therefore, DPR 523A and 523B forms were not completed for individual resources within the district.

Archaeological districts and the potential cultural riverscape are also described below in the following subsections.

Hydroelectric Districts

This section briefly describes the KRHP historic district and the four discrete historic districts within its boundaries. A table for each of the four historic districts includes information on the districts' contributing and non-contributing resources, including names and function, dates of construction/major alteration, previous eligibility evaluations, and updated eligibility evaluations. Detailed information beyond these brief table summaries, including recent and historic photographs, is contained in DPR and Oregon Historic Sites Database forms. The KRHP historic district as well as the four historic districts within its boundaries and their contributing resources are presently identified by the KRHP's DPR primary number (47-004015), which was assigned by the California SHPO in 2003. In addition, the California SHPO has assigned individual primary numbers to the Copco No. 1 powerhouse (47-002267), Copco No. 1 guest house remains (CA-515-2824), and Copco No. 2 powerhouse (47-002266).

Klamath River Hydroelectric Project (KRHP) Historic District (Klamath County, Oregon and Siskiyou County, California)

The remaining hydroelectric developments within the KRHP were built between 1903 and 1962 by Copco and its successor Pacific Power. The KRHP was previously evaluated as eligible for the NRHP but is not currently listed in the NRHP.

The Renewal Corporation agrees with the previous evaluation of the KRHP as eligible for the NRHP as a historic district. In addition, The Renewal Corporation has identified four hydroelectric developments within the KRHP's boundaries that constitute discrete historic districts, each contributing to the larger KRHP

historic district: J.C. Boyle (Oregon), Copco No. 1 (California), Copco No. 2 (California), and Iron Gate (California). Summaries of the NRHP evaluations for the four historic districts and the resources they contain are provided in the tables below.

J.C. Boyle Hydroelectric Development District (Klamath County, Oregon)

J.C. Boyle was completed in 1958 as the final hydroelectric development that Copco completed along the Klamath River before the company was acquired by Pacific Power in 1961 (Figure 4-1). J.C. Boyle is not currently listed in the NRHP.

Figure 4-1 J.C. Boyle powerhouse

Based on the Renewal Corporation's evaluation, the J.C. Boyle hydroelectric development is eligible for the NRHP as a historic district. J.C. Boyle also contributes to the larger KRHP historic district. Table 4-1 summarizes the eligibility recommendations for the J.C. Boyle historic district and its resources.

Table 4-1 J.C. Boyle Hydroelectric Development District NRHP Eligibility Recommendations

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
J.C. Boyle Hydroelectric Development (historic district)	Generate hydropower for regional customers.	1958	Contributing: Criterion A	Eligible historic district: Criteria A and C. Contributes to the larger KRHP historic district: Criteria A and C.

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Dam	Impound J.C. Boyle Reservoir to enable generation of hydropower.	1958	Contributing: Criterion A	Contributes to the J.C. Boyle historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the J.C. Boyle historic district: Criterion C.
Water Conveyance System	Convey water impounded by J.C Boyle reservoir through the dam and into powerhouse.	1958	Contributing: Criterion A	Contributes to the J.C. Boyle historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the J.C. Boyle historic district: Criterion C.
Powerhouse	House the massive machinery that generates the facility's hydropower.	1958	Contributing: Criterion A	Contributes to the J.C. Boyle historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the J.C. Boyle historic district: Criterion C.
Armco Warehouse	Storage and support facility for construction and operations.	1957	Contributing: Criterion A [Durio 2003] and Not Contributing [Kramer 2003]	Contributes to the J.C. Boyle historic district: Criterion A.
Red Barn	Administrative building.	1958/1978	Not Contributing	Non-contributing: Lacks historic integrity.
Truck Shop/Fuel Station and Waste Storage Area	Vehicle storage and repair/ vehicle fueling station.	1991	Not Contributing	Non-contributing: Out of Period.

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Fire System Control	Fire system control with electric pump.	ca. 1995	Not Contributing	Non-contributing: Out of Period.
Dam Communication	Contain equipment for communication with PacifiCorp's Merwin Dam facility.	ca. 1995	Not Contributing	Non-contributing: Out of Period.
Operator Residences (2)	Worker residences.	ca. 1975 and ca. 1985	Not Contributing	Non-contributing: Out of Period.
Domestic Well house	Well house containing pump.	1958/ ca. 1997	Not Contributing	Non-contributing: Out of Period.
Timber Bridge	Bridge over Klamath River between dam and flume areas.	1956, 1971, 2003 (rebuilt)	Not Contributing	Non-contributing: Out of Period.
Powerhouse Residence Site	Previous site of worker residences near powerhouse.	ca. 1958, 1995	Not Contributing	Non-contributing: Lacks historic integrity.

Notes: NRHP = National Register of Historic Places

The Renewal Corporation has completed Oregon Historic Site Forms that provide a detailed description of J.C. Boyle, a discussion of the historic context, and evaluations for significance and integrity.

Copco No. 1 Hydroelectric Development District (Siskiyou County, California)

Copco No. 1, placed into operation in 1918 and expanded in 1922, was the first hydroelectric development constructed by Copco after the company was organized in 1912 (Figure 4-2). Copco No. 1 is not currently listed in the NRHP.

Figure 4-2 Copco No. 1, showing powerhouse, dam, and gatehouse no. 1

Based on the Renewal Corporation's evaluation, the Copco No. 1 hydroelectric development is eligible for the NRHP as a historic district. Copco No. 1 also contributes to the larger KRHP historic district. In addition, the Copco No. 1 dam is individually eligible. Table 4-2 summarizes the eligibility recommendations for the Copco No. 1 historic district and its resources.

Table 4-2 Copco No. 1 Hydroelectric Development District NRHP Eligibility Recommendations

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Copco No. 1 Hydroelectric Development (historic district)	Generate hydropower for regional consumers.	1918/1922	Contributing: Criterion A	Eligible historic district: Criteria A and C. Contributes to the larger KRHP historic district: Criteria A and C.
Dam	Impound Copco Lake reservoir to enable generation of hydropower.	1918/1922	Contributing: Criterion A	Contributes to the Copco No. 1 historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Copco No. 1 historic district: Criterion C. Individually eligible: Criterion C.

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Water Conveyance System	Convey water impounded by Copco Lake through the dam and into powerhouse.	1918/1922	Contributing: Criterion A	Contributes to the Copco No. 1 historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Copco No. 1 historic district: Criterion C.
Powerhouse/ 47-002267	House the massive machinery that generates the facility's power.	1918/1922	Contributing: Criterion A	Contributes to the Copco No. 1 historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Copco No. 1 historic district: Criterion C.
Warehouse 1112	Support facility for construction and operations.	ca. 1913/ unknown	Contributing: Criterion A	Contributes to the Copco No. 1 historic district: Criterion A.
Guesthouse Remains/ CA-SIS-2824H	Company officer and guest residence.	ca. 1916/ ca. 1980 (demolished)	Contributing: Criterion A	Contributes to the Copco No. 1 historic district: Criterion A.
Bungalows 1107 and 1108 (2)	Worker residences.	Circa 1925	Contributing: Criterion A	Contributes to the Copco No. 1 historic district: Criterion A.

Notes: NRHP = National Register of Historic Places

The Renewal Corporation has completed State of California DPR forms that provide a detailed description of Copco No. 1, a discussion of the historic context, and evaluations for significance and integrity.

Copco No. 2 Hydroelectric Development District (Siskiyou County, California)

Copco No. 2 was completed in 1925, three years after the Copco No. 1 expansion (Figure 4-3). Copco No. 2 is not currently listed in the NRHP.

Figure 4-3 Copco No. 2, showing powerhouse and penstock

Based on the Renewal Corporation's evaluation, the Copco No. 2 hydroelectric development is eligible for the NRHP as a historic district. Copco No. 2 also contributes to the larger KRHP historic district. In addition, the Copco No. 2 powerhouse, Copco No. 2 water conveyance system, and Fall Creek School are individually eligible. Table 4-3 summarizes the eligibility recommendations for the Copco No. 2 historic district and its resources.

Note: An oil and gas storage house previously recommended as eligible by Kramer (and as not eligible by Durio) was demolished ca. 2015 and was, therefore, not evaluated by the Renewal Corporation. The demolished oil and gas storage house is not included in Table 4-3. The radio station near the Copco No. 2 powerhouse area was not previously recorded and is included in Table 4-3.

Table 4-3 Copco No. 2 Hydroelectric Development District NRHP Eligibility Recommendations

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Copco No. 2	Operate in conjunction with Copco No. 1 to generate hydropower for regional consumers.	1925	Contributing: Criterion A	Eligible historic district: Criteria A and C. Contributes to the larger KRHP historic district: Criteria A and C.

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Dam	Impound small, unnamed reservoir to enable generation of hydropower.	1925/1996 (headgate rebuilt)	Contributing: Criterion A	Contributes to the Copco No. 2 historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Copco No. 2 historic district: Criterion C.
Water Conveyance System	Convey water impounded in Copco Lake and small unnamed reservoir through the dam and into the powerhouse.	1925	Contributing: Criterion A	Contributes to the Copco No. 2 historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Copco No. 2 historic district: Criterion C. Individually eligible: Criterion C.
Powerhouse/47-002266	House the massive machinery that generates the facility's power.	1925	Contributing: Criterion A	Contributes to the Copco No. 2 historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Copco No. 2 historic district: Criterion C. Individually eligible: Criterion C.
Substation	Transforms voltage for transmission and distribution of electrical power generated at powerhouse.	ca. 2000 (rebuilt after major fire in early 2000s)	Not contributing	Non-contributing: Out of Period
Daggett Road Bridge	Bridge over Klamath River between Copco Road and Copco No. 2 powerhouse area.	1924/1960 (raised)/1981 (rebuilt)	None	Non-contributing: Out of Period

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Radio Station	Microwave radio communication station building and radio tower operated by PacifiCorp.	ca. 1950	None	Contributes to the Copco No. 2 and KRHP historic districts: Criterion A.
Control Center	Automated control center for Copco No. 1 and Copco No. 2.	1966	Not Contributing	Contributes to the Copco No. 2 and KRHP historic districts: Criterion A.
Maintenance Building	Vehicle/equipment maintenance and storage.	1991	Not Contributing	Non-contributing: Out of Period
Former Cookhouse/ Bunkhouse	Multi-worker residence and kitchen.	1941	Contributing: Criterion A	Contributes to the Copco No. 2 historic district: Criterion A.
Bungalow	Worker residence.	ca. 1925	Contributing: Criterion A	Contributes to the Copco No. 2 historic district: Criterion A.
Fall Creek School	Former School and community center. Present PacifiCorp training facility.	1965	Not Contributing	Contributes to the Copco No. 2 historic district: Criterion A. Individually eligible: Criterion C.
Modern Bunkhouse	Multi-worker residence.	1964	Not Contributing	Contributes to the Copco No. 2 historic district: Criterion A.
Ranch Houses (4)	Worker residences.	1967 and 1968	Not Contributing	Contribute to the Copco No. 2 historic district: Criterion A.
Modular Residences (3)	Worker residences.	1985	Not Contributing	Non-contributing: Out of Period
Garage	Vehicle storage for now-demolished cottages.	1971	Not Contributing	Non-contributing: Lacks integrity

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Modern Garage	Vehicle storage.	ca. 2009	None	Non-contributing: Out of Period
Fuel Service Station	Fuel station.	ca. 2010	None	Non-contributing: Out of Period

Notes: NRHP = National Register of Historic Places

The Renewal Corporation has completed State of California DPR forms that provide a detailed description of Copco No. 2, a discussion of the historic context, and evaluations for significance and integrity.

Iron Gate Hydroelectric Development (Siskiyou County, California)

The Iron Gate hydroelectric development was completed in 1962, the year after Pacific Power acquired Copco (Figure 4-4). At the time when PacifiCorp completed its NRHP evaluations for the KHP in 2003, the Iron Gate hydroelectric development, including the fish hatchery, was less than 45 years old and not considered of sufficient age (50 years) for NHRP eligibility. The Renewal Corporation has updated the NRHP eligibility of the Iron Gate hydroelectric development because its resources are now over 50 years of age and has designated a 1970 end date for the period of significance.

Figure 4-4 Iron Gate, showing dam site

Based on the Renewal Corporation's evaluation, the Iron Gate hydroelectric development is eligible for the NRHP as a historic district. Iron Gate also contributes to the larger KRHP historic district. Furthermore, the Iron Gate hydroelectric development contains the Iron Gate fish hatchery. The hatchery is evaluated as a

component of the Iron Gate historic district rather than a separate historic district, because the hatchery's functions are inextricably bound to fish management facilities at the Iron Gate dam site. Table 4-4 summarizes the eligibility recommendations for the Iron Gate historic district and its resources. The Renewal Corporation has completed State of California DPR forms that provide a detailed description of the Iron Gate hydroelectric development, a discussion of the historic context, and evaluations for NRHP significance and integrity.

Table 4-4 Iron Gate Hydroelectric Development District NRHP Eligibility Recommendations

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; and Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Iron Gate	Re-regulate downstream water flow and generate hydropower.	1962	Not Contributing	Eligible historic district: Criteria A and C Contributes to the larger KRHP historic district: Criteria A and C.
Dam	Impound Iron Gate reservoir to enable regulation of downstream water flow and generation of hydropower.	1962	Not Contributing	Contributes to the Iron Gate historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Iron Gate historic district: Criterion C.
Water Conveyance System	Convey water impounded by Iron Gate reservoir through the dam and into the powerhouse.	1962	Not Contributing	Contributes to the Iron Gate historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Iron Gate historic district: Criterion C.

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; and Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Powerhouse	Contain fish trapping facilities and house the massive machinery that generates the facility's power.	1962	Not Contributing	Contributes to the Iron Gate historic district: Criterion A. Dam, water conveyance system, and powerhouse collectively contribute to the Iron Gate historic district: Criterion C.
Substation	Transforms voltage for transmission and distribution of electrical power generated at powerhouse.	1962	Not previously evaluated	Contributes to the Iron Gate historic district: Criterion A.
Dam Fish Facilities	Trap and spawn fish.	1962	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Communication Building	Communication and controls.	1962	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Restroom Building	Visitor and worker restroom.	1962	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Operator Residences (2)	Worker residences.	1963	None	Contributes to the Iron Gate historic district: Criterion A.
Hatchery Building	Contains equipment used to rear fish from egg to fry stage.	1966	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Hatchery Raceways (8) and Settling Ponds (2)	Structures for rearing fry (raceways). Treat water drained from raceways (settling ponds).	1966	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.

Resource	Function	Construction/ Alterations	PacifiCorp NRHP Recommendation and Criteria: A, B, C, or D (Durio 2003; and Kramer 2003a, 2003b)	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Hatchery Fish Feed Silos	Store fish feed.	1966	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Hatchery Auxiliary Trap and Fish Ladder	Fish trap and ladder.	1984	Not Contributing	Non-contributing: Out of Period
Hatchery Office	Visitor reception/ administrative area.	1966	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Hatchery Shop	Equipment storage/repairs.	1966	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Hatchery Modern Shed	Support facility.	ca. 1994	Not Contributing	Non-contributing: Out of Period
Hatchery Gas Shed	Gasoline storage.	1966	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Hatchery Picnic and Visitor Center	Hatchery visitor facilities.	ca. 1994	Not Contributing	Non-contributing: Out of Period
Hatchery Residences (4)	Hatchery worker residences.	1966	Not Contributing	Contributes to the Iron Gate historic district: Criterion A.
Lakeview Road Bridge	Bridge over Klamath River between Copco Road and Iron Gate.	1960	None	Contributes to the Iron Gate historic district: Criterion A.

Notes: NRHP = National Register of Historic Places

Fall Creek Hatchery (Siskiyou County, California)

Fall Creek Hatchery is included in this discussion of hydropower resources because it was surveyed in 2003 as a component of Fall Creek hydroelectric development, within the larger KRHP historic district. The

hatchery was completed in 1919 as mitigation for the Copco No. 1 dam, which blocked upstream anadromous fish migration. The hatchery, shown in Figure 4-5, is not currently listed in the NRHP.

Figure 4-5 Fall Creek Hatchery, 1937 raceways and former incubation shed

During PacifiCorp's evaluations, the Fall Creek Hatchery resources were recommended as contributing to the KRHP historic district. The Renewal Corporation evaluated the Fall Creek Hatchery as a potential historic district under the NRHP. Based on the Renewal Corporation's evaluation, the Fall Creek Hatchery is not eligible for the NRHP as a historic district and does not contribute to the larger KRHP historic district. Although the hatchery appears to have local or statewide significance under Criterion A in the area of Conservation, the hatchery has lost its historic integrity. Historic fish holding ponds built in 1937 are still present at the hatchery; however, the original hatchery building, worker cottages, and holding ponds no longer exist. The absence of these key resources substantially detracts from the hatchery's historic integrity.

The Renewal Corporation has completed State of California DPR forms that provide a detailed description of the Fall Creek Hatchery and its components, a discussion of the historic context, and evaluations for significance and integrity.

4.3 Traditional Cultural Properties

Treatment of TCPs is currently pending tribal input and their review of the ethnographic reports associated with the Klamath Cultural Riverscape.

Table 4-5 Summary of TCP Sites within the ADI

Trinomial or Temp. Number	Common Site Name	Site Type	County	NRHP Eligibility*

* As recommended in PacifiCorp 2003-2004 Relicensing Study; agency concurrence not received.

4.4 Ethnographic Landscapes (Klamath Cultural Riverscape)

Previous ethnographic studies for the Klamath River, including the "First Salmon" report (King 2004) make the case that more than 200 miles of the Klamath River corridor from above the Project area downriver to the Pacific Ocean constitute a NRHP-eligible traditional cultural landscape or riverscape (Gates 2003; King 2004). The Project occupies a part of the riverscape as described by King (2004). The issues associated with the Project's effects on the Klamath Cultural Riverscape are complex and the source of considerable disagreement among the tribes, PacifiCorp, and other CRWG members. The Renewal Corporation will continue to consult through the CRWG as to the significance of the area and how effects to resources that contribute to its significance can be avoided, minimized, or mitigated.

4.5 Individual Resources

4.5.1 Archaeological Resources

The types and number of individual archaeological historic properties is pending the Phase II investigation anticipated to begin in early 2021.

Table 4-6 Individual Resources

4.5.2 Built Environment Resources

Transportation Resource Study

The Renewal Corporation evaluated the NRHP eligibility for all transportation resources, including bridges and culverts, in the ADI. The evaluation involved field work where each transportation resource was identified and photographed, as well as review of prior documentation of history and NRHP eligibility. Transportation resources within the boundaries of a hydroelectric historic district were evaluated as contributing or non-contributing resources to the district. For example, the Daggett Road bridge was

evaluated as a contributing resource to Copco No. 2, and the Lakeview Road bridge was evaluated as a contributing resource to Iron Gate.

The bridges and culverts evaluated during this study are listed in Table 4-7. The "Resource" column in Table 4-7 provides each specific bridge type. All culverts observed during field survey were modern corrugated steel pipe structures, apparently less than 40 years of age. When possible, the "State (number)" column in Table 4-7 provides the California DPR Primary number, California Department of Transportation (Caltrans) number, or other identifying number for each resource. For resources built after 1975, the NRHP recommendation (last column) is "Out of Period," indicating that the resource was built outside of the historic period by at least 5 years.

The Renewal Corporation conducted field survey of the Klamath River Bridge (California DPR Primary #47-004212, State Bridge No. 02-0015) on August 29, 2019. As noted in Table 4-7 (row 3), a replacement bridge was under construction next to the existing 1931 bridge. If removed upon completion of the new bridge, the 1931 bridge will no longer be eligible for the NRHP. If the 1931 bridge remains in place after completion of the new bridge, it will require re-evaluation of its historic integrity to determine whether it remains eligible for the NRHP.

Table 4-7 Transportation Resources

Resource	State (number)	Construction/ Alterations	Previous NRHP Recommendation and Criterion: A, B, C, or D	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Bridges				
Dry Creek Bridge (single-span timber beam and deck with asphalt overlay)	California (Caltrans Bridge No. 2C0144)	1960	None	Contributes to the Iron Gate historic district: Criterion A.
Ash Creek Bridge (Baltimore petit truss)	California (DPR Primary #47-04414, PL-96-04)	1901 (replaced in 2012)	Eligible: Criteria A and C. This evaluation occurred in 2000 before the original bridge was replaced.	Not Eligible: Out of Period (replacement bridge that does not conform to the Secretary of the Interior Standards)
Klamath River Bridge (six-span concrete t-beam)	California (DPR Primary #47-004212, State Bridge No. 02-0015)	1931	Eligible: Criteria A and C. This evaluation occurred in 2004 before construction began on the replacement bridge.	Evaluation pending due to construction currently underway on adjacent replacement bridge.

Resource	State (number)	Construction/ Alterations	Previous NRHP Recommendation and Criterion: A, B, C, or D	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Spencer Bridge (three-span continuous welded steel plat girder)	Oregon (Department of Transportation Bridge No. 19789)	2005	None	Not Eligible: Out of Period
Cottonwood Creek Bridge (single-span reinforced concrete slab)	California	1980	None	Not Eligible: Out of Period
Brush Creek Bridge (single-span reinforced concrete slab)	California	1976	None	Not Eligible: Out of Period
Jenny Creek Bridge (single-span precast prestressed deck bulb tee girder)	California	2008	None	Not Eligible: Out of Period
Fall Creek Bridge (single-span timber beam with concrete deck)	California (Caltrans Bridge No. C0198)	1969	None	Not Eligible: Lacks significance under Criteria A, B, C, D. (Built after Fall Creek Hatchery's period of significance).
Copco Road Bridge (two-span cast-in-place post-tensioned concrete box girder)	California (Caltrans Bridge No. 2C0039)	1988	None	Not Eligible: Out of Period
Pedestrian Bridge 1 (cable suspension bridge)	California (privately owned)	Unknown	None	Additional research required.
Pedestrian Bridge 2 (cable suspension bridge)	California (privately owned by Klamath River Country Estates)	Circa 1970	None	Requires evaluation as part of the Klamath River County Estates property. See Table 3-8.
Central Oregon and Pacific Railroad Bridge (seven-span ballasted concrete bridge)	California	Unknown		Additional research required.

Resource	State (number)	Construction/ Alterations	Previous NRHP Recommendation and Criterion: A, B, C, or D	Renewal Corporation NRHP Recommendation and Criteria: A, B, C, or D
Culverts				
Topsy Road Grade Culvert at unnamed creek	California	Post-1980	None	Not Eligible: Out of Period
Unnamed Culvert at unnamed road near J.C. Boyle	California	Post-1980	None	Not Eligible: Out of Period
Copco Road Culvert at Raymond Gulch	California	Post-1980	None	Not Eligible: Out of Period
Copco Road Culvert at Beaver Creek	California	Post-1980	None	Not Eligible: Out of Period
Patricia Avenue Culvert at Camp Creek	California	Post-1980	None	Not Eligible: Out of Period
Copco Road Culvert at Camp Creek	California	Post-1980	None	Not Eligible: Out of Period
Copco Road Culvert at Scotch Creek	California	Post-1980	None	Not Eligible: Out of Period
Copco Road Drainage Culverts between Brush Creek and Camp Creek	California	Post-1980	None	Not Eligible: Out of Period

Notes: Caltrans = California Department of Transportation; DPR = Department of Parks and Recreation; NRHP = National Register of Historic Places

Chapter 5: Preservation Goals

5. PRESERVATION GOALS

5.1 General Management Philosophy

The preferred approach adopted by the Renewal Corporation for all known historic properties and other unevaluated cultural resources is preservation and protection. The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (*Federal Register*, Vol. 48. No. 190, Part IV) discuss preservation standards and procedures. Specific management measures for the Project are discussed in Chapter 7.

The Renewal Corporation will implement the preservation measures in consideration of economic and technical feasibility and balanced with Project objectives. This philosophy will guide future actions by The Renewal Corporation throughout its Project ownership.

The Renewal Corporation's goals for preserving, protecting, and managing historic properties and other unevaluated cultural resources that may be identified during Project implementation include the following:

- Ensure safety and efficiency while effectively managing and maintaining the integrity of historic properties to the extent feasible.
- Avoid Project-related impacts on historic properties where feasible. If avoidance is not possible, create a means for monitoring, recording impacts, minimizing impacts, and/or preparing mitigation measures in consultation with the CRWG.
- Maintain the confidentiality of the locations of sensitive archaeological sites and TCPs.
- Ensure consistency with federal, state, and local cultural resource regulations and statutes, in particular Section 106 of the NHPA, and CEQA and California AB 52, as well as applicable resource management plans.
- Maintain the coordination and compatibility of historic property management with other resource goals such as those related to aquatic and terrestrial resources, recreation, aesthetics, and land management.
- Demonstrate good stewardship of historic properties by monitoring vulnerable eligible resources, supporting enhancement opportunities, encouraging staff and public awareness of historic properties, reduce potential for vandalism, and support educational opportunities.
- Provide cost-effective measures for historic properties that balance with other resources and meet or exceed existing environmental regulations.
- Maintain engagement and clear lines of communication and consultation between the Renewal Corporation and the CRWG.

5.2 Archaeological Historic Properties and TCPs

The goal for the protection of archaeological historic properties and TCPs is the preservation of the resource within its environment and its important characteristics where feasible. The principal approach to preserve archaeological sites and TCPs is protection and stabilization from ground disturbance, which may be associated with planned projects, vandalism, looting, or natural causes.

The Renewal Corporation will consider prevention of harmful impact as the first and least damaging avenue of site stabilization, even though this will not be possible in every instance. In addition, as outlined in Section 10.3, the Renewal Corporation may need to evaluate the NRHP eligibility of resources when certain scenarios exist such as exposure of currently submerged resources after reservoir drawdown; other inadvertent discoveries; and land transfer, sale, or lease.

5.3 Built Environment

For historic structures, the primary principle upon which the preservation measures are based is the desire to protect, maintain, and repair historic materials and retain a structure's form as it has evolved over time. This approach will ensure retention of the character-defining features of the Project's historic properties while permitting the flexibility required to up-grade facilities and equipment for efficient and economical operation. As the Project proposes to decommission hydroelectric facilities that are also historic properties, the conservation of these resources must be balanced with the objectives of the Project and FERC's regulatory requirements for decommissioning. While conservation will not be possible for any of the dam structures, the Renewal Corporation will make a good faith effort to identify the adaptive use potential for other historic properties located in the ADI and provide meaningful mitigation for the local community and at the state level.

Chapter 6: Project Effects

6. PROJECT EFFECTS

The Project will have effects on historic properties in the ADI and/or the APE. An effect would constitute an "alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register" (36 C.F.R. § 800.16(i)). An adverse effect occurs when Project activities "alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative" 36 C.F.R. § 800.5(a)(1).

6.1 Potential Effects to Archaeological Properties

Effects to archaeological historic properties within the ADI could include those caused by:

- Slope instability related to the reservoir drawdown;
- Burial and/or erosion of sites caused by the reservoir drawdown;
- Disturbance or destruction and removal caused by construction elements;
- Impacts to inadvertent discoveries that may be encountered as a result of ground-disturbing construction;
- An increase in susceptibility to intentional looting and vandalism or unintentional disturbances as sites may be exposed or areas opened to increased public access in non-designated areas (i.e., off-road vehicle use, camping, latrines);
- A change in ranching and livestock operations and fences; and
- Visual changes to the setting once the reservoirs are no longer present, which could affect resources for which the reservoir setting has been of cultural significance since they were constructed beginning in the early 1900s.

Potential effects to archaeological and tribal historic properties are summarized in Table 6-1.

Long-term effects to archaeological and tribal resources may occur as a result of future management determinations. Long-term management of historic properties remains uncertain because the Renewal Corporation will have no control or management authority once the Renewal Corporation transfers land to third parties, although archaeological and tribal resources would continue to be protected by state laws.

Table 6-1 Types of Project Impacts to Archaeological/Tribal Historic Properties

Potential Impacts	Description
Slope instability/landslip erosion caused by reservoir drawdown	Archaeological sites located along the reservoir rim or embankments could be subject to slumping during the reservoir drawdown. This, however, is not a new impact for many of these sites because they have been subject to periodic drawdown events since the dams were built.
Burial or erosion caused by reservoir drawdown	Currently submerged archaeological sites, both known and undocumented, could be affected by sediment accumulation that is deposited during the reservoir drawdown, or sediment could erode and cultural materials could be exposed and displaced as sediment is washed downstream by the water. Some known sites may no longer be observable on the ground surface, and some undocumented sites may never be detected in the first place, if there is sediment accumulation as the waters recede. Sites experiencing sediment accumulation would be protected from other impacts, and burial beneath a protective sediment layer would not be considered an adverse effect. Other sites could be newly exposed and erode (wash downstream) with the sediment release. Erosion would be expected to affect integrity of these sites.
Damage or displacement caused by construction	Direct construction impacts would be associated with several ground-disturbing Project elements including removal of power generation facilities, water intake structures, canals, pipelines, and ancillary buildings; road and bridge modifications; staging areas and disposal sites; transmission line removal; Yreka Water Supply improvements; recreation facilities removal and potential development; fish hatchery improvements; reservoir restoration; and implementation of other plans (e.g., fire management, emergency response). Historic properties that cannot be avoided by these Project activities would be directly impacted through removal, displacement, and destruction of archaeological materials. These impacts would affect the integrity of archaeological historic properties.
Inadvertent discoveries during construction	Undocumented human remains and/or archaeological resources may be unexpectedly encountered as a result of ground-disturbing Project actions. Impacts could range from no effect to adverse effect depending on the discovery situation.
Increased susceptibility to looting and vandalism	Archaeological historic properties may be subject to increased looting and vandalism as a result of increased exposure after the reservoir drawdown, and/or as a result of changes in public access post-decommissioning.
Damage from dispersed recreational use (e.g., camping, off-road vehicle use)	As the river is reestablished, and as recreation facilities are developed, public access may change so that there is an increase in camping, off-road vehicle use, and other activities in non-designated areas that directly occur within sensitive resources.
Impacts from ranching/livestock operations	As the river is reestablished, ranching and livestock operations by private parties may be altered. Livestock and agricultural operations may affect archaeological sites through trampling and erosion or creation of irrigation features as formerly submerged lands become potentially arable.

Potential Impacts	Description
Alluvial impacts downstream of Iron Gate Dam	Potential effects in the river channel downstream of Iron Gate Dam include aggradation at tributaries, which could bury archaeological sites; lateral channel migration, which could affect sites within old channels, and slope instability. The Klamath River is predominantly a bedrock-controlled river and naturally has very little migration and bank erosion, and therefore the Renewal Corporation does not anticipate management of downstream lateral migration. the Renewal Corporation does not expect reservoir drawdown to cause erosion or subsequent slope instability downstream of Iron Gate Dam.
Visual changes to setting	After reservoir drawdown, there will be a change to the reservoir viewshed. Resources with spiritual or other tribal significance associated with views of the reservoir since their creation may be impacted. Historic archaeological sites for which the hydroelectric setting contributes to significance may be impacted.
Future management uncertainties	After the Renewal Corporation transfers Parcel B lands to the States, future disposition or use is unpredictable, and management of historic properties will be out of the Renewal Corporation's control.

6.2 Effects on Hydroelectric-Related Historic Properties

6.2.1 Klamath River Hydroelectric Project (Klamath County, Oregon, and Siskiyou County, California)

The KRHP is an eligible NRHP historic district that consists of multiple hydroelectric developments within Southern Oregon and Northern California. The KRHP contains the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate hydroelectric developments, which are subject to Project activities. The KRHP also contains the Link River, Keno Dam, and Fall Creek hydroelectric developments, which are not subject to Project activities although they are part of the broader KRHP historic district that would be adversely affected by the Project. The Project involves decommissioning and removal of the dams, powerhouses, and water conveyance systems, as well as other associated resources, at J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate. Project activities would therefore substantially compromise the KRHP's overall integrity of design, setting, materials, workmanship, feeling, and association, causing a direct adverse effect to the KRHP historic district.

The Project would result in an **adverse effect** to the KRHP historic district.

6.2.2 J.C. Boyle Hydroelectric Development (Klamath County, Oregon)

The J.C. Boyle hydroelectric development is an eligible NRHP historic district (J.C. Boyle historic district) that also contributes to the larger KRHP historic district. The Project involves decommissioning and removal of J.C. Boyle's contributing resources including the dam, powerhouse, and water conveyance system, which are the district's primary components. J.C. Boyle Reservoir, the reservoir impounded by the dam, would also be dewatered. Project activities would substantially compromise J.C. Boyle's integrity of design, setting,

materials, workmanship, feeling, and association, causing a direct adverse effect to the historic district and its contributing resources.

The Project would result in an **adverse effect** to J.C. Boyle historic district, a discrete historic district that also contributes to the larger KRHP historic district.

6.2.3 Copco No. 1 Hydroelectric Development (Siskiyou County, California)

The Copco No. 1 hydroelectric development is an eligible NRHP historic district (Copco No. 1 historic district) that also contributes to the larger KRHP historic district. The Project involves decommissioning and removal of Copco No. 1's contributing resources, including the dam, powerhouse, and water conveyance system, which are the district's primary components. Copco Lake, the reservoir impounded by the dam, would also be dewatered. Project activities would substantially compromise Copco No. 1's integrity of design, setting, materials, workmanship, feeling, and association, causing a direct adverse effect to the historic district and its contributing resources. The Project would also cause a direct adverse effect to an individually eligible resource within the district—Copco No. 1 dam.

The Project would result in an **adverse effect** to Copco No. 1 historic district, a discrete historic district that also contributes to the larger KRHP historic district. In addition, the Project would result in an **adverse effect** to the Copco No. 1 dam, an individually eligible resource within the Copco No. 1 historic district.

6.2.4 Copco No. 2 Hydroelectric Development (Siskiyou County, California)

The Copco No. 2 hydroelectric development is an eligible NRHP historic district (Copco No. 2 historic district) that also contributes to the larger KRHP historic district. The Project involves decommissioning and removal of Copco No. 2's contributing resources, including the dam, powerhouse, and water conveyance system, which are the district's primary components. Project activities would substantially compromise Copco No. 2's integrity of design, setting, materials, workmanship, feeling, and association, causing a direct adverse effect to the historic district and its contributing resources. The Project would also cause a direct adverse effect to individually eligible resources within the district—Copco No. 2 powerhouse, Copco No. 2 water conveyance system, and Fall Creek School.

The Project would result in an **adverse effect** to the Copco No. 2 historic district, a discrete historic district that contributes to the larger KRHP historic district. In addition, the Project would result in **adverse effects** to the Copco No. 2 powerhouse, Copco No. 2 water conveyance system, and Fall Creek School, individually eligible resources within the Copco No. 2 historic district.

6.2.5 Iron Gate Hydroelectric Development (Siskiyou County, California)

The Iron Gate hydroelectric development is an eligible NRHP historic district (Iron Gate historic district) that also contributes to the larger KRHP historic district. The Project involves decommissioning and removal of Iron Gate's contributing resources, including the dam, powerhouse, and water conveyance system, which are the district's primary components. The Project activities would substantially compromise Copco No. 2's

integrity of design, setting, materials, workmanship, feeling, and association, causing a direct adverse effect to the historic district and its contributing resources, including the Iron Gate hatchery. Buildings and structures within the Iron Gate hatchery area will remain in place; however, by removing the Iron Gate hydroelectric facilities and dam fish facilities, the Project would substantially diminish the hatchery's integrity of setting and association.

The Project would result in an **adverse effect** to the Iron Gate historic district, a discrete historic district which also contributes to the larger KRHP historic district.

6.2.6 Fall Creek Hatchery (Siskiyou County, California)

The Fall Creek Hatchery was evaluated as a potential historic district (distinct from the Fall Creek Hydroelectric development) based on its location within the KRHP boundaries, association with the construction of Copco No. 1 dam, and significant role in California's early twentieth-century fish management practices. As part of the Project, Fall Creek Hatchery will be renovated with construction of new structures such as fish-holding tanks. A survey and investigation of Fall Creek Hatchery revealed that this potential historic district lacks integrity and, therefore, is not eligible for the NRHP as a discrete historic district or as a contributor to the KRHP historic district.

Because the Fall Creek Hatchery is not eligible for the NRHP, no Project effect analysis is necessary.

6.3 Effects on Transportation-Related Historic Properties

The only transportation resource that is outside of the above-mentioned historic districts and presently recommended as NRHP eligible is Dry Creek bridge. The bridge appears to be locally significant under NRHP Criterion A in the area of Community Planning and Development for its association with the construction of Iron Gate and the realignment of local roads to accommodate the inundation of Iron Gate reservoir. The bridge retains sufficient historic integrity to convey its significance.

According to the ALSA, a temporary single-span overlay bridge span on the existing Dry Creek Bridge will be constructed to meet construction load requirements.

The construction of a single-span overlay bridge span would likely diminish the bridge's integrity of design, materials, and workmanship, resulting in a direct **adverse effect** to Dry Creek bridge, a historic property.

6.4 Effects on Other Potential Historic Properties

Additional field survey and research will be completed for the commercial, residential, and recreational properties located in the California communities of Hornbrook, Yreka, and Montague to determine NRHP eligibility and Project effects. Project effects to these potential historic properties could involve a physical change to the property, modification of a resource's historic setting, visual effects, and/or a change of the character of the property's use.

Additional data review is also being conducted within the larger APE that analyzes previously recorded potential historic properties that could be affected by Project-related activities within the ADI. These Project-related effects could include visual changes to the historic settings, atmospheric effects, and/or audible effects that potentially diminish the integrity of a potential historic property's significant historic features.

6.5 Effects on Traditional Cultural Properties

Effects on TCPs is pending tribal input and their review of the ethnographic reports associated with the Klamath Cultural Riverscape. This review is anticipated for Spring 2021.

Chapter 7: Mitigation and Management Measures

7. MITIGATION AND MANAGEMENT MEASURES

Consistent with the requirements of Section 106 of the NHPA, FERC is required to consider alternatives when historic properties are likely to be adversely affected by a federal undertaking, While the Renewal Corporation has obligations as FERC's non-federal representative, FERC is the lead agency with consultation authority. The federal undertaking in this case is FERC granting an LSO for the Lower Klamath Project (FERC Project No. 14803). If FERC were to grant the LSO, adverse effects would occur to the NRHP-eligible historic hydroelectric facilities located at the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate locations, and other historic properties.

Following a finding of adverse effect on a historic property, efforts must be made "to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties" (36 C.F.R. § 800.6). Resolution of adverse effects will require further consultation with consulting and interested parties. As part of this process, the Renewal Corporation has considered the ACHP recommendations that resolution of adverse effects consider (1) the public interest; (2) the interests of consulting parties and those who ascribe importance and value to the property; (3) how mitigation designed to advance knowledge about the past will be provided to the community and professionals; and (4) whether mitigation will enhance the preservation and management of listed or eligible resources in a region.

7.1 Treatment Measures – Archaeological

The following sections describe archaeological treatment measures that the Renewal Corporation will consider for archaeological historic properties as part of the license surrender process. Appropriate measures will be adapted to changing conditions, such as to drawdown schedules, seasonal changes in public use, and observed issues such as illicit artifact collection. Some treatment measures, such as capping, would be implemented on a site-by-site basis. Table 7-1 presents some possible scenarios that may be encountered during monitoring, as well as response and treatment options that the Renewal Corporation may consider. It is important to note that the Project, once commenced, will involve the removal of facilities on a constrained timeframe, and implementation cannot be materially delayed or stopped once commenced due to public safety as well as engineering and biological considerations. Thus, the potential measures may be constrained by these inherent limitations.

Table 7-1 Archaeological Treatment Measures: Potential Scenarios, Impacts, and Responses

Potential Scenario(s)	Primary Impact Identified	Potential Response and Treatment Measures
A new submerged archaeological site is identified during reservoir drawdown	Water Erosion	• Detailed mapping and photography • Site condition monitoring via detailed drone imagery or site inspections, depending on safe access • Emergency data recovery if drawdown is estimated to affect 25% or more of the site, if access is possible • Emergency stabilization if drawdown is estimated to affect 25% or more of the site, if access is possible • If access is unsafe and protective measures are not possible, alternative mitigation
	Alluvial Sediment Deposition	• Treatment will be limited to detailed mapping and photography and site condition monitoring because a sediment cap would be a protective measure
A new submerged historic feature (e.g., rock wall, fence, irrigation ditch, weir, bridge abutment, foundation) is identified during reservoir drawdown	Water Erosion	• Detailed mapping and photography • Site condition monitoring via detailed drone imagery or site inspections, depending on safe access • Additional archival research • Limited shovel probing only if associated archaeological deposits are suspected based on the type of historic feature
	Sediment Deposition	• Treatment will be limited to detailed mapping and photography and site condition monitoring because a sediment cap would be a protective measure • Additional archival research
A previously documented archaeological site along the reservoir rim begins to erode	Landslip Erosion	• Site condition monitoring and photographic comparison • Emergency data recovery if rim stability/measurable bank loss is at risk of affecting 25% or more of the site, if access is possible • Emergency stabilization if rim stability/measurable bank loss is estimated to affect 25% or more of the site, if access is possible • Temporary or permanent site protection measures (e.g., cap resource) • If access is unsafe and protective measures are not possible, alternative mitigation
A new archaeological site is encountered during construction	Damage/ Displacement	• Detailed mapping and photography • Limited probing • Sample collection • Emergency data recovery • Emergency stabilization • Temporary or permanent site protection measures (e.g., cap resource) • Avoidance through strategic routing of project elements (e.g., roads, recreation sites)

Potential Scenario(s)	Primary Impact Identified	Potential Response and Treatment Measures
A new archaeological isolate is encountered during construction	Damage/ Displacement	• Detailed mapping and photography • Limited probing to determine status as isolate
An incidence of looting and/or vandalism is observed at an archaeological site	Damage/ Displacement/ Loss	• Implement Looting and Vandalism Prevention Plan, including Damage Assessment for criminal investigation • Temporary or permanent site protection measures (e.g., cap resource, strategic plantings, install signage) • Increase site security (e.g., install surveillance cameras, increase patrols) • Site restoration • Emergency data recovery • Reevaluate and restrict public access to or visibility of vulnerable sites
An increase in unauthorized vehicle and recreational uses resulting from Project activities are observed at an archaeological site	Damage/ Displacement	• Site condition monitoring and photographic comparison • Temporary or permanent site protection measures (e.g., cap resource, strategic plantings, install signage) • Reevaluate and restrict public access to or visibility of vulnerable sites
Evidence of livestock damage resulting from Project activities is observed at an archaeological site	Damage/ Displacement	• Site condition monitoring and photographic comparison • Temporary or permanent site protection measures (e.g., cap resource, strategic plantings, erect fence) • Reevaluate and restrict livestock access to vulnerable sites

1 Note: Certain types of historic features would not be appropriate candidates for treatment measures such as data recovery or capping. Initial response measures for these types of resources will be focused on detailed recordation and photographic documentation.

Table 7-2 Proposed Management Measures for Historic Properties

[This table will list all archaeological historic properties and will be based on the results of the Phase II study, which is anticipated to begin in early 2021.

7.1.1 Detailed Mapping and Photography

The Renewal Corporation will perform detailed mapping and photography for newly documented discoveries and for previously documented resources where such mapping and photography has not previously been completed and would add value to the preservation record. Individual features/artifacts would be drawn, photographed, and mapped.

7.1.2 Archival Research

The Renewal Corporation will perform additional archival research for certain types of archaeological resources, for example, historic-era resources that may become visible during reservoir drawdown. Additional archival research may be an appropriate treatment measure to identify the association and function of the resource to assist with eligibility determinations.

7.1.3 Site Condition Monitoring

The Renewal Corporation has prepared an MIDP (Appendix C) that will require all archaeological historic properties within the proposed ADI to be periodically monitored by the Renewal Corporation during the period of the license surrender.

Archaeological historic properties may need additional monitoring over time to assess the effects from erosion and/or changes in visitation and land use once the reservoirs are replaced with an active river corridor. The Renewal Corporation will conduct site condition monitoring, or site inspections (differentiated herein from construction monitoring, which occurs only when ground-disturbing construction activities are occurring), to assess these potential effects. Site condition monitoring includes repeated visits to an archaeological site in order to measure physical changes over time. The goal of this plan is to identify possible site impacts by detecting and measuring changes to a site's physical condition over time that could potentially alter its eligibility.

Site inspection frequency is expected to vary by Project phase. The MIDP outlines the proposed schedule and frequency for site inspections that will look for evidence of impacts to archaeological historic properties. This applies to potentially significant post-review discoveries such as submerged resources.

Sites needing the highest level of site condition monitoring intensity are anticipated to be those sites that are exposed during reservoir drawdown in the Iron Gate, Copco, and J.C. Boyle pools. Sites on the north side of the Klamath River in California, between Copco and Stateline, are less accessible to the general public and have much less need for site condition monitoring related to looting and vandalism concerns. Areas near PacifiCorp's Copco Village I and Village II are close to facilities where Renewal Corporation staff can effectively monitor public activity on a routine basis during the reservoir drawdown.

The sites where monitoring will be less frequent are generally inaccessible to vehicular traffic and/or have relatively difficult public access and are not located in a potential reservoir erosion zone. Lack of easy public access helps limit potential ground disturbance.

7.1.4 Construction Monitoring

The Renewal Corporation will provide construction monitoring by cultural resources specialists and tribal monitors for ground-disturbing Project activities within the ADI. The Renewal Corporation has developed a Draft MIDP (Appendix C) with procedures to be followed during monitoring of construction activities. The Renewal Corporation Cultural Resource Specialist (CRS) will oversee the construction monitoring program.

7.1.5 Public Access Restrictions

The Renewal Corporation will restrict public access during the drawdown and dam removal process through fencing/gates, public notification, and signage for purposes of public safety. Security measures include an on-site presence by security personnel during drawdown and decommissioning at construction areas. The Renewal Corporation will utilize existing fence and gates and erect additional fence and gates, as necessary, to temporarily or permanently restrict access to construction work areas.

Renewal Corporation/Kiewit On-Site Personnel

The Renewal Corporation and their prime construction contractor, Kiewit Corporation, will retain on-site personnel and other security measures during drawdown and decommissioning of dams for construction operations. Site safety personnel will be on-site for 10-hour work shifts, 6 days a week throughout the construction duration, excepting holidays.

Erect Fences/Barriers/Gates along Roadways

The Renewal Corporation will provide signage and erect vehicular access barricades to temporarily or permanently restrict access to roadway construction areas and at designated reservoir access points as applicable to construction areas. Locations of these temporary or permanent physical barriers will align with the construction areas per Kiewit's Construction Drawings fence layout.

7.1.6 Avoidance

The Renewal Corporation will coordinate appropriate avoidance of archaeological historic properties and unevaluated resources whenever possible. To ensure avoidance by ground-disturbing activity that will occur within 100 feet of a historic property or unevaluated resource, The Renewal Corporation's CRS will be responsible for flagging cultural No Work Zones, when feasible, at least 2 weeks prior to the planned construction activities. The CRS will establish a method for flagging to visibly delineate the site plus a buffer, such as lath staking with color-coded flagging tape or other similar method. Staking, flagging, and other markings used to identify historic properties will be removed as soon as possible after the undertaking has been completed and avoidance has been achieved. The Renewal Corporation will provide monitors and tribal advisors during ground-disturbing activities construction to ensure avoidance of these areas.

7.1.7 Strategic Routing of Access Roads, Recreation Sites, Livestock Operations

The Renewal Corporation has provided information to the States of Oregon and California on sensitive locations during planning for development of recreation areas and associated access roads to reduce or avoid impacts where feasible. The Renewal Corporation will continue to assist with strategically routing access roads and locating recreation sites during final design.

Livestock operations may affect archaeological sites through trampling and erosion. Cattle exclusion fencing is to be included in the DDP's Reservoir Area Management Plan and would prevent cattle access from reservoir restoration areas where they abut grazing land. The Renewal Corporation will continue to coordinate the Reservoir Area Management Plan fence installation with management of historic properties. If evidence of livestock impacts resulting from the Project is observed at a historic property that is supposed to be avoided, the Renewal Corporation will implement additional measures such as rerouting or modifying the fencing so that livestock would not impact the historic property.

7.1.8 Strategic Plantings

Strategic plantings may be used to naturally deter looting and vandalism by obscuring the ground surface and/or providing a physical deterrent. Although hydroseeding will occur immediately after the water drawdown, screening plants, or plants that naturally discourage use such as poison oak or thorny plants, may be appropriate to make areas leading to sensitive sites such as rock shelters or rock art less noticeable and less likely to be used by casual recreators or visitors. The Renewal Corporation will develop such plantings in coordination with the CRWG and the Restoration Plan.

7.1.9 Strategic Signage

The Renewal Corporation will use strategic signage to deter looting and vandalism. This measure can take many forms but will generally indicate that an area is closed to public use/access, stating ecological or natural resource restoration as the primary reason. These signs may directly address looting and vandalism by citing penalties and encouraging reporting of suspicious activities. These signs may also state that persons collecting, harming or destroying resources will be prosecuted under local trespassing laws. Informative signs that specify ARPA or state laws and penalties can be posted at entry or access points; this "posting" or "noticing" helps law enforcement convict looters. The Renewal Corporation will develop appropriate signs and locations in coordination with the CRWG and Restoration Plan.

7.1.10 Emergency Stabilization (Temporary Erosion Control)

Erosion control measures will use pre-approved methods of emergency stabilization for responding to an active erosion event affecting a historic property as a result of the Project. The Renewal Corporation will continue to coordinate cultural resources concerns with the Restoration Plan and Stormwater Pollution Prevention Plan (SWPPP). In the event active erosion is observed, the CRS will implement a pre-approved method in real-time and with limited consultation. Such methods for consideration include:

- Fiber logs/straw bales placed by hand (or heavy equipment staged in a low-impact location)
- Erosion control blanket
- Jute erosion control cloth
- Other ideas per erosion and sediment control specialists and SWPPP/Erosion Control Plan

7.1.11 Capping/Armoring

Archaeological testing of the site and reaching an NRHP eligibility determination may be preferable, or necessary, as an action in lieu of, or in addition to, capping or armoring a site. In some instances, capping or armoring sites can be considered an adverse effect. If shoreline armoring is deemed necessary and prudent, it should be applied as a component of a comprehensive long-term erosion control program. Any plan to test, evaluate, and define erosional forces should be coordinated with an archaeologist, geomorphologist, and erosion control specialist and the CRWG. Erosion at reservoir sites may be a combination of forces at the toe of underwater slopes. Erosion that is due to current, sloughing, liquefaction, seeps, and wave action may require different monitoring and stabilization techniques (Fay 1989; Keown et al. 1977; Thorne 1985).

Armoring may take the form of a bulkhead (a wooden or concrete wall-like structure) or a revetment (a structure combining filter cloth and graded layers of stones, with smaller stones armored with overlaying larger stones). Either of these methods retains or prevents land from sliding into the water or protects the landform from further wave damage. Other shoreline protection measures, such as emplacement of in-water wave booms, geotextile fabric on shorelines, or gabion baskets on shorelines, are useful methods to protect sites from fluctuating pool levels, which exacerbate localized erosion of exposed archaeological deposits.

Capping a site is typically a last-resort measure that is applied if other, less costly measures fail to protect the subject site or if an extremely harmful incompatible land use cannot be eliminated. Disguising or burying an archaeological site to make it less conspicuous and accessible is also an effective site protection strategy. Hydroseeding and mulch are already planned as part of the Restoration Plan and would help prevent looting/vandalism by obscuring exposed surface artifacts. Hydroseeding would be aerially dispersed along exposed landforms immediately after de-watering and before these areas can be safely accessed by foot. In addition, sediment may be naturally deposited over archaeological sites following the drawdown. A sediment covering may be considered a net benefit to protect near-surface resources from looting and vandalism.

The Renewal Corporation will also consider intentional capping of a historic property (i.e., dirt or gravel over geotextile fabric) as an emergency response to an incident of looting or vandalism. Prior to capping a resource in response to looting or vandalism, the Renewal Corporation will consult with the appropriate SHPO and the CRWG. Capping may be considered an effect to a historic property but is not necessarily adverse depending on the resource and methods used. The CRS will coordinate any capping of sites with the Renewal Corporation Erosion Control Specialists.

7.1.12 Limited Probing

The Renewal Corporation will consider limited probing at archaeological sites where site boundaries and constituents are undetermined. Inadvertent discoveries made at the time of construction, for example, may require expedient assessments to confirm status as isolated finds or archaeological resources, and to assess additional constituents that characterize the resource.

7.1.13 Emergency Data Recovery

For effects to archaeological sites that will be mitigated through data recovery, the Renewal Corporation will provide a research design that articulates research questions; data needed to address research questions; methods to be employed to collect data; laboratory methods employed to examine collected materials; and proposed disposition and curation of collected materials and records.

Mitigation protocols for direct effects to historic properties eligible for listing in the NRHP under criteria other than or in addition to Criterion D will articulate the context for assessing the properties significance, an assessment of the character-defining features that make the property eligible for listing in the NRHP, and an assessment of how the proposed mitigation measures will resolve the effects to the property.

Any needed emergency data recovery would be first discussed with the appropriate SHPO and affected Indian tribes, unless the situation is so time critical that the resource would be eroded before consultation could occur (i.e., during reservoir drawdown). In this scenario, the Renewal Corporation will follow a process similar to that outlined in 36 C.F.R. § 800.12 for Emergency Situations, which provides that if circumstances do not permit the appropriate days for comment, the Renewal Corporation shall notify the FERC, SHPO, tribes, and ACHP, and invite any comments within the time available (36 C.F.R. § 800.4.12 (b)(2)).

If an eligible or potentially eligible resource is at risk of imminent damage or destruction, and the CRS determines there are no feasible alternatives for site protection, the CRS will immediately enact an emergency data recovery program to recover as much of the at-risk site materials as possible. If emergency data recovery were needed on federal land, the associated land management agency would formally consult with the appropriate tribal government and SHPO. The CRS will write a data recovery report summarizing the results.

7.1.14 Alternative Mitigation

The Renewal Corporation will consider additional options in lieu of emergency data recovery. One alternative mitigation option may be an archaeological “data banking” program. For example, this could include the acquisition and preservation of an archaeological site(s) away from the Project area in return for doing little or no direct mitigation on the site(s) affected by the Project. Other measures for alternative mitigation may be suggested through the consultation process.

7.2 Treatment Measures – Built Environment

7.2.1 Hydroelectric Resources

National Park Service Documentation

The NPS program known as Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey (HABS/HAER/HALS) traces its origins to the act of Congress commonly known as the Historic Sites Act of 1935, now codified at 54 U.S.C. §§ 320101-320106, which, among things, directs the Secretary of the Interior to "secure, collate, and preserve drawings, plans, photographs, and other data of historic and archeologic sites, buildings, and objects" (54 U.S.C. § 320102(b)). Congress subsequently granted the Secretary additional authorities and responsibilities with respect to documenting historic properties, notably in the NHPA. More particularly, the NHPA directs the Secretary to promulgate regulations "establishing a uniform process and standards for documenting historic properties by public agencies and private parties for purposes of incorporation into, or complementing, the national historical architectural and engineering records within the Library of Congress" (54 U.S.C. § 302107). The NHPA defines "historic property" broadly to mean "any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register [of Historic Places]" (54 U.S.C. § 300308). The collection of national historical architectural and engineering records in the Library of Congress (LOC) is now known informally as the HABS/HAER/HALS collection (NPS 2016).

According to the NPS, the LOC represents the gold standard in caring for, and providing access to, our important documents, fulfilling the intent of the Historic Sites Act of 1935 and the NHPA. This is why Congress stipulated the "Architecture and Engineering Collection at the Library of Congress" as the final repository for mitigation documentation. Since the collection was designed to be "a complete résumé of the builders' art," as expressed by NPS landscape architect Charles Peterson in 1933, it is the appropriate repository for mitigation documentation of NRHP-listed or eligible sites of state and local, as well as national, significance (NPS 2016).

Based on the NPS guidance, the Renewal Corporation proposes HABS/HAER/HALS documentation as a critical treatment for mitigating the Project's adverse effects on the five NRHP-eligible hydroelectric historic districts evaluated in Section 6.2. the Renewal Corporation will ensure that these historic districts, the districts' contributing resources, and individually eligible resources within the districts are recorded following the HABS/HAER/HALS standards consistent with 54 U.S.C. §§ 302107 and 306103 and in consultation with the NPS. HABS/HAER/HALS documentation generally involves production of a historic narrative report, resource drawings, and large format photographs.

Marketing Plan for Potential Adaptive Re-Use

In addition to the HABS/HAER/HALS documentation described above, the Renewal Corporation will make a reasonable and good faith effort to develop, in consultation with consulting parties, a marketing plan for potential adaptive reuse of the Copco No. 2 powerhouse (historic), Fall Creek School (historic), and 12 operator residences (historic and non-historic) within the KRHP. The operator residences include two non-

historic ranch houses at J.C. Boyle (Oregon), a historic ranch bunkhouse at Copco No. 2 (California), four historic ranch houses at Copco No. 2, three non-historic modular residences at Copco No. 2, and two historic ranch houses at Iron Gate (California). Based on its massive size, the Copco No. 2 powerhouse (Figure 7-1) would remain in place for educational, recreational, or interpretive use. The Fall Creek School (Figure 7-2) and operator residences (Figure 7-3) would remain in place or be moved to other locations for residential, educational, commercial, or recreational use.

The marketing plan would define the terms under which the Renewal Corporation would be willing to sell the Copco No. 2 powerhouse, Fall Creek School, and operator residences to responsible and appropriate stewards. The marketing plan will be developed and implemented by the Renewal Corporation according to the following guidelines. The marketing plan will include an information package for the powerhouse, school, and operator housing that consists of historical background, building condition assessments, building and location photographs, terms of sale, federal historic rehabilitation tax credit guidance, and advertising plans. The information package will also describe methods for distributing the advertising plans, including press releases, criteria for review of offers, schedules, and public outreach measures. The marketing plan will include comparative analyses of adaptive reuse for similar facilities to inform the future reuse of the historic and non-historic properties.

Figure 7-1 Copco No. 2 powerhouse, shown in 2018 (left) and 1924 (right)

Once the Oregon and California SHPO's express agreement with the marketing plan, the Renewal Corporation will solicit offers for adaptive reuse of the powerhouse, school, and operator residences. If potentially qualified buyers are found, the Renewal Corporation will conduct a detailed review with potential buyers on the historic value of the buildings, where applicable. If the Renewal Corporation does not receive acceptable offers for adaptive reuse by the marketing plan deadline, the Renewal Corporation will consider long-term lease or donation of the buildings in their entirety. If all reasonable measures for adaptive re-use of the buildings fail, the Renewal Corporation, in consultation with the SHPOs, may proceed to remove the buildings in their entirety or transfer them without consideration of historic stewardship.

Figure 7-2 Fall Creek School, 2018 (left) and circa 1965 (right)

Prior to sale or removal, should the powerhouse suffer a significant structural failure, or should other conditions cause the powerhouse to pose a safety or environmental risk, the Renewal Corporation will notify the SHPOs, tribes, and interested parties within 72 hours of the determination of the risk or failure. the Renewal Corporation will then provide appropriate documentation regarding its findings of structural failure, or safety or environmental risk, to the SHPOs within 30 days of the initial notification. The Renewal Corporation may waive the requirements of the marketing or sale and may act to address the risk or failure. The Renewal Corporation will report its decisions and emergency actions to the SHPOs.

Interpretation

Following the LSO, the Renewal Corporation, in consultation with the Oregon and California SHPOs, will develop an interpretative plan featuring the KRHP and the interconnected history of hydroelectric energy and fish management in the region. The interpretative plan will address of methods of historic resource interpretation, plan implementation, and a proposed schedule. The historic resources interpretative plan will be developed in consultation with the SHPOs, tribes, regional historical societies and museums, preservation organizations, and other interested parties. Development and implementation of the historic resources interpretative plan by the Renewal Corporation will be started within 6 months of acceptance of the HPMP by the FERC.

As part of the interpretive plan, the Renewal Corporation will evaluate the Fall Creek Hatchery, which will be upgraded as part of the Project, as a potential site for interpretive materials. The hatchery already hosts a small visitor center next to the Klamath River, a picnic area, and parking facilities The Renewal Corporation will also evaluate the Klamath County Museum, Oregon Institute of Technology, Siskiyou County Historical Society, and other potential repositories for interpretive materials.

7.2.2 Transportation Resources

Based on survey and research, the only transportation resource within the ADI that is potentially NRHP-eligible is the Dry Creek bridge, associated with the construction of Iron Gate and the resulting realignment

of the county road. Mitigation for the potential adverse effects on Dry Creek bridge may be accomplished as part of the interpretive plan featuring the KRHP, of which Iron Gate is a contributing resource.

Figure 7-3 From top left and clockwise: modern bunkhouse (Copco No.2), ranch house no. 4 (Copco No. 2), operator residence no. 1 (Iron Gate), and operator residence no. 1 (J.C. Boyle)

7.2.3 Private Property Resources

The Renewal Corporation will conduct further survey and research to evaluate the NRHP eligibility of private property resources within the California part of the ADI, specifically commercial, residential, and recreational properties in Hornbrook, Yreka, and Montague. These are privately owned resources; therefore, the Renewal Corporation does not have control over their management or preservation. Should further investigation reveal that the Project will have a direct adverse effect on any NRHP-eligible private property resource based on significant changes to the historic setting, the Renewal Corporation will propose appropriate mitigation measures.

Chapter 8: Provisions for Additional Survey, Archaeological Monitoring, Inadvertent Discoveries, Treatment of Human Remains

8. PROVISIONS FOR ADDITIONAL SURVEY, ARCHAEOLOGICAL MONITORING, INADVERTENT DISCOVERIES, TREATMENT OF HUMAN REMAINS

8.1 Additional Survey – Post-Drawdown

Following completion of the Phase 2 Drawdown (expected start of January 1, 2023, and finish of March 15, 2023; see Table 2-1), The Renewal Corporation will complete archaeological field surveys of previously inundated areas as soon as field conditions are stabilized, as determined by the Project health and safety lead. These studies will be carried out using standard field survey techniques. Additional archaeological surveys will be led by a qualified crew chief and each crew may be accompanied by a tribal advisor. Newly exposed features and materials may be discovered and require further survey to complete recordation and NRHP evaluation. The archaeological crew will update existing site forms, revise maps, and photograph and record additional observations.

The CRS will follow accepted professional standards for documentation and reporting. The CRS will assess the sites for preliminary NRHP eligibility and consider potential Project effects following guidelines of this HPMP to identify at-risk potential historic properties requiring an immediate response and treatment measures (i.e., erosion control; site condition monitoring) and further consultation with FERC, the respective SHPO, potentially affected tribes, ACHP, and landowner. The Renewal Corporation will not consider resources identified during the post-drawdown survey that are not at risk for Project impacts for further NRHP evaluation or treatment measures.

The CRS will prepare a summary report within 6 months of completion of the Post-Drawdown archaeological survey. An interim memo will be sufficient for consultation purposes regarding identified at-risk potential historic properties requiring an immediate response.

8.2 Archaeological Monitoring

Appendix C, MIDP, details the Project's approach to monitoring. The Renewal Corporation will conduct two types of monitoring: construction monitoring and site condition monitoring. These methods of monitoring

achieve different goals and are therefore differentiated in the MIDP, although many of the response procedures will be the same.

8.2.1 Construction Monitoring

"Construction monitoring" refers to direct oversight of ground-disturbing activities by a qualified monitor/tribal advisor within areas where there is a high potential for inadvertent discoveries and/or where historic properties are known to exist and must be avoided. During construction, the Renewal Corporation will flag cultural No Work Zones and monitors will observe excavation and soil removal for the presence of cultural materials and features during ground-disturbing construction. Locations for construction monitoring will include (1) locations of medium to high sensitivity based on the geoarchaeological sensitivity model and impact areas and (2) buffered locations of historic properties, including unevaluated, eligible, and listed archaeological resources.

Construction monitoring is anticipated to begin in conjunction with Phase 1 Pre-Drawdown activities and extend through all subsequent phases of the Project. The CRS will prepare an annual summary report that includes the results of construction monitoring.

8.2.2 Site Condition Monitoring

"Site condition monitoring" refers to repeat, periodic site inspections to an individual archaeological site to assess changes over time to site integrity as a result of the Project. During repeat inspections, the CRS and monitor and/or tribal advisor will physically visit each at-risk archaeological historic property and document any observable changes on a standardized form. Periodic inspections may observe evidence of erosion, deflation, aggradation, looting and vandalism, or no discernible changes.

During Phase 1 Pre-Drawdown, the CRS/monitors will visit each historic property to document baseline conditions. During Phase 2 Drawdown, the CRS/monitors will complete weekly inspections of at-risk archaeological historic properties. The site condition monitoring schedule decreases in frequency over subsequent phases. See Appendix C, MIDP, Chapter 5 for the schedule.

The CRS will maintain a preliminary Site Inspection Summary Table that can be transmitted to consulting parties in a timely manner in the event treatment measures are needed for threatened or damaged sites. The table will include information such as site number, site type, eligibility status, monitoring date, water elevation (if applicable), site impacts or concerns, and recommendations. The CRS will prepare an annual summary report that includes the results of site condition monitoring.

8.3 Post-Review Human Remains Discoveries

Appendix C, MIDP, details the Project's approach to post-review human remains discoveries. ORS 97.750 and Section 7050.5 of the California PRC mandate that if Native American or potentially Native American remains are encountered, the appropriate SHPO, the state police or county medical examiner (coroner), and the appropriate federally recognized Indian tribe(s) must be contacted before any proposed excavations take

place. If human remains are found on Renewal Corporation property, whether during planned construction activities, authorized archaeological excavations, or because of natural processes, the Renewal Corporation will follow protocols outlined in Appendix C, MIDP, and will immediately notify local law enforcement and appropriate agency officials. The Renewal Corporation will help develop a treatment plan or similar document to guide the appropriate course of action, which may involve excavation and/or *in situ* stabilization of the human remains.

8.4 Post-Review Archaeological Discoveries

Although Renewal Corporation has taken adequate steps to identify historic properties within the ADI, additional archaeological materials could be encountered during construction or in conjunction with drawdown activities. Appendix C, MIDP, details the Project's approach to post-review archaeological discoveries. The MIDP:

- Describes the procedures the Renewal Corporation and Project personnel will follow if confronted with unanticipated post-review archaeological discoveries;
- Complies with applicable federal and state laws and regulations, particularly 36 C.F.R. § 800.13(a)(2)(b) (Post-Review Discoveries) of the regulations that implement Section 106 of the NHPA of 1966, as amended; and
- Complies with AB 52 Mitigation Measure TCR-3 – Develop and Implement an Inadvertent Discovery Plan.

In the event an archaeological resource is discovered as a result of implementation of the Project, the CRS will make an initial assessment of the potential significance of the discovery based on NRHP eligibility per 36 C.F.R. § 800.4(c). For post-review discoveries, the Renewal Corporation and FERC, in consultation with the SHPO/THPO, may assume a newly discovered property to be eligible for the NRHP for purposes of Section 106 (36 C.F.R. § 800.13(c)). Alternately, Section 8.6, *NRHP Evaluation of Archaeological Sites*, provides a process for a more comprehensive NRHP evaluation that includes subsurface excavation.

As outlined in the MIDP, the Renewal Corporation will notify FERC, SHPO, tribes that might attach religious and cultural significance to the affected property, ACHP, and the landowner within 48 hours of the discovery with the assessment and if appropriate, any actions to resolve adverse effects (36 C.F.R. § 800.13(b)(3)). The Renewal Corporation will provide an Archaeological Treatment Plan to the FERC, SHPO, affected tribes, the ACHP, and landowner outlining proposed measures to resolve adverse effects within 2 working days of the Renewal Corporation's determination of effect on an eligible property. See Section 8.7, *Resolution of Adverse Effects to Archaeological Sites*.

8.5 Exemptions to this Process during Drawdown

Reservoir drawdown activities will not be able to stop once initiated. If a post-review discovery is made in the affected drawdown zone, suspending or stopping work to further assess a site and consult with agencies

and tribes will not be possible. The periods of review outlined above will not be practicable for protection of at-risk resources discovered during the reservoir drawdown.

In this scenario, the Renewal Corporation will follow a process similar to that outlined in 36 C.F.R. § 800.12 for Emergency Situations, which provides that if circumstances do not permit the appropriate days for comment, the Renewal Corporation will notify the FERC, SHPO, tribes, ACHP, and landowner and invite any comments within the time available (36 C.F.R. § 800.4.12 (b)(2)). The Renewal Corporation will authorize the CRS to use immediate measures to protect the discovery location (i.e., pre-approved temporary emergency stabilization) on a case-by-case basis, with only minimal consultation.

8.6 NRHP Evaluation of Archaeological Sites

During construction, the Renewal Corporation may need to evaluate archaeological resources for NRHP eligibility. Scenarios for which a comprehensive NRHP eligibility evaluation may be necessary include the following:

- When resources are potentially affected by erosion
- When resources are potentially affected by looting and/or vandalism
- When resources will be transferred out of Renewal Corporation authority through transfer, sale, or lease of the physical property within which they are contained
- When Project elements are anticipated to affect historic properties
- When post-review discoveries are made

For confirmed archaeological discoveries during construction, the Renewal Corporation will first assess the potential significance of the discovery based on NRHP eligibility per 36 C.F.R. § 800.4(c). Potential archaeological resources may be initially evaluated for significance according to Criterion D (i.e., the potential to yield information important in prehistory or history) and site integrity; however, all four NRHP Criteria would be considered for a comprehensive evaluation. In the field, data requirements to verify eligibility under Criterion D would include the need for an adequate archaeological context in the form of intact archaeological strata, features with discernible relations, and diagnostic artifacts that could establish a time frame. For archaeological interpretation, it is important that the physical context not be disturbed or mixed, if practicable, otherwise the associations between site components that make reasonable interpretation possible are lost.

8.6.1 Research Design

The importance of the information that a Criterion D property is likely to yield is measured by the resource's ability to address specific research questions. Research questions are the specific questions a researcher might ask within any historic context. As highlighted in *National Register Bulletin 36, Guidelines for Evaluating and Registering Archaeological Properties* (Little et al. 2000), research questions are dynamic and affected by current research domains in anthropology and archaeology. For a site to be eligible it need not answer multiple important questions; in fact, one question is sufficient (Little et al. 2000). Ultimately,

there must be a clear link between a theoretical orientation, the research questions that come from that orientation, and the data available to test the questions or theories.

The appropriate way to present research questions is within a research design. The State of Oregon archaeological permit process requires a research design be presented as part of the permit application, and California SHPO and the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation also recommend that archaeological investigations be guided by a research design. The research design should present the historic context of the site, what information is currently known, what information is anticipated within archaeological deposits, the field and laboratory methods for obtaining this information, and the method of reporting this information. The Research Design and Testing Plan prepared for the pre-decommissioning Phase II NRHP evaluation of known Project sites serves as the framework for development of a research program for resources identified during or after decommissioning (AECOM 2020).

8.6.2 Subsurface Excavations

For the duration of the MOA implementation, the Renewal Corporation's approach will be to avoid resources wherever feasible. When avoidance is not possible, the Renewal Corporation will consult with FERC, SHPO, ACHP, tribes that might attach religious and cultural significance to the affected property, and landowners to determine whether any specific actions, cultural, or natural processes have the potential to affect resources deemed potentially eligible and whether archaeological evaluation is necessary. The Renewal Corporation will decide whether to conduct archaeological investigations to determine site eligibility on a case-by-case basis following procedures outlined in the MIDP (Appendix C).

Permitting

Following federal law, any excavation on federal land requires an ARPA permit. Following state law in Oregon (ORS 358.920(1)(a) and ORS 390.235), an archaeological excavation permit is needed to conduct archaeological investigations within known sites on non-federal public or private land;[5] a similar requirement is not stated in California state law.

The Renewal Corporation will complete the requirements for obtaining an archaeological excavation permit under state and federal regulations. A research design will be prepared that identifies the historic context, preliminary research questions, and methodologies that will be employed to evaluate the resource(s) for eligibility to the NRHP. The appropriate SHPO and tribe(s) will have the opportunity to comment on the research design. Once the appropriate permit is obtained and all comments on the research design have been addressed, the Renewal Corporation will implement the research design. The Renewal Corporation will work with the appropriate SHPO and tribe(s) to provide information regarding the results of the investigations on a schedule to be determined by the specific needs for each site being evaluated.

[5] Detailed instructions on how to apply for an archaeological permit in the State of Oregon can be found at: http://www.oregon.gov/OPRD/HCD/ARCH/arch_excavationperms.shtml.

Methods

Archaeological sites that cannot be fully evaluated based on visible archaeological remains may be tested using subsurface investigation techniques to determine whether those remains exist. Subsurface techniques typically include, but are not limited to, shovel tests, test units, hand or mechanically excavated test trenches, mechanical stripping to identify features, large-scale "block" excavations, and geophysical borings.

Hand-excavated subsurface tests may measure no less than 50 by 50 centimeter square. One- by one-meter test units are the standard technique, but larger test units may also be appropriate. In some cases, round, 30-centimeter-diameter shovel probes may be proper for determining or verifying site boundaries. Levels will typically be excavated in 10-centimeter arbitrary units, or stratigraphically, once site stratigraphy has been determined. Soils removed during excavations should be passed through 1/8th-inch hardwire mesh screen; however, other screen sizes may be appropriate depending on the goals of the research design and the research questions to be addressed.

All sites subject to excavation will have an established site datum that can be relocated in the future. The datum is the mapping point to which all horizontal and vertical site data are associated to allow for re-creation of the site's horizontal and vertical measurement. A site grid will be established, and all excavation units should be numbered with reference to the grid. Provenience information (referencing the grid coordinates and depth of excavations) will be recorded for all archaeological materials collected. In many cases, special samples may be taken as well, particularly those that could aid in the assessment of the site's significance and integrity. Radiocarbon-14 samples, for example, would aid in establishing the chronological age and period of significance of the site.

Once archaeological materials are collected, they must be analyzed appropriately within the confines of the research design. Artifact analysis for NRHP significance evaluation need not be as exhaustive as for data recovery investigations because the level of effort necessary for significance evaluation is to show the research potential of the site, not necessarily to fully investigate that potential. Generally, certain laboratory procedures will be followed. All artifacts will be bagged in 4-millimeter self-sealing polyethylene bags. A descriptive tag will be enclosed in each artifact bag denoting the provenience information. Artifacts will be bagged by provenience and by artifact class. Identification tags for boxes or bags will be prepared. Tags will be made of an inert, waterproof, archivally sound material and marked with ink that is fade-proof, waterproof, and archivally stable. The bags containing the artifacts will be labeled as well. All information on the exterior of the bag will be repeated on an internal tag of the type described above.

Artifact analysis will follow appropriate regional classification schemes and typologies. Certain basic attributes will be recorded, including provenience, material (e.g., lithic, ceramic, glass), class (e.g., projectile point, sherd, bead), count and/or weight, as appropriate, dimensions, if appropriate, type (e.g., Clovis, Creamware, etc.), and noteworthy attributes (e.g., form, decoration, method of use, internal or external dating). Additional, more detailed information, such as artifact weight, dimensions, specific ware patterns, and other attributes may also be appropriate depending on the goals of the specific research design. The collection and storage of all artifacts will be consistent with Oregon and California state guidelines as well as those of 36 C.F.R. Part 79.

Reporting of the results of the site evaluations will follow available federal and state reporting guidelines. Data presented in the report will include, but not be limited to, photographs and maps depicting the horizontal and vertical extent of archaeological deposits and their integrity, a map showing the site's boundaries on a topographic map, artifact analysis by horizontal and vertical provenience, a discussion of the site's potential to address the research questions outlined in the research design, and an updated site form.

8.6.3 Schedule and Reporting

As considered separately from post-review discoveries for which an initial assessment is expediently made, the schedule for potential subsurface NRHP evaluative testing is expected to vary, depending upon the need for federal or state permitting, the level of effort required to complete the excavation, and other factors. Typically, a minimum of 30 days is required for agencies to issue a new standard permit for excavation, if not already in place, although expedited permitting is possible. The Renewal Corporation will pursue expedited permitting only when there is an imminent and unavoidable threat to an archaeological resource.

The CRS will document the methods and results of any NRHP evaluations in the annual summary report. As needed, the CRS may prepare an interim memo sufficient to advance the consultation process to resolve adverse effects for an individual site.

8.7 Resolution of Adverse Effects to Archaeological Historic Properties

Adverse effects can occur when precontact or historic archaeological sites, structures, or objects listed in or eligible for listing in the NRHP are subjected to the following effects:

- Physical destruction of or damage to all or part of the property
- Alteration of a property
- Removal of the property from its historic location
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features
- Neglect of a property that causes its deterioration
- Transfer, lease, or sale of the property

8.7.1 Archaeological Treatment Plans

In accordance with the Section 106 process to resolve an adverse effect upon discovered resources that are eligible for the NRHP (36 C.F.R. § 800.6), and in cases where avoidance and minimization is not possible, The Renewal Corporation will prepare Archaeological Treatment Plans to mitigate or avoid adverse effects to

identified archaeological historic properties, including inadvertent discoveries which may be assumed to be eligible for the purposes of Section 106 (36 C.F.R. § 800.13(c)). The Archaeological Treatment Plans will describe the affected historic property, including information on the characteristics that qualify it for the NRHP; a description of the undertaking's effects; an explanation of why the criteria of adverse effect are applicable, and conditions or future actions to avoid, minimize or mitigate adverse effects (36 C.F.R. § 800.11). Additional standards and guidelines may be identified by FERC and/or the CRWG during the Section 106 process.

8.7.2 Schedule and Reporting

For post-review discoveries, the Renewal Corporation will provide an Archaeological Treatment Plan to the FERC, SHPO, tribes that might attach religious and cultural significance to the affected property, ACHP, and landowners outlining proposed measures to resolve adverse effects within 2 working days of the Renewal Corporation's determination of effect on an eligible property. The CRS will select proposed treatment from the treatment measures listed in Chapter 7, *Mitigation and Management Measures*.

These parties will have up to 2 working days upon receipt to review and provide comments and/or objections to FERC. If revisions are needed, SHPOs will have 2 working days to review the revisions.

Once finalized, the Archaeological Treatment Plans will be provided to FERC, SHPO, affected tribes, ACHP, and landowners. The Renewal Corporation will authorize Start Work once the archaeological treatment plan requirements are satisfied, in consultation with FERC, SHPO, affected tribes, ACHP, landowners, and other consulting parties.

The CRS will prepare a summary report on the methods and results of the treatment measures within 6 months of completion of the measures. The report will be addressed to the SHPOs. The Renewal Corporation will provide a Draft Report for review to the FERC, SHPOs, affected tribes, ACHP, and landowners. After a 30-day review period, the Renewal Corporation will make revisions and provide a Final Report to each of these parties.

8.8 Response to Looting and Vandalism Incidents

Appendix D, LVPP, provides procedures to follow after an observation of looting or vandalism. The LVPP also describes the Renewal Corporation's approach to preventing such incidents, including public education, a "See and Say" reporting and reward program, and law enforcement coordination. The LVPP complies with AB 52 Mitigation Measure TCR-2 – Develop and Implement a Looting and Vandalism Prevention Program.

The CRS will report any incidences of the looting and vandalism to law enforcement, FERC, SHPO, tribes, ACHP, and landowners within 24 hours of the incident. The notification will provide observations and share the actions that have been taken regarding the affected resource, and recommendations.

In coordination with law enforcement, the CRS will make an initial Damage Assessment of the disturbance, and provide an assessment of NRHP eligibility for any resources that are unevaluated, and provide this

information to the FERC, SHPO, tribes, ACHP, and landowners within 1 week of the incident. The FERC, SHPO, tribes, ACHP, and landowners will respond within 1 week of receipt of the Damage Assessment and eligibility recommendation.

If SHPO concurs that the damaged resource is eligible, the Renewal Corporation will provide an Archaeological Treatment Plan and proposed mitigation measures to FERC, SHPO, tribes, ACHP, and landowners within 2 working days of receipt of concurrence. FERC, SHPO, tribes, ACHP, and the landowners will respond to the Renewal Corporation within 2 working days with recommendations. The Renewal Corporation will consider the recommendations in coordination with FERC.

The CRS will prepare a summary report on the methods and results of the treatment measures within 6 months of the completion of the measures. The report will be addressed to the SHPOs. The Renewal Corporation will provide a draft report for review to the FERC, SHPOs, affected tribes, ACHP, and landowners. After a 30-day review period, the Renewal Corporation will make revisions and provide a Final Report to each of these parties.

8.9 Provisions to Protect Confidentiality

The Renewal Corporation has taken several steps to ensure the confidentiality of known cultural resources in compliance with NHPA (as found in 54 U.S.C. § 307103(a)), as implemented in 36 C.F.R. § 800.11(c)). The NHPA requires that federal agencies shall withhold from public disclosure information about the location, character, or ownership of a historic property when disclosure may cause a significant invasion of privacy; risk harm to the historic property; or impede the use of a traditional religious site by practitioners. In addition, when considering the presence of cultural resources located on federal properties within the APE, federal agencies are required under the ARPA to ensure that the "nature and location of archaeological resources" be held as confidential. Additionally, the USFS, in its role as the Cultural and Heritage Cooperation Authority under Section 8106 of the 2008 Farm Bill, must hold as confidential information related to sacred sites, resources, as well as cultural items or uses.

To ensure that the state and federal agencies remain in compliance with these statutes and regulations, the Renewal Corporation shall keep information regarding the location and contents of archaeological historic properties confidential, following current professional standards and the requirements of the laws, to reduce the risk of purposeful looting or vandalism. The Renewal Corporation shall work to ensure that contractors are sensitive to the confidentiality requirements under the NHPA and ARPA. The Renewal Corporation shall only release such information on a "need to know" basis only and in consultation with the CRWG and FERC. If FERC or members of the CRWG have concerns about the release of potentially sensitive information, FERC shall seek the input of the ACHP and Secretary of the Interior, in consultation with the tribes, SHPOs, and consulting parties consistent with 36 C.F.R. § 800.11(c). Following this consultation process, the ACHP shall provide its advice to the Secretary and FERC of its decision.

8.10 Curation of Artifacts and Documents

Collections from previous investigations on BLM-managed lands in Oregon and California and on PacifiCorp lands in California currently reside in a variety of locations, including the following:

- Several artifact collections are managed by the Research Division and housed at the Natural History Museum in the University of Oregon, Geology Department. These collections include those from the work of Luther S. Cressman in the Upper Klamath River Canyon in the 1950s and 1960s, Frank Leonhardy at CA-SIS-326, and Joanne Mack in the Upper Klamath River Canyon (including extensive excavations at CA-SIS-1721) since the early 1990s.
- Collections by BLM personnel and contractors have been limited, but some minor collections and/or field notes and primary data from the Project area are held in the Redding and Klamath Falls Resource offices.

The Renewal Corporation will place archaeological collections owned by PacifiCorp that are temporarily in the possession of individual researchers and/or universities located outside the Oregon/Northern California region into permanent curation, at a facility that meets the requirements of 36 C.F.R. Part 79 (Curation of Federally Owned and Administered Archaeological Collections) such as the University of Oregon's Museum of Natural and Cultural History, unless an alternate facility is identified during consultation and approved by FERC, CA and OR SHPOs, USFS, BLM, and affected Tribes. If the museum facility at the Klamath Tribes headquarters meets the standards of 36 C.F.R. Part 79, the Renewal Corporation could arrange for curation with the Klamath Tribes.

The Renewal Corporation will also place any new collections obtained through the Project into this same facility. The collection will include artifacts, field documents, and photographs and will adhere to the standards for curation.

Artifact recovery may continue past the surrender license. The Renewal Corporation will complete curation within one year of completion of all analysis and reporting conducted as a result of mitigation of Project impacts.

Chapter 9: Other Programs

9. OTHER PROGRAMS

The following sections discuss other programs the Renewal Corporation will consider.

9.1 Law Enforcement Coordination and Agency Training Opportunities

As described in Appendix D, LVPP, for the period of the applicability of this HPMP, nearly all at-risk archaeological historic properties fall on private land that will be administered by the Renewal Corporation. Law enforcement response would therefore be expected to lie primarily with the Siskiyou County Sheriff's Office (California) and Klamath County Sheriff's Office (Oregon) for vandalism and looting observations. The Renewal Corporation will also communicate to the extent feasible with additional state and federal law enforcement personnel, including USFS law enforcement officers, BLM rangers, California and Oregon fish and wildlife officers, and Oregon state parks staff, who have jurisdiction or routine patrol capabilities along the river corridor.

County Law Enforcement Outreach/Training Program

No less than 6 months prior to construction activities, the Renewal Corporation will reach out to the Siskiyou County Sheriff's Office and Klamath County Sheriff's Office to identify a primary point of contact to respond to an incidence of looting and vandalism. The Renewal Corporation Project management and the CRS and members of the Project's CRWG will request a meeting with the proper law enforcement personnel to discuss concerns and strategy for reporting and timely law enforcement response to archaeological crimes.

State Law Enforcement (State Patrol)

For the period of the applicability of this HPMP, response by state law enforcement agencies (Oregon State Police and California State Highway Patrol) is not anticipated for looting and vandalism crimes. The exception might be if human remains are involved, in which case human remains findings are reported to the state police. This is covered in Appendix C, MIDP. However, to ensure that local law enforcement is collectively aware of the problem, the CRS will also report any incidences of looting and vandalism to state law enforcement.

Federal Law Enforcement

The ADI has little land in federal ownership, and therefore looting and vandalism of sites affiliated with the Project have only limited ability to pertain to federal laws and regulations. However, some laws such as trafficking could invoke a federal law enforcement response even if not on federal land. The BLM/USFS heritage managers will be actively involved in any law enforcement activity regarding at-risk sites on federal land. However, to ensure that local law enforcement is collectively aware of the problem, the CRS will also report any incidences of looting and vandalism to federal law enforcement.

The Renewal Corporation will provide for the opportunity for periodic training of local law enforcement officers and agencies (e.g., Klamath County, Oregon, and Siskiyou County, California, law enforcement) to enhance their knowledge and understanding of state and federal laws protecting historic properties, human burials, and other cultural resources. The Renewal Corporation may sponsor such training sessions or may provide grants to local agencies for officers to attend existing training programs. The Renewal Corporation shall coordinate with the CRWG prior to providing this training.

9.2 Public Education

Renewal Corporation will implement education and interpretation activities. These activities are intended to help members of the public understand the importance of cultural and natural resources. Education efforts with the general public will include the development and distribution of various materials and programs.

The Renewal Corporation will develop a general educational brochure about the need to protect archaeological sites and other cultural resources. One or more drafts of this brochure will be provided for review and comment to the tribes and the California and Oregon SHPOs. The Renewal Corporation will make the brochure available at Project recreation facilities and will provide copies of it at public speaking engagements that include mention of cultural resources. Other possible actions might include preparation of a historic road tour kiosk/guide, a traveling interpretive display (for schools, libraries, public events), publication and distribution of small booklets, and implementation of a site stewardship program ("adopt-a-site") with qualified volunteers.

Potential interpretive displays will educate visitors about the Klamath River region and the Project, including the archaeology and history of the region, and effects of the dams and decommissioning process from a tribal perspective. Displays or brochures may be developed through this information to educate the public about these resources, and the laws that protect them and penalties for violation.

9.3 See-and-Say Program

Prior to the start of Phase 1, the Renewal Corporation will provide a designated Renewal Corporation phone number for public reporting of suspicious looting and vandalism observations (“If you see something, say something!”). The Renewal Corporation will post signs along major access routes, at public education kiosks, and in areas where looting and vandalism occurs. The signs will provide the following type of language:

- *Cultural resources are important to our heritage and are protected by law. No digging or artifact collecting is permitted.* (Signs will cite laws and penalties for violations so that suspects cannot say they were ignorant of the laws.)
- *If you see suspicious looting or vandalism activities, call* [Renewal Corporation phone number to be determined]. *Report who you saw, what you saw, when you saw it, where it occurred, and why it is suspicious.*
- *The Renewal Corporation is offering a $1,000 reward to informants whose tips lead to the identification, citation, or arrest of a looter or vandal.*

9.4 Culturally Significant Plant Enhancement Program

The culturally significant plant enhancement program will be part of the Restoration Plan's Vegetation Management Plan. The Renewal Corporation will incorporate and enhance native plant species that are culturally significant to Native Americans into Project-related re-vegetation projects. The Renewal Corporation has consulted with interested tribes in the selection of appropriate native species and planting sites. In cooperation with interested tribes, BLM, and USFS, The Renewal Corporation shall provide opportunities to tribal members and interested members of the public to assist in maintaining these native plants and in harvesting food and other products from these plants.

9.5 Endowment

In compliance with AB 52 Mitigation Measure TCR-4 – Endowment for Post-Project Implementation, the Renewal Corporation will provide funding for an endowment or other for appropriate organization (e.g., a non-profit mutual benefit organization) to protect and enhance TCRs that are exposed due to the Project implementation on state and private lands in California, on a long-term basis following license surrender. This endowment shall include funding for monitoring, including supplementing or enhancing law enforcement resources, and shall also be available to cover measures that will be implemented following license surrender, including measures related to looting and vandalism protections. The endowment shall be governed in a manner that is representative of Affected Tribes that are traditionally and culturally affiliated with the TCRs impacted by Project implementation. The Renewal Corporation shall consult with Affected Tribes, with the assistance of the standing mediator, to develop the specifications for funding and governance and development of the Tribal Cultural Resources Management Plan.

9.5.1 Tribal Stewardship Program

An inter-tribal stewardship program may be initiated by participating CRWG tribes. The Renewal Corporation will facilitate inter-tribal access to the Parcel B lands for the duration of its ownership responsibilities for the purposes of tribal site condition monitoring, ceremonial, spiritual, and fisheries, plant harvesting, or other traditional uses. Access by individual tribal members to such resource areas after the Renewal Corporation's obligations end would be coordinated through the Tribal Stewardship Program to the post-Renewal Corporation landowner(s).

The goal of the Tribal Stewardship Program would be continuation of site condition monitoring and patrolling, as well as providing protection of other traditional and customary places, spiritual, cultural, and medicinal places that may or may not have an archaeological component.

9.5.2 University Student Scholarship Program

The Renewal Corporation may reach out to the University of Oregon, Klamath Falls Community College, Humboldt State University, or other regional university and discuss funding a scholarship program for a

graduate student studying a discipline related to Native American studies, anthropology, history, fisheries, wildlife, etc. as related to the Klamath River.

9.5.3 Recreation Education Program

The Renewal Corporation may endow a non-profit group affiliated with rafting, fishing, or other recreation activities to promote preservation of cultural resources through education of recreationalists and voluntary stewardship (reporting of any observations of suspicious looting/vandalism to the Tribal Stewardship Program).

Chapter 10: Implementation Procedures

10. IMPLEMENTATION PROCEDURES

The Renewal Corporation will manage historic properties in the Project area in a spirit of partnership among the tribes that have been involved with the licensing process, BLM Klamath Falls Resource Area, BLM Redding Field Office, California SHPO, and Oregon SHPO. Management measures address the impacts identified in Chapter 6, as well as such long-term issues as monitoring, archaeological site protection and data recovery, operations and maintenance, Project developments, curation, and education.

10.1 HPMP Coordinator (Renewal Corporation Cultural Resources Specialist)

The Renewal Corporation will manage historic properties and potential effects to those properties in compliance with applicable FERC regulations, AB 52 mitigation measures, and other federal and state cultural resource laws. The Renewal Corporation will appoint or hire a staff member as the Project's CRS. This individual will be responsible for administering the HPMP. The person who holds the position will have local knowledge of the cultural resources in the Project area, working familiarity with state and federal cultural resource protection laws and regulations, and experience in cultural resources management.

10.2 Staff Training

The Renewal Corporation will educate on-site staff involved in ground disturbance. This program will include training for Project staff that interact with the public or conduct activities potentially affecting historic properties. The Renewal Corporation will sponsor the attendance of a tribal representative at each training session. The training will provide information on the nature of cultural resources, their importance to science and the tribes, the laws and regulations governing effects to the resources, and the measures contained in the HPMP.

10.3 Internal Review Procedures

10.3.1 Archaeological Resources

Although most of the lands within the ADI will have been surveyed, future actions may warrant pre-construction review. Changes in surface conditions (caused by reservoir drawdown, changed vegetation cover, etc.) may expose archaeological resources in areas where current survey results indicate that no archaeological resources are present. The Renewal Corporation will conduct a thorough review of all new actions responsive to unforeseen circumstances; this will include checking existing data and maps, applying archaeological surveys and site monitoring protocols noted in the MIDP and LVPP, and implementing provisions of this HPMP (for example, employing avoidance measures, conducting investigations to

determine resource eligibility for listing in the NRHP, implementing data recovery if other measures are not feasible, and monitoring construction activities).

To ensure that unanticipated future actions do not harm historic properties, the Renewal Corporation will take the following actions to protect NRHP-eligible and listed historic properties, as well as California Register-eligible resources subject to mitigation measures agreed to as part of the AB 52 process:

- The Renewal Corporation's CRS will consult maps of historic properties to note whether any occur in or near the LOW. The CRS will work with the staff members in charge of planning work within the LOW to avoid affecting historic properties. If avoidance is not feasible, the Renewal Corporation will follow procedures to resolve adverse effects. See Section 8.7, *Resolution of Adverse Effects to Archaeological Historic Properties*.
- If a potentially NRHP-eligible or California-eligible resource is located within 100 feet of a planned decommissioning action, the Renewal Corporation will make every effort to designate a protective buffer. The CRS will arrange for a qualified professional archaeologist and appropriate tribal representative to perform monitoring of ground-disturbance activities that could affect archaeological materials. If the construction encounters archaeological materials or human remains, the Renewal Corporation will follow protocols discussed in Appendix C, MIDP.

Traditional Cultural Properties/ResourcesPacifiCorp has sponsored ethnographic studies within the proposed FERC Project boundary (2003–2004). The Renewal Corporation will continue to consult with FERC, SHPO, and affected Indian tribes to ensure that measures are taken to avoid impacts to NRHP-eligible TCPs and California state-eligible TCRs. The Renewal Corporation will consult with BLM and USFS if such resources are identified on their respective lands.

10.3.2 Built Environment

Impacts to the built environment (buildings and structures) will be mitigated under the MOA. Therefore, review procedures are not anticipated, and rehabilitation standards and an oversight protocol are not applicable for this HPMP.

10.3.3 Exempt from Review

The Renewal Corporation will consider certain activities as exempt from further review under the HPMP because they possess little to no chance of affecting historic properties. Such actions require no documentation or consultation with stakeholders. These include:

- Ground disturbance in areas that have already been surveyed where no archaeological sites have been identified,
- Disturbance outside the known boundaries of previously identified archaeological sites, and
- Modifications to ineligible/noncontributing buildings or structures.

10.4 Actions Requiring Consultation

Project activities requiring additional consultation with the SHPO/THPO, Indian tribes, federal land managers, and others under the HPMP include:

- Post-review discoveries, and
- Resolution of adverse effects to post-review discoveries or other potentially affected resources.

10.5 CRWG Consultation – Project Milestones

In addition to consultation undertaken for post-review discoveries, incidents of looting and vandalism, and site condition monitoring alerts, the Renewal Corporation will consult with representatives of the CRWG at the onset of each decommissioning phase to discuss the status of historic properties management, plans for management activities during the upcoming phase, and potential future modification to management measures. Table 10-1 describes the current proposed scheduling for these periodic meetings. Scheduling is subject to change; however, the Renewal Corporation will ensure meetings are scheduled at least 3 months prior to the start of each Project phase.

Table 10-1 Project Milestone Consultation Meetings Schedule

Milestone Triggering Consultation Meeting	Expected Start (Earliest, Any Development)	Expected Finish (Latest, Any Development)	CRWG Meeting Schedule (3 Months Prior to Milestone Expected Start)
Phase 1 (Pre-Drawdown)	July 2022	January 2023	April 2022
Phase 2 (Drawdown)	January 1, 2023	March 15, 2023	October 2022
Phase 3A (Post-Drawdown Facility Removal)	March 2023	October 2023	December 2022
Phase 3B (Post-Drawdown Site Restoration and Ancillary Site Improvement Activities)	January 2022	September 2024	October 2021* October 2022 (combined with Phase 2 meeting) October 2023

*Source: Compilation of tables in Chapter 5 of the DDP (Renewal Corporation 2020), using the earliest start and latest finish dates for any development. * Some site restoration activities will begin as early as January 2022, while others will occur post-drawdown.*

10.6 Status Update Emails

To ensure communication, the CRS will email periodic status updates to FERC, SHPO, affected tribes, and ACHP regarding current construction activities and an overview of any cultural resources responses while the decommissioning is underway. Periodic updates may occur on a monthly or other periodic basis but on no less than a quarterly basis.

10.7 Annual Reporting

The Renewal Corporation will provide an annual written report to both California and Oregon SHPOs during the fourth quarter of every calendar year summarizing the status of cultural resource management activities for the Project. The first report will be filed in the first year after Phase 1 activities begin (anticipated 2022). The annual report will summarize potentially affected historic properties, including any avoidance, NRHP evaluations, or mitigation measures. The Renewal Corporation will discuss consultations, reports of looting or vandalism and resultant measures to address them, and planned activities for the upcoming year.

The Renewal Corporation will provide a Draft Report for review to the FERC, SHPOs, affected tribes, ACHP, and landowners. After a 30-day review period, The Renewal Corporation will make revisions and provide a Final Report to each of these parties.

10.8 Coordination of Other Plans

Additional plans that may involve ground disturbance include, but are not limited to, the following:

- Recreation Plan
- Reservoir Restoration Plan
- Fire Management Plan
- Emergency Response Plan

The Renewal Corporation will ensure coordination of these plans with this HPMP in order to minimize accidental disturbances to historic properties associated with implementation of those plans.

10.9 Adoption of the HPMP through a Memorandum of Agreement

The Renewal Corporation is implementing this HPMP as a term of the MOA executed among the Renewal Corporation, FERC, and California and Oregon SHPOs. The MOA stipulates the preparation of this HPMP.

10.10 Amendment Procedures

Situations may arise during the license surrender period warranting revision to the HPMP. HPMP revisions proposed by interested parties (agencies, SHPOs/THPOs, tribes, and MOA signatories) may be directed to the Renewal Corporation's CRS, who will respond to requests for revisions to the plan within 15 business days. Where possible, the Renewal Corporation and the interested party may negotiate changes as appropriate and warranted in accordance with changing conditions and situations as they arise. Examples include changes to the APE, major changes in the federal (or state) laws and/or regulations, or discovery of new sites that require treatments beyond those described in the HPMP. The Renewal Corporation will provide a draft copy of the revised HPMP, highlighting the proposed changes, to the tribes, SHPO, and FERC

for review and then make revisions based on review comments. FERC will have the authority to approve any changes to the HPMP.

New parties may emerge in the future and request to be included in consultation. The Renewal Corporation will include and consult with these parties in the same way as the signatory parties.

10.11 Dispute Resolution

Consulting parties will have an opportunity to dispute the MOA or HPMP over the life of the surrender license. A dispute is initiated by filing a written objection with FERC. Upon such a filing, FERC will consult with the objecting party, and with other parties as appropriate, to resolve the objection. FERC may initiate, on its own, such consultation to remove any of the objections. If the Commission so determines, the Commission will forward all documentation relevant to the dispute to the Council and request that the Council comment. The Council shall provide the Commission with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the Commission shall prepare a written response that takes into account timely advice or comments regarding the dispute from the Council and consulting parties and provide them with a copy of this written response. The Commission will then proceed with its final decision. If the Council does not provide its advice regarding the dispute within the thirty (30)-day time period, the Commission may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the Commission shall prepare a written response that takes into account timely comments regarding the dispute from the consulting parties and provide the consulting parties and the Council with a copy of the written response.

Disputes related to Determinations of Eligibility for the NRHP will be resolved consistent with the procedures contained in 36 CFR § 800.4(c)(2).

10.12 Schedule

The schedule for completing all actions required in the HPMP is pending FERC discussion and the MOA,.]

Chapter 11: References

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Chapter 12: List of Preparers

12. LIST OF PREPARERS

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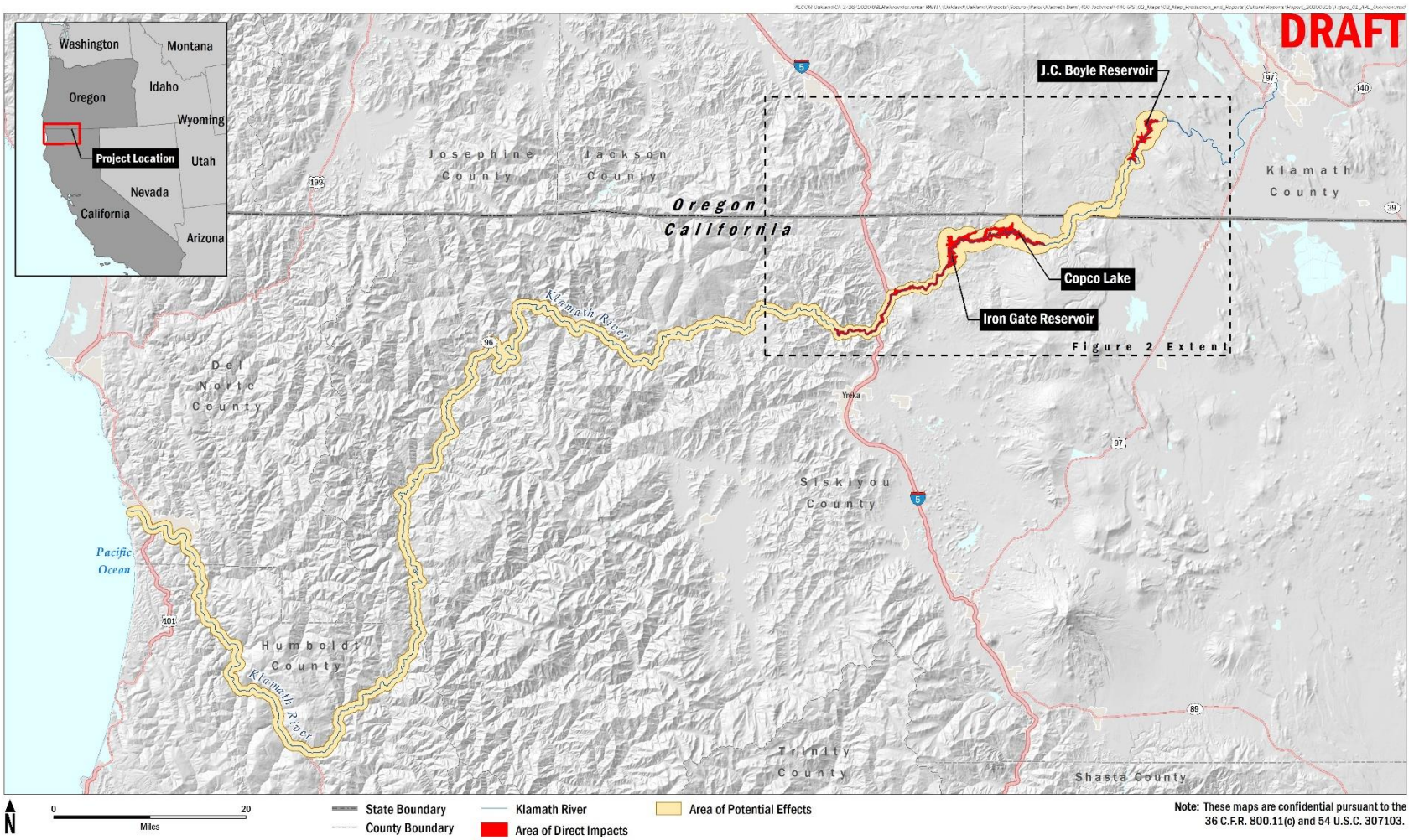
Shoshana Jones, JD, MA	J.D. Law M.A. History	7 years of experience in architectural history and historic resource management.
Michael S. Kelly, MA, RPA	M.A. Anthropology B.A. Anthropology	40 years of experience in archaeology and cultural resources management.
Sarah McDaniel, MA, RPA	M.A. Anthropology B.A. International Studies	20 years of experience in archaeology and cultural resources management.
Elena Nilsson, MA	M.A., Anthropology B.A., English	41 years of experience in archaeology and cultural resources management.
Kirk Ranzetta, PhD	PhD. Urban Affairs and Public Policy M.A. Urban Affairs and Public Policy B.A. Historic Preservation	27 years of experience in architectural history and historic resource management
Timothy Wood, MS	M.S. Historic Preservation B.A. History	3 years of experience in architectural history and historic resource management

APPENDIX A MAPS OF THE APE/ADI



AECOM
Klamath River Renewal Corporation
Klamath River Renewal Project

FIGURE 1
2020 Area of Potential Effects

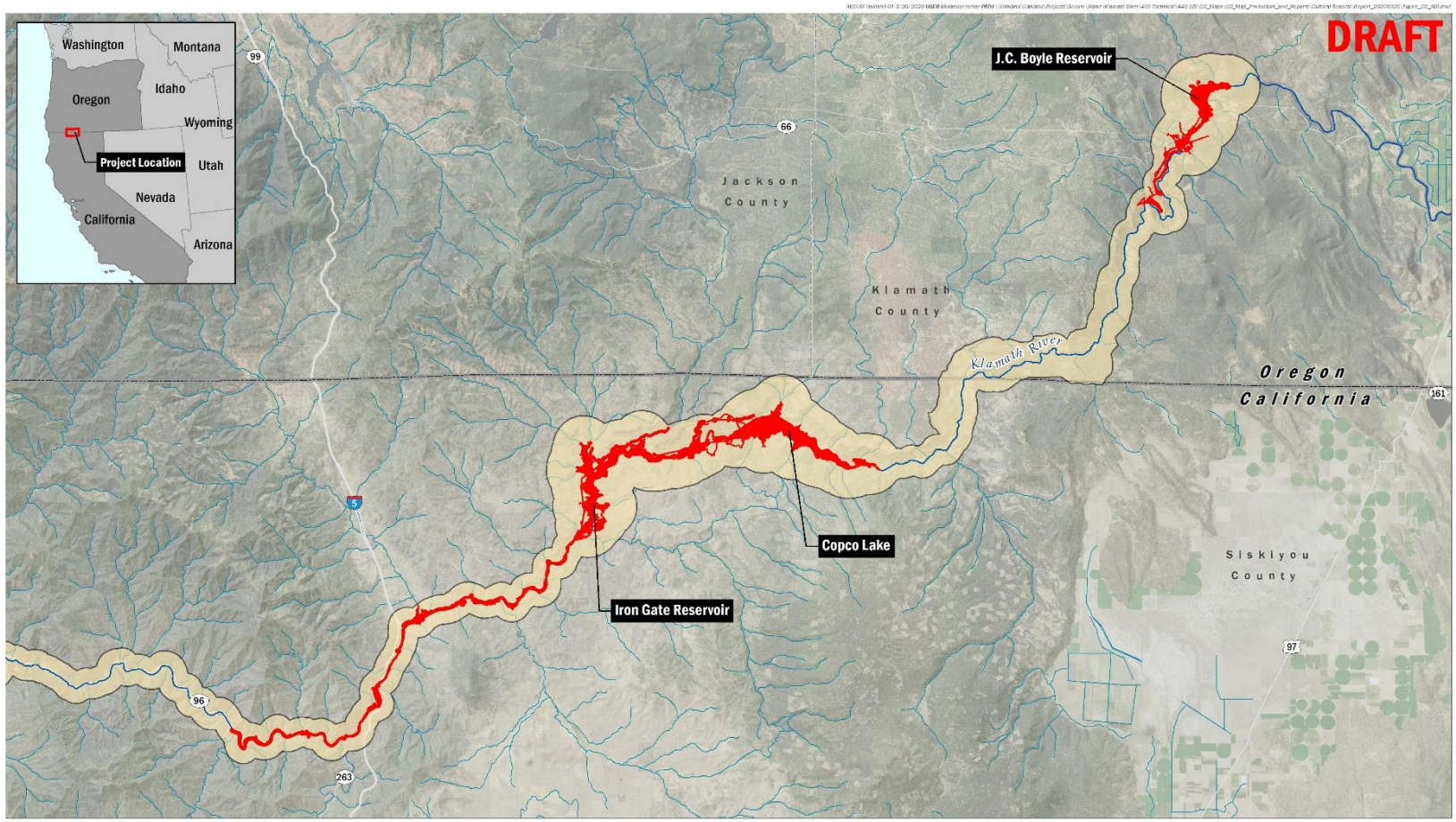
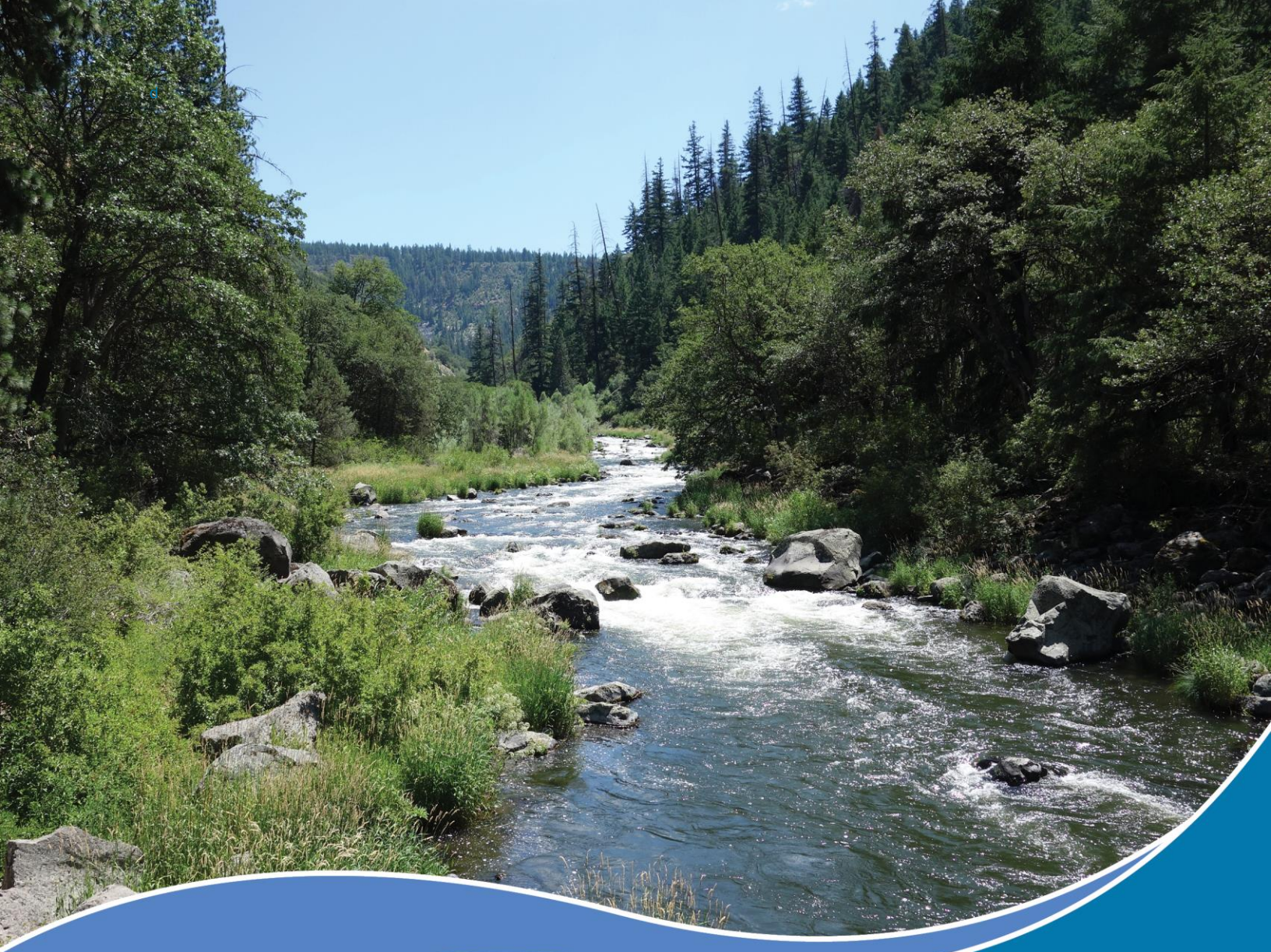


FIGURE 2
2020 Area of Direct Impacts

APPENDIX B HISTORIC CONTEXT



Klamath River Renewal Project

Cultural Context

KLAMATH
RIVER RENEWAL
CORPORATION

February 2021

Prepared for:

Klamath River Renewal Corporation

Prepared by:

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Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
AD	Anno Domini
ADI	Area of Direct Impacts
AMS	accelerated mass spectrometer
APE	Area of Potential Effects
BC	Before Christ
BCE	Before the Common Era
BP	Before Present
BLM	Bureau of Land Management
ca.	circa
cal	calibrated
Caltrans	California Department of Transportation
CCS	cryptocrystalline silicate
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CFGC	California Fish and Game Commission
C.F.R.	Code of Federal Regulations
cm	centimeters
cmbs	centimeters below surface
Copco	California–Oregon Power Company
EML	East Medicine Lake
FERC	Federal Energy Regulatory Commission
FPC	Federal Power Commission
GF/LIW/RS	Grasshopper Flat/Lost Iron Well/Red Switchback
HBC	Hudson Bay Company
HPMP	Historic Properties Management Plan
kV	kilovolt
kW	kilowatt
KFLWC	Klamath Falls Light and Water Company
KHP	Klamath Hydroelectric Project
KHSA	Klamath Hydroelectric Settlement Agreement
KLRR	Klamath Lake Railroad
KRLIC	Klamath River Lumber and Improvement Company
KRRC	Klamath River Renewal Corporation

LOW	Limits of Work
MAR	Mountain Anthropological Research
NCPC	Northern California Power Company
NRHP	National Register of Historic Places
O&C	Oregon and California Railroad
OR	Oregon Route
OSGC	Oregon State Game Commission
PA	Programmatic Agreement
PG&E	Pacific Gas & Electric Company
PGT	Pacific Gas Transmission
Project	Lower Klamath Project
RM	river mile
RMI	Resource Management International, Inc.
SEP&L	Siskiyou Electric Power & Light Company
SHPO	State Historic Preservation Officer
SOWR	Southern Oregon Wagon Road
SPRR	Southern Pacific Railroad
SR	State Route
SRRA	Safety Roadside Rest Area
THPO	Tribal Historic Preservation Officer
UCAS	University of California Archaeological Survey
USBF	United States Bureau of Fisheries
USBR	United States Bureau of Reclamation
USFWS	United States Fish and Wildlife Service
U.S.C.	United States Code
XRF	x-ray fluorescence

Chapter 1: Overview

1. OVERVIEW

Klamath River Renewal Corporation (KRRC) proposes to remove four hydroelectric developments (J.C. Boyle, California–Oregon Power Company (Copco) No. 1, Copco No. 2, and Iron Gate), along with appurtenant facilities that are located on the Klamath River approximately 200 miles from the Pacific Ocean, in the states of Oregon and California.

The purpose of the Lower Klamath Project (hereafter Project; Federal Energy Regulatory Commission [FERC] Project No. 14803) is to achieve a free-flowing condition and volitional fish passage in river reaches currently occupied by these developments (river mile [RM] 193.1 to 234.1), which are currently owned and operated by PacifiCorp. Under the Klamath Hydroelectric Settlement Agreement (KHSA), as amended in 2016, the Project consists of measures to remove the four hydroelectric developments; remediate and restore the reservoir sites; avoid or minimize adverse impacts downstream; assure completion of the Project with committed funds; and avoid damages and liabilities for PacifiCorp, the United States, and third parties. Dam removal will be achieved through a FERC license transfer and surrender process.

Section 106 of the National Historic Preservation Act requires FERC to take into account the effect of its undertakings on historic properties. FERC typically completes Section 106 by entering into a Programmatic Agreement (PA) or Memorandum of Agreement (MOA) with the ACHP, State, and/or Tribal Historic Preservation Office (SHPO/THPO) in addition to concurring parties such as the licensee, tribes, and other involved parties. The PA or MOA is incorporated by reference into the License Surrender Order when it is issued by FERC.

KRRC, as the applicant, bears the responsibility of implementing the terms of the PA, which includes the preparation and implementation of a Historic Properties Management Plan (HPMP) to manage and/or mitigate Project effects on cultural resources that are eligible for the National Register of Historic Places (NRHP). Such eligible resources are referred to in the HPMP as “historic properties.”

This Cultural Context Report has been prepared to supplement the HPMP by providing a detailed overview of the Project’s environmental, precontact, ethnographic, and historic setting. The context is focused on the Area of Direct Impacts (ADI) of the Project’s Area of Potential Effects (APE). The ADI is defined as those areas within the APE that corresponds geographically to the Project’s Limits of Work (LOW), or physical extent of on-the-ground construction activities associated with dam decommissioning and removal, reservoir restoration activities, safety zone, the Yreka pipeline crossing relocation, and improvements to Fall Creek hatchery, as well as rim stability areas around Copco Lake and the modeled post-dam removal floodplain between Iron Gate Dam and the Klamath River-Humbug Creek confluence in California. The ADI also includes the complete boundaries of buffered archaeological sites.

1.1 Project Location

The Lower Klamath Project area is located on the upper Klamath River in Klamath County, Oregon (south-central Oregon) and Siskiyou County, California (north-central California). The nearest principal cities are Klamath Falls, Oregon, located about 15 miles northeast of the upstream end of the Project area; Medford, Oregon, 45 miles northwest of the downstream end of the Project area; and Yreka, California, 20 miles southwest of the downstream end of the Project area. Figure 1-1 is a map of the Project area.

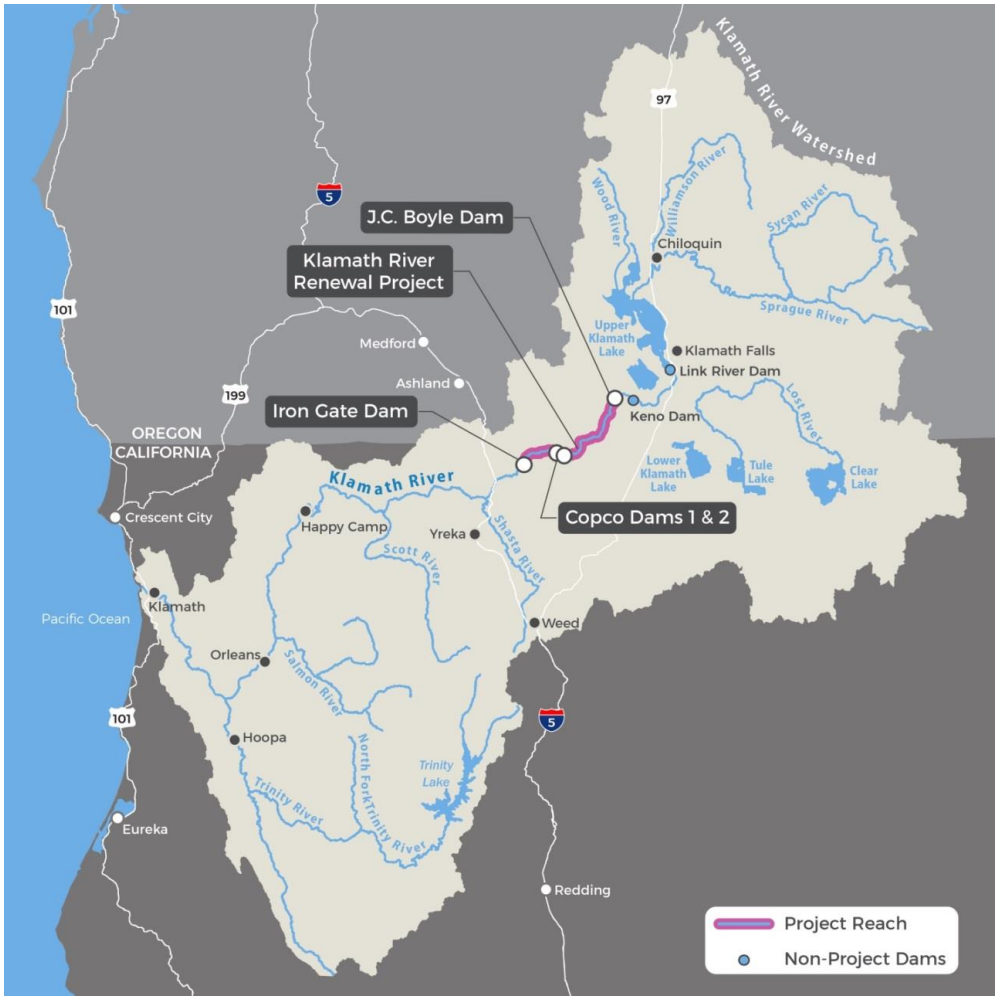


Figure 1-1 Klamath Basin watershed and Project facility locations

Chapter 2: Environmental Setting

2. ENVIRONMENTAL SETTING

This section provides an overview of the environmental setting of the Klamath River watershed, beginning with a description of current environmental conditions and concluding with a discussion of the paleoenvironment. The environmental context is important for understanding human use of the landscape as well as factors of soils and geology that influence archaeological site placement. The primary sources for this information are the 2004 PacifiCorp Klamath Hydroelectric Project (KHP) license application (PacifiCorp 2004), the U.S. Bureau of Reclamation (USBR) and California Department of Fish and Game (CDFG) Final Environmental Impact Statement (USBR and CDFG 2012), the Definite Plan (KRRC 2018), and the Lower Klamath License Surrender (Stillwater Sciences 2018), as supplemented by other references.

2.1 Klamath River Basin Overview

Located in south-central Oregon and northwestern California, the Klamath River Basin or watershed is a large north-south oriented lake and wetland complex that drains nearly 16,000 square miles, with approximately 35 percent of the drainage in Oregon and 65 percent in California (NRCS 2018). The Klamath River headwaters begin in Upper Klamath Lake, Oregon's largest natural freshwater lake, and the river flows for approximately 250 miles until it reaches the Pacific Ocean at Requa, California. The Klamath River Basin geography, topography, hydrology, and biology are distinct from other watersheds in the Pacific Northwest because water in the Klamath River originates in relatively flat, open valleys before crossing the Trinity and Coast Ranges in a steep river canyon and intercepting cold water inputs from the Scott, Salmon, and Trinity Rivers (USBR and CDFG 2012). The flat topography, along with lower average precipitation in the Upper Klamath Basin versus the Lower Klamath Basin, influences water flow and temperature in the river. The river is also one of only three waterways that pass through the Cascade Mountains to the Pacific Ocean. The river basin is rural, with a total population of approximately 120,000. Its largest communities are Klamath Falls, Oregon, and Yreka, California.

The Klamath River Basin is often divided into the Upper and Lower Klamath Basins, with Iron Gate Dam used as the dividing feature (NRCS 2018). The Upper Klamath Basin includes the headwaters and is defined by the Sprague River, Williamson River, Upper Klamath Lake, Lost River, Upper Klamath East, and Butte Creek Sub-basins that flow through Jackson, Lake, and Klamath Counties in Oregon, and Siskiyou and Modoc Counties in California. There are five main lakes in the Upper Klamath Basin: Crater Lake, Upper Klamath Lake, Lower Klamath Lake, Clear Lake, and Tule Lake.

The Lower Klamath River Basin includes 200 miles of river corridor downstream from Iron Gate Dam to the Pacific Ocean. This area is influenced by seven hydrologic sub-basins: Upper Klamath West, Shasta, Scott, Salmon, Lower Klamath, Trinity, and South Fork Trinity, in Trinity, Humboldt, and Del Norte Counties, California (NRCS 2018; USBR and CDFG 2012:3.6-1 to 3.6-12). The Lower Klamath Basin is most heavily influenced by the Shasta, Scott, Salmon, and Trinity Rivers, which supply 44 percent of the average annual runoff. Downstream from Iron Gate Dam, and for most of the river's length to the Pacific Ocean, the river maintains a relatively steep, high-energy channel. Here, the Klamath River forms a deep canyon surrounded

by mountains of the Trinity and Coast Ranges (USBR and CDFG 2012). The Klamath Estuary on the Northern California coast near the town of Klamath completes the system (Figure 2-1).

2.2 Geology, Geomorphology, and Soils

Geology, geomorphology, and soils data for the Klamath River Basin are described in this section and help characterize the setting of the historic properties. These data provide general expectations for landform development and will guide the proposed depths of archaeological investigations.

The Klamath River Basin occurs at or near the convergence of three tectonic plates that have influenced the geologic setting of the region: the Pacific, Juan de Fuca, and North American plates. Subduction of the Juan de Fuca plate (located off the coast of Northern California/Southern Oregon) beneath the North American plate created the Cascade Mountains, which now form a volcanic arc. Most of the Upper Klamath Basin in Oregon lies within the back-arc area, whereas the Lower Klamath Basin lies within the dynamic fore-arc area. Consequently, the Klamath River passes through four distinct geologic and geomorphic provinces—the Modoc Plateau and High Lava Plains of the Great Basin, the Middle and Southern Cascade Range, Klamath Mountains, and the California Coast Range—each of which changes the character of the river's channel morphology and that of its tributary watersheds, varying the supply of inputs such as water, sediment, nutrients, and wood (FERC 2007).

The upper watershed originates along the Modoc Plateau and High Lava Plains at the western reach of the Great Basin province, and beginning near Keno, Oregon, the Klamath River cuts through the southern Cascades. Topography varies from near vertical canyon walls to gentle-sloping river terraces. The oldest Miocene-aged tuff is overlain with basalts and andesites, which are covered by deposits of Quaternary alluvium, colluvium, lacustrine, talus, and landslide materials (Hescock 2014:61).

At the J.C. Boyle Reservoir area (RM 229.8 to 233.3), the river transitions from a relatively wide and shallow upstream end, where the reservoir inundates a low-gradient river valley, to a narrower downstream end, where the river incises a bedrock canyon. Here, the bedrock is principally volcanic deposits that are part of the High Cascade province, and common lithologies include basalt, basaltic andesite, diatomite, and volcaniclastic deposits (Stillwater Sciences 2018:3-741).

At Copco No. 1 and Copco No. 2 Reservoirs and tributaries (RM 208.3 to 201.5), most of the upper reservoir inundates a low-gradient reach of the river valley, while the lower end of the reservoir represents a steeper reach (Stillwater Sciences 2018:3-742). Here, young volcanic deposits (Pleistocene cinder cones and associated lava flows and ash) resulted in valley filling. Surficial deposits around the reservoir include talus and rockfall debris, colluvium, alluvium, and alluvial fans, as well as older (Quaternary) fluvio-lacustrine terrace deposits. The fluvio-lacustrine deposits surround much of the reservoir shoreline, up to 40 feet above the current reservoir level, and consist of diatomite, diatomaceous sediment and dense, coarse-grained alluvial deposits.

Iron Gate Reservoir (RM 200.0 to 193.1) overlies a slope break in the Klamath River valley profile, where a steeper upstream reach transitions to a lower-gradient downstream reach with a wider valley. Bedrock units

at Iron Gate Dam include tuffaceous siltstones and sandstones, boulder volcaniclastics and breccia, and tuff. Downstream of Iron Gate Dam, the Klamath River flows through a narrow valley cut into the Western Cascade sub-province geology and sedimentary rocks. A narrow, discontinuous floodplain and high terraces border the channel, and most alluvial reaches have cobble-boulder bars (Stillwater Sciences 2018:3-744).

Near the community of Hornbrook, California, the river passes through the Klamath Mountains province, which includes the Trinity Alps, Salmon Mountains, Marble Mountains, and Siskiyou Mountains. This province comprises some of the steepest topography and highest mountains within the watershed; summits in the Trinity Alps exceed 9,000 feet in elevation. Gold-bearing deposits occur within this province, and the legacy effects of gold mining and dredging persist in some areas. Precipitation in the region tends to increase near the coast, so soils are generally deeper in the Middle Klamath than the Upper Klamath. Due to these deeper soils, steep slopes, and higher precipitation rates, mass wasting and fluvial erosion are the main geomorphic processes in the middle and lower portions of the watershed.

The lower 40 miles of the Klamath River traverse the Coast Range province. The Coast Range province comprises three linear rock formations that are separated by faults, most notably the San Andreas, including thrust faults that are presently increasing the height of the range. The Klamath River watershed portion of the Coast Range province encompasses the Franciscan Complex rock formation. This unit consists of sandstone with smaller amounts of shale, chert, limestone, conglomerate, serpentine, and blue schist. Due to faulting in the Coast Range, the relatively young Franciscan rocks are still uplifting, resulting in steep hillslopes, relatively high erosion rates, and high sediment yields (FERC 2007).

2.3 Soils

There are many different soil types in the Klamath River Basin because the watershed spans multiple geological regions. However, the soils can be grouped into three major types: those formed on steeper slopes, those formed in floodplain or terrace surfaces, and those found along the river itself (FERC 2007:3-5). Soils on steeper slows are shallow to moderately deep (typically 17 to 40 inches) and consist of a 7- to 8-inch-thick gravelly loam surface horizon underlain by a gravelly, clayey loam and very gravelly clay soil. The floodplain and terrace surface soils, which are typically within the canyon of the J.C. Boyle reach, consist of a deep combination of alluvium and/or colluvium, with a 15-inch-thick very gravelly loam upper horizon overlaying a 6-inch gravelly clay loam layer; this transitions to a 39-inch-thick horizon of heavy clay loam underlain by weathered bedrock to 60 inches or more below the ground surface (FERC 2007:3-5). Riverine soils comprise unconsolidated alluvium, colluvium, and fluvial deposits. These are geologically recent water- or erosion-deposited soils consisting of unconsolidated sand, silt, and gravels.

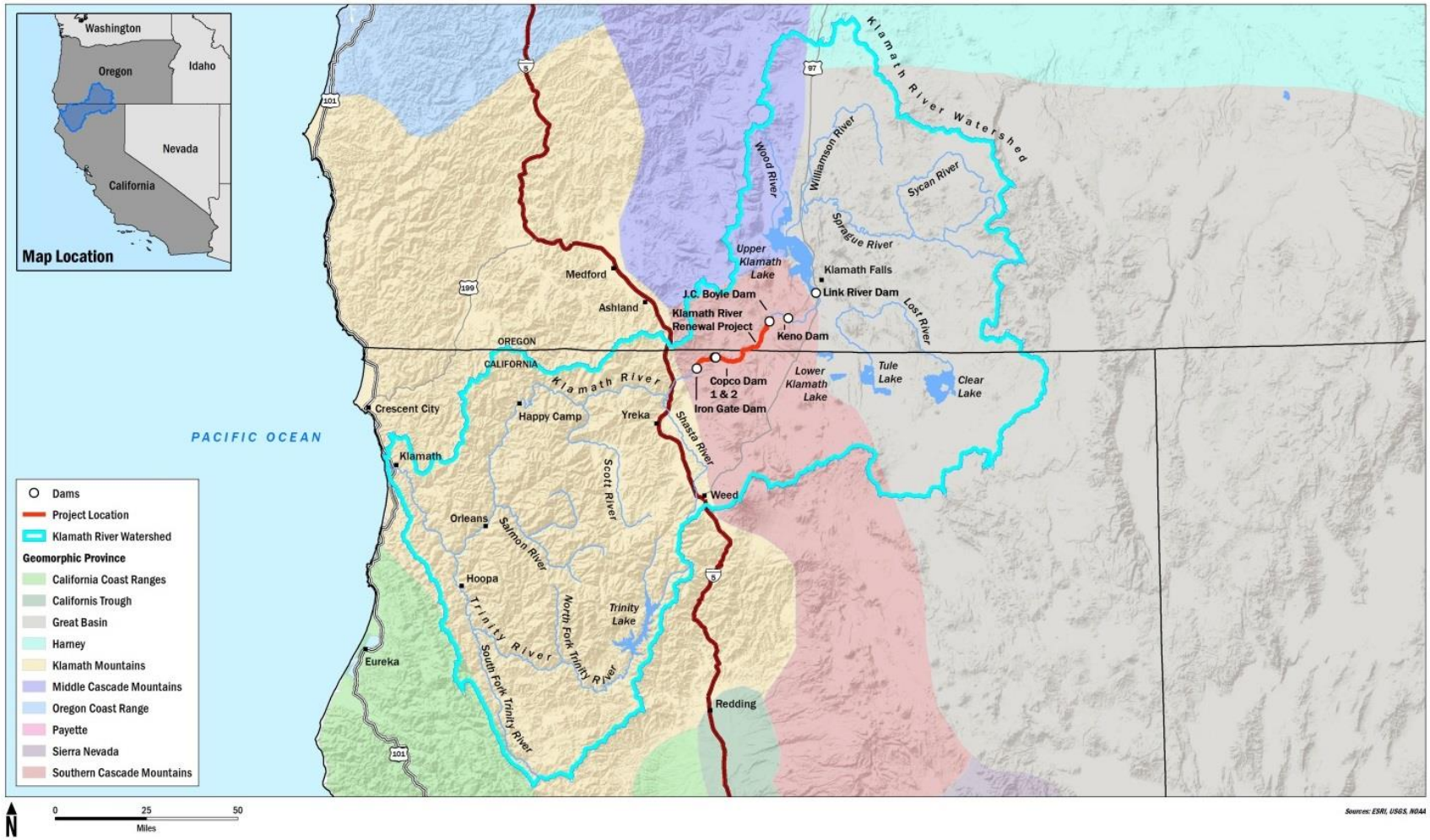


Figure 2-1 Klamath River watershed with geomorphic province

Specific soils types, as characterized by the Natural Resource Conservation Service (NRCS) (2018), indicate landform stability and are considered for the individual archaeological sites within the ADI. Over half of the archaeological sites are on Lassen-Kuck complex soils, characterized by moderately deep to deep soils formed from residuum and colluvium from volcanic rocks and typically found on uplands and hills. The next most common soil type, with approximately one-third of the sites falling within these soils, is the Bly-Royst series soils, deep soils that formed in alluvium and eolian deposits, colluvium, and residuum derived from volcanic rock and tephra. Bly soils are on terraces escarpments, hills, plateaus, and rock benches.

2.4 Hydrology and Water Management

The KHP and the USBR's Klamath Project currently manage water flow in the Klamath River Basin via several diversions in the Upper Klamath Basin. Along its 250-mile course, water flows from Upper Klamath Lake through Link River Dam into the Link River and then through the Keno Impoundment/Lake Ewauna (controlled by Keno Dam) and the KHP reach (from J.C. Boyle Dam to Iron Gate Dam), before reaching the Pacific Ocean.

Development of hydroelectric plants in the Klamath Basin began as early as 1891 in the Shasta River Canyon to provide electricity to the City of Yreka. In 1895, another facility was constructed along the Link River to supply power to Klamath Falls, Oregon. Additional hydrologic changes to the Klamath River were triggered by the authorization of the USBR's Klamath Project in 1905, which led to the construction of Link River Dam by Copco (now PacifiCorp) in 1921, as well as several hundred miles of irrigation ditches and canals that diverted water from the Klamath River and its wetlands to convert land for agricultural use (USBR and CDFG 2012:3.6-7). As the largest water management effort in the Upper Klamath Basin, the USBR's Klamath Project features a vast system of reservoirs, dams, canals, and pumps. Development and construction of these features occurred between 1905 and 1966, with most major facilities completed by the early 1940s (USBR and CDFG 2012:1-12).

The KHP was constructed between 1911 and 1962 and includes Iron Gate, Copco No. 1, Copco No. 2, J.C. Boyle, Fall Creek, and Keno Dams (USBR and CDFG 2012:1-18). The purpose of the KHP is power generation, and the segment of river affected by the four most downstream dams operated by PacifiCorp is referred to as the Klamath Hydroelectric Reach.

Pre-impoundment flow conditions of the Klamath Basin are complex and limited by a lack of historical hydrological data. The Klamath River historically began at the outfall of Lake Ewauna (USBR and CDFG 2012:2.6-5). Prior to the construction of dams and diversions, Upper Klamath Lake was like its current size, but Tule Lake and Lower Klamath Lake were much larger and had more extensive marshes and wetlands that influenced river flows. Water elevation in Upper Klamath Lake was controlled by a natural rock reef dam at the outlet of the lake, and water flowed into the Link River and Lake Ewauna, which developed because of a natural rock reef dam near Keno, Oregon.

Prior to diversions and dam construction, during high flow events out of Upper Klamath Lake, historically some water would flow down the Lost River Slough and into Tule Lake wetland area (USBR and CDFG

2012:3.6-6). The Lower Klamath Lake and Tule Lake areas formerly contained large areas of wetland and marshes, and the Lost River flowed from Clear Lake to Tule Lake. Now, a diversion provides water from the Lost River to the Klamath River. The former wetland and marsh areas associated with lakes in the Upper Klamath Basin have been substantially reduced in size.

The construction of Copco No. 1 and Copco No. 2 facilities also greatly altered flow patterns by causing rapid changes in flow associated with hydropower generation (Stillwater Sciences 2018:3-593). Iron Gate Dam was constructed in 1962 to re-regulate these flow releases from the upstream Copco facilities, altering the timing of base flows. Further altering the natural hydrograph, fall flows increased while spring and summer flows were substantially reduced compared to natural flows.

2.5 Biological Resources

The Klamath River Basin is considered to have some of the richest biological and ecological habitats in the United States (USBR and CDFG 2012). The basin falls primarily within the Klamath Mountains ecoregion, with the easternmost part of the river within the Eastern Cascades Slopes and Foothills ecoregion, and the westernmost portion within the Coast Range ecoregion (Griffith et al. 2016).

2.5.1 Vegetation

Vegetation communities in the Klamath River Basin include drier pine and fir forests in the mountain ranges of the Klamath Mountains ecoregion and wetter forests near the coast in the Coast Range ecoregion. The Klamath-Siskiyou mountain ranges are recognized for their biological diversity, having more than 3,000 documented plant species, including 30 temperate conifer tree species, which is more than any other ecosystem in the world. The Klamath River Canyon itself is primarily a mosaic of mixed conifer forest communities and riparian habitats (FERC 2007).

Many plants in the Klamath Basin are culturally important to Indian tribes for food, basketry, regalia, medicine, and ceremonial use (FERC 2007). Examples include ipos (roots of *Carum oregonum*), desert parsley, camas, cattail roots, and wocas (yellow pond lily seeds). Wild celery, wild parsley, wild rhubarb, hazelnuts, acorns, pine nuts, chokecherries, serviceberries, Klamath plums, elderberries, blackberries, gooseberries, wild grapes, huckleberries, and other species are also culturally important plants (FERC 2007; USBR and CDFG 2012:5-24).

Macrobotanical remains from excavated archaeological sites along the Klamath River include broken fruit pits (likely bitter cherry, choke cherry, or Klamath plum), Chenopodium, Apiacaeae, cattail, tule, hazel, and Rosaceae (Hescock 2014:48-49). A recent pollen study along the Klamath River in California recovered archaeobotanical remains including fir, oak, cedar, pine, sagebrush, snowberry, mock orange, buckbrush, rose, pea, and a variety of grasses (Smith 2006:12).

2.5.2 Fish and Wildlife

PacifiCorp conducted wildlife surveys in 2002 and 2003 and documented more than 225 vertebrate species, including amphibians, reptiles, birds, mammals, and fish that live in the Klamath River Basin (PacifiCorp 2004). Amphibians include salamander, bullfrog, Pacific chorus frog, and western toad. Sixteen reptile species have been documented, with the western fence lizard being the most abundant reptile, although a variety of snakes including western rattlesnake, garter snakes, and other species are also present.

The Upper Klamath Basin falls along the Pacific Flyway and supports the largest concentration of migratory waterfowl in North America. Many water-related birds also breed in the Klamath River Basin, and wetlands support large colonies of American white pelicans, double-crested cormorants, grebes, great egret, white-faced ibis, gulls, terns, and bald eagles (USBR and CDFG 2012:5-26). Avian surveys by PacifiCorp detected 174 bird species, with the highest number occurring at Keno and Iron Gate Reservoirs (PacifiCorp 2004). Seven common bird species associated with riparian and wetland habitats were found in all study areas: western wood pewee, song sparrow, Brewer's blackbird, yellow warbler, brown-headed cowbird, black-headed grosbeak, and mourning dove (PacifiCorp 2004). In addition, 19 species of birds of prey (six species of hawk, two eagle species, three falcon species, seven owl species, and one vulture species), eight species of woodpeckers, and five game bird species (wild turkey, blue grouse, California quail, mountain quail, and mourning dove) were documented (USBR and CDFG 2012:5-26). Many of these bird species, especially waterfowl and quail, were important traditional food sources in the Native American diet (Moratto 1984).

Common mammals documented as part of the PacifiCorp study include black-tailed jackrabbit, mule deer, and California ground squirrel. Large mammals found in the Klamath River Basin include deer, elk, mountain lion, and black bear, and medium-size mammals include bobcat, skunk, fox, marmot, and coyote. Small mammals are represented by deer mouse, woodrat, least chipmunk, and montane vole, and aquatic and/or fur-bearing mammals include raccoon, beaver, muskrat, mink, and river otter (PacifiCorp 2004). A variety of these species were hunted by Native tribes, with deer being one of the most important mammals for human consumption (Dixon 1907; Silver 1978).

The Klamath River Basin has 19 native fish species including rainbow and redband trout, six species of lampreys, blue and tui chub, sculpin, and suckers. The Klamath River is also one of the most important rivers in North America for anadromous fish migration and once supported large runs of steelhead, Chinook salmon, coho salmon, green sturgeon, eulachon, coastal cutthroat trout, and Pacific lamprey (USBR and CDFG 2012:1-7). These anadromous fish resources contributed substantially to tribal, commercial, and recreational fisheries. Waterways in the upper watershed including Upper Klamath Lake also provide habitat for suckers, which are an important part of tribal culture and diet. Lost River and shortnose sucker spawning runs still constitute ceremonial events for the Klamath Tribes (USBR and CDFG 2012:1-7).

Copco No. 1 Dam was the first mainstem dam to block fish passage to the Upper Klamath Basin when it was completed in 1918. Iron Gate Dam, the dam farthest downstream that was completed in 1962, blocks upstream fish passage, with its flow releases and water quality affecting the fish habitat downstream along

the Klamath River (FERC 2007). Except for J.C. Boyle Dam, which is equipped with a fish ladder, the hydroelectric dams also block upstream fish passage and isolate fish populations between the dams.

Four species of native freshwater mussels have been documented in surveys (USBR and CDFG 2012:3-19). Oregon floater (*Anodonta oregonensis*), California floater (*A. californiensis*), and western ridged mussel (*Gonidea angulata*) were observed from the Keno Impoundment to the confluence of the Klamath and Shasta Rivers. In addition to these species, western pearlshell mussel (*Margaritifera falcata*) was also identified along the Klamath River from Iron Gate Dam to the confluence of the Klamath and Trinity Rivers. The western ridged mussel is currently the largest and most common type of freshwater mussel found within the Klamath Basin. Benthic macroinvertebrates are abundant and include crayfish, clams and snails, and aquatic insects and beetles.

2.6 Paleoenvironment

Few geological or paleoenvironmental studies have focused specifically on change in the Klamath River over time. The paleoclimate discussion provided below emphasizes the variability of climate throughout the larger Holocene and is largely derived from the overview of paleoenvironmental conditions presented in the FERC 2004 license application (PacifiCorp 2004).

Most of the climate change events that occurred during the Holocene are characterized by polar cooling, tropical aridity, and major atmospheric circulation changes. In general, high effective moisture results in increased stream flows, soil development, and landform stability. In contrast, low effective moisture results in reduced stream flows, erosion, and soil deposition (PacifiCorp 2004). Plants and animals respond to variations in effective moisture according to their needs. Based on relicensing studies and work by Gleason (2001), the preferred economic resources generally are patchy and tied to specific locations. Climatic change does not necessarily alter the location of resource patches; however, climatic change may have influenced the productivity of specific resources within these patches (PacifiCorp 2004).

One of the earliest studies of palynology (the study of fossil pollen) and paleoenvironmental conditions in western North America was conducted by Henry Hansen in 1942 near the Project area. Hansen (1947), working in the Upper Klamath River basin with an interdisciplinary team led by Luther Cressman, conducted a groundbreaking study to illustrate the importance of relating climatic fluctuations and the histories of lakes and marshes to changing human populations. Since that time, little research on paleoenvironments has been directly tied to this region. Studies from surrounding areas, however, can be used to interpret general patterns of climate change and environmental conditions for the Holocene (Barnowsky et al. 1987; Mehringer 1985; Thompson et al. 1993; Wigand and Nowak 1992).

Although an oversimplification of the highly variable climatic patterning of the Interior Northwest, the three-part sequence developed by Ernst Antevs (1955) continues to illustrate the overall Holocene pattern, consisting of a cool-moist early Holocene (Anathermal), a xeric middle period (Altithermal), and a return to cooler, moister conditions (Medithermal). At the end of the Pleistocene (circa [ca.] 11,700 before present [BP]), the Pacific Northwest and northern Great Basin pollen and packrat midden data reveal that tree lines were lower in elevation, by as much as 1,000 meters (3,280 feet; Wigand and Novak 1992). This quickly

changed during the initial Holocene, and drier conditions (but still wetter than today) caused a demise of the Pleistocene woodlands. A short hiatus in this progression (called the Younger-Dryas) provided a 1,000-year reprieve from warming temperatures (PacifiCorp 2004).

By about 9,500 BP, most pollen records illustrate that the conditions of the Holocene were mostly established over the entire American northwest (Barnowsky et al. 1987; Mehringer 1985; Thompson et al. 1993; Wigand and Novak 1992). Although the plant and animal mosaic prior to this time was quite different than today, by 9,500 BP, the general patterning of plants, animals, and the peoples who exploited both were established in the Klamath River region. What followed was likely the warmest period of the Holocene. Although effective moisture was highly variable, overall moisture may not have decreased dramatically. But, by shifting to a more summer-like pattern, snowpack and spring runoff dropped. At higher elevations of the Pacific and Interior Northwest, a temperature reduction probably was seen earlier than in the lowlands (Barnowsky et al. 1987; Mehringer 1985). However, by about 8,000 to 7,500 years ago, relatively cold, dry winters and moist spring conditions are demonstrated in the pollen and packrat midden data of the region (Johnson et al. 1994). Periods of drought are punctuated by moist episodes and brief re-expansion of mesic species. Relative to the Klamath River with its constant source of water, the variability of available resources would likely have been limited to irregularities in local spring discharge and fluctuations in the relative abundance of patch resources, not a wholesale reduction (or increase) of species specific to the region.

Volcanism in the Klamath River Basin began about 40 million years ago and continued until approximately 5 to 10 million years ago, with volcanic activity shifting eastward and diminishing in intensity over time (Stillwater Sciences 2018:3-737). Volcanic activity caused the formation of stratovolcanoes, lava domes, and cinder cones in the region; two Pleistocene cinder cones and associated lava flows are between the eastern edge of Iron Gate Reservoir and Copco No. 1 Dam (Stillwater Sciences 2018:3-738). During the mid-Holocene, however, the most dramatic volcanic impact would have been the eruption of Mt. Mazama (now Crater Lake), which was likely a series of up to four major eruptions over the span of 150 years (Mulineaux and Wilcox 1980). Crater Lake is located less than 25 miles northwest of Upper Klamath Lake. Although the impact of these eruptions was regionally devastating, the immediate Project area probably saw little ash rain from these events. Nevertheless, the pumice and ash from the terminal eruptions of Mt. Mazama flowed into the Upper Klamath Lake for centuries and probably affected the waters of the Upper Klamath River and its resources, including fish runs, for a long time period. Eruptions of Mt. Shasta, located about 40 miles from Iron Gate Dam, were the closest source of potential tephra. A major eruption occurred around 9,600 BP (Miller 1980). Since that time, Mt. Shasta eruptions have occurred approximately every 800 years, with the last known eruption occurring approximately 200 years ago. Volcanic activity in the Cascades, while intermittent, probably affected generations of precontact peoples at various times through the Holocene, forcing short-term abandonment of certain areas (PacifiCorp 2004).

At about 4,000 BP, a moist, cool episode signaled the onset of overall wetter winters. Grasslands likely expanded for a time, and river flow was likely high at spring runoff between about 4,000 and 3,500 BP. Sometime after about 3,500 BP, overall conditions in the Upper Klamath River region echoed that of today. Fluctuating weather and short-term trends in climate remained the norm, but the composite of species represented in the vegetation and faunal communities was relatively “normal.” Since that time, and into the

historic period, people have continued to adjust their behavior to weather and climate conditions (PacifiCorp 2004).

A recent thesis summarized geoarchaeological conditions in the Upper Klamath River, from RM 220 (near the Klamath River Boat launch), downstream for 5 miles to RM 215, at the Secret Springs Mountain Landslide, a stretch of river having a variety of archaeological sites representing occupation since 7,500 BP (Hescock 2014). The investigation found that colluvial and alluvial interactions are the main depositional features found in this area where the river has down cut into a steep canyon, and these deposits are found on the surface of terraces as well as within (Hescock 2014:133-134). Terraces farther from the river and higher are older, and most archaeological sites are found on the first terrace and are village sites. Using relative dating and radiocarbon samples, in general, the first terrace dates to the Canyon Phase; the second terrace to the Canyon Phase and possibly to the River Phase; and the third or highest terrace dates to the Secret Springs Phase or not-named Phase (Hescock 2014:135-138). Soil development at some of the terraces perhaps dates to at least 7,000 years, although the first terrace shows shallow soil formation. The oldest site in the canyon, the Klamath Shoal Midden, was located on a third terrace where artifacts were recovered from a depth of 200 centimeter (cm) in a river gravel stratum. Similarly, old sites could also be on two higher terraces, although historic-period sites and other younger surface sites are most likely to be found on newly forming floodplains and the first terrace but may be found on all landforms.

In summary, paleoenvironmental conditions influenced the range of possible cultural activities as people contended with the general aridity of the landscape. The restricted locations of reliable water, primarily in the Klamath River, small feeder streams, and springs, contributed to a subsistence base geared toward these water sources. Changes in precontact and historical land use likely were related to the variable environment and to cultural changes influenced by non-climatic stimuli, such as technological change, trade, and conflict or competition with other peoples (PacifiCorp 2004).

Chapter 3: Precontact Context

3. PRECONTACT CONTEXT

This section reviews previous archaeological investigations conducted within south-central Oregon and northeastern California that are pertinent to the Project. Discussions are presented according to the three geomorphic provinces through which the Project ADI crosses: Modoc Plateau, Cascade Mountains, and Klamath Mountains. An overview of regional cultural sequences is presented first, focusing on the definition and dating of chronological phases or periods fundamental to the reconstruction of culture and lifeways. This is followed by an overview of key archaeological investigations that have contributed to an understanding of thousands of years of changing human culture, behaviors, and events within the Upper Klamath River area.

3.1 Regional Cultural Sequences

The Klamath River Basin or watershed comprises a large, headwater lake (Upper Klamath Lake) and wetland complex located in south-central Oregon and northeastern California. The Klamath River Basin lies in the transition zone between the Modoc Plateau[1] and Cascade Range physiographic provinces, with the Klamath River cutting west through the Klamath Mountain province and then the Coast Range province where it reaches the Pacific Ocean near Requa, California (FERC 2007).

The development of archaeological chronology has long been a focus of scientific investigations conducted within the Upper Klamath River Basin. The first archaeological investigations into prehistory of the Upper Klamath River Basin were initiated by the pioneering work undertaken in the 1940s by the University of Oregon in the Lower Klamath Lake area, where Luther S. Cressman (1940, 1942) developed the first cultural sequence for the area, providing evidence for at least 8,000 years of human land use. Cressman's work was followed by investigations conducted at Tule Lake by Robert F. Heizer of the University of California, Berkeley, in 1942, which expanded on aspects of Cressman's initial chronology. Subsequent work at Lower Klamath Lake by Squier (1956) and at the Nightfire Island site (Johnson 1969b; Sampson 1985) provided a substantial body of data for continued chronological reconstructions. In the mid-1950s, Cressman focused attention on the Upper Klamath Lake area, where investigations were conducted at Medicine Rock Cave, Kawumkan Springs midden, and at several village sites along the Williamson and Lower Sprague Rivers, producing a 7,000-year old chronological sequence (Cressman 1956).

Within the Cascade Mountains region, the reevaluation and reanalysis of the cultural assemblages recovered from the Salt Caves Dam sites (Salt Cave Locality) completed by Mack (1989) has provided a chronological sequence that details 7,000 years of prehistory within the Upper Klamath River Canyon. Chronological reconstructions for the Klamath Mountains region focus on the temporal sequence developed for Shasta Valley by Nilsson (1991), which documents 2,500 years of prehistory. Figure 3-1 provides a concordance of the cultural sequences advanced for the Modoc Plateau, Cascade Mountains, and Klamath Mountains regions, as discussed below. This figure also includes sequences developed for the neighboring

[1] Within Oregon, this area is referred to as the Basin and Range province.

Upper Rogue River Valley (Pettigrew and Lebow 1987) and the Tuscarora Pipeline Project (Delacorte 1997; McGuire 2002), to provide a broad regional perspective and overview.

3.1.1 Modoc Plateau

The headwaters of the Klamath River begin within the Modoc Plateau geomorphic province, a volcanic table land (elevation 4,000- 6,000 feet above sea level) characterized by a thick accumulation of lava flows and tuff beds along with many small volcanic cones. The Modoc Plateau is a feature of the Great Basin, the northern part of the Basin and Range (Orr and Orr 2012). Occasional shallow lakes (Upper Klamath, Lower Klamath, and Tule lakes), marshes (Klamath Marsh), and slowly flowing streams cross the Modoc Plateau. The high elevation, semi-arid desert environment of the Modoc Plateau provided a cultural adaptation distinctive from that downstream Klamath River Canyon and was centered predominately on lacustrine environments and attendant resources. Although the Modoc Plateau region borders the Project ADI to the north and east, its importance to regional chronological reconstructions is significant, as much of the pioneering work was conducted within this area. Discussion of the regional chronological sequences for the Modoc Plateau area centers on the Klamath Lakes Basin which, as defined for this study, includes the subbasins of Upper Klamath Lake, in Klamath County, Oregon, and Lower Klamath Lake, Tule Lake, and Butte Valley, in Modoc and Siskiyou Counties, California.

Klamath Lakes Basin

A unifying feature of the Klamath Lakes Basin is its geographic association with Pluvial Lake Modoc (Dicken 1980; Dicken and Dicken 1985; Grayson 1993: Table 5-1). As part of an extensive system of some 80 Pleistocene lakes (Grayson 1993:86), Lake Modoc covered an area of more than 1,000 square miles (Dicken and Dicken 1985:1-4), overflowing into an adjacent basin at maximum levels (Grayson 1993: Table 5-2). The rich lacustrine environment of the Klamath Lakes region afforded a wealth of natural resources and features that attracted human land use potentially as early as 8,000 years ago (Cressman 1942:99), but certainly by 6,000 years ago (Aikens and Minor 1978; Cressman 1956; Sampson 1985).

Pioneering research in the Klamath Lakes Basin began in 1940 with the work of Luther S. Cressman, of the University of Oregon, in the Lower Klamath Lake area. Cressman's work at the Narrows (CA-SIS-257) and Laird's Bay (CA-SIS-230) sites provided for the development of the first cultural sequence for the Klamath Lakes Basin (Cressman 1942). Three cultural phases were recognized: Narrows Horizon, Laird's Bay Horizon, and a Historic Horizon.

The Narrows Horizon, dating from 8,000 to 4,000 years ago, included an artifact assemblage comprising fossilized bone foreshafts; large, heavy leaf-shaped and side-notched projectile points; utilized flakes; and scrapers. These artifacts, possibly associated with fossilized mammal bones of elephant, horse, and camel, led Cressman to assign the Narrows Horizon to the Early Postpluvial Period (Cressman 1942:102).

The Laird's Bay Horizon, dating from 4,000 to 2,000 years ago, witnessed the use of large and medium leaf-shaped, side-notched, and corner-notched projectile points (Northern Side-notched and Elko series); bone awls, perforated stone disk; and manos. The association of these items with ancient peat beds in the Lower

Klamath Lake bottom led Antevs (1940:309) to suggest that they dated before the Little Pluvial Period, some 4,000 years ago.

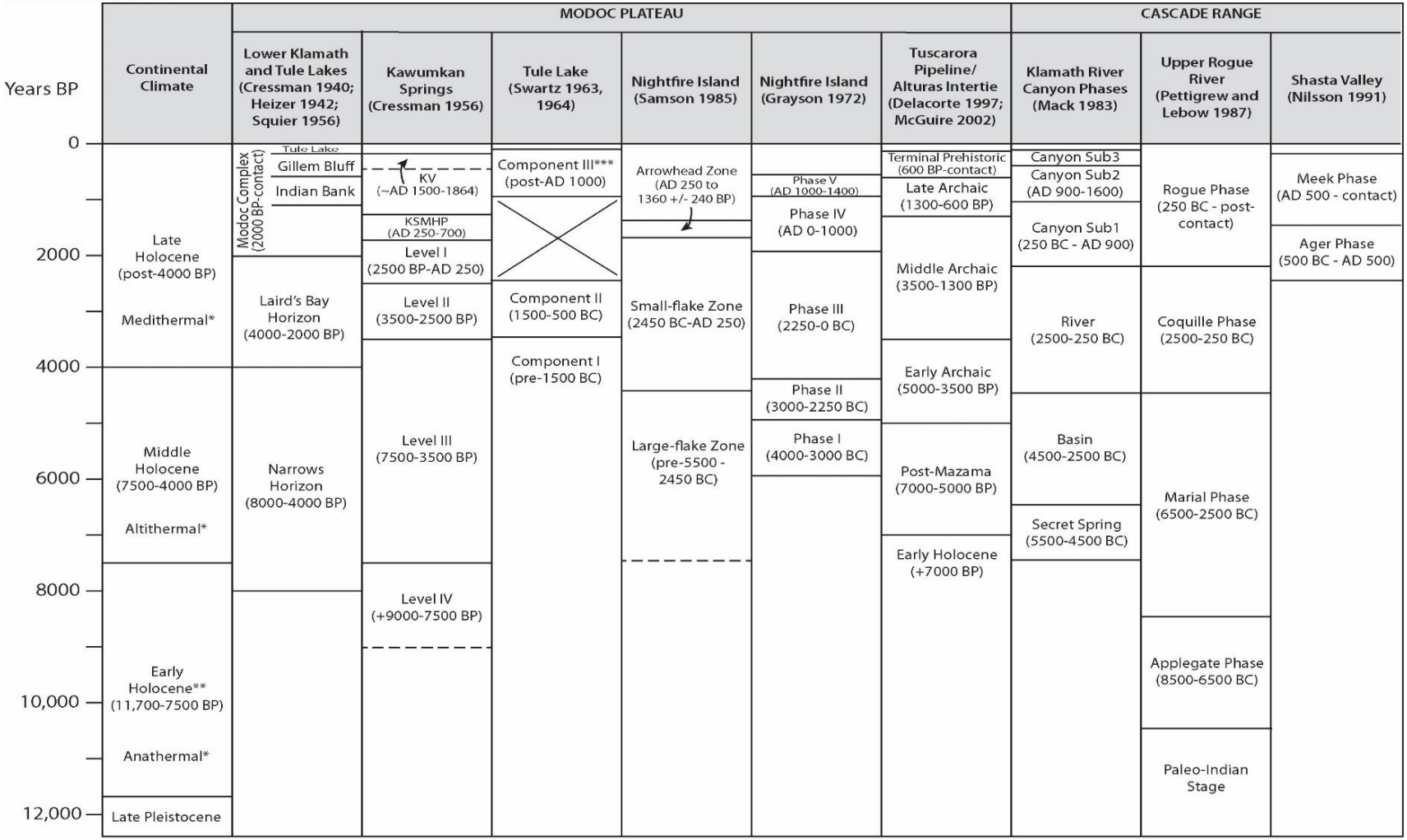
The most recent horizon comprised historically modern materials found on the lakeshore and islands, including small corner-notched and barbed projectile points, mortars and pestles, manos, pipes, shell beads, bone awls, and antler wedges. This horizon represented shoreline occupations at the level of the lake before it permanently dried up in 1917. The horizon was placed after the beginning of the Christian era (Cressman 1940:305-306).

Following Cressman's (1940) initial studies in the Lower Klamath Lake area, work shifted to the southern shore of Tule Lake, where Robert F. Heizer excavated two caves (CA-MOD-2 and CA-MOD-3) at Petroglyph Point. Heizer's (1942) work defined the Modoc Complex, which drew from his own study, but also encompassed those attributes of Cressman's "Historic" horizon for the Upper Klamath Lake area. The Modoc Complex was assigned a chronological span of 2,000 years ago to historic times (Cressman 1956). Modoc Complex artifacts included Pacific coast shell, bird bone, and seed beads; twined basketry; cordage; obsidian points; mortar fragments; and obsidian debitage.

Based on Squier and Grosscup's subsequent work in the Klamath Lakes area, which focused on three rockshelters in the Tule Lake Basin and two open sites on Lower Klamath Lake, Squier (1956) subdivided the last half of the Heizer's Modoc Complex into three phases: Indian Bank, Gillem Bluff, and Tule Lake. Cultural characteristics associated with the older Indian Bank Phase *(*Anno Domini [AD] 850–1350) included flexed burials; large projectile points; portable bowl mortars; grinding slabs; stone mauls; antler wedges and flaking tools; bone awls, beads, whistles, pins and pendants; *Haliotis* pendants, and *Olivella* beads.

The Gillem Bluff Phase (AD 1350–800) was defined based on associations with possible cairn burials, possible basketry (textiles), large and medium size projectile points, large obsidian blades, split mammal bone awls and stone mauls, thin grind slabs.

The Tule Lake Phase (AD 1800–historic times) was considered to represent the culture of the late precontact and protohistoric Modoc Indians. Hallmark artifacts of the phase included small triangular and side-notched points; large obsidian blades; twined basketry; split mammal bone awls; antler and bone flaking tools; bird and mammal bone beads; shell and pinenut beads, hopper mortars, and cremation burials.



BP = uncalibrated years Before Present (before 1950); AD = anno domini; BC = before Christ; KV = Klamath Villages; KSMHP = Kawumkan Springs Midden House Pits.
* see Antevs (1948) and Grayson (2011) for definitions of post-glacial temperature ages.
** see Walker et al. (2009) for beginning date of the Early Holocene.
*** Component IV represents the period of the Modoc War, 1872-1873.

Figure 3-1 Concordance of Regional Chronological Sequences

From 1947 to 1951, Cressman's work shifted to the Upper Klamath Lake area, where investigations were conducted at Medicine Rock Cave, Kawumkan Springs midden, and at several village sites along the Williamson and Lower Sprague Rivers (Cressman 1956). The archaeological record showed occupation beginning before 6,500 years ago, with the Kawumkan Springs midden evidencing four levels of occupation (Level I to Level IV), followed by occupations associated with house pit villages. Level IV represents the oldest temporal period, spanning from 9,000 to 7,500 years ago. Level III occupation extends from 7,500 to 3,500 years ago, marking the appearance of small projectile points. Level II occupation ranges from 3,500 to 2,500 years ago. The terminal period is Level I, ranging from 2,500 years ago to AD 500. Site use continued well into the historic contact period (AD 1864), as evidenced by occupation of the Kawumkan Springs house pits (Cressman 1956:463).

The southern shore of Tule Lake was the next focus of archaeological research aimed at chronology building. Incorporating excavation results for four rockshelter sites (CA-MOD-186, CA-SIS-299, CA-SIS-303, CA-SIS-304) and CA-SIS-101, the Modoc ethnographic village of *Gumbat* (Ray 1963:207-208), Swartz (1963, 1964) proposed a separate cultural sequence for the Tule Lake area comprising four components. Component I (pre-1500 Before Christ [BC]) is characterized by large lanceolate, leaf-shaped, side-notched, and bipointed projectile points. Component II (1500–500 BC) comprises an assemblage of lanceolate points and smaller, thinner-stemmed triangular points, bowl and slab mortars, and secondary cairn burials.

Archaeological investigations conducted at the Nightfire Island Site (CA-SIS-4) by Johnson (1969b) and then Sampson (1985) documented a 7,000-year record of lakeshore adaptation along the western shore of Lower Klamath Lake. Sampson (1985) identified 15 cultural strata that were grouped into three major stratigraphic zones: (1) a large flake zone (5500 BC to 2450 BC) defined and correlated on the basis of the physical size of the obsidian debris; (2) small flake zone (2450 BC to AD 250), defined on the presence or absence of avifaunal constituents; and (3) a terminal arrowhead zone (AD 250 to AD 1360 ±240) identified by the presence of Gunther series projectile points above the small flake zone.

One of the most extensive archaeological projects completed within the Modoc Plateau region involved testing and data recovery excavations at a large number of precontact sites as part of the Tuscarora Gas Transmission project (Delacorte 1997). The project included the construction of a 200-mile-long pipeline from Malin, Oregon, south to Tracy, Nevada, skirting the eastern edge of both the Cascade Range and Sierra Nevada Mountains. Data recovery excavations were conducted at 32 precontact sites along this route, including six sites along the 53-mile long Modoc Uplands segment within Tule Lake Basin and the Devil's Garden. The temporal chronology developed for the Tuscarora Project identified six temporal phases of human occupation. The Early Holocene (7000+ BP) represents land use of pluvial lakeshore and/or marsh contexts, although such occupation is not well documented in the Modoc Plateau area. Artifacts typical of the Early Holocene (pre-7000 BP) include Great Basin Stemmed, crescents, and Fish Slough Side-notched points. The Post-Mazama period (7000-5000 BP) is marked by Northern Side-notched projectile points. Representing the Early Archaic (5000-3500 BP) are Gatecliff Split-stem and Humboldt Concave Base, while the Middle Archaic (3500-1300 BP) includes Elko Series and Siskiyou Side-notched points. The Early and Middle Archaic specimens are interpreted as dart points, whereas small arrow points are representative of post-1300 BP occupations. Late Archaic (1300-600 BP) times are represented by Rose Spring points. The

Terminal Prehistoric period (600 BP – contact) reflects use of Desert Side-notched, Cottonwood Triangular, and Small Stemmed points (Delacorte 1997:86-95). Both Dart-sized and Lanceolate projectile points are characteristic of pre-1300 BP occupations, while those classified as Arrow-sized are placed in the post-1300 BP period.

Investigations within the Modoc Uplands segment of the Tuscarora pipeline yielded little organic material suitable for radiocarbon dating, while bone and seed remnants were equally scarce. Based primarily on projectile points and associated tools, 30 chronologically discrete components were identified within the Modoc Uplands sites. Of these, most appear to represent the Middle and Late Archaic periods, providing strong evidence for occupations between 3500 and 1000 BP. Bifaces, with associated projectile points and flake tools, were common within the Middle Archaic sites, while the ground stone and core tools become more common in the Middle-to-Late Archaic transition period. Also, during this transition, the use of Buck Mountain obsidian increased. The first evidence of prolonged habitation, including a fire hearth feature, was found within Late Archaic components (Mikkelson 1997:108).

3.1.2 Cascade Range

The Cascade Range comprises a chain of large and recently active volcanic cones that extend from north from Lassen Peak, in California, through Oregon and Washington, and into southern British Columbia. Between the two volcanic centers of Mount Shasta, in California, and Mount McLaughlin, in Oregon, the Cascade Range is transected by the canyon of the Klamath River, on its westward journey, through the adjoining Klamath Mountains and California Coast Ranges, to join the Pacific Ocean. Just 30 miles east of Mount Shasta lay the Medicine Lake Highland, a large shield volcano and eastward bulge of the Cascade Range (Hinds 1952:129), which provided precontact Native American peoples with abundant obsidian toolstone for flaked stone tool manufactures. Local and regional cultural sequences developed for the Cascade Range pertinent to the current study include those established for the Upper Klamath River (Mack 1989), Shasta Valley (Nilsson 1991), and the Upper Rogue River (Pettigrew and Lebow 1987).

Upper Klamath River

Mack (1989) developed a cultural chronology for the Upper Klamath River Canyon area based on the reanalysis of artifacts recovered by the University of Oregon (Newman and Cressman 1959) in the area later affected by the construction of J.C. Boyle dam and reservoir and other sites investigated as part of the Salt Caves Dam Project. Mack's chronology, which spans some 7,000 years of prehistory, divides human occupation of the area into four distinct phases: Secret Spring, Basin, River, and Canyon.

The Secret Spring Phase (5500 BC–4500 BC) represents the earliest evidence for human land use of the Upper Klamath River Canyon area (Mack 1989). A small collection of generalized bone tools and several unifacial flaked tools from one site (35KL21) characterize this phase, as does the use of turtle and mammals (Mack 1989:52-53, 58).

The Basin Phase (4500 BC–2500 BC) marks the first well-documented period within the Upper Klamath River Canyon area (Mack 1989:53). General hunter-gatherer strategies and seasonal site use mark this

phase. Hallmark artifacts associated with the Basin Phase consist of large dart-size projectile points (Humboldt, Concave Base, McKee Uniface, and Northern Side-notched), ground stone tools (bowls, muller, and mortars), and bone tools (Mack 1989: Table 14). A single human burial from this phase indicates a mortuary pattern of internment within a shallow pit, with the remains placed in a supine position and covered with rocks.

The River Phase (2500 BC–250 BC) signals an increase in the number of documented sites within the Upper Klamath River Canyon area, many of which are marked by more diverse and specialized artifact assemblages (Mack 1989). Settlement patterns reflect use of base camps within the canyon and a principal reliance on riverine resources. Hallmark artifacts of the River Phase include medium-to-large dart points, such as Gold Hill Leaf, Elko Series, and Siskiyou Side-notched Class 28 points (like Clikapudi Corner-Notched [Basgall and Hildebrandt 1989]) and Class 29 points that resemble Martis Series points (Mack 1989:53). Mullers and mortars persist as characteristic ground stone tools (Mack 1989). Bone tools reflect diversification and specialization, incorporating bone and antler chisels and wedges and barbs for harpoons and fishing equipment (Mack 1989:56). Human remains indicate a mortuary pattern of primary internment of burials on sides or flexed position.

The Canyon Phase (250 BC–historic contact) comprises two sub-phases that are well documented within the Upper Klamath River Canyon area (Mack 1989:53). Principal settlement features note the appearance of house pit villages for year-round habitation in the canyon, large midden sites adjacent to the river used as fishing camps and processing areas, and small upland sites focused on specialized uses (Mack 1991:81). Hallmark artifacts include small narrow-necked projectile points, mullers for processing wokas, bone tools, Siskiyou Utility Ware among the downriver villages, and *Olivella* shell beads. Associated human remains indicate a mortuary pattern of cremations, represented by two burials from a single site.

The Canyon I phase (250 BC–AD 900) marks the first use of small Gunther series arrow points, along with *Olivella* saucer and ring beads and bone fishing tools, chisels, and wedges. The Canyon II phase (AD 900–contact) reflects an increase in the diversity of small arrow points, whose forms expand to include Desert Side-notched and Rose Spring types. Other hallmark artifacts of the Canyon II phase include Siskiyou Utility Ware pottery and figurines, mammal bone beads, and other bone tools.

Shasta Valley

Based on work conducted principally in the eastern part of Shasta Valley, Nilsson (1991) proposed a provisional cultural sequence based upon information from six excavated sites, including two rockshelters (CA-SIS-13 and CA-SIS-266), one temporary campsite (CA-SIS-900), one semi-permanent occupation site (CA-SIS-154), and two semi-permanent or permanent upland villages (CA-SIS-331 and CA-SIS-332). Temporal reconstructions allowed for the identification of two occupational phases—termed the Ager Phase and Meek Phase—largely defined on the basis of artifact typologies, radiometric data, and obsidian hydration information.

The Ager phase (ca. 500 BC–AD 500) represents the first solid evidence for occupation of Shasta Valley. The phase is characterized by Elko Corner-notched, Medium side-notched, and stemmed leaf-shaped projectile

points manufactured almost exclusively from Grasshopper Flat/Lost Iron Well/Red Switchback (GF/LIW/RS) obsidian. Other functionally discrete artifacts include unifacial and bifacial handstones, unifacial millingstones, end scrapers, and side scrapers. Lithic technology is focused on the reduction of imported, preformed obsidian bifaces, although core reduction of local cryptocrystalline silicate (CCS) and basalt materials was also undertaken. Temporal data include three radiocarbon dates that begin at 2380 ±80 BP (Beta-42563) and include dates of 1470 ±70 (Beta-20678) and 1460 ±190 BP (Beta-42562). Obsidian hydration data for projectile points and debitage range from 3.4 to 5.6 microns (Nilsson 1991). Faunal data reveal dietary patterns reliant on large and small mammal terrestrial species including artiodactyl (deer, sheep, or pronghorn), and leporids (rabbits and hares).

The Meek phase (AD 500–contact) represents the late precontact period in Shasta Valley and is the best documented occupational period. Highly diversified artifact assemblages include a wide spectrum of signature tools such as Gunther Barbed, Desert Side-notched, and small corner-notched points; key-shaped drills; lanceolate-shaped drills; leaf-shaped bifaces; triangular bifaces; triangular, concave base preforms; and a variety of end and side scrapers. Ground stone implements consist of circular and ovoid unifacial and bifacial handstones; unifacial slab-type millingstones; flat-ended pestles; cylindrical pestles; and, more rarely, hopper mortars. Ceramic implements consist exclusively of clay objects including pottery fragments, objects with punctate designs, a bead, a female figurine, and a clay rod. The pottery fragments include rim and body sherds of Siskiyou Utility Ware (Mack 1979, 1986), a ceramic tradition that has been identified within various north-central and northeastern California site assemblages, as well as others in Southern Oregon. Analyses of faunal remains demonstrate a focus on both terrestrial and riverine resources. Mammals were the principal species exploited and included large game such as black-tailed deer and/or mountain sheep and small species including cottontail and jackrabbits. While evidence for the exploitation of riverine resources is rare, salmon, trout, minnow, sucker, and river mussel shell fragments attest to the consumption of these species. Radiocarbon assays for the Meek Phase begin at ca. 1450 ±130 BP/AD 500 (WSU-3396) and extend to 320 ±60 BP/AD 1630 (WSU-3392). Obsidian hydration values range from 1.5 to 2.7 microns for GF/LIW/RS, the dominant source. These implements, however, have been extensively reworked, suggesting that the artifacts may have been scavenged and recycled from older site deposits elsewhere (Nilsson 1991).

The CA-SIS-13 rockshelter provides the only Meek phase data regarding fragile and perishable materials such as plant fibers and wood. Wooden implements from the shelter include mountain mahogany arrow foreshafts; black-painted reed arrow shafts; peeled twig fire drill; spindle-shaped gaming pieces; and other miscellaneous objects. Basketry, matting, and cordage comprise the lot of plant fiber artifacts known for the Meek phase. Basketry remains reveal the use of three twined techniques and indicate that tule, peeled willow, hazel, and pine root were employed in basketmaking (Wallace and Taylor 1952).

Socio-cultural data for the Meek phase reflects information from a single human burial recovered at CA-SIS-331. The burial consisted of the remains of an infant, buried in a slightly flexed to flexed orientation, who was laid to rest on a bed of mahogany-colored, Buck Mountain obsidian pressure flakes. Funerary items included various exotic artifacts such as bone pins, a bone pendant, incised bone fragments, a bird bone tube, siltstone artifacts, side-notched and stemmed projectile points, a stemmed biface, a gaming piece, a petrified wood tablet, an elbow pipe, a *Glycymeris subobsoleta* pendant, and an elongated *Haliotis* pendant.

Based upon association with a Desert Side-notched series projectile point, the burial was dated to sometime after ca. AD 1400. Additionally, charcoal recovered from an adjacent test unit at a slightly deeper level than the burial provided a radiocarbon date of 690 ± 90 years BP, or AD 1260 (Beta-24306) (Nilsson 1991).

Upper Rogue River Valley

The archaeology of the Rogue River drainage in the southern Cascade Range, north of the current Project area, holds relevance given the proximity of the river systems and similarity of precontact site assemblages within the two areas. In addition, a primary source of obsidian tool stone within sites of the Upper Rogue River Valley is the Medicine Lake Highland, particularly within site assemblages of the Coquille and Rogue phases (LaLande 1990; Nilsson and Kelly 1991). This indicates that there were cultural ties extending south from the Rogue River drainage to at least the Medicine Lake Highland south of the Klamath River.

Using data derived from radiocarbon dates, stratigraphic associations, projectile point typologies, and obsidian hydration studies from 20 regional sites, Pettigrew and Lebow (1987) proposed a cultural sequence for the Rogue River drainage and Middle Fork Coquille River area of southwestern Oregon. This reconstruction, detailed below, depicts a two-stage cultural sequence (Paleo-Indian Stage, Archaic Stage) that is segregated into four distinct cultural phases and six subphases.

The earliest cultural manifestation is the Paleo-Indian Stage, a period evidenced by the presence of two fluted points at sites in the upper Rogue River drainage (cf. Deich 1977; Dyck 1982; LaLande and Fagan 1982). Based on typological cross-dating of these points with other fluted point sites located across North America, a provisional date of 10,000 to 8500 BC has been assigned to this phase. Unfortunately, other corollary data are lacking, making this cultural phase the least known and most provisional within the local sequence.

The subsequent Archaic Stage, dating from 8500 BC to historic contact, incorporates four distinct cultural phases: Applegate, Marial, Coquille, and Rogue. The Applegate phase (8500–6500 BC) is characterized by the cultural attributes of a single site (35JA53) located on a high terrace above Applegate River near Ashland, Oregon (Brauner and Nisbet 1983). Hallmark artifacts of the Applegate phase include square-based, lanceolate projectile points with pentagonal to broad-stemmed concave bases, and edge-faceted cobbles. The use of local CCS material dominates the flaked stone assemblage, while imported obsidian occurs infrequently.

The Marial phase (6500–2500 BC) represents a cultural era recognized by the predominance of Diverging Stem Broad-necked, Willow Leaf Medium, and Willow Leaf Extra Large projectile points and the prevalence of McKee unifaces and end scrapers. The use of imported obsidian is greater than in the previous Applegate phase. The Marial phase is composed of two distinct subphases: Marial 1 (6500–3500 BC) and Marial 2 (3500–2500 BC). The cultural manifestations of the Marial 1 subphase include the dominance of Willow Leaf Extra Large points over Willow Leaf Large points and the presence of Side Notched Straight Base points. Edge-faceted cobbles remain frequent in site collections of this subphase. The Marial 2 subphase constituents consist of relatively equal amounts of Willow Leak Large and Willow Leaf Extra Large points and

the regular presence of Side Notched Straight Base points. Edge-faceted cobbles, however, appear to decline in use.

The Coquille phase (2500–250 BC) is recognized by the appearance and predominance of Coquille Series Broad-necked projectile points, most of which are fashioned from local CCS tool stone. The frequency of Willow Leaf Medium projectile points increases steadily during this phase, while a significant decrease is witnessed in the use of obsidian, particularly in the early part of the phase. End scrapers continue to be a prolific artifact form, but McKee Unifaces disappear from the archaeological record during this phase. Obsidian hydration values ranging from 3.2 to 3.9 microns are associated with the Coquille phase, and, perhaps, the latter part of the Marial phase (Pettigrew and Lebow 1987:31).

The final Rogue phase (250 BC to post-contact) heralds the introduction of bow and arrow weaponry into the region. Projectile point types reflective of this system are composed primarily of narrow-necked specimens. Typically numerous in site assemblages from earlier phases, endscrapers become less frequent, as does the use of obsidian tool stone. The Rogue phase is segregated into four distinct subphases: Rogue 1, Rogue 2 Ceramic Period, Rogue 2, and Rogue 3.

The Rogue 1 subphase corresponds to the period of 250 BC to AD 350 and is marked by the prevalence of Coquille Series Narrow-necked projectile points and the regular occurrence of Elk Creek Square Barbed and Willow Leaf Small points. Foliate series projectile points decrease in overall numbers, but Coquille Series Broad-necked specimens, held over from the earlier Coquille phase, are also present. Obsidian hydration values of 1.9 to 2.6 microns are associated with the Rogue 1 subphase.

The Rogue 2 subphase (AD 350–contact) is identified by the dominance of Rogue River Barbed projectile points over all other forms; point types Rogue River Distally Constricted, Rogue River Diverging Stem, Triangular Concave Base, and Triangular Straight Base are also present. Obsidian hydration values ranging from 1.0 to 1.8 microns correlate with the Rogue 2 subphase. The Rogue 2 Ceramic Period (AD 900 to AD 1300 or 1500) is distinguished within this subphase by assemblages with ceramic vessels and figurines. A marked decrease in the frequency of Side Notched Concave Base and Triangular Concave Base points is noted after the Rogue 2 Ceramic Period.

The final Rogue 3 subphase (post-contact) represents the period of Euro-American intrusion into the region and is recognized by the presence of trade goods among corresponding site assemblages.

3.2 Archaeological Investigations

3.2.1 Modoc Plateau

Klamath Lakes Basin

The Klamath Lakes Basin has received the most extensive archaeological research of all regions discussed in this study, as well as some of the earliest archaeological fieldwork. Interest in this area appears to have been the result of an extension of previous work undertaken within the adjoining Great Basin. Professional

archaeology was brought to southcentral Oregon in the early 1930s by Dr. Luther S. Cressman of the University of Oregon, Eugene. Cressman began teaching as professor of sociology in Eugene in 1929 and conducted his first archaeological excavation near the Rogue River in 1930 (Butler 2018). He began his study of southeastern Oregon in 1932 with a survey of Oregon petroglyphs, followed with a survey of Guano Valley in 1934 (Cressman 1940:iii). At this time, interest in the prehistory of southeastern Oregon coincided with a period of extended drought that brought "Dust Bowl" conditions to this arid part of the state. Large-scale reclamation projects of the preceding decades, coupled with a period of homesteading, overgrazing, dry farming, and drought, caused significant drying of regional lakes and wind erosion of lake sediments. Such erosion laid bare a vast amount of archaeological materials, much of which pointed to very ancient human settlement of this region.

In 1935, Dr. Cressman supervised field survey and preliminary excavation of Catlow Cave in Harney County, Oregon, with the aim of testing the theory that eastern Oregon served as a travel route and settlement area for ancient migrants to North America (Voget 1998:2). That same year, excavations were carried out at Wikiup Damsite No. 1 on the Deschutes River (Cressman 1937). Excavations continued at Catlow Cave and other sites in the summers of 1937–1940. These included Paisley Five-Mile Point Caves and Fort Rock Cave (Cressman et al. 1940). These caves yielded ancient sandals, an amount of basketry, wooden objects, bone tools, scrapers, projectile points, manos, and other objects recovered from above and below Mazama pumice. They also yielded fire lenses (ash and charcoal) and associations of extinct fauna (fossil bones) with human occupation (Cressman et al. 1940:301).

Northern Klamath Lakes Basin, Oregon

Archaeological investigations conducted within the Northern Klamath Lakes Basin were initiated by Dr. Cressman in the late 1940s when work was conducted at 12 precontact sites located along the Sprague and Williamson Rivers, north and northeast of Upper Klamath Lake. The sites included the Sprague River Nos. I-IV, Medicine Rock Cave, Kawumkan Springs Midden, KL-9, KL-10, KL-11, and KL-12 on the Sprague River, as well as the Merritt site and Gentry and McQuiston site on the Williamson River. Cressman's (1956) work focused on finding evidence of early post-Pleistocene occupations and linking such occupations to the development of later precontact cultures, particularly with the Klamath Indians. This might be accomplished by discovering a site that contained a continuous record of human occupation from the post-Pleistocene to historic times. Cressman was also interested in determining how ancient cultures once adapted to lakeshore environments might have evolved or changed to exploit other environments, such as adjacent river valleys and mountain slopes. At the time of his study, Cressman (1956) noted that evidence had been found of Great Basin occupations extending back to the termination of the Pluvial period, and that such evidence was confined to the margins of the ancient lakes. Such evidence of early human occupation had yet to be found in the creeks and rivers that extended out from the ancient lakes, Klamath River being one such example.

Most of the cultural materials recovered from among the 12 sites investigated by Cressman (1956) derived from Medicine Rock Cave (35KL5) and Kawumkan Springs Midden. Forty-four classifiable artifacts were collected from Medicine Rock Cave, including 12 projectile points, 12 bone and antler tools, several scrapers and knives, one drill, and four gouges or gravers. Fish bone and freshwater mussel shell were recovered from the cave, as well as a bone fish gorge. Mammal bone was much less common. Evidence

indicated intermittent use of the cave from before the eruption of Mount Mazama until historic times, more than 6,000 years.

Investigation of the Kawumkan Springs Midden yielded a large sample of flaked and ground stone artifacts, battered stone, bone and antler tools, pendants, and beads. Numerous features were identified, including house pits, sweat houses, human burials, and dog burials. Also recovered were freshwater mussel shell and the bones of fish, bird, rodents, carnivores, and large mammals. Ground stone artifacts from Kawumkan Springs Midden included mortars, pestles, metates, and a variety of manos, mauls, paint palettes, and other objects. Three hundred seventy-four projectile points were recovered, representing 19 morphological types. Other flaked stone tools included choppers, knives, scrapers, drills, and gravers. The initial occupation of the midden was put before 7,000 years ago and perhaps as early as 9,000 years. Klamath type villages, as that at Kawumkan Springs, were estimated to date back to AD 700, and such traditional villages were known to be occupied as late as AD 1864 (Cressman 1956:463-465).

Three additional precontact sites in the Northern Klamath Lakes Basin have provided important information for defining regional chronology. Investigations conducted at the Collier State Park site (35KL34) in the late 1960s by David Cole of the University of Oregon (Cheatham 1990) documented a late precontact house pit village site at the confluence of the Williamson River and Spring Creek, near Chiloquin, Oregon. The excavation of a single house pit produced a cultural assemblage defined by flaked stone artifacts, including debitage, small stemmed projectile points, knives, scrapers, bifaces, used flakes; ground stone items; and a large quantity of fish bone. Radiocarbon assays for the site yielded dates of 340 and 360 years ago.

In the late 1980s, the University of Oregon conducted excavations at the Williamson River Bridge site (35KL677), also near Chiloquin, Oregon (Cheatham 1990). An extensive cultural assemblage was recovered from this precontact spring fishing camp, comprising over 600 flaked stone tools, 15,500 pieces of debitage, 117 cores, 54 bone tools, over 14,000 pieces of animal bone, and 200 pounds of freshwater mussel shell. Temporal data revealed recurrent site use over a 2,000-year period, based on low diversity of feature classes and tool forms. Subsequent study of the fish remains and new radiocarbon dating for the site have been conducted by Stevenson (2011).

The Bezuksewas Village (35KL778), located near the confluence of the Williamson and Sprague Rivers near Chiloquin, Oregon, was investigated by the University of Oregon in 1990 (Cheatham et al. 1995). Thousands of precontact and protohistoric cultural remains were recovered from this winter village site that was used for fishing and shellfish collecting. Three temporal components were identified: Component 3 (2500 BC–AD 250), Component 2 (AD 250–1300) and Component 1B (AD 1300–1860) and Component 1A (AD 1860–1920). Subsequent study of the fish remains have been conducted by Stevenson (2011).

Lower Klamath Lake and Tule Lake Basins, California

Following his initial work at cave sites in Oregon, Cressman shifted some of his attention to the Lower Klamath Lake area of northeastern California in the 1940s where surface artifacts had been found in possible association with the fossils of early fauna. By 1917, Lower Klamath Lake had been reclaimed by the construction of levees, and several years of vegetation burning had stripped the ground of peat. Arid

conditions of the 1930s allowed high winds to carry away lake sediment and the deeper deposits of volcanic pumice and diatomite, exposing the hardpan below. Upon this hardpan was found ancient artifacts and bluish-colored, mineralized bones of animals, some long extinct. Among artifacts given by local collectors to the University of Oregon was a punch-like object of fossilized bone and a stone pipe fragment (Howe 1968:202). Cressman (1940) reported that this private collection was shared with the university by Frank A. Payne. Other materials were shared by local educator and co-founder of Klamath County Museum, Carrol B. Howe. Howe's interest in collecting artifacts began at Clear Lake in Modoc County, where he found artifacts exposed on the lakebed in 1933 (Howe 1968:ix).

Cressman's 1940 fieldwork in the Lower Klamath Lake area focused on determining whether the association of artifacts with mineralized bone was original or derivative. Another goal was to identify the number and character of horizons of human occupation, to identify the chronological sequence of horizons, and to identify variations of the horizons between different parts of the lake (Cressman 1940:302). Trenches were excavated within undisturbed lake deposits at three major localities, including a channel called the Narrows (CA-SIS-257), a point at the south end of channel called the Cove, and Laird's Bay (CA-SIS-230) at the south end of Lower Klamath Lake. For trenching, geologists Ernst Antevs, Ira Allison, and W. D. Smith were invited to study the geologic features of the lake basin and identify any evidence of climatic change (Cressman 1940:302). Cressman's work provided the first chronological sequence of culture in the Klamath Basin, one that included three horizons discussed above: Narrows, Laird's Bay, and Historic.

Cressman's "Historic" horizon was later included in the Modoc Complex through Heizer's (1942:123-127) excavation of two caves at Petroglyph Point near the southern shore of Tule Lake. In addition to his work at Petroglyph Point, analyzed burial and cremation remains recovered from the shoreline of Tule Lake. His analysis identified 31 traits/artifacts in the assemblage, 22 of which occurred in native Klamath or Modoc culture. Based on these findings, Heizer concluded that the Tule Lake assemblage, like that from Petroglyph Point, represented a late precontact phase of Klamath or Modoc culture.

The temporal periods proposed by Cressman (1940) for Lower Klamath Lake, and by Heizer (1942) at Tule Lake, were confirmed by subsequent work conducted in the early 1950s. During the summers of 1952 to 1954, under sponsorship of the University of California, Berkeley, Robert J. Squier and Gordon L. Grosscup directed survey and excavation projects at Lava Beds National Monument and Tule Lake and Lower Klamath Lake basins. During this time, 332 new sites were recorded, and several sites were excavated. Squier and Grosscup's work was aimed primarily at the recordation and study of resources relating to the protohistoric Modoc Indians (Squier 1956:35). Their survey work revealed that only within the immediate neighborhood of lake shores is there "evidence of occupation of any appreciable duration" (Squier 1956:37). Squier and Grosscup's excavation of three rockshelters in the Tule Lake Basin and two open sites on Lower Klamath Lake recovered late precontact/early historic materials relating to Modoc occupation. The assemblages were comparable to those identified as the Modoc Complex, prompting Squier (1956) to refine the latter half of the complex by subdividing it into three phases: (1) Indian Bank, (2) Gillem Bluff, and (3) Tule Lake.

Additional survey work by Swartz (1961) along the southern shore of Tule Lake developed a classification of eight site types and resulted in the excavation of four rockshelters: CA-SIS-299, CA-SIS-303, CA-SIS-304, and CA-MOD-186. Another site, CA-SIS-101, a 42-house pit village known as the Peninsula Bay site, was

excavated by Swartz in 1962. The CA-SIS-101 village corresponded with the location of *Gumbat*, an ethnographic Modoc village described by Ray (1963:207-208). The results of these five site investigations led Swartz (1963, 1964) to identify four chronological components, spanning several millennia. Component I (pre-1500 BC) was characterized by large lanceolate, leaf-shaped, side-notched, and bi-pointed projectile points. Component II (1500 BC to 500 BC) consisted of an assemblage of lanceolate points as in Component I, in addition to smaller, thinner stemmed triangular points, bowl and hopper mortars, and secondary cairn burials. Components I and II were considered roughly equivalent to Cressman's (1942) Laird's Bay Horizon. Component III (post-AD 1000) was defined by the presence of Gunther and Desert Side-notched series points, metates, shallow hopper mortars, tubular pipes, twined basketry, human cremations, and circular semi-subterranean dwellings. Finally, Component IV represented the period of the Modoc War, 1872–1873.

Following the work by Swartz (1961), the University of California, Davis, investigated the Merriam Site (CA-SIS-258), a precontact midden located 15 air miles northwest of Tulelake, California (Johnson 1966). Site excavations reached a depth of 76 centimeters below surface (cmbs) and yielded faunal, shell, ground stone, flaked stone, and human remains (Johnson 1966). Five primary interments and two cremations were found, as were numerous spire-lopped *Olivella* beads. Ground stone items consisted of mortars, pestles, manos, metates, pipes, and tubes. Flaked stone artifacts were dominated by obsidian and secondarily, CCS and basalt. CA-SIS-258 dated to a few hundred years before AD 1600 based on bead and projectile point typologies (Johnson 1966). Although this site lacked stratigraphy, the spatially segregated burials allowed for the designation of two site components. The remains of fish, waterfowl, and large mammal, along with ground stone artifacts, indicated a lacustrine adaptation.

Nightfire Island (CA-SIS-4), a village site on what was once the western shoreline of Lower Klamath Lake, has yielded a long and important chronological sequence for the region that spans some 6,000 years of human occupation. The site was first excavated in 1966 and 1967 by field crews from the University of Oregon under the direction of LeRoy Johnson (1969a, 1969b). The first chronological sequence developed for the site was based on the interpretation of the faunal assemblage advanced by Grayson (1976). Recent analyses of the cultural assemblage by Sampson (1985) and of obsidian artifacts by Hughes (1983) have resulted in a revised chronological sequence and specific artifact data for the site.

Sampson (1985:83) identified 15 strata at Nightfire Island spanning a time depth of 5500 BC to AD 1360 ±240. Strata were detected using sedimentary deposits, avifaunal and lithic constituents, and a group of 27 radiocarbon dates. The strata were grouped into three major stratigraphic zones: (1) a large flake zone (5500 BC to 2450 BC) defined and correlated on the basis of the physical size of the obsidian debris; (2) small flake zone (2450 BC to AD 250), defined on the presence or absence of avifaunal constituents; and (3) a terminal arrowhead zone (AD 250 to AD 1360 ±240) identified by the presence of Gunther series projectile points above the small flake zone.

Site investigations revealed that the first occupants, prior to 5000 BC, sought temporary habitation on a streambank ridge or small island where potable water was readily available and from where a waterfowling station was established (Sampson 1985:5017). Small hunting parties or single households used the site during this time. Recovered tools include a few manos, unifacial and bifacial preforms, and large notched

dart points. Resource forays for obsidian toolstone led the inhabitants north to source areas in Southern Oregon and to the east end of Lower Klamath Basin. The procurement of coots and mammals provided a substantial part of the diet.

By about 6,000 years ago (4450 BC), drier climatic conditions forced the retreat of lake's shoreline, possibly prompting site abandonment for several centuries (Sampson 1985:509). By 5,500 years ago, reoccupation occurred, and the site resumed its principal function as a waterfowling station, expanding to include procurement of scaups, as well as coots, and the reintroduction of plant processing equipment such as mortars and pestles. Projectile point styles expanded to include "ready-made" Humboldt series, side-notched forms, small corner-notched types, and large stemmed points (Sampson 1985:511). Between 5,000 and 4,850 years ago, site occupation intensified, and a semi-permanent house pit village was established, as witnessed by an increase in pounding and grinding equipment for processed stored foods. Projectile point styles incorporated side-notched styles and the appearance of "diminutive" Great Basin types. Site abandonment occurred again roughly 4,500 years ago, with the renewed retreat of the shoreline. Resettlement occurred shortly after, ca. 4,450 years ago, following a later rise in the lake level. Site use advanced to incorporate intensified plant food exploitation, reestablishment of waterfowl procurement, and the beginning of fish procurement (Sampson 1985:512). Following almost 1,300 years of continual occupation, the site was once again abandoned about 3,200 years ago. After a prolonged abandonment, the site was re-occupied by 2,600 years ago as a small temporary summer fishing village, characterized by lighter surface structures. Fish exploitation increased, and occupation remained intact until 2,100 years ago, when the site was once again abandoned.

Site reoccupation at 1,950 years ago continued to focus activities on maintenance of a small, temporary procurement station that serviced a couple of households. Bow and arrow weaponry was introduced at the site around AD 300, apparently correlated with the site's inclusion within the range of *Olivella* bead exchange network. Burial patterns suggest that the site may have been the target of violent interactions from rival groups, which may have prompted the eventual abandonment of the site at ca. 600 years ago.

Hughes (1983, 1986) conducted obsidian geochemical source determinations of 347 obsidian projectile points from the Nightfire Island site. Seven projectile point series were examined, including Desert Side-notched, Rosegate, Gatecliff, Humboldt, Northern Side-notched, Elko, and Gunther. Of these types, only the latter three occurred in adequate frequencies to call for detailed analysis (Hughes 1983:147).

Hughes' results for Northern Side-notched, Elko, and Gunther points indicate that diachronic shifts in obsidian source use occurred. Points fashioned during Northern Side-notched times (5500 BC to AD 500) were dominated (80 percent) by nearby obsidian sources to the south in the Medicine Lake Highland. Fourteen percent of the Northern Side-notched points were fashioned from sources to the northeast of Nightfire Island, while the remaining 6 percent were from more distant eastern sources.

During Elko times (ca. 1350 BC to AD 250), percentage frequencies of obsidian points made from more distant northeast sources nearly doubled from those during the preceding Northern Side-notched times (Hughes 1983: Table 5-4). Sixty-three percent of the Elko points were manufactured from Medicine Lake Highland materials, 26 percent from sources to the northeast, and 11 percent from materials to the east.

According to Hughes (1983:159), these results may be suggestive of broader sociocultural changes occurring in the Lower Klamath Lake region during Elko times.

Sometime around AD 200 to AD 300, Gunther series projectile points superseded the Elko series at Nightfire Island. This replacement involved another shift in obsidian source representation with frequencies of nearby southerly Medicine Lake Highland obsidian increasing noticeably (18 percent) and the frequencies of more distant northeastern materials declining by 15 percent (Hughes 1983:156). Hughes (1983:163) noted that this shift during Gunther times was different than the previous two and involved technological differences and evidence of violent social conflict.

Investigations conducted at the Sheepy East 1 site, located along the western edge of Tule Lake provided evidence for its use as a task-specific camp during the late prehistoric period (McGuire 1985). Site occupations dated from AD 700 to 1400 reflect a fishing and antelope hunting campsite.

In 1989 and 1990, archaeologists from the University of California, Davis, led by John Beaton, excavated two rockshelters (Shelter A and D) within site CA-SIS-218, located near the west shore of Tule Lake (Beaton 1991; Erlandson et al. 2014). An excavation trench placed in Shelter A revealed a 2.5-meter-deep cultural deposit, with the lowest 50 cm of Paleoindian age. Seven accelerator mass spectrometry (AMS) radiocarbon dates obtained from burned wood and twigs within the Paleoindian stratum provided standard dates of 10,280 ± 40 to 11,450 ± 340. BP calibrated (cal) dates ranged from 11,820 to 14,050 BP, suggesting occupation of Late Paleoindian age to perhaps pre-Clovis age. However, it was suggested that the largest date of 14,050–12,800 cal BP represented “old wood” (Erlandson et al. 2014:778) and that this outlying date might have resulted from differential weathering or preservation (e.g., Schiffer 1986). Two dates of 11,100 BP (13,090–12,935 cal BP) were identified as possibly representing an ephemeral Clovis-age occupation (Erlandson et al. 2014:778). The remaining four AMS dates ranged from 10,425 to 10,280 BP (12,590–11,820 cal BP), pointing to a Late Paleoindian occupation falling squarely within the Younger Dryas cold event of ca. 12,900–11,600 cal BP (Osborn 2014). Artifacts recovered from the Paleoindian stratum at CA-SIS-218 included 280 pieces of debitage, 6 bifacial point fragments, 2 biface fragments, 4 retouched flakes, 1 side scraper, and fragments of at least 4 eyed bone needles. Also collected were 32 bones from the feet of an adult human skeleton, as well as the bones of birds, fish, and mammals (Erlandson et al. 2014:777-778). Erlandson and colleagues (2014) noted that the occurrence of bone needles fits with the assertion by Osborn (2014) that such artifacts are characteristic of North American Paleoindian occupations dating to the Younger Dryas period. Bone needles and spurred flake gravers likely used to create the needles typify this temporal period and suggest that tailored skin clothing was being produced to meet the challenges of severe winters and cold stress brought on by the Younger Dryas cold event (Osborn 2014).

In the 1990s, archaeological investigations were conducted at the Four Bulls site, 35KL1459, located near the Klamath River, along the southwestern edge of Klamath Lakes Basin, close to the old shoreline of Lower Klamath Lake ((Wilson et al. 1996). Phase II testing revealed a deep, stratified midden containing a variety of flaked stone artifacts, ground stone, and bone tools, along with animal bone debris and freshwater mussel shell. Flaked stone tools included contracting stem and Coquille broad-necked projectile points, biface fragments, cores, flake tools, metate fragments, and one possible bowl fragment. Several projectile

points were also obtained for study from local landowners, including a stemmed point, a lanceolate point, and an Elko Corner-notched specimen (Wilson et al. 1996:2-10).

Faunal remains from 35KL1459 included deer, ground squirrel, gopher, moles, mice, voles, garter snake, pond turtle, geese, ducks, and Corvids. More than half of these bone fragments showed evidence of burning. Organic blood residue analysis of one biface fragment provided a faint positive reaction for bovine antiserum, suggesting possible exploitation of bison. Also, a large amount of freshwater mussel shell was recovered, as were shells of pond snail (Wilson et al. 1996:2-11).

Obsidian studies for 35KL1459 documented the use of a wide range of sources distributed across northeastern California and south-central Oregon. Primary among these were 47 (66 percent) artifacts identified as Medicine Lake Highland materials (GF/LIW/RS and East Medicine Lake [EML]). Five specimens (7 percent) were classified as Glass Mountain, and seven artifacts (10 percent) were identified as Spodue Mountain. Other artifacts included Buck Mountain (n=3), Cowhead Lake (n=1), Rainbow Mines (n=1), Drews Creek/Butcher Flat (n=1), Tucker Hill (n=1), and Silver Lake/Sycan March (n=1). Two unmodified obsidian nodules were sourced to Spodue Mountain and Witham Creek. Obsidian hydration analysis revealed that most artifacts exhibited greater than 3.5 microns. The GF/LIW/RS and EML artifacts showed two principal modes, including 3.5-4.0 microns and 5.5-6.0 microns. A few additional specimens exhibited rims greater than 7.0 microns, while several others ranged between 1.0 and 3.5 microns. For Spodue Mountain obsidian, hydration values spanned 2.9 to 6.1 microns. Several artifacts had no visible hydration, pointing to a late-period occupation. This was also indicated by the presence of Glass Mountain obsidian. Comparing the span of hydration readings to those for Nightfire Island (CA-SIS-4) suggested occupations at 35KL1459 were primarily during the Early- to Mid-Holocene (Wilson et al. 1996:2-12).

Data recovery investigations were conducted at 35KL1459 in 1995 (Wilson et al. 1996), where portions of the site revealed an organic stratum related to lacustrine deposition. Eight features were identified, including three historic features related to railroad construction, two precontact shell and fish bone concentrations, two areas containing human burials, and a concentration of mineralized, large mammal bones. Trenching revealed at least four human burials in two closely related areas, evidence of a precontact cemetery, and this was avoided by the project by boring underneath the burials. Feature 7, the area containing mineralized bone, yielded a variety of species. These included the remains of deer, bison, shrub-ox, goat, large bird, sucker, and Cyprinid (minnow/carp family). Intrusive gopher and ground squirrel remains were also recovered from the area of Feature 7. The mineralized bone suggested Pleistocene-age deposition. Several examples of cut marks and conchoidal fracture on bone were viewed as evidence of cultural modification. In addition, several artifacts were found associated with mineralized bone fragments (Wilson et al. 1996:2-47 to 2-54).

A robust artifact assemblage was recovered during the data recovery work. More than 3,500 pieces of debitage were recovered from data recovery investigations at 35KL1459, including primarily obsidian with lesser amounts of CCS and basalt. Also recovered were 141 stone tools, including bipolar artifacts, cores, blanks, preforms, bifaces, projectile points, and flake tools. The points included large and medium size, side-notched forms (Northern Side-notched and Siskiyou Side-notched), large lanceolate, McKee Uniface, and other stemmed and shouldered point fragments. The point types span the period from 9000 to 300 BP, with

overlap at 5000 to 3000 BP. Arrow points were absent from 35KL1465, suggesting a terminal date of ca. 3000 BP (Wilson et al. 1996:2-117). Also recovered from this site was a square, tabular basalt piece that was flaked and ground. This specimen was interpreted as a possible net weight or a cooking stone, appearing like artifacts described by Cressman (1956:425) as "hotrocks." In addition, a grooved basalt abrader was collected, as well as a basalt pipe bowl fragment and an elongated basalt ground stone tool with a biconically drilled hole, possibly a digging stick handle (Wilson et al. 1996:2-113).

Two hundred fifty-six data recovery artifacts from 35KL1459 were submitted for obsidian studies. Combined with testing artifacts, obsidian sourcing and hydration data were made available for 226 pieces of debitage and 101 stone tools (Wilson et al. 1996:2-123). Overall, more than 63 percent of the obsidian specimens were derived from the Medicine Lake Highland and about 25 percent from Spodue Mountain. The remaining specimens include a variety of northeastern and southeastern Oregon sources. Obsidian hydration readings showed initial site occupation by 9000 BP, and possibly as early as 10,500 BP. The most intensive occupation was from 8000 to 4500 BP, followed by sporadic use after 4500 BP, and the latest occupation occurring perhaps as late as 1000 BP (Wilson et al. 1996:2-131 to 2-132).

Butte Valley Basin

Butte Valley Basin is a closed drainage basin that lies about 5 kilometers southeast of the Klamath River, bordering the eastern edge of the Cascade Range. In the early 1980s, several archaeological projects were conducted within Butte Valley and along its eastern margin. These included the excavation of precontact site CA-SIS-342 and later site survey (Jensen and Farber 1982), followed by the sampling of surface lithic assemblages at precontact sites CA-SIS-439, CA-SIS-440, and CA-SIS-864 (Ritter and Crew 1985). Finally, test excavations were carried out at CA-SIS-833, a rockshelter on the eastern side of Butte Valley (Sletteland 1984).

The first major data recovery program in Butte Valley proper was conducted in 1981 at CA-SIS-342 by Jensen and Farber (1982). Results of their investigations indicated that this site, located north of Macdoel, California, represents the remains of a temporary hunting/gathering camp near the Meiss Lake shoreline. Artifacts were recovered to depths of 180 to 200 cmbs and included a number of lanceolate projectile points similar to Lake Mojave, Parman, Cougar Mountain, Haskett, and Lind Coulee types (Jensen and Farber 1982:68-77). The site was assigned a 7,500 to 10,500 BP date based on projectile point typologies and the results of obsidian hydration studies, making it one of the oldest sites documented within the Siskiyou County area.

Obsidian is the dominant lithic material used for stone tool manufacture at CA-SIS-342, but CCS and basalt are present as well. Debitage analysis indicates that primary reduction of lithic material was being carried on off-site and that stone-working activities involve the final stages of tool shaping or edge preparation (Jensen and Farber 1982:98). Obsidian sourcing analysis identified three Medicine Lake Highland sources: (1) GF/LIW, (2) Yellowjacket/Stoney Rhyolite Core, and (3) Cougar Butte. Obsidian hydration values range from 5.6 to 8.0 microns.

In addition to the excavations at CA-SIS-342, a corollary site survey was undertaken by Jensen and Farber (1982:Appendix C) in and around Butte Valley to provide a local contextual framework by which to characterize and interpret the materials from CA-SIS-342. Twenty sites were inspected, 18 of which were subjected to limited obsidian sourcing and hydration analysis of surface artifacts. With exception of 12 specimens, all items are projectile points including Gunther, Side-notched, Rosegate, Gatecliff, Desert Side-notched, and Humboldt series types. Sourcing results indicate that 95 percent of the items are fashioned from Medicine Lake Highland sources: GF/LIW (n=32), Callahan Flow (n=1), and Stoney Rhyolite Core (n=2). Two specimens are not from the Highlands and include Drews Creek/Butcher Flat and Blue Mountain. Obsidian hydration values range from 1.1 to 7.2 microns for all 37 specimens analyzed.

Test excavations at the Coyote Hill Rockshelter, CA-SIS-833, were conducted in 1981 by Sletteland (1984). The site is in the eastern portion of Butte Valley, 4 air miles southwest of Mount Dome. CA-SIS-833, excavated to 70 cm, yielded flaked stone tools and debitage, bone, and shell. Flaked stone artifacts included Rosegate series points, biface fragments, and debitage fashioned from obsidian (91 percent) and basalt (9 percent). Sletteland (1984) suggested that final tool formation and resharpening were the primary activities occurring at the site. Obsidian sourcing indicated GF/LIW (n=3) and Railroad Grade (n=1) as loci for raw material. Hydration values ranged from 1.2 to 7.2 microns. Based on a radiocarbon assay, the chronological placement of the site at 1085 ±130 BP was determined through the analysis of a charcoal sample.

Further research directed at understanding the nature and information potential of surface lithic assemblages was undertaken by Ritter and Crew (1985) in the Mount Dome-Big Tablelands area east of Butte Valley. Surface artifacts from CA-SIS-439, CA-SIS-440, and CA-SIS-864 were subjected to obsidian sourcing, hydration, and lithic analysis.

The assemblage from CA-SIS-439 indicates two raw materials were being exploited, obsidian (75 percent) and black metavolcanics (25 percent). Debitage analysis suggested secondary shaping and trimming with primary reduction being only minimally represented. Obsidian sourcing and hydration of a single non-diagnostic projectile point indicated that the artifact was fashioned from Blue Mountain obsidian which hydrated to 4.4 microns.

The surface artifacts from CA-SIS-440 indicated different patterns of stone tool technology than those from CA-SIS-439. The collection, comprised of obsidian (96 percent) and basalt (4 percent), represented bifacial reduction of flake cores, preforms, and bifaces. Ritter and Crew (1985) suggested that large bifaces and preforms were probably imported to the site and subsequent primary and secondary shaping of these items undertaken. Obsidian sourcing analysis of seven items revealed that GF/LIW was the dominant source (n=6), with Cougar Butte represented by only a single item. Hydration values ranged from 1.2 to 7.3 microns for these specimens.

The lithic assemblage analyzed from CA-SIS-864 was dominated by obsidian (81 percent) but also included basalt (15 percent) and CCS (3 percent). Debitage analysis indicated that bifacial reduction of projectile points and bifaces was the dominant activity at the site. Secondary shaping and maintenance of tools were also noted. Obsidian sourcing results revealed the dominance of GF/LIW (n=16) followed by Spodue Mountain (n=2) and Buck Mountain (n=1). Hydration values range from 2.4 to 5.2 microns.

3.2.2 Cascade Mountains

The Klamath River crosses the Cascade Mountains beginning near Keno, Oregon, extending generally southwest to near Hornbrook, California. Archaeological investigations in this area began in the 1950s and have continued to the present day. The following review of these works is divided into three sections: Upper Klamath River, Upper Klamath River Tributaries, and Shasta Valley.

Upper Klamath River

The earliest archaeological investigations conducted within the Upper Klamath River area were undertaken by the University of California, Berkeley, archaeologists in 1953, who recorded and tested site CA-SIS-16, located near Beswick, California. Between 1958 and 1965, the University of Oregon completed several salvage projects in response to proposed hydroelectric developments associated with the Big Bend Project (Newman and Cressman 1959), Salt Caves Dam Reservoir Project (Cressman and Olien 1962; Cressman and Wells 1961), and the Keno Development Project (Cole 1965) in Oregon, as well as the Iron Gate Reservoir Project (Leonhardy 1961, 1967) in California. Subsequent revaluation and reanalysis of the Salt Caves Dam materials (Salt Cave Locality) was completed by Mack (1979, 1983), providing a synthetic discussion and chronological history that details 7,000 years of prehistory within the Upper Klamath River Canyon. Mack has continued her research in the canyon through the Upper Klamath River Project, an ongoing, multi-year research program focused on the study of cultural adaptations and human occupation and use of the canyon. In addition to Mack's synthetic works, other project-specific studies have been conducted in Oregon, including investigations completed for infrastructure replacement projects, including the Pacific Gas Transmission (PGT) Medford Extension (Fagan et al. 1994; Wilson et al. 1996) and the Spencer Bridge replacement (O'Neill 2005; O'Neill and Connolly 2009).

CA-SIS-16

The first archaeological site investigated in the Upper Klamath River area was CA-SIS-16, a multi-component site known as the Upper Klamath River Rockshelter, located on the Klamath River, near the community of Beswick, California. The site is mentioned by C. Hart Merriam (1976) as *Chah'-hah-took,* a Shasta winter camp in a cave across the Klamath River from Klamath Hot Springs (Beswick). University of California Archaeological Survey (UCAS) archaeologists recorded and tested the precontact rock shelter and midden site in 1953. Although no report has been prepared summarizing these investigations, as noted in the 1953 site record, the cultural deposit extended to over 3 feet (1 meter) in depth and contained projectile points, a basalt core, debitage, and a hopper mortar fragment (Mack 1979:6, 1989:3).

Big Bend Project

In early 1951, Copco made plans to install a hydroelectric power plant on the Klamath River roughly 6 miles below Keno, Oregon. In 1956, an agreement was reached between Copco and the USBR to construct the facility as part of the Big Bend Project, the first of the post-World War II developments built on the Klamath River. Facilities associated with the Big Bend Project were later renamed as the J.C. Boyle Dam, Reservoir, and Powerhouse to honor Copco's long-time chief engineer John C. Boyle.

Work on the hydroelectric project began in 1956 and by mid-1957, an 11,000-foot, open concrete conduit and 1,600-foot-tunnel between the dam site and power plant were under construction (*Sacramento Bee* 1957). According to Boyle (1976:54), construction of the dam and power plant was rushed to completion by October 1958. During construction, Copco issued a grant to the University of Oregon, Department of Anthropology, Eugene, to conduct an archaeological survey of the Big Bend Project area, as well as salvage excavations once the survey was completed (Newman and Cressman 1959).

In March 1958, a team of university students conducted the survey and located seven precontact sites near the proposed dam site. Of these, three sites were deemed of "sufficient importance to warrant assigning" state trinomials (Newman and Cressman 1959:3). These included two rockshelters assigned the trinomials 35KL13 and 35KL14 and one open lithic scatter assigned 35KL15. During a 2-week period in July and August 1958, test excavations were carried out at the sites by Thomas M. Newman, Bruce A. Cox, and Daniel J. Scheans of the University of Oregon (Newman and Cressman 1959:1).

The 35KL13 rockshelter revealed an artifact-bearing deposit that included flaked and ground stone artifacts, bone tools, and ceramic items. More than 30 small projectile points were recovered, nearly all of which had triangular blades. Six projectile point variants were noted, including two side-notched types, basal notched with contracting stem, barbed expanding stem, straight stem with square shoulders, and triangular with concave base. Other precontact artifacts included 3 pressure flaked blades, 3 scrapers, more than 50 modified flakes, 6 grinding slabs, several manos, 1 bone awl, and 3 pottery fragments. Charcoal, burnt earth and other evidence of fires was noted in the deposit. While several lenses of burnt earth were noted, no evidence of cultural stratigraphy was found. Several well-preserved faunal remains were collected, as well as one freshwater shell and six broken fruit pits. Faunal remains included carnivores, cervids, rodents, and turtles. Site occupation was estimated to fall between AD 1000 and 1850 (Newman and Cressman 1959:15).

Investigations conducted at 35KL14, a small rockshelter overlooking the Klamath River, yielded a sparse assemblage of one projectile point, one projectile point fragment, one scraper, a few worked flakes, and one possible mano. In addition, human skeletal remains of one adult male were uncovered, as were small quantities of freshwater mussel shell and animal bone (Newman and Cressman 1959:16). It was suggested that the site might be related in time and culture with 35KL13, although conclusive evidence for this association was not found (Newman and Cressman 1956:16).

Testing at 35KL15, an open lithic scatter below the proposed dam, indicated that the site contained a thin deposit of cultural materials, destroyed in part by erosion. Recovered artifacts included the base of a large projectile point or hafted scraper; one fragment of a large obsidian blade; a small, elliptical scraper; a few worked flakes; and waste flakes. Faunal remains included one turtle carapace fragment. The point or scraper base was identified as a type found west of the Great Basin (Newman and Cressman 1959:17). Temporal and cultural associations for the site remained inconclusive, pending additional study.

Iron Gate Reservoir Project, 1960

In early 1960, the University of Oregon surveyed the proposed Iron Gate Reservoir on the Klamath River, located seven miles east of Hornbrook (Cressman 1960; Leonhardy 1961). Three precontact sites were identified, and one was selected for excavation. This site, initially referred to as Iron Gate 2 and now identified as CA-SIS-326, consisted of a small village containing 13 house pit depressions and artifacts eroding from the river bank (Leonhardy 1961:3, 1967:1). Due to the forthcoming inundation of the site by the Iron Gate Reservoir, in the summer of 1960 the University of Oregon conducted data recovery excavations to determine its cultural position.

Investigations at CA-SIS-326 revealed the remains of pit houses, varied and abundant artifacts, and floral and faunal remains. House pits were found to contain multiple floors or living surfaces, fire pits, areas of burnt earth and ash, burnt bark and beams, and a variety of artifacts. Evidence pointed to conical house structures covered with bark, a form distributed widely in California (Leonhardy 1961:7). Flaked stone artifacts included a robust assemblage, comprising 187 typeable projectile points, 86 non-diagnostic projectile point fragments, 39 knives (bifaces), 83 scrapers, 13 drills, 17 gravers, 132 worked flakes, 22 worked basalt flakes, 27 choppers, and 3 tools of uncertain function (Leonhardy 1961:27-35). An additional 46 fragments of flaked stone were grouped as unclassifiable. Ground stone items included 11 unshaped manos, 13 shaped manos, 6 metates and metate fragments, 3 complete pestles, 6 pestle fragments, 5 mortars (hoppers), 1 mortar fragment, 3 small grinding or polishing tools, 1 fragment of polished serpentine, and 8 unidentifiable fragments. Other stone artifacts consisted of two small round stones, five pounding stones (battered), four notched pebble sinkers, one piece of flaked and mashed sandstone, one serpentine rod, one tubular steatite pipe, and one fragment of a stone tube (Leonhardy 1961:36-38).

Non-lithic artifacts recovered from CA-SIS-326 included three antler flakers, one piece of longitudinally cut antler, two fragments of longitudinally cut bone, three ulna awls, two bone splinter awls, one net shuttle, three pieces of highly polished bone, one flaked bone end scraper, one bird bone tube, two bone beads, two incised bone splinters, one unfinished scraping or polishing tool, one bone rod, nine bone rod fragments, one bird bone awl or needle, and one piece of bone with a transverse V-cut (Leonhardy 1961:38-41). Also recovered was one horn tube, one incised *Dentalium* shell, one *Olivella* bead, one *Protothaca* shell bead or pendant, two fragments of baked clay, one piece of charred wood with a hole in it, three piece of incised petrified wood, and one piece of incised, fossilized tusk (Leonhardy 1961:42-45). No historic-period trade goods were recovered, inferring that the site was abandoned before ca. 1850 (Leonhardy 1961:48). Two radiocarbon dates (400 ±75 and 510± 75 BP) from wooden structural remains in House Pit 4 placed initial site occupation before AD 1500. Overall, the village site was estimated to have been occupied between the period of AD 1400 and 1600 (Leonhardy 1961:47-48).

Salt Caves Dam Reservoir Project / Salt Cave Locality

The Salt Caves Dam Reservoir Project was undertaken as a salvage operation in response to planned construction of a hydroelectric power plant and dam on the Klamath River in Oregon. In March 1961, archaeological survey of the proposed dam and pool area was begun by the University of Oregon under direction of Luther S. Cressman. At that time, seven archaeological sites were recorded, designated SC #1 to SC #7 (later 35KL16 to 35KL21). These included five village sites containing house pits and other features,

one lithic scatter with cupule boulder features, and one lithic scatter with human remains. Survey in July and August 1961 resulted in the recordation of five additional sites (SC #8 to SC #12; 35KL22 to 35KL26). These included four sites with house pit features and one site containing rockshelters with some flaked stone artifacts. Sites SC #1 and SC #2 were later combined as a single site, 35KL16, leaving a total of 11 sites recorded in 1961. The University of Oregon conducted excavations at these sites from 1961 to 1963 (Anderson and Cole 1963; Cressman and Olien 1962; Cressman and Wells 1961).

Excavations conducted at the Salt Caves sites revealed complex midden deposits with buried features such as house floors, house fills, cache pits, fire pits, rock clusters, and human burials. A wide variety of ground, battered, and flaked stone artifacts was recovered, as well as fired clay objects and pottery, identified by Mack (1979:160) as Siskiyou Utility Ware. Several fired clay objects revealed basketry impressions. Also recovered were tools and ornaments fashioned from antler, bone, and shell. Nearly 600 projectile points, representing 29 types or classes, were recovered, along with several thousand flake tools, hundreds of cores, 150 scrapers, numerous drills and gravers, knives (bifaces), and other stone tools (Mack 1979).

It was not until the fall of 1973 that all processing and cataloging of materials from the Salt Caves site investigations was completed by Joanne Mack of the University of Oregon as part of her doctoral dissertation. Mack visited the Salt Caves area during the summer of 1974 to become familiar with the sites and to collect plant specimens for identification (Mack 1979:10). These collections were then utilized by Mack (1979, 1983) for her dissertation, which focused on relationships of aboriginal cultures occupying the Salt Caves Locality between ca. 5000 years BC and AD 1700. This included an examination of settlement pattern, subsistence, technology, and cultural influences from surrounding regions (Mack 1979, 1983). For her analysis, Mack focused on the three sites where considerable excavation had taken place: Big Boulder Village, Klamath Shoal Midden, and Border Village. Mack (1979:357) noted three primary cultural changes within the Salt Cave Locality during its 7,000 years of aboriginal use. These included (1) changes associated with technological developments, such as the shift from atlatl technology to the bow and arrow; (2) variations in settlement type, namely a shift from open camps to semi-permanent and permanent villages; and (3) change in the extent of cultural influence from adjacent areas. Hunting was of primary importance at all three sites, with an emphasis on deer, and the use of a variety of animals, including medium- and small-sized mammals, birds, and turtles (Mack 1979:358-363). Fishing was also of importance, as indicated by the number of harpoon parts and fishhooks recovered (Mack 1979:365). The large number and variety of ground stone tools also provide evidence that an assortment of local plants was processed and consumed.

Analysis of ground stone assemblage from the Salt Caves Locality sites suggested that the horned mullers, thought to have developed in the Klamath Lakes area, spread down the Klamath River to Shasta groups after AD 1400 (Mack 1979:382). Also, projectile points provided evidence of Great Basin influence during the earliest periods of occupation, with more influence from Northwest California later in time. Ties with northwest or north-central California were also suggested by the presence of steatite vessels at Border Village (Mack 1979:385). Gunther Barbed projectile points and marine shell beads also pointed to some influence from Northwest California during late precontact times. Basketry impressions and Siskiyou Utility Ware, dated to ca. AD 1400 at the Salt Caves Locality, provided evidence of influence or association with groups of the Upper Rogue River Valley (Mack 1979:383-384). Earlier influence with the Upper Rogue River Valley was also indicated by the presence of Gold Hill Leaf points. As with the Iron Gate site, CA-SIS-326,

house pits and associated features at the Salt Caves Locality suggested a north-central California influence (Mack 1979:393). The geographical position of Salt Caves Locality indicated that this locale was likely on the fringe area of tribal territories, with the river itself serving as a primary passageway for cultural influence, which changed direction and intensity over time (Mack 1979:409).

Keno Hydroelectric Development Project

Various water control projects completed in the Klamath Lakes Basin between 1890 and 1930 caused significant changes in the flow of water in the Klamath River below Keno, Oregon. In response, the Bureau of Reclamation contracted with Copco in 1930 to build a regulating dam near Keno. A needle dam was completed at the Keno Reef in December 1931 (Boyle 1976:51-52). This dam was later replaced in the 1960s by Pacific Power & Light Company (Pacific Power) with a low-level concrete regulating dam built downstream of the original needle dam. This subsequent dam project, known as the Keno Hydroelectric Development, was designed to allow for future installation of power generators. Before construction of Keno Dam began in 1966, the University of Oregon, Museum of Natural History was funded by Pacific Power to conduct a salvage archaeology project at several precontact sites above and adjacent to the proposed Keno Dam (Cole 1965).

During a one-day salvage archaeological survey conducted in May 1965, five sites of interest were identified within the Keno Hydroelectric Development. These sites included: two resources destroyed sites near the dam that were not assigned site numbers; one surface precontact campsite on the south side of Klamath River near the dam (Keno 3); one site of undisclosed type on the north side of the river (Keno 2); and one site north of the river containing house pits (Keno 1). Because site Keno 3 appeared to be a surface scatter, it was not investigated, and a state trinomial was not assigned. Site Keno 2 (35KL27) was not investigated because of its location on private land and permission could not be obtained to excavate the site. Site Keno 1 (35KL28) was excavated in June 1965 (Cole 1965).

Subsurface testing of 35KL28, included work in three areas: Area 1, along the river bank; Area 2, an island that contained house pits; and Area 3, a flat near the river. Area 1 was investigated with two units that yielded artifacts to a depth of 80 cmbs. Work at Area 2 included trenches within two house pits and a test unit within a third pit feature that yielded a wide range of cultural materials and several storage pit features. At Area 3, two test pits were dug in a shallow depression, revealing a possible house floor. Overall, the site assemblage included 7 cores, 19 gravers, 52 scrapers, 83 worked flakes, 80 used flakes, 5 knives, 30 projectile points, 21 projectile point fragments, 36 other flaked stone tool fragments, 2 grinding stones, 2 pounding stones, 2 pieces of worked bone, and 5 items classified as combination tools. Projectile points were placed within 26 descriptive types based on blade shape, notching, shoulder form, and stem form. Photographs of projectile points include a variety of leaf shaped specimens and stemmed points, including side-notched, corner-notched, and basal-notched types (Cole 1965). While no temporal data were offered by Cole in his preliminary (and only) site report, projectile point forms suggest Middle and Late Archaic occupations.

Salt Caves Hydroelectric Project

In the early 1980s, the City of Klamath Falls proposed to construct a hydroelectric generating facility within the Klamath River Gorge between the existing John C. Boyle Dam and the California-Oregon border. Because this proposal, known as the Salt Caves Hydroelectric Project, could have potential adverse effects to cultural resources, FERC, Bureau of Land Management (BLM), and state agencies required full inventory and assessment of cultural resources within the project. Consequently, extensive archaeological survey was commenced under the supervision of Elliott Gehr of Beak Consultants, Inc., in 1984 and 1985 (City of Klamath Falls 1986a:4-1) and nearly 40 archaeological sites were identified in the project area. In addition to survey work, testing and data recovery excavations were initiated in mid-1984 and continued through the summer of 1985. Subsurface investigations were conducted at nine sites on nonfederal lands before the project underwent a major reconfiguration, which left most of these sites outside the proposed impact area. Test excavations were halted at several sites since archaeological disturbance was no longer necessary (City of Klamath Falls 1986a:4-208).

In 1986, Resource Management International, Inc., (RMI) continued the Salt Caves work, conducting additional archaeological survey of the reconfigured project area and site testing, all under the supervision of Peter M. Jensen (City of Klamath Falls 1986a). Previous data recovery efforts conducted by Gehr were reported with the results of the 1986 work.

Between the spring of 1984 and spring of 1986, combined survey efforts for the Salt Caves Hydroelectric Project resulted in the identification of 43 separate sites, including 34 of precontact Native American occupation, 3 of only historic-period occupation or use, and 6 sites with evidence of both precontact and historic-period use. The nine sites with historic-period components included one historic road, five homesteads or ranches, one stagecoach station, one cemetery, and one school. The precontact sites included 20 with one or more house pits, with such features found within sites adjacent to the Klamath River and sites in upland locations. Deep cultural midden was noted within at least 12 of the precontact house pit village sites. In addition, nearly all precontact sites were found to contain surface lithic scatters (City of Klamath Falls 1986a:4-1 to 4-2).

Of the 43 project sites, 20 were located outside the reconfigured project area and did not require subsurface testing. An additional 17 sites, also outside the reconfigured Salt Caves project area, were tested in 1984 and 1985 to delineate site boundaries, look for subsurface cultural materials, and estimate midden volume (City of Klamath Falls 1986a:4-86). The 17 tested sites included 35KL17, 35KL18, 35KL19, 35KL20, 35KL22, 35KL23, 35KL25, 35KL26, 35KL550, 35KL553, 35KL554, 35KL578 (Site #21 and #27 merged), 35KL566, 35KL567, 35KL576, and 35KL2864. An extensive cultural assemblage was recovered during the 1984 and 1985 survey and testing programs. Classifiable projectile points reflected types spanning thousands of years of use, including Desert Side-notched (n=10); Siskiyou Side-notched (n=2); Gunther Stemmed (n=21); Gunther Expanding and Straight Stem (n=17); small stemmed and barbed (n=2); Gunther Barbed, Contracting Stem (n=3); Gunther Barbed, Expanding Stem (n=1); Rose Spring Side-notched (n=2); Elko Side-notched (n=3); Double Notch (n=1); Harpoon (n=1); Lightweight Blanks (n=4); Gold Hill Leaf (n=2); Northern Side-notched (n=2); Elko Corner-notched (n=3); and medium corner-notched, expanding stem (n=2) (City of Klamath Falls 1986a:4-13). A variety of bifaces and knives was also collected, as well as end

scrapers, side scrapers, drill and perforators, gravers, spokeshaves, choppers, utilized flakes, and cores (primarily chert). Ground stone tools included grooved spheroids, unworked cobbles with edge wear, mullers, millingstones, and mortars, Hammerstones were also recovered, in addition to a stone bead, a steatite ring fragments, several fragments of Siskiyou Utility Ware, and clay figurine fragments (City of Klamath Falls 1986a).

Six archaeological sites within the reconfigured Salt Caves project area had the potential to be affected by the hydroelectric project, including 35KL16 (Border Village), 35KL551 (Council Bluffs), 35KL552 (Chert Creek Village), 35KL558 (Feather Flats), 35KL632 (Weir Village), and 35KL634 (Robber's Camp), and each of these resources was archaeologically tested. While the first site, Border Village, had been previously determined likely NRHP-eligible (Mack 1983), the remaining five sites were unevaluated. Based on subsurface testing, the presence of features, and artifact assemblages, it was determined that two sites (Council Bluffs and Chert Creek Village) had archaeological significance. Sites lacking features, artifact diversity, and depth were determined to be without archaeological significance. These included Feather Flats, Weir Village, and Robber's Camp (City of Klamath Falls 1986a).

In a later report, the City of Klamath Falls (1986b) provided more detailed site significance statements with recommended mitigation measures. In this report, four of the six sites with potential project effects were recommended not eligible for inclusion on the NRHP: 35KL552 (Chert Creek Village), 35KL558 (Feather Flats), 35KL632 (Weir Village), and 35KL634 (Robber's Camp). Because of its unusual setting, variety of tool types, and presence of a potential house pit feature, 35KL551 (Council Bluffs) was considered to have some level of archaeological significance. However, testing revealed a near-surface deposit of sparse materials, and it was recommended that any further testing of the surface would not provide additional data that would qualify the site for inclusion on the NRHP (City of Klamath Falls 1986b:4-231). Mitigation was recommended for the potential house pit feature at 35CR551, which would likely be destroyed by proposed conduit construction. Site 35KL16 (Border Village) was determined to have good integrity and to contain information important to the understanding of local and regional prehistory (City of Klamath Falls 1986b:4-219). Because the entire site was scheduled for impact due to powerhouse construction, it was recommended that the damage be mitigated with data recovery, including phased excavation. Oregon SHPO subsequently acknowledged that Feather Flats, Weir Village, and Robber's Camp are not eligible for inclusion in the NRHP (Jensen and Associates 1987). After RMI provided additional detail for Chert Creek Village, and the BLM supported the finding of "Not Eligible" and "No Adverse Effect," SHPO concurred that Chert Creek Village was not eligible for the NRHP.

In July 1987, archaeological investigations were carried out at 35KL16 and 35KL551, under the supervision of William Shapiro. This included a program of backhoe trenching and hand excavation. At 35KL16, trenching revealed that most cultural materials were deposited within or next to the house pit features and were primarily limited to the upper 50 cm. The midden deposit rapidly declined as one moved away from the pit depressions. Work at 35KL16 yielded many Late Period artifacts and faunal remains associated with Shasta or Takelma occupation dated ca. AD 1000–1500, based on diagnostic artifacts and radiocarbon dating (Jensen and Associates 1987). This site was determined to be very similar to the Iron Gate site, CA-SIS-326. Regarding 35KL551, trowel probing and augering of the pit depression indicated that this feature was not a precontact house feature and that controlled excavation of the pit would not provide additional

data necessary to address local or regional prehistory. It was decided to abandon further data recovery efforts at 35KL551 (Jensen and Associates 1987:3-79).

The cultural assemblages recovered from the Salt Caves Hydroelectric Project sites were subsequently integrated into the cultural chronological framework for the Upper Klamath River Canyon developed by Mack (1989).

Upper Klamath River Project

The Upper Klamath River Project, under direction of Dr. Joanne Mack, began in 1992 with the support of Pomona College; Earthwatch Institute; BLM, Klamath Falls Resource Area; and Pacific Power (Mack 1996:3, 2012:15). Additional support has since been provided by the BLM's Redding Resource Area and Ashland Resource Area, as well as the University of Notre Dame (Mack 2012:15). The project's interest lies with documenting cultural adaptations and changes as reflected in the remains of human occupation and use within the Upper Klamath River drainage system and augmenting baseline data for this area (Mack 2003:1). At its start, the project focused on the area from John C. Boyle Reservoir to Copco Lake, but later expanded its study area to include the river from Keno, Oregon, downstream to the confluence of the Klamath and Shasta Rivers near Yreka, California.

The first two seasons of fieldwork, 1992 and 1993, were primarily dedicated to botanical survey of the Upper Klamath River and updating archaeological site records for known precontact sites. As part of this effort, new archaeological sites were also recorded in previously unsurveyed areas. In 1992, test excavations were carried out several sites, including 35KL18, 35KL25, and 35KL628 (Mack 1992, 1996:5). In 1993, test excavations were conducted at 35KL23/566, 35KL791, and CA-SIS-1198 (Mack 1994).

In 1994, the Upper Klamath River Project focused on updating site forms for previously recorded historic-period sites and continuing the botanical survey; only a few precontact sites were field checked and updated. Also, in 1994, excavations occurred at two sites in Oregon and two sites in California (CA-SIS-1198 and CA-SIS-1721; discussed below). In 1995, survey was conducted within Jenny Creek drainage in California, and six known sites in the California portion of the Klamath River Canyon were located and records updated. During this time, three new sites were recorded on Pacific Power land (Mack 1996:5).

From 1992 through October of 1995, staff and students from Pomona College conducted excavations at CA-SIS-1198 and CA-SIS-1721, both of which are located on BLM land. CA-SIS-1198, referred to as Coyote's Paw, is a large house pit village having numerous precontact and historic-period features. This site was first visited by Pomona College archaeologists in the summer of 1992 as part of the Upper Klamath River Project. Several cultural features were noted and recorded, including rock walls, girdled trees, cairns, storage features, a house ring, possible petroglyph rocks, a medicine circle, a healing rock, and the remains of a historic-period cabin (Mack 1996:7). The college returned in the summer of 1993 and excavated test pits within the midden and two house pit features. At least four floors were identified in one of the features, designated House Pit 9. Excavations were again undertaken by the college in 1994 and 1995, with the assistance of the BLM. The 1995 work focused on investigating House Pit 9, which in this season was found to contain a fifth floor. Many precontact artifacts, faunal remains, and floral remains were recovered from

the house pit, including bone tools, Siskiyou Utility Ware, and Gunther Barbed (or Tuluwat) projectile points. Many of the surface features at CA-SIS-1198 were associated with historic-period religious activities of the late nineteenth century (Mack 1996:27-31). Fuller (1998) used artifacts from House Pit 9 to conduct crossover immunological electrophoresis analysis of proteins on ground stone and dated soil samples from this feature using the oxidizable carbon ratio dating technique, as part of a senior thesis at Pomona College.

CA-SIS-1721, known as the Freedom Site, is a house pit village first recorded by BLM, Redding District, archaeologists in May 1980. At that time, it was noted to contain five pit depressions, midden, flaked and ground stone artifacts, possible fire-cracked rock, and mussel shell. The presence of a Gunther Barbed projectile point indicated that the site was occupied as recently as 500–1000 BP. CA-SIS-1721 was first tested by Pomona College in the summer of 1994 to locate site boundaries and assess site damage, including damage to a feature designated House Pit 4 (Mack 1996:6). Excavation of House Pit 4 continued in 1995, at which time several house floors were documented. Cultural materials recovered from this feature included charred wood, worked bone, ground and pecked stone, flaked stone tools, debitage, and faunal remains. Diagnostic projectile points consisted primarily of Gunther Barbed specimens with one Desert Side-notched point. These artifacts indicated that the house feature was occupied between AD 1600 and AD 1850 (Mack 1996:26).

An NRHP District Registration Form was prepared by Joanne Mack in 2003 as part of the Upper Klamath River Project, incorporating CA-SIS-1198 and CA-SIS-1721, as well as neighboring site CA-SIS-2646. The registration form identified these three resources as constituting the Upper Klamath River Stateline Archaeological District. The district nomination was updated by Amy Jordan of the BLM, Redding Field Office; in 2016, the district was approved by the California State Office of Historic Preservation.

As part of Upper Klamath River Project research being conducted by Pomona College and University of Notre Dame in the late 1990s, archaeological investigations were completed at two other precontact campsites near Secret Spring Mountain (Mack 2012). The first site, CA-SIS-2135, known as Geese Flying, was tested in 1997, while the second site, CA-SIS-2136, known as Wise Eagle, was tested in 1999. Both sites were originally recorded and minimally tested by Heritage Research Associates in 1996 for a proposed BLM land exchange (Oetting 1996).

The 1997 testing of CA-SIS-2135 yielded 399 items, while work completed at CA-SIS-2136 produced 461 artifacts, with most of both collections identified as flaked stone artifacts (Mack 2012:18). Collectively, these two sites yielded 33 projectile points and point fragments, 29 biface fragments, 41 cores, 76 worked flakes, 119 used flakes, 40 scrapers, 39 gravers, 4 choppers, and 12,879 pieces of debitage. Ten projectile point types were identified, including Great Basin Stemmed, Borax Lake Widestem, McKee Uniface, Coquille Series, Humboldt Concave Base, Siskiyou Side-notch, Leaf Series, Clikapudi Notched Series, Rose Spring Side-notch, and Tuluwat (Gunther) Series (Mack 2012:21-27). Also recovered were several pieces of ground stone (pestle, mullers, millingstone, and mortars), hammerstones, Siskiyou Utility Ware fragments, one bone tool fragment, and faunal and floral remains. It was noted that most cores consisted of CCS, while the other tools were almost entirely obsidian. Debitage included both materials types. Most obsidian specimens submitted for sourcing were identified as Medicine Lake Highland sources, while lesser amounts of obsidian were classified as Buck Mountain, Blue Mountain, Spodue Mountain, and Silver Lake-Sycan Marsh.

Hydration readings ranged from 1.3 to 6.7 microns, estimated to date from 2415 Before the Common Era (BCE) to AD 1624 (Mack 2012:49). Five radiocarbon dates from bulk soil samples were obtained, two from CA-SIS-2135 and three from CA-SIS-2136. These ranged from AD 445 to 1170 for the first site and AD 1020 to 1950 for the second (Mack 2012:46-47). Overall, site data point to occupation starting during the Basin phase (6,450 to 4,450 BP), continuing through the River phase (4,450 to 2,200 BP) and into the Canyon phase (2,500 to 200 BP). Ground stone was restricted to the lower levels, suggesting a shift in site use over time, while the higher number of artifacts in the upper levels point to increased intensity of site use later in time. The sites were likely occupied only during certain times of the year and were used for collecting resources that were seasonally available (Mack 2012:54).

The Dalles/California Highway 97 Bridge Project

In the 1980s, Oregon Department of Transportation made plans to widen a 2.6-mile segment of U.S. Route 97 just south of the City of Klamath Falls, including construction of a new bridge over the Klamath River. The site of the new bridge was surveyed by archaeologists from the Oregon State Museum of Anthropology (Connolly 1987), which revealed no precontact cultural materials. Construction work began in 1993, at which time human remains were exposed on the west bank of the river, next to the new bridge footings. Construction work was halted while the site was evaluated by archaeologists and representatives of the Klamath Tribe. The site became known as the Klamath River Bridge Cemetery (Tasa and Connolly 1997).

Precontact human remains and associated artifacts had been disturbed and removed in an estimated 500 cubic yards of fill dirt taken to another location (Connolly and Tasa 1993; Tasa and Connolly 1997:1). In cooperation with the Klamath Tribe, the State Museum of Anthropology recovered the remains and artifacts from the removed fill dirt and from the loose fill surrounding the bridge footings and an inventory of the remains and artifacts was made before reburial. The remains of at least 32 individuals were recovered. Associated artifacts included 94 projectile points, 461 *Olivella* beads, 18 *Haliotis* beads, 61 *Haliotis* ornaments, 41 decorated and undecorated *Dentalia* beads, 2 bone pendants, 8 tubular bone beads, incised and polished bone fragments, bone awls, antler wedges, bone spatulates, bone pins, ground stone mauls, pestles, bowls, metates, mano, stone ornaments, and faunal remains. The projectile points included 44 specimens grouped as Gunther/Rose Spring, 2 small triangular, 5 small foliate, 4 small side-notched, 5 small fragments, 4 medium side-notched, 14 large stemmed, 3 large side-notched, 4 large contracting stem, and 9 large fragment (Tasa and Connolly 1997:45-49). Due to time constraints, debitage from 35KL1121 was not quantified or catalogued prior to reburial; however, the flakes did include obsidian, CCS, and basalt material types.

Collectively, the cultural assemblage indicated that 35KL1121 served both as a village and cemetery during the Late Precontact Period, used sometime during the period of AD 300–1500. It was determined that the people occupying this site suffered high infant mortality, and that deaths during the twenties and early thirties likely resulted from violent encounters with other Native groups. Exotic materials within the site pointed to interactions with outside groups, including groups in Northern California (Tasa and Connolly 1997:4).

Spencer Bridge Replacement Project

In 2003, the University of Oregon completed subsurface testing and significance evaluation of two sites associated with the proposed replacement of Spencer Bridge on Oregon Route (OR) 66 west of Keno, Oregon. The first site, 35KL1941, consisted of a multiple component site resource including a precontact lithic scatter and the remains of the 1920–1950s McCollum and/or Ellingson Lumbermill. Excavations focused on the APE, revealing diffuse deposits of waste flakes and flaked stone tools among a scatter of historic-period debris associated with the non-extant sawmill (O'Neill 2005). Recovered artifacts included 96 obsidian and CCS flakes, 2 CCS uniface fragments, and 3 obsidian biface fragments. Precontact and historic-period artifacts were primarily limited to the upper 30 to 40 cm of the deposit (O'Neill 2005; O'Neill and Connelly 2009). A large amount of historic-period debris was found subsurface, including wire rope, glass, rubber, aluminum, nails, bricks, ammunition, and other metal objects.

The second site, 35KL1943, known as the John C. Boyle Village, consisted of a precontact scatter of knapped stone artifacts, including projectile point and debitage, cobble tools, and fire-affected rock. Archaeological testing, which also focused on only the APE, resulted in recovery of 288 artifacts, including 262 obsidian flakes, 12 CCS flakes, 4 utilized flakes, 3 biface fragments, 4 projectile points, 1 cobble uniface, 1 hammerstone, and 1 glass trade bead. The projectile points were classified as Siskiyou Side-notched and Elko corner-notched, and the maximum artifact density was 640 items per cubic meter for a 10 cm level. Site occupation was inferred as extending from the middle Holocene into the contact period. During subsequent archaeological monitoring in 2006 during tree removal for highway clearing, two stone bowl mortars were recovered (O'Neill and Connolly 2009:64).

Keno Water System Extension Project

In May and June 2011, archaeological monitoring for the Keno Water System Extension Project in the historic town of Keno, Oregon, identified buried cultural resources, including 13 isolated finds and 1 multiple component archaeological site designated as 35KL3594 (Jones 2011:3). The isolates included ceramic shards, bottle fragments, window glass, a modified tin can, and two animal bone fragments. One concentration of historic-period artifacts was encountered, and this area was excavated with both shovel probes and shovel test units, revealing a historic-period site (35KL3594) with a diffuse precontact lithic scatter (Jones 2011:3-4).

The historic-period artifact concentration contained over 500 items, comprised largely of bottle glass fragments and unidentifiable metal fragments. Also found were ceramic fragments, other household wares, and animal bone fragments (Jones 2011:18). Other historic-period artifacts were collected from backhoe trenching during monitoring. Diagnostic pieces included ceramic fragments with maker's marks dating to the late 1800s and bottle glass from the same period. The historic-period materials were interpreted as a refuse deposit upon which the road was built (Jones 2011:21).

The precontact component contained a small collection of about 30 obsidian artifacts, consisting of debitage and edge-modified flake tools (Jones 2011:18). These items were distributed equally within the shovel probes and test units, with no indication of lithic concentrations. It was suggested that the precontact lithic scatter became buried under modern fill associated with road construction and other historic-period

activities. NRHP eligibility of 35KL3594 could not be addressed given the fact that the project was limited to a narrow pipeline corridor, providing an incomplete picture of the site deposit.

Upper Klamath River Tributaries

In the mid-1950, the UCAS conducted recordation, surface collection, and limited testing at two sites situated on the lower extent of tributary streams that feed into the main stem Klamath River, just outside of the Project ADI.

CA-SIS-17

CA-SIS-17 is a multi-component site just south of Copco Lake, on Deer Creek, that encompasses a precontact midden, a historic Indian village and cemetery, and a historic-period ranch complex. This site was first recorded in 1953 by UCAS archaeologists J. A. Bennyhoff and D. M. Pendergast, who collected a sample of surface artifacts (UCAS Accession #312), including a basalt chopper, projectile point fragments, and flakes (Mack 1979:6). These materials are housed at the Phoebe A. Hearst Museum of Anthropology at the University of California, Berkeley.

CA-SIS-262

In early 1955, a historic period cemetery was discovered on Bogus Creek, a Klamath River tributary. The cultural remains, exposed during ranching activities, included an extensive collection of trade goods, Native American artifacts, human remains, faunal remains, and other items dating to the 1860s (*Oakland Tribune* 1955). At the request of Walter B. Pollock, president of the Siskiyou Historical Society, two members of UCAS (A. B. Elsasser and J. A. Bennyhoff) visited the site, which became known as the Foster Site, CA-SIS-262. A local informant identified the site as the location of a deadly skirmish where a German peddler and several Shasta Indians were killed by Modoc Indians sometime between 1863 and 1866 (*Oakland Tribune* 1955). This period was supported, in part, by the recovery of a coin dated to 1860.

During their site visit in 1955, Elsasser and Bennyhoff, along with the local landowner, excavated and removed human remains representing a minimum of 21 individuals and associated funerary objects. Accessioned into the Lowie Museum of Anthropology (Phoebe A. Hurst Museum of Anthropology) at the University of California, Berkeley (Accession UCAS-357), the extensive funerary assemblage included almost 32,000 precontact and historic period items (*Federal Register* 2008). Additional artifacts were kept by the landowner, while all human remains were given to the university museum. Other artifacts from the site are housed at the Siskiyou County Museum, in Yreka, California (Joanne Mack, 2018 personal communication). No formal report has been prepared for the site.

Shasta Valley

Located in central Siskiyou County, California, about 10 miles south of the California/Oregon border, Shasta Valley is a nearly oval intermontane basin bounded on the west by the Klamath Mountains and on the east by the Cascade Range. The valley, which measures about 30 miles long (north-south) and 15 miles wide

(east-west), encompasses an area of roughly 250 square miles. The Shasta River, Little Shasta River, and Parks Creek comprise its major streams.

Archaeological investigations conducted within Shasta Valley began in the early 1950s with the work of Wallace and Taylor (1952) at rockshelter site CA-SIS-13, in eastern Shasta Valley. More than a decade passed before further work was conducted, when, in 1965, S.E. Clewett investigated CA-SIS-327, a small village site located in the southern part of the valley. Following a hiatus of nearly 20 years, the BLM led subsurface investigations at CA-SIS-326, a rock shelter site at Sheep Rock, near the eastern edge of the valley (Ritter 1989). Simultaneously, a group of eight precontact sites in northern Shasta Valley were examined as part of County of Siskiyou infrastructure projects associated with the Ager-Beswick Road and the Hornbrook-Ager Road (Johnston and Nilsson 1983; Nilsson 1987, 1988; Nilsson et al. 1989), followed by work at CA-SIS-1207 in the southern part of the valley (Vaughan and Nilsson 1987). Collectively, these studies led to a summation of Shasta Valley prehistory by Nilsson (1991) and development of a preliminary cultural sequence. Later, the prehistory of the eastern margin of Shasta Valley was investigated in 1995 as part of a BLM land exchange project (Hamusek et al. 1996, 1997).

The earliest archaeological investigation conducted within the Shasta Valley region was undertaken in 1950 by William J. Wallace, from the University of Southern California, and Edith S. Taylor, who excavated CA-SIS-13, a rock shelter site located at the valley's eastern edge. The site yielded an extensive and diversified cultural assemblage of almost 500 items, made of non-perishable and perishable materials. Lithic artifacts included flaked stone tools such as projectile points, drills, scrapers, gravers, and prismatic flakes, made predominately of obsidian, but also including smaller quantities of CCS and basalt toolstone. Other lithic items included ground stone tools such as manos, metates, hammerstones and pestles. A small collection of clay objects comprised a pottery fragment and clay balls. Perishable organic items included an assemblage of mammal bone; *Olivella* shell beads and unmodified mussel shell; wooden arrow foreshafts and shafts; basketry remains; and food plants.

The presence of Gunther (Tuluwat), Desert Side-notched, Cottonwood Triangular, and Rose Spring series projectile points suggested a late period occupation, dating to within the latter years of the eighteenth century and the first decades of the nineteenth century (Wallace and Taylor 1952:33). Site function was attributed to seasonal hunting by Achomawi, Modoc, or Eastern Shasta peoples (Wallace and Taylor 1952).

With the completion of work at CA-SIS-13, archaeological research in the Shasta Valley region was not undertaken again until 1965, when S. E. Clewett and California State University, Chico, excavated the Chaney Site, CA-SIS-327, located in southern Shasta Valley on the bank of the Shasta River. Although no technical report has been prepared for the Chaney Site, information provided by Clewett (Personal communication, 1982) indicates that the site is a small, late period village with circular house depressions, and that the cultural assemblage, especially projectile points and ground stone tools, is similar to that of the Iron Gate site (CA-SIS-326; Leonhardy 1961, 1967). These similarities led Clewett to conclude that CA-SIS-327 was a late period Shasta Indian occupation site. More recently, BLM conducted an analysis of the CA-SIS-327 artifact assemblage, which suggested that an earlier occupational phase might also be present (Hamusek et al. 1997).

Following a nearly 20-year hiatus in archaeological research in the Shasta Valley area, investigations resumed in 1982 with work conducted by the BLM at site CA-SIS-266, also known as Sheep Rock Shelter (Ritter 1989). This site, located in eastern Shasta Valley, within a few miles of CA-SIS-13, yielded a sparse cultural assemblage. Few cultural remains were recovered from the site, including one corner-notched projectile point fragment, two metate fragments, and lithic debitage dominated by obsidian, but also including CCS materials. Obsidian geochemical sourcing of eight specimens indicated the use of GF/LIW material, a source located in the Medicine Lake Highlands. Obsidian hydration readings for these items ranged from 2.6 to 5.4 microns, reflecting multiple periods of site use. Lithic analysis suggested final tool shaping and edge maintenance activities, while pollen analysis inferred that the site may have been occupied during the spring, when pollination was about to begin. Radiocarbon dating provided a 1235±60 BP date of occupation. Site function was attributed to use as a lithic reduction workshop (Ritter 1989).

Following work conducted at CA-SIS-266, research in Shasta Valley intensified during the mid-to-late 1980s, shifting north to the area around the townsite of Ager, located on Willow Creek, 2.5 miles south of Klamath River. Conducted in response to the proposed realignment of the Montague-Ager Road, four precontact sites (CA-SIS-154, -900, -1103, -1105) were investigated by Mountain Anthropological Research (MAR) on behalf of the Siskiyou County Department of Public Works (Johnston and Nilsson 1983; Nilsson 1987, 1988; Nilsson et al. 1989).

Site CA-SIS-900 was the first Shasta Valley site to be studied as part of the Montague-Ager Road project. Phase II testing conducted at the site in 1983 by Johnston and Nilsson (1983) identified a well-stratified cultural deposit that extended 1 meter in depth. The cultural assemblage consisted largely of flaked stone artifacts, comprising cores, bifaces, drills, scrapers, and projectile points, including two Gunther Barbed point fragments and one large corner-notched specimen. These artifacts, dominated by local CCS and basalt materials, signaled that primary and secondary stages of lithic reduction occurred at the site, while obsidian toolstone was used more sparingly, reflecting the latter stages of tool production. Obsidian geochemical sourcing of 15 specimens indicated that the GF/LIW/RS source (n=13), located in the Medicine Lake Highlands, was the predominant tool stone used for flaked stone artifact manufacture. Minor representation by Cougar Butte material (n=1), also from the Medicine Lake Highlands, and an unknown source (n=1) was also noted. Associated obsidian hydration readings for these collective sources ranged from 1.0 to 3.9 microns. Other assemblage characteristics noted the abundance of ground and battered stone artifacts, including hammerstones, manos, metate fragments, and pestles. Chronological placement of the site, based on projectile point types and obsidian hydration studies, indicated a time span of 3000 BC to AD 1500.

Subsequent data recovery investigations were conducted at CA-SIS-900 in May 1985 (Nilsson et al. 1989), yielding a more diversified cultural assemblage. Considerable numbers of projectile points, cores, bifaces, and retouched flakes were recovered, as were several perforators and bipolar elements. The projectile point collection included Gunther series; Elko series; and medium-to-large side-notched, stemmed, and corner-notched forms resembling Rose Spring points (Nilsson et al. 1989:79-89), which together expanded the point assemblage recovered during the earlier work. Tool stone use remained focused on local CCS and fine-grained igneous rock. In addition to flaked stone artifacts, other recovered items included a steatite bipoint, hammerstones, manos, pestles, metates, an incised bone pendant (bead), incised bone fragments, and a bone spatulate. Human remains were also found, limited to two dental incisors. Faunal remains were

documented, including specimens of freshwater mussel, trout, quail, pheasant (non-native), deer, coyote, squirrel, gopher, jack rabbit, cottontail, domestic pig (intrusive), unidentified rodent, and unidentified reptile.

Geochemical obsidian source analysis conducted for the CA-SIS-900 data recovery work revealed a similar focus on GF/LIW/RS tool stone (n=29), with a small representation of one specimen each for other Medicine Lake Highlands obsidian, including Cougar Butte, Callahan, Glass Mountain, and Railroad Grade. Finally, one obsidian artifact was fingerprinted to an unknown source, and one piece was identified as not obsidian (Nilsson et al. 1989:103). Cumulative obsidian hydration readings for the sourced artifacts ranged from 1.4 to 4.2 microns.

The data recovery work at CA-SIS-900 solidified site use as a temporary campsite. Dietary remains emphasized the use of local plants and hunting of deer, rabbit, and other small mammals, with little emphasis placed on fishing (Nilsson et al. 1989:126). A narrower period of site use was identified compared with the earlier testing phase, with the former based on both radiocarbon dates and projectile point typologies. Six radiocarbon dates were obtained from the data recovery work, with most representing a 1,200-year span of site use, from ca. AD 420 to AD 1630; one earlier date of ca. 370 BC was also identified.

Site CA-SIS-154, located on Willow Creek, a tributary of the Klamath River, was first recorded in 1952 by Albert Elsasser of the University of California, Berkeley, as the Shasta ethnographic village of *Em'-mah-kwit-te* (Merriam 1976). Elsasser's recordation described the site as a probable campsite with occupation of some duration, characterized by obsidian artifacts and a CCS scraper.

Phase II testing conducted at CA-SIS-154 by MAR in 1985 yielded a robust cultural assemblage of more than 8,500 cultural items, consisting primarily of lithic artifacts (Nilsson 1987). Abundant faunal remains were also recovered, providing evidence for likely cultural use of hare or brush rabbit and artiodactyl remains, along with abundant intrusive rodent species (Nilsson 1987:107). In addition, one well-preserved human parietal bone fragment was found in disturbed soil on the site surface, and it had been reported that several burials were unearthed during construction of the Montague-Ager Road (Nilsson 1987:114).

Flaked stone tools from CA-SIS-154 included cores, bifaces, bipolar elements, retouched flakes, projectile points, scrapers, perforators, burins, a uniface, and varia. Projectile points included Gunther Barbed, Desert Side-notched, Elko Corner-notched, and medium side-notched specimens. Also found were a drilled and incised slate pendant, a bone awl tip, and ground stone artifacts such as manos, one pestle, and one millingstone fragment. Obsidian geochemical sourcing pointed to near exclusive use of GF/LIW/RS material, with one specimen of unknown obsidian in the sample (Nilsson 1987). Obsidian hydration readings ranged from 2.2 to 6.7 microns. A single radiocarbon date of ca. 1470 ±70 BP was obtained from a burned soil matrix of unclear cultural association. Collective temporal data for the site indicated multiple component use, defined as Component I (ca. 2000 BC–AD 300/700) and Component II (ca. post-AD 300/700–historic).

The lack of a well-developed cultural midden suggested that CA-SIS-154 was not the location of the ethnographic Shasta village of *Em'-mah-kwit-te* and instead functioned as a locus of semi-permanent occupation. An unrecorded site located to the east, on Willow Creek, near the historic site of Ager, was

advanced as the possible location of the ethnographic village, in keeping with the original description for the village described by Merriam (1976) as located "on Willow Creek at Ager."

As recorded in 1984, site CA-SIS-1103 is a sparse surface scatter of lithic debitage and flaked stone tools within a cultivated field, on the eastern side of Willow Creek. Phase II testing conducted at the site in 1985 yielded only one precontact artifact, an obsidian biface, along with two pieces of historic-period glass (Nilsson 1987). Artifacts noted on the surface in 1984 were not present in 1985, indicating that ongoing cultivation activities had caused significant disturbance to the site.

Site CA-SIS-1105 consists of a sparse, shallow scatter of lithic debitage and flaked stone tools located on a hillside slope and knoll bordering an intermittent tributary of Willow Creek. Phase II testing and surface collection conducted at the site in 1984 yielded a precontact assemblage of 26 pieces of debitage, 2 basalt cores, 1 CCS biface, and 2 edge-modified flakes. The small size of the obsidian artifact collection precluded the conduct of obsidian studies. A single Desert Side-notched point noted on the surface during site recordation, however, suggested a post-AD 1400 period of use (Nilsson 1987). Site function was noted as reflecting a task-specific locale focused on flaked stone reduction and possibly tool rejuvenation activities (Nilsson 1987:131).

To extend planned road improvement activities north from the community of Ager to the Klamath River, Siskiyou County Department of Public Works initiated plans for the reconstruction of a 2.4-mile-long segment of the Hornbrook-Ager Road in northern Shasta Valley from the southern boundary of the Klamath River County Estates to the Klamath River at Klamathon. Archaeological inventory conducted by MAR in 1986 identified four precontact sites along the proposed road realignment on the west side of Willow Creek. These sites included CA-SIS-331 and CA-SIS-332, both midden deposits; CA-SIS-1281, a house pit village; and CA-SIS-1282, a lithic scatter. Collectively termed the Ager III sites, Phase II testing of the four sites was conducted by MAR in November 1987 (Nilsson 1988).

Subsurface investigations completed at CA-SIS-331 revealed an extensive, largely single component, late precontact period midden deposit characterized by a highly diversified artifact assemblage. Extending to a depth of 1 meter below surface, the site yielded abundant lithic debitage; flaked, ground, and battered stone tools; ceramic, bone, and shell artifacts; and unmodified animal bone. Cultural features included a rock-lined fire hearth and an infant burial containing a distinctive array of grave offerings.

The flaked stone artifact assemblage from CA-SIS-331 encompassed over 4,300 pieces of CCS, basalt, and obsidian debitage that indicated material dependent reduction strategies. Flaked stone tools comprised a diverse collection of cores, triangular and ovate bifaces, projectile points, retouched tools, unifaces, drill tips, and notched pieces. Projectile points included mostly late period Gunther Barbed types, as well as a medium corner-notched specimen of possible older association. The battered stone assemblage included a variety of quartzite or basalt hammerstones, a quartzite anvil stone, and a battered piece of basalt. Ground stone artifacts comprised a collection of manos, metates, pestles, and a steatite vessel fragment. In addition to lithic artifacts, the site yielded a robust assemblage of Siskiyou Utility Ware pottery, bone tools such as awls and a ground long bone, and several marine shell pendants.

Obsidian geochemistry analysis of 12 artifacts recovered from CA-SIS-331 indicated that 11 (91.7 percent) of the specimens were fashioned from GF/LIW/RS material and 1 (8.3 percent) pressure flake from the infant burial was Buck Mountain obsidian. Twenty obsidian artifacts from CA-SIS-331 were submitted for hydration studies and revealed readings between 1.9 and 3.8 microns. Faunal remains included deer, cottontail, hare or rabbit, coyote, other Canids, ground squirrel, kangaroo rat, woodrat, mice, gopher, vole, great horned owl, salmon or trout, sucker, and minnow.

The infant burial was laid to rest atop a bed of mahogany obsidian pressure flakes and surrounded by unique and distinctive grave goods. The burial offerings included bird bone pins, bird bone tube, incised bone pieces, a bone pendant, elongated siltstone artifacts, Desert Side-notched and larger stemmed and corner-notched series projectile points; elbow pipe, gaming piece, and petrified wood tablet. Based on its associated artifacts, the infant burial was dated to post AD 1400 (Nilsson 1988:66).

Charcoal associated with the CA-SIS-331 rock hearth feature returned a radiocarbon assay of 690 ± 90 years, or AD 1265 (Beta-24306). Collective site data pointed to use of the site as a residential base and burial area occupied primarily during late precontact times, ca. post-AD 1200 (Nilsson 1988:199).

The second cultural midden deposit, CA-SIS-332, was investigated both by Dames & Moore (Shackley 1987) and MAR (Nilsson 1988). The Dames & Moore project focused on limited shovel testing and surface collection associated with the U.S. Sprint Fiber Optic Cable Project. This work was followed by more extensive study in 1987 conducted by MAR for the Hornbrook-Ager Road realignment.

Like the work conducted at neighboring site CA-SIS-331, the MAR investigation of CA-SIS-332 also revealed a largely single component, late precontact period midden deposit characterized by a diversified artifact assemblage. Extending to a depth of 90 cm below surface, the site yielded abundant lithic debitage; flaked, ground, and battered stone tools; ceramic, bone, and shell artifacts; unmodified animal bone; and a human molar.

The flaked stone artifact assemblage from CA-SIS-332 encompassed over 4,600 pieces of CCS, basalt, and obsidian debitage that indicated material dependent reduction strategies. Obsidian was the primary tool stone at CA-SIS-332, whereas obsidian is of lesser importance within the other Ager III sites (Nilsson 1988:130). Flaked stone tools comprised a diverse collection of cores, triangular and leaf-shaped bifaces, projectile points, retouched tools, scrapers, and key-shaped drills. Projectile points included mostly late period Gunther Barbed and Desert Side-notched types, as well as Elko Corner-notched and Stemmed Leaf Shaped specimen of possible older association. The battered stone assemblage included a small collection of one igneous and one quartzite hammerstones. Ground stone artifacts comprised a collection of manos, metate, pestle, and a steatite ornament. In addition to lithic artifacts, the site yielded three clay objects, comprised of two rods and one punctate, but lacked Siskiyou Utility Ware pottery. Also recovered were bone tools such as awls, a worked bone piece, double perforated bone pendant, and an *Olivella* shell bead.

A highly varied faunal assemblage was collected from CA-SIS-332, including deer, cottontail, hare or rabbit, Canid, beaver, squirrel, ground squirrel, rat, woodrat, mice, gopher, bird, snake, turtle, frog, salmon or trout, sucker, and minnow. Also encountered was a single human tooth fragment.

Of 14 obsidian artifacts from CA-SIS-332 submitted for x-ray fluorescence (XRF analysis), 13 (92.9 percent) were identified as GF/LIW/RS obsidian and 1 (7.1 percent) specimen as Buck Mountain. Hydration readings for 20 specimens ranged from 1.3 to 4.0 microns (Nilsson 1988:177-178). Similar to CA-SIS-331, data from CA-SIS-332 point to semi-permanent habitation during late precontact times, ca. post-AD 1200 (Nilsson 1988:201).

Phase II testing conducted at CA-SIS-1281 focused on limited subsurface investigations conducted within the road project's APE, located between the existing road and the western boundary of the site. This work yielded a small sample of flaked and ground stone tools, comprised of 39 flakes, 4 cores, 4 bifaces, 6 edge-modified pieces, 3 projectile points (1 Gunther and 2 Rose Spring series), and 1 metate fragment. Two hopper mortars were noted in association with a house pit and were not collected. Two obsidian Rose Spring projectile points were submitted for hydration analysis and yielded readings of 3.1 and 5.8 microns. Overall, CA-SIS-1281 appeared to be a semi-permanent or permanent habitation site located on a small stream. Because the site lacked a well-developed midden, unlike those that characterize neighboring sites CA-SIS-331 and CA-SIS-332, it may have been occupied for a brief period of time or may have been a protohistoric habitation site (Nilsson 1988:203-204).

Testing of the final Ager III site, CA-SIS-1282, yielded no subsurface artifacts. This site is characterized by a sparse surface scatter of chert debitage and a hammerstone, while unmodified cobbles, nodules, and detritus of chert material were found to be common within the site. The artifacts indicate that CA-SIS-1282 was a temporary use area, likely occupied but a single time for lithic reduction activities (Nilsson 1988:204).

Site CA-SIS-1207, located on the western bank of the Shasta River in southern Shasta Valley, constitutes the oldest archaeological resource studied to date within the valley. Phase II testing was conducted at the site in 1987 for Siskiyou County's proposed Louie Road and Bridge Realignment Project (Vaughan and Nilsson 1987). The site, comprising a light density lithic scatter and historic period artifact scatter, yielded a sparse cultural assemblage of flaked stone, ground stone, and historic artifacts. The flaked stone collection was limited to 155 items, including debitage, 1 core, 4 bifaces, 1 endscraper, 2 unifaces, 1 perforator; and several notched, truncated, and retouched elements. Also recovered were a granite hammerstone and an andesite mano/hammerstone. Based on the interpretation of obsidian hydration data, the site may have been occupied as early as 3000 BC. Site function includes the manufacture of flaked stone tools and vegetal food gathering and processing (Vaughan and Nilsson 1987).

In 1995, BLM conducted an intensive Class III archaeological inventory of 4,300 acres of scattered parcels and limited subsurface testing within eastern Shasta Valley, focused both within the valley proper and extending east to the foothills and mountain slopes of the Cascade Mountains (Hamusek et al. 1996, 1997). Inventory resulted in the identification of 66 archaeological sites, including 51 sites with precontact components and 15 sites with historic-period components, as well as 150 isolated finds (Hamusek et al. 1997:64). The field methodology also included subsurface testing to meet management and research objectives for NRHP evaluation of the identified sites.

The BLM inventory identified a broad range of temporally sensitive projectile points associated 7,000 years of human land use, beginning in the early Archaic and extending into the historic contact period (Hamusek et

al. 1997:109). Noted types include Northern Side-notched, Elko series, McKee series (McKee Uniface), Clikapudi Notched series, Siskiyou Side-notched series, Squaw Creek Contracting Stem, Gunther Barbed series, Desert Side-notches series, and miscellaneous corner- and side-notched points. Other contributing data included obsidian geochemical analysis of 30 artifacts, which revealed near predominance of GF/LIW/RS (Grasshopper Group) obsidian, along with a single specimen of Railroad Grade material. Hydration analysis for these same specimens provided readings ranging from no visible hydration to 9.7 microns, with an overall mean of 4.82 microns. Two clusters of hydration readings were noted, including 2.5 to 3.5 and 4.5 to 6.5 microns (Hamusek et al. 1997:96-97). The hydration profile for the eastern Shasta Valley area was found to fit the pattern of hydration rim frequencies noted for the PGT Pipeline project on the Modoc Plateau, providing evidence of occupation increasing from early to mid-Holocene times, followed by peaks in the Middle Period between 4500 and 2000 BP. This was followed by a gradual decline in occupation of the highland area. These data suggest that the lack of time depth for Shasta Valley noted by Nilsson (1991) may reflect a sampling bias, with occupation for at least the eastern part of the Valley extending back to early Middle Archaic times, with sparse evidence of Early Holocene occupation (Hamusek et al. 1997:111-112).

3.2.3 Klamath Mountains

At its western extent, the Project's ADI crosses through the Klamath Mountains, beginning near Hornbrook, California, and extending downriver to the Humbug Creek. Few archeological investigations have been conducted within this area, restricted to three studies of precontact sites located between Interstate 5 and the Shasta River.

CA-SIS-1066H

Included as part of Mack's Upper Klamath River Project was the 1998 test excavation of CA-SIS-1066H, a multi-component site near the confluence of the Klamath and Shasta Rivers. This site, known as Fool's Paradise and Paradise Craggy Village, consists of precontact house pit depressions and midden deposit and a historic period mining camp with tailings, ditches, and a dugout. Site investigations were conducted in 1998 by Notre Dame University and Norcet Training (Mack 2003). Two house pits were tested, revealing several house floors and post holes (Mack 2003:33). A large sample of flaked stone tools was recovered, including 191 utilized flakes, 121 worked flakes, 40 projectile points, 21 cores, 24 knives (bifaces), 20 gravers, 16 scrapers, 7 drills, and 1 chopper. Projectile point types included Northern Side-notched, McKee Uniface, Leaf Series, Coquille Series, Elko Eared, Clikapudi Notched Series, Side-notched Leaf, and Gunther Series. Also collected were 12,316 pieces of debitage, including obsidian (95.3 percent), CCS (3.5 percent), basalt (1.0 percent), quartzite (0.01 percent), and quartz (0.01 percent) (Mack 2003:9-17). Obsidian debitage was found to primarily represent the last stages of biface and projectile point manufacture, with limited evidence of bipolar reduction, radial breakage, and uniface retouch. Chert flakes represent core reduction and biface manufacture, while the number of flakes of other materials was too small to accurately characterize reduction behavior (Rondeau 2007).

Other precontact artifacts recovered from CA-SIS-1066H included one pestle, one muller fragment, four milling slabs, one milling block fragment, one pipe fragment, one abrader, five hammerstones, six rubbing

stones, one incised stone, one piece of shaped slate, three fragments of Siskiyou Utility Ware, one sandstone tray fragment, and one ecofact (fossil). Bone tools included six spatula objects, one gouge, three flakers, and eight barbed or pointed objects, possibly fragmented fishing implements (Mack 2003:26-27). The historic period assemblage comprised metal bullets casings, metal buttons, nails, several ceramic fragments, and numerous glass fragments. Bone fragments and mussel shell were also collected from the excavation, as well as a piece of burned acorn shell.

Obsidian sourcing of 67 artifacts showed the majority (n=64) derived from the GF/LIW/RS source, while one specimen each came from the Spodue Mountain, Blue Mountain, and Tuscan sources. Obsidian hydration readings ranged from 1.4 to 12.3 microns, although the specimen with the 12.3 value also had a second band measuring 4.4 microns. Not including the largest reading, the hydration profile has a span of 1.4 to 7.3 microns (Mack 2003:39). Comparison of the hydration readings with provenience showed a considerable amount of mixing, resulting in part from ground squirrel activity.

A 6,000-year period of site occupation was identified based on artifact types, radiocarbon dates from bulk soil samples, and interpretation of obsidian hydration data. Using the hydration formula for GF/LIW/RS material presented by Nilsson and colleagues (1996:80), Mack (2003:40) noted a continuous site occupation from roughly 3900–1634 BP, with later peaks at 1290–1230 BP and 420–375 BP. Little evidence existed for site use before 4000 BP. The site was noted as reflecting the subsistence pattern for the Upper Klamath River drainage, with this location serving as a typical residential base camp from which diverse resources were exploited, particularly after 4500 BP. Fishing and plant gathering increased in importance after 2500 BP (Mack 2003:46-47).

CA-SIS-329

Several recent archaeological projects have been completed in association with the California Department of Transportation's (Caltrans) construction activities at the Randolph C. Collier Safety Roadside Rest Area (SRRA), located on the east bank of Klamath River several miles south of Hornbrook, California (Dalldorf 2013; Hamusek and Haney 2001; Waechter and Young 2015). Dorothy Hill originally recorded this site in 1965 while surveying for a proposed rest area and highway expansion project. At that time, she noted one millingstone, two manos, one pestle, and one basalt core. The site was later investigated by Caltrans archaeologists B. Hamusek and J. Haney (2001) in preparation for additional construction activities within the SRRA. Investigations focused on test excavations and monitoring, resulting in the collection of flaked and ground stone artifacts, bone, and shell. Projectile points (Siskiyou Side-notched and Gunther Barbed) and obsidian hydration analysis placed the precontact occupation of CA-SIS-329 within the period of 4450 to 1050 BP.

Pacific Legacy conducted an Extended Phase I investigation of the eastern edge of the SRRA in 2013, identifying two loci: a low-density lithic scatter with ground stone at 80 to 140 cmbs and a buried cultural deposit approximately 200 to 230 cmbs (Dalldorf 2013). A radiocarbon date of ca. 5380 BP was obtained for the second, deeper deposit.

In support of plans to upgrade the potable water and wastewater systems at Collier SRRA, Far Western Anthropological Research Group, Inc., completed Phase II testing and evaluation of CA-SIS-329 in 2014 (Waechter and Young 2015). Excavation of the river terrace revealed an area of buried, intact, organic-rich cultural midden below 20 to 40 cm of graded fill materials. In contrast, a block excavation placed at a footslope on the eastern edge of the site revealed a deeply buried archaeological deposit in a paleosol, located several meters below the surface. Thirteen projectile points were collected, including Gunther series, Clikapudi Side- and Corner-notched, Squaw Creek Contracting Stem, Siskiyou Side-notched, and Lanceolate. Other items included 1 red CCS core, 16 biface fragments, 4 formed flake tools, 17 simple flake tools, 2 handstones, 1 pestle fragment, 1 bowl mortar fragment, 1 polished pebble, 1 incised bone fragment, 1 bone needle, and 1 bone awl (Waechter and Young 2015:56-67). Mammal bone from this site included mule deer, bobcat, leporids, pocket gopher, squirrels, rodents, and some carnivore remains. Also included in the faunal assemblage were duck and other bird bone, turtle remains, and fish remains. The fish were identified as including sturgeon, sucker, sculpin, and salmon/trout (Waechter and Young 2015:61).

Four radiocarbon dates were obtained for CA-SIS-329: 1130 ±30, 1660 ±30, 2090 ±30, and 4830 ±30 BP (Waechter and Young 2015:52). XRF analysis confirmed that all obsidian material from this site was derived from the GF/LIW/RS source, while hydration analysis provided readings ranging from 1.0 to 7.1 microns. Mean readings by unit and depth ranged from 3.3 to 4.7 microns. In comparison to hydration profiles from the Tuscarora-Alturas (Hildebrandt and King 2002) and Sacramento River Canyon (Basgall and Hildebrandt 1989) projects, the hydration profile for CA-SIS-329 indicated site occupation centered at the Middle/Late Archaic transition, and that the site was likely abandoned before historic contact (Waechter and Young 2015:54).

CA-030-2127

Recent archaeological investigations conducted by BLM at rockshelter site CA-030-2127, located near Hornbrook, California, have identified a multiple component cultural deposit associated with precontact, protohistoric, historic-period occupations (Neel 2016, 2019). Site recordation conducted inside the rockshelter in 2016 noted an assemblage of metal artifacts such as a tanged projectile point, cut nails, and suspender clip; melted lead and a lead bullet fragment; and pieces of green glass. Outside the shelter, artifacts included one basalt flake; brown, green, and cobalt blue glass fragments; possible Chinese brownware fragments; strap with a square-cut nail; and other metal items such as cut nails and tobacco tin parts. Site features include a low-lying rock wall that fronts the rockshelter and a historic-period foundation and refuse scatter, the latter possibly associated with a neighboring nineteenth century placer mine and associated tent flats (Neel 2016).

Site excavations in 2018 revealed a shallow cultural deposit with stratigraphic integrity that extended to between 20 and 40 cmbs. Obsidian pressure flakes were recovered to a depth of 40 cm. Obsidian source studies indicate the predominant use of GF/LIW material, although also present are specimens from Drews Creek/Butcher Flat and Railroad Grade sources. Radiocarbon dating on a piece of faunal indicates an age of 100 ± 30-year BP (Neel 2019). The full results of the testing program are pending.

Chapter 4: Ethnographic Context

4. ETHNOGRAPHIC CONTEXT

UNDER DEVELOPMENT

Pending tribal comments from their review of the ethnographic summary.

Chapter 5: Historical Context

5. HISTORICAL CONTEXT

5.1 Early Exploration and Settlement

A network of Native American trails used by early European explorers and later settlers originally traversed the Project area. One of the first Europeans to enter the Klamath River region using these trails was Jean Baptiste McKay, a fur trapper for the Hudson's Bay Company (HBC). McKay came west as a member of the Astor Expedition's 1810–1812 overland voyage to Astoria, Washington, sponsored by the Pacific Fur Company (Barry 1933:288). He may have established a fur-trading camp on the Umpqua River in Oregon known as the Old Establishment or McKay's Old Fort, which was used seasonally into the 1830s (LaLande 2018). His forays into the fur-bearing Klamath River region took place as early as 1825, when he reportedly camped near Sheep Rock, in Shasta Valley (Jones 1953:2), but the route of his entry into Siskiyou County is not known.

During the 1820s and 1830s, HBC trappers were intensely involved in the early exploration and development of what would become Southern Oregon and Northern California. HBC trapping brigades were sent south from company headquarters in Fort Vancouver, Washington, along what became known as the Siskiyou Trail, into Northern California as far south as the San Francisco Bay Area, where the company operated a trading post at Yerba Buena (San Francisco). In 1826–1827, Jedediah Strong Smith and Peter Skene Ogden explored what is now Siskiyou and Klamath Counties in search of beaver for fur trading. Ogden's expedition journal indicates that this HBC brigade first encountered and crossed the Klamath River in mid-January 1827, immediately below Lake Ewauna, Oregon (LaLande 1987:25-29). In what is now the Project area, the group continued south along the river to a point west of Big Bend, eventually making camp on Long Prairie Creek. On January 31, 1827, after remaining there for several days, the brigade proceeded south to the Klamath River, where they established camp within an area now inundated by Copco Lake. The Ogden party then traveled down the Klamath River to a point at or near Brush Creek and made camp within the present-day Iron Gate Reservoir (LaLande 1987:44). The brigade moved to Cottonwood Creek on February 6, 1827, heading up the creek some distance before making camp. Two days later, the group crossed the Siskiyou Mountains divide and entered the Rogue River drainage basin, in present-day Oregon.

In 1829, Alexander Roderick McLeod led a party of HBC trappers and explorers through the area. During this expedition, McLeod established a number of trails in Northern California, and, within a few years, HBC trappers were passing regularly through Siskiyou County. Over time, the various travel routes between Oregon and Northern California became collectively known as the "California-Oregon Trail." This included the coastal route used by Jedediah Smith and Alexander McLeod, the HBC trail over the Siskiyou Mountains, and the Peter Skene Ogden route by way of Klamath Lake (Rensch et al. 1933:415). These various routes have been described as strands of the Siskiyou Trail (Dillon 1975). The central portion of these trails traversed Shasta Valley, an area crossed by many emigrants in the 1830s and 1840s.

American fur trapper and trader Ewing Young was the first to break trail up the Sacramento River Canyon and along the western base of Mt. Shasta in 1834, and 3 years later, he drove nearly 700 head of cattle north along this route from San Francisco to the Willamette Valley to provision the burgeoning American settlements (Rensch et al. 1933:415-416). During and following the 1848 California gold rush, thousands of Oregonians used the Siskiyou Trail to enter and settle the Rogue Valley. The trail was re-engineered and re-plotted as a toll road in 1860.

The fur trade declined in the mid-1840s, leaving the area sparsely occupied until the advent of regional mining and logging. Following the discovery of gold at Sutter's Mill in Coloma in 1848, and the confirmed presence of large gold deposits, a mass migration to California caused the European American population to jump from an estimated 4,000 in 1848 to 500,000 in 1850 (Bancroft 1888). In the Klamath River region, gold was discovered just north of present-day Yreka in 1851 (Hoover et al. 2002).

An important early travel route across southern Oregon, used by gold seekers and other emigrants, was the Applegate Trail, a branch of the California Trail. The Applegate Trail was an alternate southern route of the Oregon Trail that was blazed from west to east, intersecting the California Trail at the Humboldt River in Nevada. After its opening, Oregonians used part of the Applegate Trail to travel back and forth to California's gold fields. A group of Oregon settlers from the Willamette Valley, led by Jesse and Lindsay Applegate, established this wagon road in 1846. The route was intended to be a less dangerous, southern route into Oregon that avoided the HBC forts and other British-owned lands to the north. It provided an all-land route from Fort Hall (in present-day Idaho) for future settlers, bypassing the original Oregon Trail route along the Columbia River.

Emigrant roads and other historic place names present in the Project Area in Oregon and California are depicted on Figures 5-1 and 5-2 below.

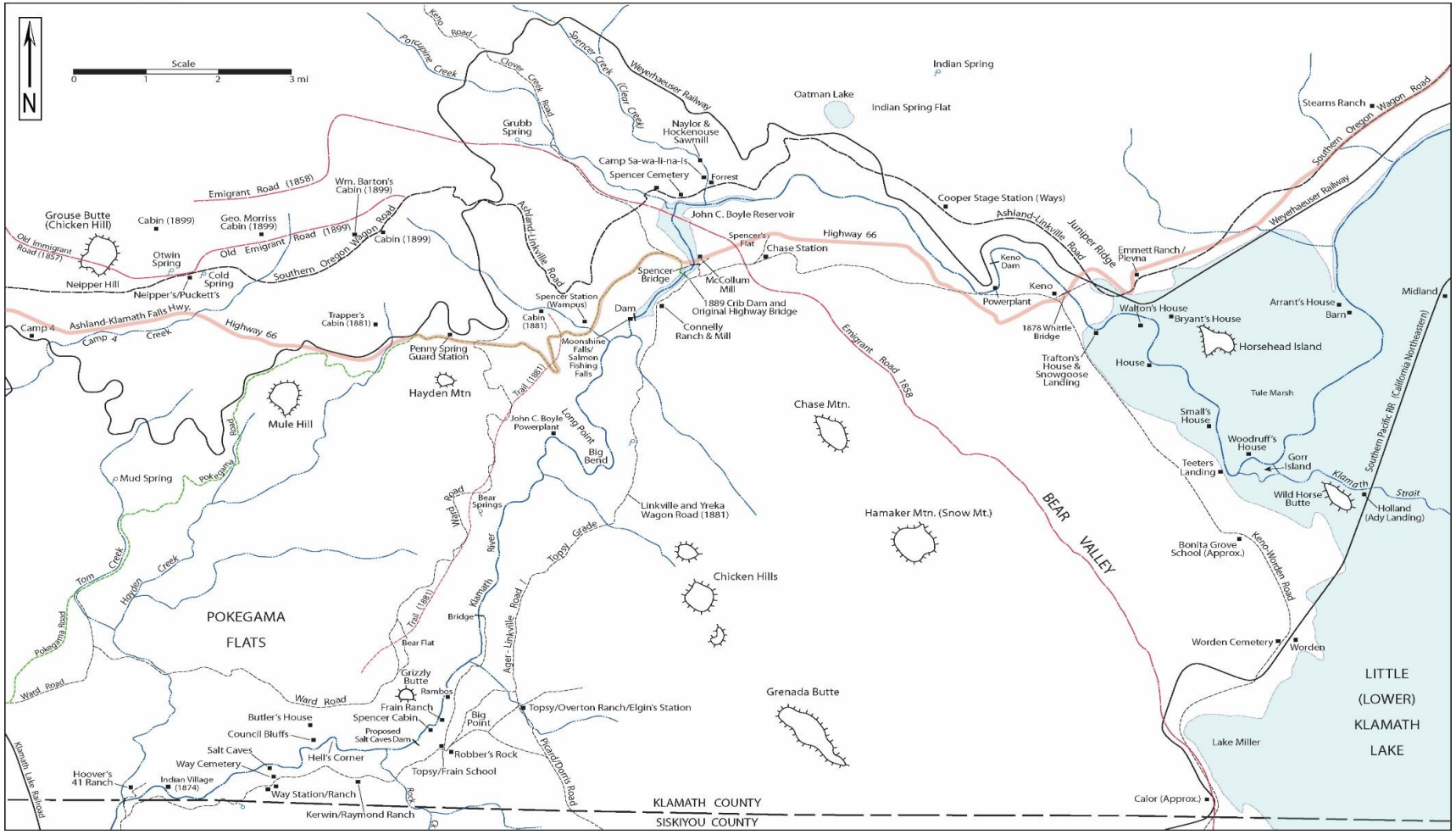


Figure 5-1 Historic place names in the Oregon portion of the Project Area (Part 1)

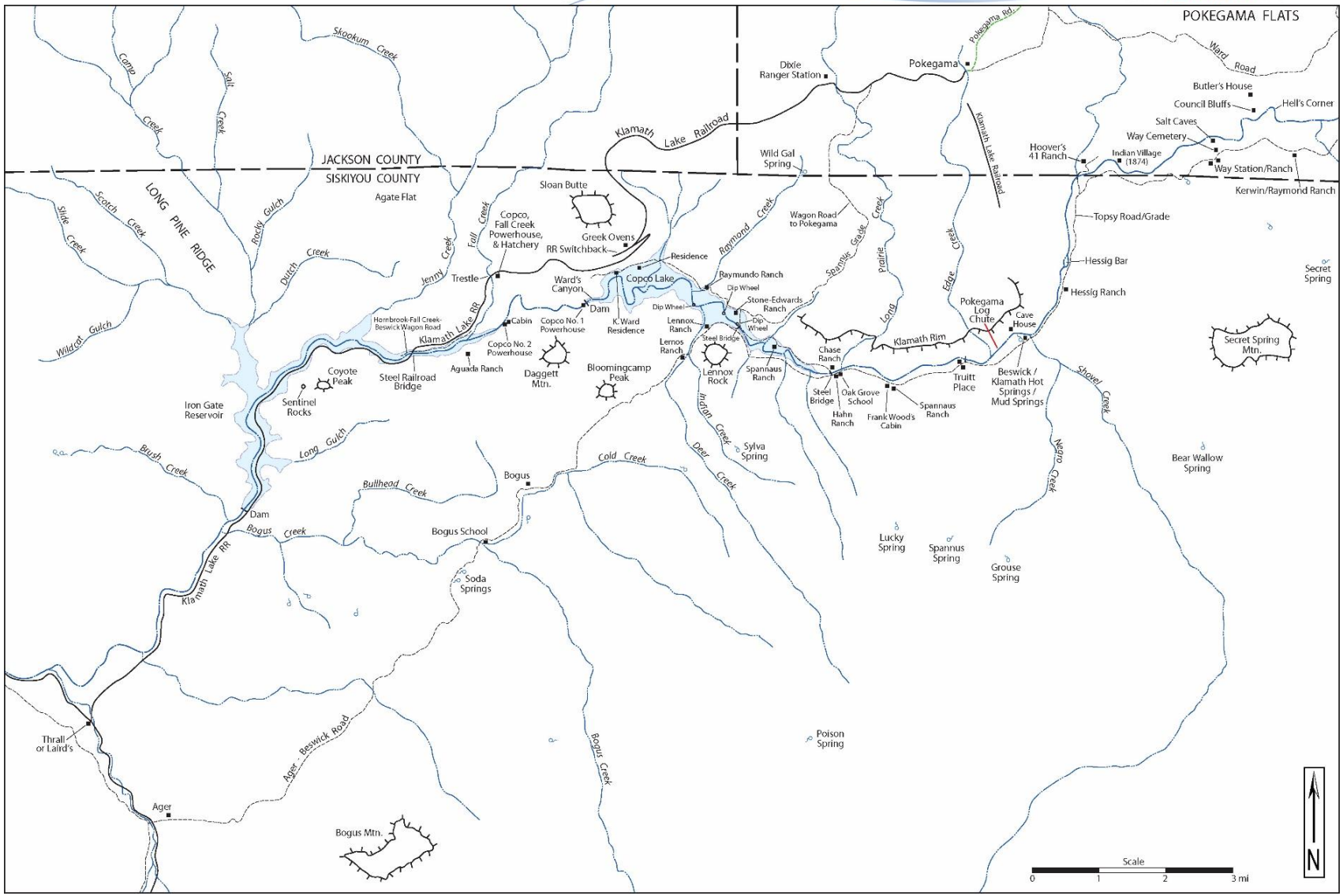


Figure 5-2 Historic place names in the California portion of the Project Area (Part 2)

By 1849, thousands of emigrants were entering California by the Applegate Trail, some from the east and others from the north. Trail use continued in the 1850s, but slowly declined as new routes were established. In 1857, a shorter route to California was developed to reduce westbound travel on the Applegate Trail. This route, known as the Honey Lake Wagon Road and the Lander Cut-off, was established near Susanville, California, and was the first wagon road to receive congressional funding.

Increased emigrant traffic led to conflicts with Native American groups, and attacks on travelers by Modoc Indians beginning in the early 1850s diminished use of the Applegate Trail. In the summer and fall of 1860, a military camp named Camp Day, shown in Figure 5-3, was established along Spencer Creek (previously known as Clear Creek), just north of present-day J.C. Boyle Reservoir, to protect emigrant traffic. Camp Day and was located about 1 mile east of the Applegate Trail's Klamath River crossing. Subsequently, Fort Klamath, near present-day Chiloquin, Oregon, was established in 1863, also for the protection of travelers on the Applegate Trail and other emigrant routes. Use of the Applegate Trail continued through 1867, at which time the town of Linkville, Oregon (now Klamath Falls) was established on the Klamath River, with the Applegate Trail used to bring in freight from the west (Helfrich 1971:13-16).

Figure 5-3 Camp Day, summer 1860 (Epley 1964:11)

In the 1860s, with the rush to active gold mines in eastern Oregon and Idaho, additional roads were constructed that supplanted the Applegate route. In addition, settlements were established in Modoc County, and roads were built from these locations to Linkville, further reducing the use of the Applegate Trail. Travelers used certain portions of the Applegate Trail during the Modoc War in the early 1870s, while other portions were largely abandoned. The establishment of the Ashland-Linkville Road, also known as the Southern Oregon Wagon Road, in 1869 eventually replaced the older Applegate Trail through the area west of Klamath River (Helfrich 1971:97).

5.2 Mining

Permanent settlement of the Upper Klamath River area by European Americans largely followed the gold rush of the early 1850s. The discovery of placer gold attracted the pioneers of what became Siskiyou County. The influx of miners also provided a market for early agriculture, including livestock ranching. In Upper Klamath River area where gold was not mined, settlers exploited the natural resources to earn a living. Trapping and hunting provided valuable furs and deer hides, while local streams yielded abundant fish for market. By early 1852, the mining population in the Yreka area and on the neighboring Scott River had exploded, leading to the formation of Siskiyou County, which was carved out of Shasta County. Before the end of that year, Justices of the Peace were presiding in four townships, including Yreka, Humbug, Scott River, and Cottonwood (Jones 1953:22).

Gold was first discovered in the Northern California and southern Oregon region in 1842 by members of the Wilkes Exploring Party (Wells 1881:25). The team found both placer gold and vein gold in quartz along the Umpqua River in Oregon, as well as placer gold in the upper Sacramento River. After the 1848 discovery of gold at Sutter's Mill, prospectors in Oregon began to work their way south into what later became Siskiyou County (Stumpf 1979:4; Wells 1881:53). In 1849, Lindsey Applegate and others crossed the Siskiyou Mountains and searched for gold in the headwaters of Scott River for several days (Stumpf 1979:4; Wells 1881:53). At the same time, settler Pearson B. Reading left his ranch in the upper Sacramento Valley to prospect the Trinity River. Upon finding river bars rich in gold, he brought a large contingent of laborers to mine the river. By the fall of 1849, word was sent out of the riches that were being found (Wells 1881:55).

In early 1850, parties searching for the mouth of the Trinity River discovered the Klamath River. They explored downstream and founded the settlement of Klamath City (Wells 1881:59). Groups explored the Klamath River upstream as far as the Happy Camp area, as well as portions of its tributary, the Salmon River, where they discovered gravel bars having gold. Other mining parties traveled further up the Klamath River during the summer of 1850. Miners went as far as 1 mile above the mouth of the Shasta River and crossed over the hills into Shasta Valley. By the first week of August 1850, miners reached the mouth of Yreka Creek, traveled up the stream, and made camp at the present-day City of Yreka. After some prospecting, miners continued south along the "Oregon Trail" to the Sacramento River and on to the City of Shasta, just west of Redding (Wells 1881:59-60).

By fall 1849, many miners were working the Trinity River; and by late 1850, considerable gold mining had begun near the confluence of Klamath and Scott rivers, particularly at Scott Bar on the Scott River. In early 1851, thousands of prospectors poured into the area of the upper Klamath and Shasta rivers, Yreka Flats, Greenhorn Creek, and Scott Valley (Wells 1881:62). The portion of the Klamath River between Cottonwood and Humbug creeks, within the Project ADI, is in what became known as the Klamath River mining district's Hornbrook section. The original economy of the Cottonwood Creek area was entirely mining, and gold production at Cottonwood Basin was considered second only to Yreka Flats (Jones 1953, 1971).

A number of other claims were filed in the Klamath River mining district on several Klamath River tributaries, near French Gulch (Jones 1971:285), Dutch Gulch and Printer Gulch (French 1990:25), Sharp's Gulch (Jones 1971:286), Bar Bell, Oregon Bar, and Long Gulch (Jones 1971:288). On Ash Creek, north of the

Klamath River, extensive mining was carried out on the steep hillsides (Jones 1971:288). In some areas, miners used wing dams to divert the river and expose the river bed and derrick mechanisms to move the large boulders. Gravels were processed to bedrock and the bedrock crevices were washed for gold (Jones 1971:288). Gravel bars of the Klamath River were also mined using large dredges, often employed on the large tributary streams, such as Cottonwood Creek (*Sacramento Union* 1908). Mineral patents indicate that no productive mining ever transpired on the Upper Klamath River east of Cottonwood Creek and east of the Klamath Mountains, although some prospecting likely occurred in the early days. It was likely during the early mining period that much of the upper river was initially explored, revealing areas ideal for later settlement, ranching, and logging.

Many of the men and women who settled farms and ranches in the Upper Klamath River area originally worked the mines of Siskiyou County, particularly around Yreka, Hawkinsville, Scott Valley, Quartz Valley, and Humbug Creek. Some gave up mining to work in hotels and stores, butcher shops, laundries, banks, and mills, while others worked for express and stage companies. Others started livestock ranches, became ranch hands, returned to the medical profession, or entered politics. Many turned to fur trapping, hunting, and fishing to earn a living.

While early county records and histories indicate that there was a large Chinese population working the Klamath River mines around Henley, California, many of these miners left the area after the mines played out. Many Chinese men were hired to construct the Klamath Lake Railroad (KLRR) in 1901. A considerable number of Portuguese miners, along with miners of German or Prussian descent, came to Siskiyou County, and many of these people later settled in the Upper Klamath River area, particularly in the Willow Creek and Bogus Creek areas.

5.3 Agriculture, Ranching, and Reclamation

As regional mining waned, some former miners remained and established ranches and farms, capitalizing on the area's rich soil, flat terrain, and plentiful water (PacifiCorp 2004: Exhibit E 6-64). Previously, the climate and abundant rangelands drew early stockmen such as Wallace Baldwin who, in 1852, trailed 50 horses from Rogue River to Keno, Oregon (PacifiCorp 2004: Exhibit E 6-64). Four years later, in winter 1856, Judge Frank Adams grazed 2,000 head of cattle near Keno. Adams observed that "the wild rye [was] so high and plentiful that stock came out in the spring fat and ready for market" (WHPC 1905:931). That spring, Adams sold 1,200 cattle at $80 per head in Yreka and other Northern California mining towns. Wendolen Nus, known as Klamath County's first permanent white settler, grazed a herd of cattle on the Klamath River in winter 1858–1859, several miles southeast of Klamath Falls, where Orson Avery Stearns later established a ranch (WHPC 1905:931). Nus returned to Klamath country in 1866 with a herd of cattle, which he raised several miles north of Klamath Falls for supplying beef to Fort Klamath (WHPC 1905:938).

In 1867, the Linkville town site (present Klamath Falls) was founded in southern Oregon on the Klamath River near the outlet of Upper Klamath Lake. By 1869, approximately 100 people were living within the present Klamath County boundaries (WHPC 1905:940). Further downriver, in the 1850s, a small community was founded at Whittles Ferry, near present day Keno. By the 1860s, California communities developed in

the present Copco Lake area at Oak Grove (now Copco Village) and Killebrews Ferry near Wards Bridge. While numerous family ranches eventually developed in the Iron Gate reservoir area, no distinct communities existed during the late nineteenth century.

Federal legislation related to public lands and irrigation shaped settlement patterns in the Upper Klamath Basin. The 1850 Donation Land Law and 1862 Homestead Act enabled settlers to acquire and develop public lands. Early regional agriculture primarily provided winter forage to the cattle and horses (Hayden 1941:103). After the Modoc War ended in 1873, settlement increased while stock-raising remained the area's principle industry (Hayden 1941:103). The ranching industry further expanded during the late 1880s when Lucien Applegate, who already owned 800 Hereford cows, brought Black Angus or Galloway Bulls overland from Sacramento. A few years later, N. G. Merrill brought Shorthorns by railroad from Chehalis through Montague (Noggle 1970:32). These resident stock raisers competed for access to bunch grass with "free-grazers," those from other parts of the west exploiting the basin's open rangelands (WHPC 1905:940).

The winter of 1889–1890, the worst in the Klamath Basin's history, rendered stock feed inaccessible, killed numerous cattle through hypothermia and starvation, and destroyed most of the area's original ranch outfits (Noggle 1970:32). After winter ended, cattle came by trail to the Klamath Basin from California and Roseburg, Oregon. Klamath ranchers seeking reasonable financing terms for cattle loans had to prove enough hay reserves (Noggle 1970:32). Another significant event for the Basin's ranching industry was the arrival of the Southern Pacific Railroad (SPRR). Following the SPRR's 1907 arrival at Midland, 7 miles southwest of Klamath Falls, cattle corrals were built. The railroad and corrals transformed Midland into a primary shipping point for cattle driven to the town (KCHS 1984:33). Two years later, in 1909, the SPRR was completed to Klamath Falls. This stimulated intensive growth in the local lumber industry and prompted a market for draft horses raised for use by loggers. Before the railroad's completion, all cattle arrived at Klamath Falls by trail. The line's completion to Klamath Falls enabled cattle to be shipped "fat" by rail (Noggle 1970:32).

Early agriculture in the Basin stemmed from the need to provide winter forage to the cattle and horses (Hayden 1941:103). Local attitudes towards agriculture shifted noticeably around 1880, when a Keno ranch used 36 acres to produce 36 bushels per acre of barley, leading other settlers to pursue cereal and other crops, as shown in Figure 5-4 (WHPC 1905:967). After a 1908 USBR survey, W.H. Heileman described the basin as "pre-eminently a dairy and stock raising country" with good quality native forage grasses growing abundantly. Heileman reported that:

> *In the Klamath Basin, there is much fine livestock. Horses are bred in large numbers and the stock industry is greatly benefited by the surrounding range lands which afford ample summer range for cattle, horses and sheep. The basin lands will soon produce all the necessary feed that may be needed for winter fattening (Heileman 1908:17).*

Figure 5-4 Klamath County alfalfa field (WHPC 1905)

Recognizing the land's potential, residents began cultivating grain near Keno, Klamath Falls, and Klamath Lake's eastern shore to supply the local market (WHPC 1905:939). During the 1880s and 1890s, before irrigation became widespread, Klamath County farms used dryland farming techniques to produce crops such as barley and potatoes (KCHS 1984:232). By 1905, the local farms were producing large potato crops, as well as sugar beets, apples, pears, plums, prunes, cherries, peaches, berries, and grasses. During that era, buyers from throughout the west coast flocked to the Upper Klamath Basin to buy cattle (WHPC 1905:985,989).

The absence of patented homesteads recorded in the present J.C. Boyle Reservoir area indicates a lack of historic agricultural and ranching activities (Beckham 2006). The Homestead Act did, however, attract many settlers to the Upper Klamath River canyon area downstream of J.C. Boyle Reservoir to the California–Oregon border. In addition, historical records for the area detail the influence of logging, lumber mills, and early transportation routes. As noted by Beckham (2006:62), however, only about 1 to 5 percent of this area's acreage was in private ownership, with most parcels retained as public domain lands.

Between 1882 and 1890, most of the lands surrounding and currently inundated by Copco Lake and Iron Gate Reservoir had been patented, with some additional claims between 1911 and 1919. Unlike the Oregon homestead patents, those on the California side encompassed a higher acreage percentage (15 to 22 percent) of private land (Beckham 2006). This may have been related to the California side's gentler terrain and valley environments.

Many local geographic landmarks (e.g., Lennox Rock, Ward Canyon, Chase Mountain), historic sites (e.g., Beswick), and features (e.g., Miller-DeSoza ditch) within the Project area are named for homestead claimants in the Copco Lake and Iron Gate Reservoir area. Historical summaries of these homesteads can be found in compilations by Hessig (1978) in several volumes of the *Siskiyou Pioneer* (1974, 1982, 1995), and in a historical landscape overview by Beckham (2006). In the Copco Lake area, from upstream to downstream, lands were patented by J. Calkins (1890), A. Keplar (1882), C. Schnackenberg (1888), F. Picard (1882), E. C. Spannaus (1883), H. Sparling (1888), J. Lennox (1884), W. B. Ward (1889), H. Ward (1882), H. F. Keeton (1911), B. Davis (1889), C. T. Clarke (1919), and D. Mains (1917). In the Iron Gate Reservoir area, patented landowners included W. G. Spearin (1890), T. J. Greive (1888), R. Wanaka (1901), G. A. Tebe (1931), F. Miller (1899), W. A. Moore (1888), A. Borges (1892), A. Burch and A. Borges (1904), and M. Franklin (1890). Figure 5-5 shows the Lennox and Ward ranches in 1910, and Figure 5-6 shows the land patents before Copco Lake. Named ranches associated with some of these families include the Hahn Ranch, Chase Ranch, Parks Ranch, Spannaus Ranch, Stone-Edwards Ranch, Lennox Ranch, Raymundo Ranch, Keeton Ranch, Mary Ward Ranch, Tip Ward Ranch, Thomas A. Grubb Ranch, Thomas J. Grieve Ranch, and Maurezo Aguada-Daggett Ranch. Other land parcels were patented by the Central Pacific Railroad (1895) and the State of California (1881, 1918).

Figure 5-5 Overview of Lennox Ranch (foreground) and Raymond and Mary Ward ranches (background). Area is currently inundated by Copco Lake. (1910 Photograph from John C. Boyle Collection, Southern Oregon Historical Society).

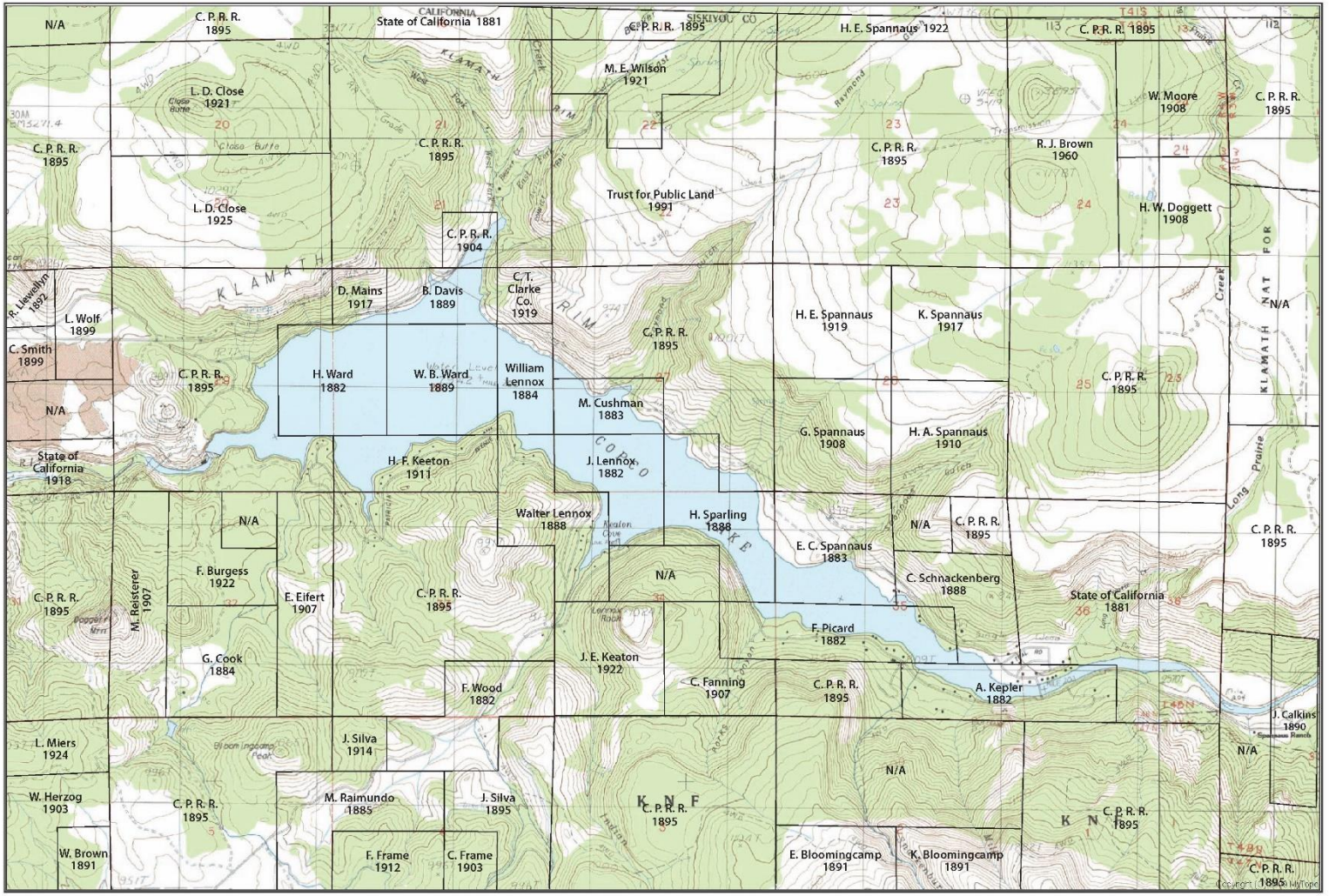


Figure 5-6 Copco Lake land patents before inundation

Another piece of landmark legislation, the Reclamation Act of 1902, provided for conversion of unproductive land into small, irrigated farms (Foster 2002:153-154). The Act built upon the Upper Klamath Basin's early irrigation efforts, such as the Linkville Water Ditch Company's 1878 canal. The canal originated at the Link River, near its outlet from Upper Klamath Lake, to supply water to Linkville's (Klamath Falls') town lots. Subsequent area canals enabled farmers to cultivate croplands that, after harvest, were pastured with large herds of stock cattle (Hayden 1941:103; Heileman 1908:15). The federal reclamation program, administered by what is now the USBR, substantially increased the acreage available for basin agriculture and ranching, mainly east of the Klamath River.

In 1905, the USBR approved the Klamath Project, which required the government to purchase water rights from mostly private owners. The Klamath Project area encompassed northern portions of Siskiyou and Modoc Counties, California, and areas of Klamath County, Oregon (Heileman 1908:4-9). Construction projects included "dams, canals, ditches, and other facilities to drain, move and store of Upper Basin water" (Most 2018; Foster 2002:155).

Reclamation in the Klamath Basin coincided with growth and development in the region's population and industries. In 1910, the U.S. Census reported that Siskiyou County's population had reached 18,801, up about 2,000 from the previous decade, and that there were 1,114 farms in operation, up about 200 from the previous decade. Most farms averaged about 400 acres and collectively covered about half a million acres (French 1915:15). In Hornbrook, along the Klamath River in northeastern Siskiyou County, residents engaged in mining and well as agriculture and grazing (French 1915:27). Siskiyou County's cattle industry was strong as compared to other California counties. Local stockmen required thousands of tons of hay and grain to feed herds and relied on the county's alfalfa, barley, clover, corn, oats, and wheat crops (French 1915:7). By 1912, the county had about 57,000 acres of irrigated land. By 1914, the amount had nearly doubled to 100,000 acres through diversion of streams in the Shasta and Scott valleys (French 1915:13). Ranchers during the 1910s profited from annual shipments of around 20,000 cattle from Siskiyou (French 1915:14).

Reclamation also led to a substantial increase in the percentage of cultivated Klamath Basin lands, and in Klamath County, dairying, farming, and stock-raising remained the principal industries. The 1920 U.S. Census reported that Klamath County contained 992 farms, with irrigated acreage amounting to about 60 percent of the total improved acreage. Dairying, farming, and stock-raising remained the principal industries. Total livestock was valued at nearly $4 million, while crop values totaled about $2.5 million, including cereals ($0.5 million), hay and forage ($1.8 million), vegetable, mostly potatoes ($142,000) and dairy products ($200,000). During the next two decades, potato farming thrived, accounting for nearly $5 million, about half of the basin's total income in 1936. Farm crops increased from $1.2 to $8 million between 1923 and 1936, while the number of farms nearly doubled (KCHS 1984:23). In 1970, the Oregon Cattleman examined the Klamath County cattle industry and noted that "Irrigation of the Basin has changed the whole perspective of the cattle business; ample feed is now available and fine purebred herds continue to maintain the fine quality of cattle" (Noggle 1970:35).

5.4 The Logging Industry

As the early mining population moved into the Klamath River area, there was a rapid need for lumber for the construction of dams, flumes, sluice boxes, and other mining structures, as well as for lumber to construct dwellings and infrastructure. As a result, several small sawmills were established on the Klamath River and its tributaries as early as the 1860s (Beckham 2006:138). Siskiyou County mills near the Project area included an early sawmill on Cottonwood Creek at what later became the Herman Kurt ranch; the John Hilt sawmill on the West Branch Cottonwood Creek near the present town of Hilt; the Martin Frain and J. S. Baker sawmill at the mouth of Jenny Creek (later moved to Bogus Creek); and the Henry Harrison Ward sawmill on upper Fall Creek; (Jones 1971; KCHS 1973:98). Mills within Klamath County included the Naylor and Hockenhouse sawmill on Spencer Creek; the Gordon/McCormack Mill on Klamath River near Keno; the Connelly Mill on Klamath River; the Kinney Mill at Snowgoose Landing; and the Wise and Maxwell Sawmill at the top of Topsy Grade (Helfrich 1973:101). Large sawmill operations later developed along the river and included Klamathon in Siskiyou County, California; and the McCollum/Ellingson sawmill near Keno, the Kesterson Sawmill near Klamath Falls, and Weyerhaeuser Mill in Klamath County, Oregon.

The establishment of these and other mills spurred development within the greater Klamath–Siskiyou region. Before European American settlement, Klamath County contained about 2 million acres of timberlands, encompassing some of the world's most valuable ponderosa and sugar pine stands (Bowden 2002:5). Early settlers operated small-scale sawmills in the 1860s and 1870s, often to supplement farming and ranching income (Kramer 2003a:6). In 1863, the federal government became the region's first local timber supplier when the Army brought the first sawmill into Klamath County to construct the fort's buildings and to supply lumber to the tribes as required by the treaty establishing the Klamath Indian Reservation (Lamm 1960:1). At that time, the Klamath Indian Reservation was the area's primary lumber source, encompassing over a million acres, most of which was "timbered, hilly land, little suited to agriculture, but usable for grazing, hunting, fishing, and logging" (Dicken and Dicken 1985:3-4).

Outside of Fort Klamath, early logging and lumber production commonly involved small-scale, family operations which supplemented the income of local ranchers (Kramer 2003b:7; PacifiCorp 2004:2-46). Small private sawmills, called sash mills, were constructed mostly of wood and often powered by water wheels, requiring only one operator (Lamm 1960:4-5). According to W.E. Lamm, an early twentieth-century lumberman, "Most of the very early mills sawed logs from homesteads or just helped themselves to Government timber. Logging was done at the start with oxen skidding into the water, then with oxen and wagons. In the [eighteen-] eighties oxen were being replaced with horses" (Lamm 1960:6). The mills cut 500 to 1,500 board feet per day, depending upon availability of water. The more advanced early mills had a circular head saw and operated with water turbines. Later mills that functioned without water power used steam traction engines. Local operators sold the lumber at the mill site (Lamm 1960:5-6). These small mills primarily produced building materials for local homes and businesses (KCHS 1984:25).

In 1868, Granville Naylor and John Hockenhouse established a water-powered sawmill on Spencer Creek, about 1 mile upstream from its confluence with the Klamath River, on the northern side of J.C. Boyle Reservoir. The mill, which was purchased by Hiram and Mary E. Spencer in 1871, provided lumber for building Klamath Falls and the first bridge over the Link River (Beckham 2006:138). The Keno area

witnessed several early sawmills, including those operated by Daniel Gordon, the Cooper Brothers (1883), Dusenberry (1888), and Connally (1895-1907) (Beckham 2006:138).

Land sales by the SPRR served as another major impetus for the development of commercial logging and lumbering in the vicinity of the upper Klamath River Canyon. Incorporated in 1881, the Klamath River Improvement Company selected a site at the projected crossing of the Klamath River by the Oregon & California Railroad, naming the new community Klamath City. A related firm, Pokegama Sugar Pine Lumber Company, purchased over 10,000 acres in Klamath and Jackson counties, Oregon, from the Oregon & California Railroad. In 1906, the Oregon & California Railroad Company released the rights to the Pokegama Sugar Pine Lumber Company, setting the stage for federal government patent of the lands, which by that date had been purchased by Weyerhaeuser Timber Company (Beckham 2006:138-139). As larger companies moved in, lumber towns formed along the Klamath River. In 1909, the SPRR's completion to Klamath Falls (formerly Linkville), spurred a regional lumber boom. Within 2 years, the Pelican Bay Lumber Company became one of the first to establish a mill site and operation on the Upper Klamath Lake for supplying non-local markets.

The Klamath River itself also contributed to the development of the industry. In 1888, the Klamath River Improvement Company staged a test log drive, dumping 135 logs into the river at the Oregon–California state line; 119 reached the company's mill site at Klamath City, California (later known as Klamathon). In early 1889, Klamath County granted the company a log-driving franchise for 20 years from the mouth of Spencer or Wetas Creek to the California border. The company agreed to improve the river to float logs, timber, and lumber and reserved the right to charge other firms using its franchise privileges (Beckham 2006: 139). That same year, crews working for the Klamath River Improvement Company built a splash dam about 5 miles west of Keno, Oregon, near the site of the McCollum or Ellingson sawmill. The company used this dam to raise the level of the Klamath River by artificial freshets to drive logs to its mill site in Siskiyou County. The Kerwin Ranch, in Oregon, near Topsy Grade, was one of the first areas logged for river driving timber. In 1890, floods carried away the blacksmith shop, dam, and other structures at Klamathon, leading to the demise of the Klamath River Improvement Company (Beckham 2006:139).

In the fall of 1891, the SPRR sold timberlands in the watershed of Jenny Creek to the Cook, Pardee & Company of Michigan. The firm also reportedly purchased "an equal portion of government timber" interspersed between the odd-numbered sections that were part of the original Oregon & California Railroad grant. Cook, Pardee & Company bought the remaining Klamath City or Klamathon Mill in 1891, which operated until 1898 when it was destroyed by catastrophic fire.

Cook, Pardee & Company began logging in the Klamath River watershed by the summer of 1892, employing over 110 men along the river and several experienced rafters following them in boats to keep the logs moving. An immense chute long was cut into the mountain slope, down which the logs were shot into the river. Logging crews used large carts, or "big wheels," horse teams, and eventually a small locomotive to drag the logs to the head of the chute. The company anticipated building logging railroads to haul the timber more distant from the chute. This log chute was one of the most dramatic of its kind in the Pacific Slope and drew the attention of tourists who came to watch its operations, as well as later generations intrigued with the technology of log transportation. The famed log chute near Klamath Hot Springs, California, and shown in

Figure 5-7, dropped 835 feet in elevation over a distance of 2,650 feet from the Pokegama Plateau to the Klamath River (Beckham 2006:141-145).

Figure 5-7 Pokegama log chute near Beswick, California, undated photograph (courtesy of the John C. Boyle Collection, Southern Oregon Historical Society)

Driving logs down the Klamath River was extremely hazardous, as the river riffles and rapids in the revere caused logs to hang up. Log drivers had to go into these hazards to break the jams, using either dynamite or cant hooks (a log handling tool). Because of the lack of roads along the river, they did not have the benefit of steam donkeys to power cables to set the logs free. Unknown numbers of men perished in these drives (Beckham 2006:147). Many men from the pioneer families mentioned above found work in log driving, including Jim White, Ed Way, George Spannaus, Frank Woods, Rod Frain, Wren Frain, Fred Frain, Henry Hoover, and George Cook (Beckham 2006:148).

Around Klamath Falls, Oregon, wooden box manufacturers and other lumber concerns also established sawmills (Sisemore 1941:117,118). California fruit companies, which used enormous numbers of wooden boxes and crates for shipping produce, built large lumber mills and box factories in Klamath Falls (Bowden 2003:10; KCHS 1984:25). The timber supply began to shift after Weyerhaeuser and other large companies, such as Shevlin-Hixon and Gilchrist, acquired immense, private timber stands (Bowden 2003:3). Leading lumber companies bought timberlands by purchasing railroad land grants (Bowden 2002:6). In Siskiyou County, California, 4,000 residents were working in the lumber industry as loggers or mill hands by 1915. At that time, 50 county sawmills produced about 200 million board feet annually derived from sugar pine, ponderosa, white pine, fir, and cedar (French 1915:9,11).

By 1918, Klamath Falls had grown into one of Oregon's most important freight centers, second only to Portland, and the lumber industry became the region's primary employer (Bowden 2003:7). After surviving the Great Depression, the Klamath County lumber industry became Oregon's highest (and the nation's second highest) producer, with 843 million board feet in 1941 (Sisemore 1941). Other prominent local

lumber companies along the Klamath River included McCollum mill and logging camp, established around 1920, 5 miles west of Keno (*Evening Herald* 1925). In 1934, McCollum sold the mill to Robert Parcher Ellingson of Ellingson Lumber Company (Lamm 1960:19). Figure 5-8 shows Ellingson's mill circa 1950. McCollum subsequently opened a new mill in Malin, about 35 miles west, just north of Oregon's border with California (Sisemore 1941:119). The mill closed during the early 1950s (*Herald and News* 1953).

Figure 5-8 Ellingson Mill Site (formerly McCollum Mill) ca. 1950 (photography courtesy Klamath County Museum)

During the Great Depression, many lumber companies endured by substantially reducing production and closing the plant for extended periods (*Evening Herald* 1929). Economic recovery began in the mid-1930s, as the demand for inexpensive lumber and agricultural boxes gradually increased (KCHS 1984:27). By 1941, 30 lumber manufacturers, from small to large, were operating in Klamath County. While the number of manufacturers had declined since the 1930s, the total production had risen (Sisemore 1941:119). Weyerhaeuser acquired much of the remaining timberlands from companies that closed their mills (Bowden 2003:14). After World War II, the critical demand for building materials prompted companies to use salvaged wood for fabrication of new products (KCHS 1984:27). Weyerhaeuser remained the region's primary lumber interest until terminating operations in 1992. By 1996, the company had sold its forestlands to the U.S. Timberlands company. In 2003, the region's only remaining logging railroad was the Klamath Northern Railway at Gilcrist (Bowden 2003).

5.5 Regional Transportation

The regional transportation systems that developed in the Upper Klamath River area helped link this large, remote, and resource-rich area, first among its indigenous Native American groups and then among the European American settlers who flocked to the area after the 1860s. The river itself and a system of Indian

trails moved native peoples across the region, providing avenues for resource procurement and conveyance, communication, and social interaction (King 2004). After historic contact, such Native American trails were incorporated into a network of emigrant and wagon roads, some of which were subsequently converted into rural roads and local and regional highways. Transportation links helped create a set of distinct local and regional economies that moved travelers and agricultural and manufactured goods between farms, towns, and cities. Important among these links was a railroad system that allowed connection with the growing nation and that eventually facilitated construction of the Copco No. 1 and Copco No. 2 hydroelectric developments.

5.5.1 Klamath Basin Waterways

The Shasta, Klamath, and Modoc Tribes were the first to navigate the Klamath River and Upper Klamath Basin's lakes and waterways using tule rafts and dugout canoes (Barrett 1910:247, 256; Drew 1974:1; Holt 1947; Spier 1930:169-171). Later, European American settlers used the waterways to ferry passengers and cargo as an alternative to the area's inadequate road system (Drew 1974:1). Boating associated with the U.S. military began on Upper Klamath Lake around the time Fort Klamath was established in 1863. John Gleim built the first boat on Upper Klamath Lake during the Modoc Indian War to transport supplies from Fairchild to Klamath Falls (Federal Works Agency 1941:33). As the area grew in population and industry, water transportation for passengers, lumber and general freight necessitated better steamers, dock construction, and channel dredging. Through the late 1800s, the Upper and Lower Klamath lakes landings experienced heightened steamer activity, with the landing of Shippington, on the southeast end of Upper Klamath Lake, ranking as the busiest (Dicken and Dicken 1985:4-24). In 1889, Klamath County designated the major rivers, including Klamath River, as public highways for log transportation. The county later leased the Link River to the Moore family and the Klamath River Improvement Company as a toll highway for floating logs (Federal Works Agency 1941:33). During the 1910s, tug boats became a fashionable way to haul logs and freight on Upper Klamath Lake (PacifiCorp 2004: Exhibit E 6-63). After the turn of the twentieth century, the construction of railroads and road improvements, as well as the increasing use of automobiles, rendered water transportation virtually obsolete in the basin, although transportation of logs in rafts continued in Upper Klamath Lake and along the Klamath River (Dicken and Dicken 1985:4-25). Drainage related to reclamation and the federal establishment of wildlife refuges also reduced the feasibility of water transportation.

5.5.2 Klamath County, Oregon

The Applegate Trail (Southern Emigrant Road) was the first European American trail through the Klamath River region and was a southern alternative to the western-most segment of the Oregon Trail. In 1846, a group of Oregon settlers from the Willamette Valley, led by brothers Jesse and Lindsay Applegate, established this wagon road, and the trail became the longest alternative route of the nineteenth-century overland emigrant trails (Hazelett 2010:222). After gold was discovered in California in 1849, the route became popular with gold miners en route to Southern Oregon and Northern California (PacifiCorp 2004: Exhibit E 6-62). During the 1860s, the trail became known as the Southern Oregon Wagon Road (SOWR) and, after its completion in 1873, facilitated freight shipping east from Rogue River Valley and livestock

exporting west to valley markets (Beckham 2006:110-111). Within the Project area, the SOWR opened in 1869 as the Jackson County Road (Klamath County was originally part of Jackson County) and served as a primary trade and travel route for stage coaches, buggies, and freight wagons for about four decades (Pierce and Blanchard 2011:106).

Between the 1880s and 1910s, stages carrying passengers and mail ran through Keno, Oregon, from Ager, California, to Klamath Falls, Oregon (1880s stage), to Ashland, Worden, and Pokegama (MacDonald 2009). The last stage coach traveled the SOWR within the basin in 1908, and automobiles used it until the completion of OR 66, which overlays a part of the old SOWR (Pierce and Blanchard 2011:106). Topsy Road, originally the Yreka-Fort Klamath Wagon Road, was one of the first major roads in Upper Klamath Basin and was busiest between 1887 and 1903, as shown in Figure 5-9. Paralleling the Klamath River's east side, the road became an alternative for shipping supplies to Fort Klamath and to Upper Klamath Basin settlers. When it opened in 1871, the route extended from Yreka to ferries on the Klamath River, then to the Link River, passing through Klamath Falls and ending at Ft. Klamath (Beckham 2006:114-116). Stage stations along Topsy Grade Road furnished stages with fresh horse teams and usually provided rest and food for stage passengers (Drew 1979:31). Topsy Grade's use as a stage road declined with the arrival of the SPRR in Klamath Falls (1909) (KCHS 2006:6). Until U.S. Route 97 was completed during the mid-twentieth century, Topsy Road had the only mail, freight, and stage line connecting Yreka to Klamath Falls (PacifiCorp 2004: Exhibit E 6-62). Another notable stage road was the Keno-Pokegama stage line, which was discontinued around 1909 when the SPRR arrived in Klamath Falls.

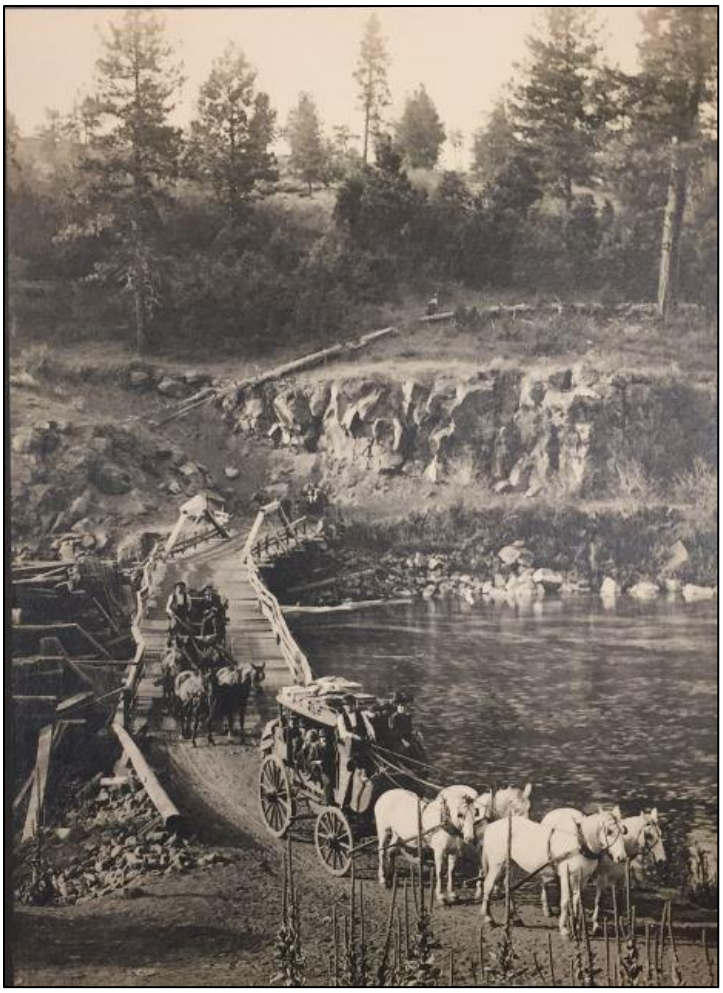


Figure 5-9 Topsy Grade Road dam-bridge over Klamath River west of Spencer Creek, built ca. 1890 (undated photograph courtesy of the Klamath County Museum)

Railroads first arrived in the region in 1887 when the Oregon & California Railroad (O&C) was built through Siskiyou County, California, and Jackson County, Oregon. The SPRR acquired the O&C that same year (PacifiCorp 2004: Exhibit E 6-63). The KLRR was completed from the SPRR line in Thrall, California, to the Pokegama logging camps by 1903, and carried mostly logs and lumber, but also passengers and general freight. The KLRR began running in 1903 and extended from Thrall (formerly Laird's), a California rail station on the SPRR 2 miles south of Klamathon, to the Pokegama Plateau (Stephens 1964:3). The KLRR had 24.27 miles of track, 87 box culverts, 221 trestle bents, 9 cattle guards, 4 water towers, 4 depots, 1 engineer's house, and 7 other buildings (Beckham 2006:128). Although the mill in Klamathon was destroyed by fire before the railroad's completion, the railroad stayed in business by transporting lumber for other mills. The railroad served passengers, with travelers to Klamath Falls taking the train to Pokegama and completing their journey via stagecoach (Stephens 1964:3).

After KLRR spent nearly a decade hauling lumber and passengers, the Siskiyou Electric Power & Light Company (SEP&L, predecessor to Copco) leased the railroad's remaining section from Thrall to Klamath Hot Springs, for use in constructing the Copco No. 1 hydroelectric plant. Copco also constructed a spur with switchbacks to the plant (Stephens 1964:3; Beckham 2006:131). The *Sunday Oregonian* described the KLRR and how Copco used it for hydro-facility construction:

> *It is a rather good road, with good 60-pound steel, standard gauge, but the grades reach as high as 5 per cent. The present electrical company [Copco] bought this road, and built switch-backs from the main line down to the site of the new dam [Copco No. 1], and all of the material used from outside has been hauled over it by a big "galloping goose" truck or car, using gasoline for motive power . . . One item of the hauling was 70 carloads, Southern Pacific cars, and all of the steel use for reinforcing (Bennett 1922).*

When Copco's KLRR lease ended in 1914, the company bought the remaining section for $35,000 (Bennett 1922; Stephens 1964:3). Copco maintained the KLRR track, shown in Figure 5-10, between Thrall and the Copco powerhouses until 1942 (Beckham 2006:131).

Figure 5-10 The KLRR in 1922, moving part of a generator field down the spur switchbacks to the Copco No. 1 powerhouse

For early KLRR travelers continuing to Klamath Falls, the daily stage from Pokegama carried up to 30 passengers on a 6-hour ride. At Keno Landing, freight and passengers were often transferred to steamer for the final leg of the trip to Klamath Falls (Dicken and Dicken 1985:4-22). The Oregon Truck Line, later called the Great Northern Railway, also served the basin and was completed from the Columbia River to Bend in 1916 and from Bend to Klamath Falls in 1927. The route was extended about 100 miles southward in 1931 to join the Western Pacific Railroad in Bieber, California (Dicken and Dicken 1985:4-26).

By the 1910s, a growing number of automobiles in the Klamath Basin prompted extension and improvement of the existing roads. U.S. Route 97 was the basin's first (and only) national road. U.S. Route 97 originally traversed the Cascades via Green Springs Pass, to connect with U.S. Route 99 (now Interstate 5) near Ashland. The highway was later rerouted directly south to Weed, California, and the route across Green

Springs Pass became OR 66. The area's other major roads include State Highway 62 (from Ft. Klamath to Medford, through the Cascades), part of which became State Highway 140 (eastward to Lakeview) (Dicken and Dicken 1985:4-22). OR 66 approximates the alignment of the Applegate Trail and Southern Oregon Wagon Road through the Klamath Basin (KCHS 1973:17). In 1917, the State of Oregon added State Highway 21, which was graveled in 1922 (Beckham 2006:136). By 1950, automobiles were the most common mode of transportation in Klamath County, and logging truck roads had replaced the logging railroads (common carrier rail lines still transported logs and lumber). U.S. Route 97 had been rerouted to Weed, California, to join U.S. Route 99. OR 66, the main east-west route from Ashland to Klamath Falls had been paved, as had other major roads in southern Oregon and Northern California (Dicken and Dicken 1985:5-21).

5.5.3 Siskiyou County, California

First used as a network of Native American foot trails, and later as the route of HBC trappers and traders, mule train packers, stagecoach drivers, the Central Pacific Railroad, and finally as today's Interstate 5, the Siskiyou Trail helped define the political, cultural, and natural history of the American West. During the 1820s and 1830s, HBC trapping brigades were sent south from company headquarters in Fort Vancouver, Washington, along what became known as the Siskiyou Trail, into Northern California as far south as the San Francisco Bay Area, where the company operated a trading post at Yerba Buena (San Francisco). After its use as an HBC route, Ewing Young repurposed the trail in the 1830s when he drove cattle northward from California, over the Siskiyou Summit, and into the Willamette Valley to provision the burgeoning American settlements. During and following the 1848 California gold rush, thousands of Oregonians used the Siskiyou Trail to enter and settle the Rogue Valley. In the final decades of the nineteenth century, the trail was re-engineered and re-plotted as a toll road in 1860, a telegraph line was completed in 1864, and the SPRR was completed in 1887 (SOU 2005).

Until 1856, transporting items into the Siskiyou required a pack train, usually coming from Sacramento, Marysville, or Colusa. Flour, potatoes, and other provisions generally arrived by pack from Oregon. Once roads were constructed, teamsters driving stages generally replaced pack trains (Wells 1881:161). By 1860, the California Stage Company was running daily stages from Sacramento to Portland and Stone & Sullaway were running stages from Yreka to Soda Springs (Wells 1881:165). The O&C arrived in Hornbrook, California, in 1887, connecting with the SPRR in Ashland, Oregon, to complete the San Francisco–Portland line (*Mail Tribune* 1957).

Completed in 1931, State Route (SR) 263, previously US 99's Shasta River Canyon segment, extends from Yreka to the SR 96 (Klamath River Highway). SR 96, known as the Klamath River Highway, begins at the junction with SR 299 and follows the Trinity River, the Klamath's largest tributary, and the Klamath River through Karuk, Yurok, and Hoopa Tribal Reservations. The Klamath River Highway is the primary automobile route through the small, unincorporated community of Klamath River, which occupies about 11 miles on both sides of the Klamath River from Gottville to Kohl Creek (*Siskiyou Daily News* 2018).

Another major logging railroad in Klamath Basin was constructed by Weyerhaeuser, the basin's largest lumber concern. The railroad extended from the company's Klamath Falls mill through Keno and into the

timberlands of western Klamath and eastern Jackson Counties. In June 1928, Weyerhaeuser established its first logging camp, Camp 2, just west of Keno to house railroad construction crews. By early August, grading for the new line had been reached Spencer Creek, and crews had begun building overpass over the Green Springs Highway at Keno (Bowden 2003:265). Weyerhaeuser pulled up rail ties and replaced them as the camps moved to new cutting grounds.

Logging's Common Carrier Railroads

While the establishment of dedicated logging railroads propelled the Klamath Basin's lumber industry, common carriers, such as the SPRR, were also critical to its growth and success. The SPRR's completion to Klamath Falls in 1909 led to a logging and lumber manufacturing boom in the basin. Using an existing logging railroad, SPRR completed construction on the 25-mile section between Weed, California, and the Grass Lake vicinity in 1906. SPRR then extended the line from Grass Lake to Klamath Falls, bringing in the first train in May 1909. By December 1909, the railroad had been extended northward to Kirk (Bowden 2003:17-20).

The SRPP's connection with Klamath Falls allowed the local timber industry to begin serving the national markets. For the first time, Klamath County manufacturers received timber from outside the county for milling, setting the stage for Klamath Falls to become the nation's lumber and box shook (box part) capital (Bowden 2003:3). The Pelican Bay Lumber Company, organized in 1910, was one of the first to supply non-local markets. The company operated the county's first complete planing mill and first totally electrified mill on Upper Klamath Lake. Until 1926, the mill was Klamath County's largest (Lamm 1960:14; Sisemore 1941:117). In 1926, the SPRR introduced the Natron Cut-off, which directed Oregon's primary north-south line through Klamath Falls (Kramer 2003a:8-9). The new rail facilities at Klamath Falls greatly enhanced Klamath Basin rail service, while the arrival of the Great Northern Railway in 1928 further benefited local lumber mills by increasing competition between rail services (Bowen 2003:28). Several companies continued to establish lumber and box factories in the area (Lamm 1960:5; Sisemore 1941:118). The 2004 PacifiCorp report lists other common carriers that served the area.

Logging Truck Roads

During the late 1920s and early 1930s, modern logging trucks replaced railroads as the preferred method for moving cut timber. The trucks brought logs from harvesting areas to reloading centers, where the logs were loaded onto common carrier railcars for transfer to the mills. As timber stands thinned over time, trucks began transporting logs directly from the forest to the mill (Bowden 2003:54-55). As early as 1925, McCollum mill was trucking milled lumber to Klamath Falls "as soon as it [was] sufficiently dried for shipment" (*Evening Herald* 1925). According to the *Evening Herald*, "the trucking will probbly [sic] be done by the Oregon-California Truck company" (*Evening Herald* 1925). Eventually, the United States Forest Service began requiring logging companies contracting for timber sales to build truck roads for access, leading to the complete decline of logging railroads (Bowden 2003:57). At this time, trucking companies also replaced railroads as distributors of finished lumber.

Logging Camps

Many company settlements, camps and towns in lumber country developed specifically for logging or lumber production. Once the timberlands near water bodies or towns had been depleted, companies established logging communities in a variety of timbered locations. Most were lost as the buildings and structures were removed or demolished or when the sites were redeveloped for other uses (Roth 2017). Typical activities in early twentieth-century camps, such as Alfred D. Collier's Swan Lake operation (ca. 1920), involved about 30 lumberjacks felling trees, about 30 horses hauling logs, steam engine maintenance, saw operation, horse care, lumber stacking, and feeding substantial amounts of food to ravenous lumberjacks (KCHS 1984:26). As logging operations grew larger, the camps increased in size and services as well.

Weyerhaeuser Timber Company

Like other lumber companies, Weyerhaeuser operated a series of logging camps in Klamath Basin. The leading timber company in the Klamath Basin during the twentieth century, Weyerhaeuser established its initial presence in the basin by purchasing the Pokegama Sugar Pine Company holdings and KLRR in 1905 (Drew 1979:6-7). According to the December 14, 1905, *Klamath Republic*, "The [Weyerhaeuser] lumber company owns 2,780 acres of fine timberland, in T40, R5, and also had under contract nearly 20,000 acres of the Oregon & California Railroad lands, some of which is also owned in the same township" (Drew 1979:7). By 1923, the company had purchased its first mill site near Klamath Falls. The plant was completed and in operation by January 1930 and, by the early 1940s, employed 1,200 workers and operated at a capacity of 200 million feet per year (Sisemore 1941:119). The sawmill was also the construction site of the company's logging camp cabins (Drew 1979:16). The cabins were built on skids, so they could be moved by rail (Drew 1979:34).

Camp 2, Weyerhaeuser's original camp, was located about 12 miles west of Keno and initially housed workers building the company's logging railroad from Klamath Falls to eastern Jackson County. As work progressed, the logging railroad was extended to the area 4 miles north of Camp 2. As Camp 2 operations concluded, Weyerhaeuser established Camp 3 5 miles farther west. Figure 5-11 shows how Weyerhaeuser moved its camps from one area to another. Weyerhaeuser employees ultimately logged at 12 camps (Camps 2 through 14; there was never a Camp 13) (Drew 1979:42-43). Many loggers brought their families with them to the camps. To accommodate the families, Weyerhaeuser provided schoolhouses for camp children (Drew 1979:36). The company railroad transported camp buildings, such as bunkhouses, mess halls, and schoolhouses, which were mounted on rail cars for relocation to the next camp site (KCHS 1984:26).

Figure 5-11 Moving Weyerhaeuser Camp 3 to Camp 4 across Spencer Creek (courtesy of Klamath County Museum – 20170029301)

5.6 Education

The Project area's pioneer schools initially served the children of ranchers and farmers and later the children of power company employees. In the first years of California statehood, less than 100 children between the ages of 5 and 18 were living in Siskiyou County (Wells 1981:93-94). One of Siskiyou County's first schools was a small private school in Yreka that opened in the winter of 1853–1854. In 1855, the county's first public school opened with funding from local citizens. That year, 43 of the county's 93 children attended the school. Between 1865 and 1881, the number of schools increased from 19 to 47, coinciding with the increase in population (Wells 1981:94). Schoolhouses became communal hubs for social and civic engagement, as well as entertainment (Beckham 2006:85).

Schools were part of the community in the late nineteenth and early twentieth centuries logging towns and settlements such as Klamathon and Pokegama, which grew up along the Klamath River. In addition to schools, the towns provided stores and post offices (PacifiCorp 2004:6-66). Within the Klamath Basin, schools also accommodated the children of local farmers and ranchers. Many of these one-room schoolhouses were near the Klamath River and its tributaries or on farms and ranches. Students generally attended school for 8 months a year, from spring to fall, and were on break during winter to avoid traveling in harsh weather. The earliest school districts within the Upper Klamath Basin were Bogus (ca. 1872), Oak Grove (1879), Topsy (ca. 1883), Chase (ca. 1885, ca. 1912), Klamathon (ca. 1888), Lowood (1893), Cleaveland (Cleveland) (ca. 1899), Cedar Gulch, and Fall Creek (1911) (Beckham 2006:93-94, 203, 217, 222, 231; Siskiyou County 2019). Some schoolhouses were rebuilt or moved during their periods of operations. School districts historically within the APE include Topsy, the second Chase, Oak Grove, Lowood, Fall Creek, and Cedar Gulch.

5.6.1 Topsy (Klamath County, Oregon)

Topsy, also known as Elgin House, was a stage station at the east end of Topsy Grade Road and a key route for freight and passenger traffic from about 1897 to 1903. As early as 1883, Major Watson Overton's family settled the land, upon which was built a residence, stage station, post office, and school (Beckham 2006:100). Historic records reference three different schoolhouses: the first two were located near Topsy, and the third was constructed west of the Topsy Grade base (Beckham 2006:217). In 1922, construction began for the new schoolhouse at the Topsy Grade base (*Evening Herald* 1922). The remains from this third Topsy schoolhouse were still present during a 2006 historic landscape survey (Beckham 2006:216).

5.6.2 Chase (Klamath County, Oregon)

Around 1885, farmer George Chase constructed the Chase School. The school was located near Topsy Road approximately 18 miles west of Klamath Falls and about a half mile from present OR 66 (Stone et al. 1960:17). Around 1912, the building was moved across the Klamath River near the abutment of a bridge dam and renamed the Little Red Dam School. Around 1960, the school building was destroyed by fire (Stone et al. 1960:17).

5.6.3 Oak Grove (Siskiyou County, California)

The Oak Grove School was carved out of the Bogus School District as early as 1879. Constructed just north of Shovel Creek for the children of James Owen, the school later served children living along the Klamath River from Shovel Creek to Snackenburg Creek. In some years, students would come from as far as Fall Creek. During the late nineteenth century, up to 30 students, including Native American children, were in attendance. Around 1890, the building was relocated to the Hessig Ranch east of Beswick, which had a fresh water spring (Beckham 2006:93-94). The building was destroyed by fire around 1905 and replaced with a new building in the same approximate location. In 1918, during construction of the Copco No. 1 dam, the school was moved approximately 3 miles to the Henry Spannaus Ranch (Beckham 2006:93-94, 231). The 1957 Metsker map for Siskiyou County notes the Oak Grove School near Beswick as "abandoned" (Metsker Maps 1957a:70).

Another Oak Grove school operated at the Dan Hahn ranch. The school appears on a circa 1910 map drafted by SEP&L engineers as part of survey activities for the Ward Canyon dam (later Copco No. 1 dam). The map depicted properties between Ward Canyon and Oak Grove to the east, including an 80-acre portion of the old Augustus Kepler parcel known as the Hahn Ranch. The map labels the Hahn residence and Oak Grove School within this parcel. The district lapsed in 1939 and was divided between the Bogus and Spring School Districts (Siskiyou County Oak Grove School District).

5.6.4 Lowood (Siskiyou County, California)

The Lowood School District was established in 1893 at Camp Creek's confluence with the Klamath River. Known locally as the Camp Creek School, the Lowood School was situated along the Hornbrook-Copco Road, about 13 miles east of Hornbrook. In 1899, 21 students attended (Siskiyou County 2019). The building was

destroyed by fire in 1907 and later rebuilt (Beckham 2006:202). The school district lapsed and was annexed to the Hornbrook school district in 1941 (Siskiyou County 2019). The second building was sold and relocated in 1943. The original school site was inundated by the Iron Gate Reservoir (Beckham 2006:202). The school's location was noted on the 1957 Metsker Map of Siskiyou County (Metsker Maps 1957b:89).

5.6.5 Fall Creek (Siskiyou County, California)

When the Copco predecessor SEP&L completed the Fall Creek power plant in 1902, the surrounding area was sparsely populated. At that time, local students, mostly from ranching families, attended the Oak Grove, Cleveland, and Lowood school districts (*Oregonian* 1916). When the Fall Creek power plant was activated, SEP&L employees tasked with operating and maintaining the plant brought their families to the area (Wilson and Wilson 1989:63). These families urged Siskiyou County to create a new school district. On April 4, 1905, the county rejected the initial petition to form a new district. Nearly 6 years later, the Fall Creek School District was finally established on January 2, 1911, by merging parts of the Oak Grove, Cleveland, and Lowood school districts (Siskiyou County Fall Creek School District).

The first Fall Creek School was a small one-room building constructed of "board and batten." Around 1901–1903, the building housed an "end-of-track saloon" for KLRR construction workers. During construction of Copco No. 1 and No. 2, attendance reportedly increased from 11 students to a record high of 59 students (*Sacramento Bee* 1965a). In 1923, a second, larger school building and a teacher's residence were built. Copco funded these improvements to accommodate the additional students that would arrive during the Copco No. 2 expansion project (1924–1925). The original school building was demolished several years later (Wilson and Wilson 1989:63; Beckham 2006:223). Students used the second Fall Creek School building until the 1950s, although enrollment had substantially declined by then (Wilson and Wilson 1989:63). The school had a secondary function as a community center for voting, scout meetings, Copco film showings or seminars, potluck dinners, and Copco employee retirement ceremonies (*Mail Tribune* 1958; Wilson and Wilson 1989:66). The present Fall Creek School building, shown in Figure 5-12, was constructed in Copco Village in 1965. Gerald D. Matson (1920–2001) and Jack L. Nielson (1934–1976) designed the school building, which was constructed by A. P. Giordano and Sons (*Sacramento Bee* 1965b). By 1970, Fall Creek School enrollment was 10 students (Christenson 1970). That year, the school was reportedly one of eight surviving one- or two-room schoolhouses still operating in Siskiyou County, and one of five within 25 miles of Yreka, the Siskiyou County seat (Christenson 1970). By the mid-1980s, the Fall Creek School's enrollment of seven students made it California's smallest school district (Stanford University 1987).

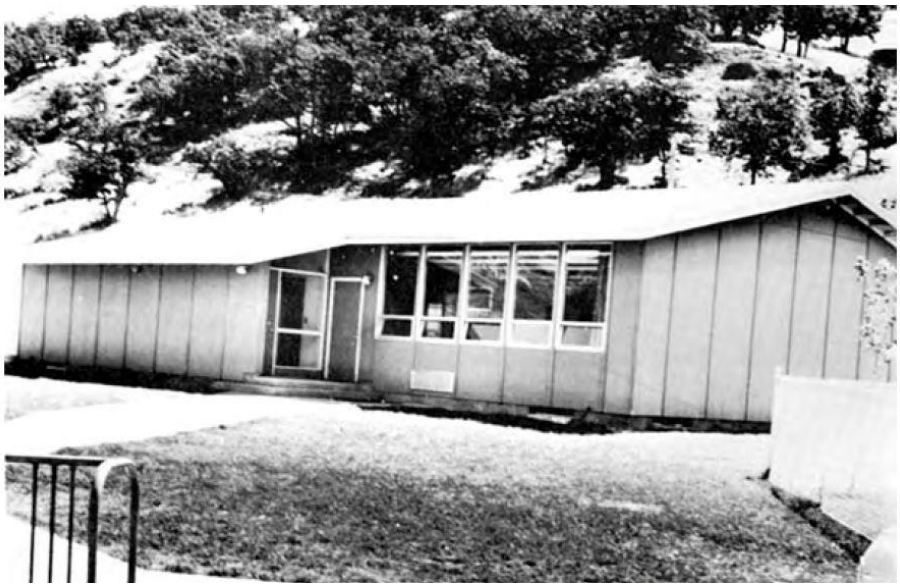


Figure 5-12 Fall Creek School soon after 1965 construction

5.6.6 Cedar Gulch (Siskiyou County, California)

The Cedar Gulch School was located along Williams Creek, at the present Randolph E. Collier Rest Area. Students living along the Klamath River south of Hornbrook, from Camp Lowe south, attended class there. To reach the school, many students crossed the Klamath River and its tributaries using modestly built footbridges. The school was eventually moved to Carson Gulch near the "bad curve, where the rock bluff almost drops into the river" (Lowe 1974:64).

5.7 Hydroelectric Development

Hydroelectric development in the Klamath Basin began in 1891 to furnish Yreka, California (the Siskiyou County seat) with electricity by placing a water power wheel in Shasta River Canyon, below the mouth of Yreka Creek (Kramer 2003a:14). Four years later, the Klamath Falls Light and Water Company built the East Side power plant no. 1 in a wooden building. The power plant was located on the Link River's east bank, within the Klamath Falls, Oregon, city limits. The plant supplied the city with its first electric power on November 1, 1895 (Boyle 1976:27; Kramer 2003a:15). These ventures soon attracted competitors. Copco formed in 1912 through the merger of SEP&L, Klamath Falls Light and Water Company, and Rogue River Electric Company. The newly created company acquired the assets of the predecessor companies, including the hydroelectric facilities at Fall Creek. SEP&L had operated Fall Creek since its completion in 1903 (Kramer 2003b:12). In 1920, 8 years after Copco formed, the company acquired the Keno Power Company, which operated the Keno hydroelectric development, built in 1911 and rebuilt in 1931 and 1966 (Kramer 2003b:5).

5.7.1 Fall Creek Hydroelectric Plant (Siskiyou County, California)

In the summer of 1902, Siskiyou County residents Jerome Jr. and Jesse Churchill, Alex Rosborough, and Hubert Steele formed the Siskiyou Electric Power Company to construct a new hydroelectric project to serve the Yreka market and compete with the small Shasta River plant constructed in 1891 (Kramer 2003a:16). Survey work for the new hydroelectric project focused on Fall Creek, a tributary of the Klamath River, which provided an abundant water source. Construction of the plant began during the summer of 1902, next to the KLRR line, and was completed by spring 1903 (Kramer 2003a). A recent photograph of the Fall Creek Plant is shown in Figure 5-13. In March 1903, SEP&L purchased the Ashland Electric Light and Power Company, founded in 1889, and planned to market power to both Ashland and Medford, Oregon (Beckham 2006). In the spring of 1910, SEP&L began surveys in Ward's Canyon and along the Klamath River for a projected dam, power plant, and reservoir, which eventually become the Copco No. 1 dam and Copco Lake (Beckham 2006). To realize its dream, the power company purchased the ranches of several families whose holdings once encompassed the broad Copco Valley, including those of William Lennox, Henry Keaton, Kitty Ward, Mary Ward, William Raymond, Stone and Edwards, Henry and Herman Spannaus, George L. Chase, D. D. Hahn, Erskine Parks, and Manuel Coville (Beckham 2006). This transfer of ownerships enabled construction of Copco No. 1 when Copco took over SEP&L (Beckham 2006; Boyle 1976:8).

Figure 5-13 Fall Creek Power Plant

5.7.2 Keno Power Company Plant (Klamath County, Oregon)

Reclamation activities begun by the USBR in the Klamath Basin area in early 1900s included the purchase of water rights and rights-of-way in the Keno Reef area of the Klamath River to lower the water level and possibly drain portions of Lower Klamath Lake to facilitate the discharge of water from the proposed Lost River Canal (Beckham 2006:160). In 1912, the Keno Power Company built a dam and generating facility at the Keno Reef site that went on-line in 1912 (Beckham 2006:160; Boyle 1976:4). Looking to construct transmission lines from their Keno plant to the City of Klamath Falls aligned the Keno Power Company into direct conflict with Copco, which already served the city. After years of tension and discord, in 1921, Copco

purchased the Keno Power Company, setting up a series of investments along the Klamath River from near Spencer Creek to Keno that eventually led to the construction of J.C. Boyle Dam in the late 1950s.

5.7.3 Copco Through World War II (1912–1945)

Copco's first project was the Copco No. 1 hydroelectric development, previously surveyed by SEP&L and known initially as the Ward's Canyon Dam Project. As construction progressed on Copco No. 1, the company's existing facilities were already powering major regional industries, including nearly all the large Northern California lumber mills and several large mining dredgers (*Sacramento Bee* 1917). Copco completed the first phase of Copco No. 1 in 1918, including the dam, water conveyance system, and powerhouse. In 1920, the company reorganized, becoming the California–Oregon Power Company (hyphen added), and moved its headquarters from San Francisco to Medford. In 1922, the company completed Copco No. 1 by raising the dam, expanding the powerhouse, and adding a new generating unit. Three years later, in 1925, the company completed the Copco No. 2 hydroelectric development, downstream from Copco No. 1.

Between 1926 and 1947, the company was owned and operated by Standard Gas and Electric Company. Ownership was acquired through purchase of Copco's outstanding common stock. In 1947, to follow provisions of the Public Utility Act of 1935, Standard Gas and Electric sold its Copco interests to an investment banking group, which in turn made a public offering of the acquired shares (*Mail Tribune* 1960). During the late 1920s and 1930s, after completion of Copco No. 1 and Copco No. 2, Copco continued investigating the regional power potential of the Klamath, Rogue, and Umpqua River basins (Boyle 1962). Throughout that period, Copco made progress on the Prospect hydroelectric project located along the Rogue River in Jackson County, Oregon (Gauntt 2012).

Copco No. 1 Hydroelectric Development (1918, 1922) (Siskiyou County, California)

Constructed in Siskiyou County, Copco No. 1 was originally known as the Ward's Canyon Dam Project. Copco completed the development in 1918 for $2 million and expanded it in 1922 (*Oregonian* 1917). The oldest major development in the KHP, Copco No. 1 was the first built on the Klamath River following formation of the California Oregon Power Company (later Copco) (Kramer 2003a:8). Copco, a conglomeration of regional power companies, assumed the project from SEP&L. Hermann Schussler, a prominent civil engineer, designed the dam, and Perry O. Crawford, Copco's chief engineer, designed the powerhouse (Myrtle 1919; *Oregonian* 1917).

The new Copco development would meet power demands in the Siskiyou District, which had relied on power transmission from Medford, Oregon, during the peak load. On installation of the first generating unit at Copco No. 1, capacity would exceed peak load demand, allowing the Medford service to be placed on standby (Merrick 1918:150). Preliminary work at the Copco No. 1 site began in May 1910, when SEP&L surveyed Ward's Canyon and the prospective reservoir area. The purpose of the survey was to determine the extent of lands that SEP&L would need to buy for the construction project.

The William Lennox Ranch, located where the Ager-Klamath Falls road approached the Klamath River, served as SEP&L's survey headquarters. At that time, John C. Boyle, who later became a prominent Copco officer, was hired as a SEP&L field surveyor. Boyle was born in Siskiyou County and graduated from the University of California, Berkeley, with an engineering degree. In 1916, 2 years after construction began on Copco No. 1, Boyle became the construction supervisor, tasked with assisting Perry O. Crawford, the engineer in charge (Kramer 2003b:19; *Oregonian* 1917).

At that time, the Ward's Canyon vicinity was a remote setting with nearby agricultural activities. In 1910, while engaged in survey, Boyle described the area comprising the Klamath River "bottomlands" as "covered with beautiful farms used mostly for cattle raising." Boyle also observed that "[T]he homes and buildings were old but generally well kept" (Boyle 1976:8). The Klamath River slowly meandered through the area until descending into Ward's Canyon, where it began to flow rapidly. Boyle recognized that construction of a dam in the canyon would require flooding of "all those good farm lands" (Boyle 1976:8).

After completion of the reservoir survey, Boyle and the other SEP&L surveyors moved their base from the Lennox Ranch to the Sloan Ranch east of the Fall Creek powerhouse, where they continued to survey in Ward's Canyon. In May 1911, Ward's Camp (also known as Camp Ward and Camp No. 3) was established along the Klamath River, and work at the dam site began. Boyle recalled that Ward's Camp began with only a few men living there in tents "with an old barn for a cookhouse" (Boyle 1976:9). Unskilled laborers at Ward's Camp earned $2.50/day, while foremen earned $4.00/day, and Boyle earned $125/month plus board. Work involved a 10-hour day, no overtime pay, and 25 cents deducted for each meal. In July 1911, SEP&L began examining the dam site in preparation for laying the dam's foundation, initiated river diversion. At this time, the company also began survey work for another plant of the same capacity (Copco No. 2) (Boyle 1976:9).

In December 1911, Copco was incorporated and acquired SEP&L's holdings; however, the two entities agreed that SEP&L would continue the dam work already under way. Dam excavation at the river bottom and shaft drilling began in October 1912 (Boyle 1976:12-13). By March 1, 1913, difficulties related to obtaining supplies left a reduced workforce of only 10. The remaining workers conducted dam foundation excavation, maintained company property, and unloaded powerhouse machinery (Sprout et al. 1912–1913).

Although construction progress had slowed, SEP&L's "Camp Ward" plans, dated March 22, 1913, depicted an expanded area in anticipation of the upcoming work at the site (Sprout et al. 1912–1913). The "power town" that evolved from Ward's Camp encompassed these buildings and structures, and accommodated hundreds of residents. The town became known as "Copco" (*Oregon Daily Journal* 1916).

Copco: A "Power Town"

During Copco No. 1's original construction phase (1912–1918), a "power town" named Copco developed on the bluff above the dam construction site. The word "Copco" was officially recognized on July 30, 1914, when U.S. Postmaster General Albert S. Burleson appointed John C. Boyle as the town's postmaster (Boyle 1976:18).

By November 1916, 360 men were working on Copco No. 1, and 560 persons were living in the town of Copco (*Oregon Daily Journal* 1916). The town contained numerous buildings and structures related to dam construction and worker accommodations. The *Evening Herald*, a local newspaper, described the new town in a November 1916 article:

> *The town is situated entirely on the [Copco] power company's property, has a population of about five hundred and sixty persons, as a result of the employment of three hundred and sixty men by the company many of whom have located at Copco with their families. The little school house nearby which was formerly occupied by two or three pupils from the ranches along the river, is now filled with the children of the new residents and the genial office-seeker always makes it a point to drop in at the little burg as he realises [sic] that this little new town consists in the most part of a voting population (Evening Herald 1916a).*

Other newspaper reports publicized the town as having "all the conveniences of a modern village, including the ubiquitous moving picture show" (*Oregonian* 1917). Children of Copco workers attended the nearby Fall Creek School. At that time, Fall Creek School was in its original location near the Fall Creek powerhouse, about 1.5 miles along Copco Road from town. The third and final Fall Creek schoolhouse was rebuilt in 1965 at Copco Village near the Copco No. 2 powerhouse.

During the Copco No. 1 construction and expansion phases (1912–1918, 1922), the town of Copco contained a railroad spur, cement shed, and adjoining freight platform for unloading electric machinery on arrival (Sprout et al. 1912–1913:226). There was a machine shop (Sprout, et al. 1912–1913:224), two machinery platforms (Sprout et al. 1912–1913:109), tool house, combined compressor house (Sprout et al. 1912–1913:221) and blacksmith shop (Sprout et al. 1912–1913:210). The oil house was near the railroad spur at the foot of the cinder cone (Sprout et al. 1912–1913:222). The engineer's office had a 10-foot-by-22-foot dark room/drawing room addition (Sprout et al. 1912–1913:211). Workers lived in tents and bunkhouses (Sprout et al. 1912–1913:224). Office employees also had living quarters and separate toilet facilities (Sprout et al. 1912–1913:85). A cookhouse with a cellar and attached meat house was built (Sprout et al. 1912–1913:224), as well as sleeping quarters adjoining the cookhouse for the cook and waiters (Sprout et al. 1912–1913:229).

The mixing plant was electrically operated, with sand machines, rock breakers and mixers (Sprout, et al. 1912–1913:127). A dynamite powder house was located near the spur tracks (Sprout et al. 1912–1913:223). A 28-foot-by-8-foot freight platform was built under the cinder cone tramway (Sprout et al. 1912–1913:211), and two cableways delivered concrete and rock to the site. The gravity tramway had two main cables and a 400-foot span suspending two concrete chutes. The rock cableway supported a rock carrier from the quarry to the dam site (Sprout et al. 1912–1913:135). The concrete cableway stretched across Ward Canyon during the construction phase (Sprout et al. 1912–1913:219). In addition, some existing buildings on the eastern side of the river were disassembled and moved to the worker village on the western side (Sprout et al. 1912–1913:222).

Based on historic Copco construction photographs, a surviving concrete structure on the hill above town may have been associated with the gravity tramway. This tramway originated at the cinder cone and extended to

the mixing plant at the edge of the bluff over the dam. The tramway delivered the cinder directly to the two sand machines, which crushed it and deposited it in storage bins below. After mixing at the plant, the concrete was discharged through spouts and moved by gravity in open troughs across the canyon. A rock cableway with traveling carrier delivered the rock to be laid with the concrete (Copco n.d.:4).

In 1922, during the Copco No. 1 expansion phase, the *Sacramento Bee* described the town of Copco as occupying both sides of the river with tents and cabins where workers and their families lived. A *Bee* reporter remarked on the abundance of automobiles parked around the "tent city," stating that "[i]t looks as if at least half of the [worker] population drove to the job in their own cars, and the majority are not low priced vehicle[s]" (*Sacramento Bee* 1922).

The town's circulation features facilitated transportation of workers, equipment, and materials throughout the project site. Construction on "Road #6" began on June 7, 1912, and was completed the following day. The road extended from town to the mixing plant via the lava flat east of the cinder cone. This allowed all freight to be unloaded at the spur track and taken to camp, bypassing the Klamath Springs Station (Sprout, et al. 1912–1913:200-201).

A 1-mile railroad spur traversing the town of Copco was also built around 1912. The spur connected the KLRR mainline and the Copco No. 1 construction site for "a conveyance for all machinery and material on the original cars to the immediate locality of the dam and powerhouse" (Sprout et al. 1912–1913:31). The KLRR, a standard-gauge logging and passenger railroad, was completed in 1903 and extended from Thrall, the line's western end junction with the SPRR line, east past present Copco No. 1 and Klamath Hot Springs to Pokegama, Oregon. In 1910, Copco predecessor SEP&L leased the railroad's remaining section for use in constructing Copco No. 1. After assuming the project from SEP&L, Copco constructed the spur (Beckham 2006:131; Stephens 1964:3).

A November 12, 1922, issue of the *Oregonian* explained how Copco used the KLRR during the Copco No. 1 expansion phase:

> *It is a rather good road, with good 60-pound steel, standard gauge, but the grades reach as high as 5 per cent. The present electrical company [Copco] bought this road, and built switch-backs from the main line down to the site of the new [Copco No. 1] dam, and all of the material used from outside has been hauled over it by a big "galloping goose" truck or car, using gasoline for motive power . . . One item of the hauling was 70 carloads, Southern Pacific cars, and all of the steel use for reinforcing (Bennett 1922).*

After the spur branched from the KLRR main line, it curved around the southern and western sides of the cinder cone to the mixing plant overlooking the dam site (Sprout et al. 1912–1913:123). As the spur traversed town, it ran parallel and next to large equipment platforms. According to *The Volt*, Copco's newsletter, the spur reached the Copco No. 1 powerhouse below the bluff via three switchbacks. When Copco's KLRR lease ended in 1914, the company purchased the remaining 14-mile section for $35,000 (Stephens 1964:3; Bennett 1922). Copco also used the KLRR during Copco No. 2 construction in 1924 to 1925. Copco built a second spur, at river grade level, leading to the Copco No. 2 project site (Bullis 1964:2).

Copco maintained the KLRR track between Thrall and the Copco powerhouses until 1942, when improved automobile roads rendered the rail spurs obsolete (Beckham 2006:131; Bullis 1964:2).

The Copco access road, built in ca. 1942, is a vehicle road that appears to have been constructed atop the former KLRR spur's alignment. It consists of a 1-mile road section between Iron Gate Lake Road/Copco Road, a county road, and the Copco No. 1 powerhouse. From the county road fork, the Copco access road winds mostly southwest, then turns sharply to descend the river canyon to the powerhouse. The road passes through the former town of Copco and past the driveways of the town's two remaining bungalows. The road also passes by the garage/warehouse and within 200 feet of the Copco No. 1 substation.

At its peak in the early 1920s, the dynamic company town housed hundreds of workers and families and contained buildings, equipment, and operations with interrelated functions dedicated to Copco No. 1 construction. Out of dozens of buildings and structures, only four resources from the town have survived: the guesthouse remains, Bungalows 1107 and 1108, and a Warehouse 1112. The guesthouse remains are present, but no longer easily accessible. Scattered concrete foundations hint at the extent of equipment and operations that the town of Copco once had. The important KLRR railroad spur, which transported materials and equipment to the construction site, has been removed.

Copco Overcomes Obstacles to Complete the Development

By early 1916, more than $1 million had already been spent on dam construction (*Sacramento Bee* 1916). At that point, the river had been diverted through a tunnel, excavations on the dam's abutment cuts were done, and the powerhouse had been excavated to water level. In addition, cement-mixing equipment was in place, the two powerhouse units had been delivered, and the former KLRR was operational, including the newly built 1-mile spur to the town of Copco and the powerhouse (Boyle 1976:14).

Financial issues, among other things, continued to delay the work. To obtain financing, Copco reorganized in 1916 and was able to attract new capital from investors in San Francisco (Kramer 2003b:20). Copco also revised the original construction plans to save on costs. As discussed above, the revised plans reduced the powerhouse from four to two units, decreasing the system load factor from 40,000 kilowatt (kW) to 20,000 kW (Boyle 1976:15).

At this time, Copco also worked to overcome a major construction obstacle related to materials. The work site contained insufficient quantities of sand or gravel, necessary components of the concrete mixture to be used in erecting the dam structure. Copco engineers and chemists tested volcanic cinders in a nearby cone and determined that the cinders would constitute a satisfactory aggregate in the concrete mixture (*Ashland Tidings* 1916a).

The Copco No. 1 hydroelectric development was designed to provide a major source of electricity to local industry, commerce, and agriculture, as electric engines increasingly replaced steam in operations such as mills and irrigation pumps (*Ashland Tidings* 1916b). In fact, the entire Copco No. 1 construction operation itself was powered by electricity. D. W. Cole, senior engineer at the U.S. Reclamation Service (later USBR), noted that the electric operation at Copco No. 1 provided "a peculiarly modern appearance and advantage

over the noisy, smoky, unsightly and comparatively inconvenient steam apparatus which ordinarily characterizes construction machinery on large works" (*Evening Herald* 1916b). As work progressed, anticipation built in the Copco service area. The *Ashland Tidings* reported that Copco No. 1 would be "in the center of the [power] distributing system, covering 450 miles of territory and giving electrical service to thirty-four cities and towns in southern Oregon and northern California" (*Ashland Tidings* 1916a).

Dam construction concluded in November 1917, and within 2 weeks, a reservoir named Copco Lake filled behind the dam (*Evening Herald* 1917; *Mail Tribune* 1917). The dam as it appeared in 1917 is shown in Figure 5-14. The creation of Copco Lake required relocation of the county road from Ager to Klamath Hot Springs. Copco rebuilt the inundated road at a higher elevation along a stretch of what became the Copco Lake shore. The reservoir also inundated a steel bridge that had to be rebuilt upriver and flooded local farm and ranchlands that Copco previously acquired as part of the project (*Evening Herald* 1916c; *Sacramento Bee* 1917; *Oakland Tribune* 1915).

Figure 5-14 Copco No. 1, showing powerhouse, dam, and gatehouse no. 1, December 1917 (courtesy of the John C. Boyle Collection, Southern Oregon Historical Society)

Copco No. 1 Begins Operations and Readies for Expansion

Copco No. 1's commercial operation began on January 17, 1918 (*Engineering and Mining Journal* 1918:399). The official dedication was held on February 2, 1918. A group of Copco officials and others attended the celebration (*Ashland Tidings* 1918). The *Sacramento Bee* reported that, "the floodgates of the great reservoir [Copco Lake] were opened for service by the California-Oregon Power Company. Following an inspection of the dam and the power house, dinner was served to the officials and the invited guests followed by speech making" (*Sacramento Bee* 1918).

The new development linked to Copco's system in California's Siskiyou and Trinity Counties and the entire Southern Oregon service area. The development initially generated 15,000 horsepower, and its estimated

cost of $78 per horsepower unit made it one of the most economical power sources in the West (*Ashland Tidings* 1917). It greatly increased power availability in Copco's service area for domestic uses and irrigation, and for industrial operations such as gold mining, dredging, saw mills, and box factories (Myrtle 1919). In fact, the activation of Copco No. 1 doubled Copco's service capacity. Customers in Copco's California service area were no longer dependent on the Rogue River for power generation (*Engineering and Mining Journal* 1918:399). In 1918, Copco contracted with two California utilities, the Pacific Gas and Electric Company (PG&E) and Northern California Power Company (NCPC), to interconnect the three companies' systems, thereby increasing distribution of annual kilowatt-hours by 60 million. Proposed as a war emergency tie-in, Copco would supply 8,000 kW and extend its existing transmission system 95 miles south from Castella to the NCPC's main distributing substation in Kennett, Shasta County, California. An NCPC line 30 miles from Colusa Corners, Colusa County, would be reconstructed to increase voltage. PG&E would then extend its own line from Colusa Corners to Knights Landing, where it would join the company's high-tension transmission lines from the Sierras to San Francisco Bay (Merrick 1918:150; Myrtle 1919). Copco, PG&E, and NCPC shared the $450,000 cost for the new transmission facilities (Boyle 1976:15).

Copco's role in this arrangement was to deliver Copco No. 1 power to Kennett, relieving NCPC's load at that center. This enabled NCPC to deliver more power through a new connection in the Sacramento Valley (Myrtle 1919). Through this interconnection, Copco obtained a market for power from its new plant, increasing its revenue. The added power requirements on Copco No. 1 required that Copco install the second powerhouse generating unit at Copco No. 1 (Boyle 1976:15). At that time, Copco also raised the dam 14 feet to increase storage capacity in Copco Lake without drawing on the Upper Klamath River (Myrtle 1919).

Preparatory work began for the installation of the second generating unit in December 1921. In addition to raising the dam, Copco extended the length of the powerhouse, built Gatehouse No. 2, modified Gatehouse No. 1, and installed a single penstock. Based on photographs from 1917 and 1922, the powerhouse was nearly doubled in length. It appears that Gatehouse No. 1 was also changed to resemble the newly built Gatehouse No. 2 in design and materials (Southern Oregon Historical Society 1917; Copco 1922). By April 1922, all excavation work, including a penstock tunnel and concrete foundation, had been completed. Beaver Portland Cement Company's Gold Hill plant in Jackson County, Oregon, furnished the cement. Copco used rock from the quarry next to Copco No. 1. Copco transported other building materials via motor trucks equipped with flanged wheels for adaption to rails along the KLRR. The 18,000-horsepower generating unit had already been in storage for several years, and work on the generator was scheduled to conclude on November 1, 1922 (Copco 1922; *San Francisco Examiner* 1922). Copco employed 175 to 200 workers to complete the Copco No. 1 expansion. The construction costs amounted to about $500,000, with around $25,000 in monthly payroll (*Sacramento Bee* 1922). Completion of the Copco No. 1 expansion coincided with relocation of the Copco headquarters from Yreka to Medford (*Mail Tribune* 1922).

The expansion and completion of Copco No. 1 was celebrated on November 5, 1922. Between 1,000 and 1,200 guests attended. The day's events began with a flag raising along the dam crest, live music, lunch, hydroelectric development tours, and activation of the powerhouse's second generating unit (Copco 1922). Attendees included officials of other regional power companies, such as Pacific Power general manager Lewis A. McArthur (Pacific Power acquired Copco in 1961). William A. Colvig, a judge from Medford, delivered

the keynote address. Judge Colvig had delivered mail along the Klamath River between Yreka and Klamath Falls during the 1850s.

Oregonian reporter Addison Bennett seemed thoroughly impressed by Copco's achievements. Bennett wrote that, "[I]n every way the dam, powerhouses and the machinery installed are first class [sic]. In fact, everything being done by the company [Copco] is first class, as can be seen by viewing any of their plants" (Bennett 1922). Copco No. 1 has continued to provide hydroelectric power to the region ever since.

Copco No. 2 Hydroelectric Development (1925) (Siskiyou County, California)

The Copco No. 2 hydroelectric development in Siskiyou County was completed in 1925, 3 years after the 1922 expansion of Copco No. 1. Preliminary survey, prospect, and foundation work for Copco No. 2 was completed while Copco No. 1 was under construction. Engineering reports indicated that Copco No. 1 would produce more power than the company's system could integrate. Consequently, Copco divided the development into Copco No. 1 and Copco No. 2. In 1911–1912, Copco No. 2 was planned as a hydroelectric development with a dam, open canal, tunnel, and four-unit powerhouse. Copco ultimately reduced the Copco No. 2 powerhouse from four to two generation units to handle the flow through the Copco No. 1 powerhouse (Boyle 1976:10,16).

Construction for Copco No. 2 began in January 1924, with R. R. Kermack as construction supervisor (*Evening Herald* 1924; *Mail Tribune* 1924a). In promoting the project, Copco vice president and general manager Paul B. McKee emphasized benefits that construction and operations would bestow on the regional economy: "In labor, freight, hauling, materials and equipment the new plant will bring a very substantial activity to this whole territory while the plant is being built" (*Mail Tribune* 1924b). Additionally, at the peak of construction, the project employed up to 1,200 workers, most of whom were local residents (*Mail Tribune* 1925a).

In May 1924, work began on the dam, camp, and railroad, and a temporary road to the dam site (PacifiCorp 2004:6-2). The dam construction site encompassed a quarry, concrete-mixing plant, bypass flume, and tramway for transporting concrete (*News-Review* 1925). Construction began on the powerhouse in June 1924 (*Mail Tribune* 1924b). At the powerhouse site was a concrete-mixing plant, tower for placing concrete, penstock excavation area, and construction camp areas (*News-Review* 1925). By April 1925, Copco No. 2 project activity was nearing its peak, with about 1,000 workers on-site (*Mail Tribune* 1925b). Copco generated interest and enthusiasm for the project by guiding local residents on tours of the work site. In keeping with Vice President McKee's promise to bring "very substantial activity to this whole territory," Copco purchased local materials such as lumber and cement whenever possible (*Mail Tribune* 1925a, 1925b). The company used an estimated 200 to 300 carloads of cement, over 200 carloads of lumber, and about 30 carloads of reinforcing steel (*News-Review* 1925). The Beaver Portland Cement Company from Gold Hill, Oregon, furnished the cement; while local logging operations supplied the lumber (*Mail Tribune* 1925a). Copco's decision to order 5,000 barrels of cement from Gold Hill, about 13 miles northwest of Medford, drew praise from the *Mail Tribune* as promoting local economic growth: "This action on the part of the power company in buying a local product in preference to all other competitive products is to be commended and might well be cited as a striking example of what 'trading at home' really means" (*Mail Tribune* 1924c).

The $3 million Copco No. 2 project was regarded as an important new power development that would assure "an abundance of electric power for this whole territory for every industrial and domestic need" (*Mail Tribune* 1925a). At that time, at least 70 percent of rural households in the Copco service area used electricity (*News-Review* 1926). As the project neared completion, local residents and businesses expressed interest and anticipation about this new source of electricity. In July 1925, a window display at Paul's Electric Store in Medford, Oregon, designed by People's Electric and Power Company, featured new electric ranges adjacent to "an exact model of the new Copco No. 2 power house, representing the production, and the two ranges representing the consumption, of power" (*Mail Tribune* 1925c). The exhibit highlighted how Copco No. 2 would meet increasing regional electricity demands. Copco also roused enthusiasm over the new hydro-development through company-produced motion pictures, such as "A Trip to Copco." The film depicted the construction of the Copco No. 1 and No. 2 plants, and screenings were in high demand at school and civic organizations throughout the Copco service area (*Mail Tribune* 1925d).

Completion of Copco No. 2 made additional power available not only for domestic and farm use, but for local lumber operations, which nearly all relied on electricity. Copco No. 2 also helped power the pumps used in irrigation systems (*News-Review* 1926). In 1925, PG&E in California obtained a long-term lease for the Copco No. 2 plant's entire output (*News-Review* 1925). On completion of Copco No. 2, Copco boasted operation of 11 power plants along the Klamath, Rogue, and Umpqua Rivers (*Mail Tribune* 1925a).

The Copco No. 2 powerhouse was dedicated on July 5, 1925. Over 2,000 persons attended; mostly local power customers and shareholders from Oregon and California. The day's events included local music bands, a flag-raising, a dramatic dedication ceremony, and a cafeteria-style lunch consisting of "six thousand sandwiches" plus side-dishes and desserts. Tour guides walked visitors from the powerhouse site to the surge tank, where they descended into the newly built water conveyance system (*Mail Tribune* 1925e). The *News-Review* detailed the trip through the system:

> *Walking through huge cement and wooden pipes in the bowels of the earth is a novel experience and old and young, women and children formed a line and started the journey. As one walked along the tunnel you could not help but marvel at man's skill in producing such a masterful piece of engineering. Each foot of the way represented hard toil. Emerging from the upper end of the tunnel you find yourself at the bottom of the mammoth diversion dam, constructed of cement (News-Review 1925).*

Visitors returned from the dam site, shown in Figure 5-15, to the powerhouse area on the "Copco-Thrall railroad," a section of the former KLRR (*Mail Tribune* 1925e). A *News-Review* reporter who attended the dedication wrote that, "[I]t is a stupendous task to attempt to describe a three-million-dollar job on a thirty-dollar typewriter," and encouraged everyone to visit the new plant to see "what mere men have accomplished in order that we may all be able to push a button and have light" (*News-Review* 1925).

Figure 5-15 Copco No. 2 dam, showing original head gate and intake, undated photograph (courtesy of Los Angeles Public Library, image LAPL00009700)

5.7.4 The Post-World War II Era through the Pacific Power Acquisition (1946–1960)

In the years following World War II, growth in population and expansion in industry spiked the regional demand for electricity. In response, Copco completed its first postwar project, the North Umpqua project, between 1947 and 1957, which doubled the company's capacity by building eight interconnected plants along the North Umpqua River east of Roseburg, Oregon. By 1950, well before completion of the project, Boyle and other Copco officials recognized that increased regional population and power demand would outpace the power supply, requiring new projects for future Copco customers (McCready 1950). Copco thus advanced a 10-year, $70 million power development plan in the Klamath Basin. In addition to Big Bend No. 1 and No. 2 hydroelectric developments (consolidated and later rededicated as J.C. Boyle hydroelectric development), the plan included Iron Gate, completed by Pacific Power in 1962 (Guernsey 1957; Wynne 1957).

In 1958, when Big Bend began operations, the Copco service area contained about 50,000 square miles and a population approaching 250,000. The service area included 72 communities and adjacent rural areas in Klamath, Jackson, Josephine, Lake and Douglas counties in Oregon, and in Siskiyou, Modoc, Del Norte, Trinity and Shasta counties in California. At that time, the regional economy was still based on logging, farming, ranching, and mining, industries with a long local history (*Mail Tribune* 1959).

J.C. Boyle Hydroelectric Development (1958) (Klamath County, Oregon)

The J.C. Boyle hydroelectric development, located in a remote part of Klamath County, Oregon, was completed by Copco in 1958 to generate hydroelectric power. The development is a component of the Klamath River hydroelectric project and is the easternmost of the four major hydroelectric developments,

including Copco No. 1, Copco No. 2, and Iron Gate. Originally known as Big Bend after a nearby curve in the river, J.C. Boyle was the Klamath River's first post-World War II hydroelectric development. Unprecedented postwar population growth in Klamath, Jackson, Josephine, and Douglas Counties in Oregon, and Siskiyou County in California, led to soaring regional power demands. In response, Copco evaluated potential sites for a new hydropower project and identified a stretch of the Klamath River as an ideal location. In that area, west of Keno, Oregon, and north of the Oregon–California border, Copco proposed to build the Big Bend facilities to generate an additional 88,000 kW of power. The Big Bend hydroelectric development was completed in 1958. In 1962, 1 year after Pacific Power acquired Copco, Big Bend was rededicated as the J.C. Boyle hydroelectric project in honor of the Copco/Pacific Power engineer and official who designed and supervised construction of Big Bend, as well as other significant regional hydroelectric projects.

The J.C. Boyle hydroelectric development, originally known as Big Bend, is part of the Klamath River hydroelectric project. The development was designed by Copco engineers and construction personnel; specifically, John C. Boyle, who also supervised construction (*News-Review* 1958). Copco's project manager was Truman Runyan (Wynne 1957) and assistant project manager was Reuel Rians, Jr. (Underhill 1957:13). Copco hired Morrison-Knudsen Company, Inc., of Boise, Idaho, as general contractor (*Mail Tribune* 1958). Larry Wicks was the Morrison-Knudsen project superintendent, and Ed Heiser was the Morrison-Knudsen project engineer (PacifiCorp archive images BB-718, BB-719). Power generated by the new hydroelectric development was transmitted over a 70-mile, 230-kilovolt (kV) transmission line to Klamath Falls and Medford (Wynne 1958).

Big Bend was part of the original Klamath River hydroelectric project survey in 1911; however, plans for constructing Big Bend were not advanced until the 1950s, after completion of Copco No. 1 and Copco No. 2 (Kramer 2003a:30-31). In January 1956, Copco entered into agreements with Public Utility Commissions in Oregon and California, the U.S. Department of the Interior, the USBR, and the Federal Power Commission (FPC) (now FERC). These agreements anticipated the construction of the Big Bend facilities, the first such developments on the Klamath River since Copco No. 2 was dedicated in 1925 (Kramer 2003a:30-31). The agreements also provided, with some exceptions, that Copco would refrain from using Klamath River water "when it may be needed or required for use for domestic, municipal, or irrigations purposes within the Upper Klamath River Basin" (Boyle 1976:54). Although Copco initially proposed the Big Bend development as two different projects, the company ultimately consolidated the two projects, with a diversion dam at the original Big Bend No. 1 site, and an associated powerhouse at the original Big Bend No. 2 site. Copco filed an amended application with the FPC to reflect the consolidation plan. The FPC granted the 50-year license, effective March 1, 1956 (*Herald and News* 1956a).

Construction of Big Bend began in July 1956 (*News-Review* 1958). By August, 15 men were working on access roads and preparing the building site, including pouring sections of dam foundation (*Herald and News* 1956b). Although Copco generally used its own engineers for planning, the company hired Morrison-Knudsen as general contractor (*Mail Tribune* 1958; Wynne 1957). Morrison-Knudsen had been working continuously on Copco projects since 1952, including four hydroelectric developments on the North Umpqua River (Morrison-Knudsen 1958:3).

Morrison-Knudsen began construction on Big Bend in December 1956 (Morrison-Knudsen 1958:4). The company produced the sand and gravel used in construction on-site with portable crushers, washers, and sorters, while the Ideal Cement Company's Gold Hill plant supplied all project cement (*Mail Tribune* 1958). About 60,000 yards of concrete was estimated for use in the dam, and 10,000 yards of rock and dirt would provide the dam fill (Wynne 1957). At the peak of construction, about 700 men were employed (*News-Review* 1958). Project costs were 10 percent for area roads, 40 percent for labor, and the rest for materials, engineering, and administrative costs (Wynne 1957). The final estimated cost was $12.4 million, and Big Bend's 80,000 kW capacity made it Copco's largest plant (*News-Review* 1958). As construction progressed, Copco personnel invited members of the public to tour the site. In June 1957, 42 members of the Klamath County Chamber of Commerce toured the dam site with Copco vice president, general manager, and engineer John C. Boyle (Wynne 1957).

By May 1958, the flume conveying water from the dam to the powerhouse, shown in Figure 5-16, was 70 percent complete. Morrison-Knudsen characterized the flume as a "long water artery [that] snakes along the hillside above the river on a broad bench that has to be carved into stubborn volcanic rock" (Morrison-Knudsen 1958:4). Flume construction required excavation of over 50,000 cubic yards of the rock, with sidecuts up to 150 feet deep. The flume's 16-foot-high concrete walls, built using standard forms, were reinforced with over 6 million pounds of steel. The walls range from 24 to 35 feet in width, with the widest sections in areas "where only a single outer wall is required, and the natural mountain slope serves as the inner wall confining the water." About half the flume has single wall sections (Morrison-Knudsen 1958:4).

Morrison-Knudsen's described Big Bend's inaugural operations in its monthly magazine:

> *Scheduled to spin out its first electricity in September, the ingenious Big Bend development involves no towering dams nor vast reservoirs. Rather, it detours the fast-moving waters of the Klamath into a two-mile flume along a hillside, pours the flow through a mountaintop tunnel and then plunges the waters down a dizzying penstock slope to twin generating units in a compact powerhouse. This system of conveying water by flume or canal from mountain streams to high-head power plants is typical of nearly all of the economical and efficient generating facilities of COPCO, as the power company is familiarly known (Morrison-Knudsen 1958:3).*

Figure 5-16 Big Bend (now J.C. Boyle) powerhouse, circa 1962 (courtesy of PacifiCorp, image BB-1053)

Big Bend was dedicated on September 1, 1958, with about 30 people in attendance (*News-Review* 1958; Wynne 1958). Officials present included Copco president A. S. Cummins, as well as John C. Boyle (*News-Review* 1958). At the dedication ceremony, Cummins touted the new plant, declaring that, "The electrical energy from this plant will surge into the interconnected Copco network which serves the homes, farms, the commercial and industrial establishments and the public institutions of Southern Oregon and Northern California, and serves them all equally without discrimination" (Wynne 1958). Cummins also unveiled a bronze dedication plaque mounted on the powerhouse's exterior wall. The plaque read, "[T]hrough God's merciful providence and man's ingenuity this plant is today placed in operation and is dedicated to the lasting benefit of the people we are honored to serve" (Wynne 1958).

On February 3, 1962, after Pacific Power had acquired Copco, Big Bend was officially renamed the John C. Boyle Hydroelectric Project. A rededication ceremony was held on June 25, 1962 (*Herald and News* 1962a). At the ceremony, a new plaque, mounted on the base of a powerhouse area flagpole, was unveiled. The plaque contained the original plaque's text, plus Boyle's name and a description of his professional contributions to Copco and Pacific Power. Glenn L. Jackson, a vice-chair of Pacific Power's board of directors, stated that the former Big Bend project was the largest that Boyle had designed and constructed during his career. Following the rededication ceremony, over a hundred of Boyle's friends and business associates attended a luncheon program at the Winema Hotel in Klamath Falls, Oregon (*Herald and News* 1962b).

John Christie Boyle (1887–1979)

In 1962, Pacific Power renamed Big Bend for John C. Boyle to honor his significant contributions to regional hydropower development. Boyle spent his 50-year career as an engineer, construction supervisor, and later company official at Copco and its successor company, Pacific Power. He designed most of the hydroelectric projects in the southern Oregon/Northern California region. As noted by Kramer (2018), Boyle was

"principally responsible for Copco's ground-breaking multi-dam generation facilities on the Klamath and North Umpqua Rivers."

Boyle was born at Ft. Jones in Siskiyou County, California. He graduated with a degree in civil engineering from the University of California in 1910. That year, he was hired by SEP&L, one of Copco's predecessor companies, as an assistant engineer (*Mail Tribune* 1962a). He began his tenure at SEP&L by surveying the Klamath River at Ward's Canyon. Ward Canyon later became the site of the Copco No. 1 hydroelectric development. In 1916, 2 years after construction began on Copco No. 1, Boyle became the site construction supervisor (Kramer 2003b:19; *Oregonian* 1917). Boyle also engineered and built the Link River Dam (1921) at Klamath Falls, Oregon, which helped expand the region's basic agricultural economy.

Throughout the 1920s and 1930s, Boyle continued investigating the power potential of the Klamath, Rogue, and Umpqua River basins. In the 1940s and 1950s, he used the data gathered to plan future hydroelectric sites. By then, Boyle was not only Copco's chief engineer, but also vice president and general manager. In 1945, he led Copco in expanding the company's generating capacity, primarily through the North Umpqua project. In 1951, Boyle was named Oregon's Engineer of the Year by Professional Engineers of Oregon for design and development of the North Umpqua River projects' eight plants (Boyle 1962). During the 1950s and 1960s, he engineered and supervised construction of the Big Bend (Boyle) and Iron Gate hydroelectric developments. Boyle retired as director of Pacific Power in 1963 but continued as a consultant (*Oregon Civil Engineer* 1975:1).

5.7.5 Pacific Power Expansion Phase (1961–1970)

Pacific Power's June 1961 acquisition of Copco led to significant changes in regional hydroelectric power generation and transmission (*Bend Bulletin* 1960). After buying Copco, Pacific Power initiated a $500 million construction program, designed to last from 1961 to 1970. The program's goals were to integrate the two companies' systems, enhance power delivery to service areas, and accommodate workers involved in the expanded operations (Pacific Power 1961a:1). As the construction program proceeded, Pacific Power officials monitored developments and continued planning for future improvements (*Sacramento Bee* 1967). In 1962, Pacific Power (now PacifiCorp) completed Iron Gate as the final hydroelectric development along the Klamath River. Iron Gate was constructed primarily to regulate flows and thereby restore downstream fish habitat disturbed by the dams and operations at Copco No. 1 and Copco No. 2. In addition to fish catching and spawning facilities built into the Iron Gate dam and powerhouse site, an associated fish hatchery complex is located 0.25-mile downstream.

When Pacific Power bought Copco, the two companies were supplying power to a total of 415,000 customers. Pacific Power earned about 60 percent of its revenue in Oregon, and the rest in Washington, Idaho, Western Montana, and Wyoming. Copco earned about 80 percent of its revenue in Southern Oregon (71,000 customers), including Medford, Grants Pass, Roseburg, Klamath Falls, and Lakeview. Copco did the remaining 20 percent of its business in Northern California (21,000 customers), including Tulelake, Yreka, Weed, Dunsmuir, Alturas, and Crescent City (*Bend Bulletin* 1960; *San Mateo Times* 1960).

Pacific Power and Copco considered consolidation necessary to generate sufficient funds for the expensive construction program, as evidenced by newspaper reports and Pacific Power documents. According to *The Bend Bulletin*, both companies had spent $243 million on new construction between 1955 and 1960, and "estimated they will be required to do more than $500 million between 1961 and 1970 to meet power needs" (*Bend Bulletin* 1960). In addition, Pacific Power advised its shareholders in a pamphlet dated January 10, 1961, that the consolidated system with Copco would create an "enlarged operating and financial base" to enable future construction (Pacific Power 1961a:2). When Copco president A.S. Cummins and Pacific Power board chairman Paul B. McKee jointly announced the merger, they stated that "directors of the companies have reached the conclusion that it is in the best interest of all concerned to join together the two neighboring systems and integrate their power resources and development programs" (*Bend Bulletin* 1960).

As part of Pacific Power's 1961–1970 construction program, the company built new, or improved existing, power facilities such as transmission lines and substations, some at former Copco sites. Certain work was related to construction of the Iron Gate Development, which was well under way by 1961 (Pacific Power 1961b:2). For instance, to power construction at Iron Gate, Pacific Power erected a temporary switchyard at the Copco No. 2 substation. Iron Gate received power transmitted from the Copco No. 2 powerhouse through the temporary switchyard and (transmission) Line No. 62.

By 1962, Pacific Power had energized its largest substation in Albany, Oregon. The substation was part of a 230 kV circuit to "provide a larger capacity interconnection" between Pacific Power and the former Copco system. A new line in the 230 kV system between Medford, Roseburg, and Albany would "permit fully integrated operation of the hydroelectric generating plants located in the Copco Division with the Company's other power sources, particularly on the Lewis River [in Washington] and the middle reaches of the Columbia River" (Pacific Power 1962:3). In 1966, construction was completed on the Iron Gate hatchery, just downriver from Iron Gate Dam.

As the construction program proceeded, Pacific Power officials monitored developments and continued planning for future improvements. In September 1967, company officials, including the Copco division manager, met in Yreka to evaluate system operations, review 1967 construction progress, and plan projects for 1968. Construction work in 1967 was estimated at over $500,000 and was implemented to build new power facilities and expand services (*Sacramento Bee* 1967). Projects in 1968 included $50,000 worth of upgrades at Copco No. 2 substation, including three new 69 kV transformers and a new circuit breaker to increase the available power in anticipation of local growth and increased power requirements at the Copco No. 2 hydroelectric development (*Sacramento Bee* 1968a).

In 1970, Pacific Power budgeted around $926,000 for planned expansions and improvements in the Yreka District. One of the primary projects was a 10-mile, $297,000 transmission line between Ager and Copco No. 2. At Iron Gate, Pacific Power budgeted $45,000 to improve recreation facilities such as construction of a public boat ramp below Iron Gate Dam, as well as installation of electric and water service at Camp Creek (*Sacramento Bee* 1970). Pacific Power also built new facilities such as single-family dwellings, a bunkhouse, and a new school to accommodate workers and their families based at Copco No. 2. These buildings date to around 1965–1970 (*Sacramento Bee* 1968b).

Iron Gate Hydroelectric Development (1962) (Siskiyou County, California)

In 1962, Pacific Power (now PacifiCorp) completed Iron Gate as the final hydroelectric development along the Klamath River. Iron Gate was constructed primarily to regulate flows, and thereby restore downstream fish habitat disturbed by the dams and operations at Copco No. 1 and Copco No. 2. Iron Gate's secondary function was generating hydroelectric power. In addition to fish catching and spawning facilities built into the Iron Gate dam and powerhouse site, an associated fish hatchery complex is located 0.25 mile downstream. Fish eggs collected at the dam site are transported to the complex, where they are hatched, and then moved into a series of raceways. The fish stay in the raceways until they are ready for release into the river.

Iron Gate was built by Pacific Power, a Copco successor company, in 1962. Designed by Pacific Power vice president and chief engineer John C. Boyle, Iron Gate encompasses a regulating dam, water conveyance system, powerhouse, reservoir, fish hatchery, and support facilities. The entire Iron Gate hydroelectric development, including the reservoir, extends between RM 200.0 and RM 193.1 along the Klamath River. The dam, built at RM 193.1, is about 20 miles northeast of Yreka, Siskiyou County, California. Named for the site's "rust-hued canyon walls," Iron Gate is the KHP's seventh and farthest-downstream development (*Herald and News* 1961a).

The Iron Gate hydroelectric development was part of the original Klamath River hydroelectric project plan. Copco completed initial surveys for Iron Gate in the late 1920s and early 1930s. Around 1932, Copco submitted applications to the FPC to develop the Iron Gate site. The applications triggered disputes related to water rights, interstate rights, and other procedural hurdles, which postponed the project (Boyle 1976:51). Copco reinitiated efforts to advance the Iron Gate hydroelectric development in 1956 by submitting a water use application to the State of California. The next year, Copco applied to the FPC for a license to construct the first stage of Iron Gate—an arch dam. To satisfy state and federal regulations related to issues such as river flows, water releases, and fish facilities, the company revised its plans and decided to build the project in only one stage. This included power and fish facilities and a rock-fill rather than arch dam. The FPC approved the license in March 1961, although construction of site access roads and other work had already begun. Several months later, after Pacific Power acquired Copco, the FPC transferred the license and extended the project completion deadline from December 31, 1961, to January 31, 1962 (Boyle 1976:55-56; Pacific Power 1962:3).

John C. Boyle, Pacific Power vice president and engineer, supervised design and construction of Iron Gate (*Mail Tribune* 1962b). The *Herald and News* characterized the completion of Iron Gate as "another personal triumph for John Boyle, PPL [Pacific Power] vice president and designer of Iron Gate, who has been the guiding force behind development of the [Klamath River] canyon. Boyle has been on hand for the planning and construction of virtually all the development in the area by Copco" (*Herald and News* 1962a).

Morrison-Knudsen began construction on Iron Gate in April 1960 under a contract with Copco executed prior to the merger with Pacific Power. After the merger, construction proceeded as a Pacific Power project (Morrison-Knudsen 1961:10). Iron Gate was the sixth project that Morrison-Knudsen had done for Copco within the past decade (Morrison Knudsen 1961:11). Morrison-Knudsen constructed permanent and temporary roads for access to construction areas and sites with natural resources suitable for dam

construction. The company also rebuilt county road sections expected to be inundated by the Iron Gate Reservoir (Pacific Power 1962:4,13). Approximately 7 to 8 miles of county road were relocated, and on project completion, road ownership and maintenance transferred to Siskiyou County (Iron Gate circa 1962; Pacific Power 1962:2). The road relocation included a new wooden bridge with concrete footings and abutments over Jenny Creek. The company paid for the road and bridge construction, which was completed "in accordance with the specifications and standards furnished by Siskiyou County" (Pacific Power 1962:13). In December 1960, an access road to the top of the dam's left abutment was completed (Pacific Power 1962: Schedule No. 4, Sheet 2 of 5). In April 1961, the relocated county road around the reservoir was mostly completed (Pacific Power 1962: Schedule No. 4, Sheet 2 of 5).

Pacific Power finalized Iron Gate's plans and specifications, while Pioneer Service & Engineering Company of Chicago developed the structural design. Work crews contracted by Morrison-Knudsen built the diversion tunnel, dam, penstock foundations, powerhouse structure, dam fish facilities, and internal roads (Pacific Power 1962:15). Although construction camps for housing workers were used during Copco No. 1 and No. 2 construction, Pacific Power deemed such camps unnecessary due to the proximity of the Hornbrook community 10 miles to the west and the City of Yreka 25 miles to the southwest. During November 1961, the total number of supervisors, engineers, and construction workers at the Iron Gate site reached a high of 264 (Pacific Power 1962:15). The company contracted with SPRR for use of railroad right-of-way in Hornbrook to unload and store equipment. During the construction phase, Pacific Power erected three office trailers, a soils laboratory, a warehouse trailer, two small warehouse buildings, and two fuel tanks at the dam site (Pacific Power 1962:14). The trailers are visible in a February 1962 photograph, near the restroom building's current site, but were later removed (*Herald and News* 1962b). Pacific Power's plan for Iron Gate included two operator residences, which were later built between the spillway outlet and Lakeview Road Bridge, on the Klamath River's northern bank (Pacific Power 1962:14).

The development's rockfill dam was built using 1.1 million cubic yards of fill materials and measured 173 feet high, with a 685-foot crest length. The dam's base thickness was 1,000 feet (Morrison Knudsen 1961:10). One of the dam's distinctive features was the fish facilities constructed at the embankment toe (Morrison Knudsen 1961:11). The fish facilities, consisting primarily of a fish ladder, spawning building, and holding tanks functioned in conjunction with the Iron Gate hatchery completed in 1966.

Pacific Power began filling the reservoir in November 1961 after engineers installed part of a concrete plug into the 16-foot-diameter tunnel that diverted the river around the construction site. The company expected that reservoir formation would take 7 weeks, although the Klamath River's natural upstream flow and water releases from upstream Copco facilities would determine the actual time (*Herald and News* 1961b). By January 1962, waterfowl migrating along the Pacific Flyway began using the reservoir as a resting place. The newly formed reservoir became an attraction for ducks such as mallards, redheads, and canvasbacks (*Herald and News* 1962c).

Dedicated on February 3, 1962, Iron Gate cost an estimated $7.5 million (Boyle 1976:55-56; *Herald and News* 1961a). On dedication day, shown in Figure 5-17, about 2,500 visitors arrived by automobile and chartered buses to tour the facility with Pacific Power guides. Dignitaries in attendance included California State Senator Randolph Collier, Klamath Falls Mayor Robert Veatch, *Herald and News* publisher William

Sweetland, Pacific Power board members and employees, and Morrison-Knudsen company officers. In addition to tours, visitors enjoyed a barbeque luncheon in a large tent with photographic displays of Pacific Power's Klamath River hydroelectric facilities (*Herald and News* 1962b). Pacific Power's board of directors' vice chair, Glenn Jackson, was host; Senator Collier delivered the dedication address; and the Yreka High School band performed (*Mail Tribune* 1962a). John C. Boyle, Pacific Power vice president and Iron Gate designer, attended with his family (PacifiCorp archive image IG-317).

Figure 5-17 Iron Gate dedication, February 3, 1962 (courtesy of PacifiCorp, image IG-290)

In December 1964, within 2 years of Iron Gate's completion, flooding severely damaged the natural rock spillway channel. Rock was washed into the river channel downstream from the dam and water overflowed the powerhouse's generator deck. Pacific Power hired Morrison-Knudsen to complete the necessary repairs. This involved installing reinforced concrete for lining the walls and floors for over 630 feet of the spillway chute and building a new terminal structure with a flip bucket design to prevent overflows from causing damage. The new spillway walls were 50 feet at their maximum height and 40 feet thick at the base. Concrete used for the repairs was trucked in from a mixing plant about a half mile from dam site. The terminal structure was backfilled with 14,000 yards of rock and earth (Morrison-Knudsen 1965:10).

See Section **Error! Reference source not found. Error! Reference source not found.** for history of Iron Gate dam fish facilities and hatchery.

5.8 Fish Management

Starting in the late nineteenth century, dams have been built along the Klamath River for hydropower development, as well as logging operations, flood control, and agricultural irrigation. These dams have blocked anadromous fish access to native spawning grounds, manipulated natural river water levels, and

diminished water quality. Although other factors such as overfishing and pollution have contributed to the depopulation of anadromous fish and other river species, hydropower dams have been a key factor in the substantial degradation of the Klamath River fishery and other regional fisheries. Damage to the fisheries and their environments has greatly disrupted tribal culture and subsistence, which depends upon salmon, and impacted commercial and recreational fishing. The Chinook salmon population was significantly reduced following the construction of a series of hydroelectric dams along the Klamath River, beginning with the Copco No. 1 dam (1918). Completion of Iron Gate Dam in 1962 eliminated 16 additional miles of natural spawning grounds downstream of Copco No. 1 and Copco No. 2 (Hamilton et. al. 2005:10-11).

In the Klamath region, efforts at fish management began with constructed fish ways such as the fish ladder to allow passage over the Klamathon logging dam in 1889. Fish ladders were later built on the Link River dam in 1925, the Big Bend (J.C. Boyle) dam in 1958, and the Keno dam in 1966. Other fish management strategies involved egg collection stations operated by state fish and game agencies in conjunction with fish hatcheries. In California, eggs were collected at stations, including Hornbrook (1901–1938), Bogus Creek (1910–1941), Camp Creek (1910–1934), and Klamathon (1910–1940). The Klamath River's earliest known fish hatchery was located at the river's confluence with Spencer Creek and operated from 1914 to ca. 1954. The Fall Creek hatchery was established in 1919 as mitigation for the Copco No. 1 hydroelectric development, which blocked anadromous salmon from reaching upstream spawning grounds, while the Klamath River Experimental hatchery (1959–1960) was operated adjacent to Copco No. 2 powerhouse to determine the feasibility of a hatchery below the proposed Iron Gate Dam (Leitritz 1970:46). Finally, Iron Gate hydroelectric facility contains fish capturing and spawning facilities at the base of the dam (1962) that operate in conjunction with the nearby Iron Gate fish hatchery (1966).

5.8.1 Life Cycles and Propagation of the Anadromous Fish in the Klamath River

Fish conservation along the Pacific coast has historically involved intensive efforts at artificial propagation. In the Klamath River basin, these efforts have focused on propagation of salmon, primarily Chinook, and steelhead rainbow trout. Salmon and steelhead are anadromous, returning from the ocean to freshwater for spawning. Successful propagation requires extensive knowledge of fish species' life cycle and migration patterns. This knowledge was used in the design and implementation of fish ladders, egg collecting stations, and hatcheries. To inform this discussion of fish management, the Chinook salmon lifecycle is detailed below.

Chinook salmon begin their lives as eggs laid in a freshwater gravel nest. The eggs remain in the nests through winter and hatch in spring as alevins, tiny fish with a yolk sac attached to their bellies. After a few months, the alevins completely consume the yolk sac and emerge from the nest as fry. The fry spend about 5 months in the stream until smolting begins, meaning the fish turn silvery and begin migration downstream towards the ocean. Chinook salmon may spend up to 8 years in the ocean before returning to their natal streams to spawn. When adult salmon reach these streams, they build nests in the gravel where eggs are fertilized. During the early twentieth century, salmon eggs used for artificial propagation were obtained from fish on their way upstream to natural spawning grounds. The salmon were caught in racks built across rivers and streams, or in traps (Cobb 1930:634). For many years, standard practice was to plant the fry in natural waterways as soon as they absorbed their yolk sacs, about 30 days after hatching (Cobb 1930:635). Fish

experts recognized that planting immature fry, which were weak and slow, made them susceptible to predatory birds and fish. Robert Deniston Hume, a late nineteenth-century pioneer in salmon conservation, built hatcheries along Oregon's Rogue River and became the first to rear salmon beyond the fry stage (Cobb 1930:636). The Fall Creek hatchery was built after Hume's philosophy on rearing fry became standard hatchery practice. Although this practice increased survival rates, artificial propagation was ultimately ineffective at adequately maintaining native fish populations.

The Chinook salmon has been touted as the "largest and finest salmon" of the five North Pacific salmon species (the other four are sockeye, Coho, chum, and pink) and ranges from southern California to Alaska. The Chinook salmon reaches 15 to 100 pounds and has high commercial value (Jordan 1907:90). Chinook salmon are generally designated as spring, summer, or fall races based on the season during which the adult fish return from the ocean to freshwater. The various rearing periods among Chinook salmon are determined by race (Wahle and Smith 1979:2). The Klamath is an important river for Chinook salmon along the Pacific coast, because it has both a spring and fall run (Cobb 1930:411). The river originates in Lower Klamath Lake, Klamath County, Oregon, and runs southwesterly across Siskiyou County. The river traverses the southeastern section of Del Norte County, continuing its southerly course into Humboldt County where it joins the Trinity River and flows northwest into the Pacific Ocean. In 1888, a cannery was established at the Klamath River mouth in Requa, California, operated beginning in 1909 by the Klamath River Packers Association (Cobb 1930:438).

Steelhead trout, which were also raised at Fall Creek hatchery, have life cycles comparable to salmon and return to their native hatching grounds to spawn after spending years in the ocean.

The Impacts of Damming Rivers

One of the primary threats to native Pacific salmon and other anadromous fish has been hydropower development. In the American west, dams built for a variety of purposes have long impacted fish and their habitat. Throughout the late nineteenth century and well into the twentieth century, dams facilitated logging operations, flood control, agricultural irrigation, and hydropower. Hydropower dams have hindered anadromous fish access to native spawning grounds, manipulated natural river water levels, and diminished water quality. Although overfishing and pollution have contributed to fish depopulation, hydropower development has been a key factor in the substantial degradation of the Klamath River fishery and other regional fisheries. Damage to the fisheries and their environments has disrupted Tribal culture and subsistence, which depends on salmon, and impacted commercial and recreational fishing.

The Klamath River, upstream of Iron Gate Dam, once served as an important habitat for the natural spawning and rearing of salmon and steelhead (Black 1995:51). Hamilton et al. (2016) concludes that Klamath River's Chinook salmon historically migrated upstream of the Link River in Klamath Falls, Oregon, near the Klamath River's source. The Chinook population, already reduced by other human activities, was significantly impacted following the construction of the Copco No. 1 (1918) and Copco No. 2 (1925) dams. Completion of Iron Gate Dam near Hornbrook, California, in 1962 eliminated 16 additional miles of natural spawning grounds further downstream (Hamilton et al. 2005:10-11). It is estimated that the Klamath River's Chinook fishery has been diminished by over 90 percent since the early twentieth century (Hamilton et al.

2016:329). The dams not only block anadromous fish from their natural spawning grounds but impound reservoirs that further harm water quality. The reservoir water, which is warmer than the natural river flows, degrades fish habitat by promoting algae blooms, parasite growth, and disease. This gravely impacts Chinook salmon which, in an undisturbed habitat, "begin life bathed by a cold, swift-running, and highly oxygenated stream in a nest that consists of course gravel" (Black 1995:51). Furthermore, before enforcement of minimum flow requirements, dams would release water only when generating power, leaving fish stranded in dry riverbeds downstream (Lane & Lane Associates 1981:113). The lack of minimum flow was especially problematic for anadromous fish, which principally migrate upstream during low water periods (Snyder 1930:51).

Many fish experts contend that state and federal policies designed to protect salmon and trout have actually hastened the collapse of fisheries by failing to address what Michael Black calls "the root causes of fisheries habitat decline": economic forces like mining, extreme deforestation, overgrazing, irrigated agriculture, overharvesting fisheries, and dam construction (Black 1995:41). Instead of effectively addressing these "root causes," officials have relied on fish passage devices, and if those failed, hatcheries to artificially produce more fish (Black 1995:40). Other ultimately unsuccessful fish management strategies have included construction of artificial spawning channels, in-stream spawning "racks," placement of spawning gravel, and transporting juvenile fish past migratory obstacles (Black 1995:42).

Fish Husbandry and Hatcheries

The Fall Creek hatchery was part of California's early statewide hatchery system, established to increase fishery populations and counteract the environmental degradation threatening native fish. The hatchery implemented fish husbandry through artificial propagation and fish-rearing practices to further these goals. The ancient practice of fish husbandry was documented as early as the fifth century BCE with carp farming in China. The use of earthen ponds to contain carp eventually spread throughout Europe and the Mediterranean, later adapted for other species. Fish husbandry became prominent in France during the nineteenth century. Drawing from leading research on fish culture in France, *A Complete Treatise of Artificial Fish Breeding* was published in 1854, and the findings and practices it reported were adopted in the United States (Bohner 2018:15).

Scientific study of aquaculture in the United States dates to the early nineteenth century's Conservation Movement. Borrowing from century-old European practices, the first North American fish hatchery was established in Mumford, New York, in 1864, and the first anadromous hatchery was built in Newcastle, Ontario, Canada, in 1866 for rearing Atlantic salmon (Wahle and Smith 1979:2). In the following decades, the development of private hatcheries and public fish commissions increased. Although the growth of industry depleted fish populations, the technological advancements in the field of aquaculture supported the illusion of an inexhaustible fish population. To avoid restricting and regulating fishing practices, governments promoted artificial fish production to meet demand (Bohner 2018:3-6). Hatcheries along the Pacific coast were initially built to transplant Pacific salmon into East Coast waters and later evolved into a system for increasing salmon runs in Pacific streams by rearing and releasing the fish (Wahle and Smith 1979:3).

In 1937, the U.S. Commissioner of Fisheries promoted an "adaptive management" approach to sustain fish populations (Bohner 2018:15). Congress then enacted the Mitchell Act of 1938, which authorized the development of hatcheries, fish ladders, irrigation screens, habitat restoration, and scientific studies. In conjunction with passage of the 1945 Rivers and Harbors Act, a new period of dam construction began, and along with it, new hatcheries to mitigate the dams' adverse effects on fish. Modern technologies advanced artificial propagation of fish populations after World War II. Chemicals were applied to treat diseases, artificial food was introduced, modern fish transportation methods were used, and labor-saving devices such as fish loaders, self-graders, and incubators increased the efficiency of operations. Advances in transportation facilitated movement of fish in varying developmental stages and led to expanded stocking and inter-hatchery systemization. The introduction of artificial pelleted food enhanced fish health and growth and negated the need for cold storage and on-site food processing (Bohner 2018:17).

5.8.2 Early Fish Management Legislation and Practices

California

After California was admitted to the Union in 1850, the state promptly implemented legislation to protect fish habitat. In April 1852, the state criminalized instream obstructions to salmon migration in what became known as the 1852 Salmon Act; however, the Act exempted mining, milling, and agricultural dams and did not impose minimum downstream flow requirements (Bork et al. 2012:817). California remained at the vanguard of fish and wildlife conservation by establishing the nation's first wildlife conservation commission through the 1870 Law for the Preservation of Fish Act (*Marin County Journal* 1870). Appointed by the governor, the Board of Commissioners of Fisheries used appropriations to advance the restoration and preservation of California's fish (Leitritz 1970:8-9). In Section 3, the Act charged Commissioners with enforcing fish way or fish ladder construction by dam builders. A dam builder's failure to comply would result in a misdemeanor conviction and fine (*Marin County Journal* 1870). Also, in 1870, the California Acclimatization Society initiated the state's early experiments with artificial propagation by establishing a small hatchery near San Francisco City Hall. The State Hatching House, California's first state-owned and operated hatchery, opened at the University of California, Berkeley, campus in 1870 as well. About 60,000 eastern brook trout eggs were hatched and distributed in public waters that year (Leitritz 1970:7). In 1878, the San Leandro hatchery replaced operations at the State Hatching House (Leitritz 1970:15).

The Pacific Coast's first anadromous salmonid (a family of fish that includes salmon and trout) production began in 1872. That year, Livingston Stone, a national fish expert, was sent to the Pacific Coast by the U.S. Commissioner of Fisheries, Spencer F. Baird. Livingston's assignment was to obtain Chinook salmon eggs and ship them to the East Coast, where the Atlantic salmon population had been severely depleted. Assisted by local experts, Stone established the West Coast's first salmon breeding station, a federally operated facility named after Baird, on the McCloud River in California. By 1875, the hatchery was responsible for the yearly release of 6 to 10 million salmon (Leitritz 1970:16). Several years later, the United States Bureau of Fisheries (USBF) and the State of California began cooperating in the egg transportation and fry release processes to increase spawning in local streams. The first California state salmon hatchery was built in 1885 on Hat Creek, which flows down Mt. Lassen into the Pit River. The dearth of local Chinook eggs resulted in

the abandonment of Hat Creek and the transfer of hatchery operations in 1888 to the state's new Mt. Shasta hatchery in Siskiyou County (Wahle and Smith 1979:22).

The Klamath Basin's first salmon hatchery operated from 1889 to 1898 at Fort Gaston, California, on the Hoopa Reservation. Hatchery crew members raised Chinook salmon eggs taken from Redwood Creek and the Sacramento River. The Basin's second hatchery was established soon afterwards on an unspecified lower Klamath River tributary, using eggs from Redwood Creek, the Sacramento River, and Rogue River. In 1890, the USBF began programs for stocking the Upper Klamath Basin by planting fish from Sacramento River stocks. The California Fish Commission also stocked the Klamath intermittently between 1896 and 1916 with Chinook fry from the Mt. Shasta hatchery (KRBFTF 1991).

Through the 1910s and 1920s, the state and federal governments continued building hatcheries on the Klamath, Sacramento, Eel, Russian, and Mad Rivers in Northern California. Juvenile fish reared at these hatcheries, primarily fall Chinook salmon, were planted throughout the Klamath and Sacramento River drainages and northern coastal streams. In 1914, California state and federal fish facilities instituted the system of Oregon's Robert D. Hume by rearing juvenile salmon to the fingerling stage (Wahle and Smith 1979:22). The state published a report acknowledging that, "This method of handling salmon fry gives them a chance to reach the ocean without falling prey to the predatory fishes in the lower reaches of the rivers because of their better development" (Bryant 1923:22). This rearing system was first instituted by the state at Mt. Shasta hatchery, where fry were held in troughs for about 2 months, then moved to one of two small nearby lakes being used as rearing ponds. After reaching an average of 4 to 5 inches, the fingerlings were released in fall by draining the ponds, enabling them to enter the stream (Bryant 1923:22).

During this era, California continued to augment state fish protection laws by mandating that dam owners build and maintain fish ways (usually fish ladders) designed for year-round fish passage over dams, imposing de facto minimum flow requirements, and criminalizing obstruction of fish ways (Bork et al. 2012:818-819). Despite these requirements, the California Fish and Game Commission (CFGC) repeatedly noted inadequate instream flows. Power companies refused to comply with fish passage laws, and few allowed sufficient water to pass through their dams during the minimum flow periods (Bork et al. 2012:821). The 1915 Flow Act (Fish and Game Code Section 5937) sought to address this issue by requiring dam owners to allow enough water to pass through the fish way to keep downstream fish "in good condition" (Bork et al. 2012:822). California amended the 1915 Flow Act in 1917 to allow construction of a hatchery instead of a fish way when the CFGC determined that a dam's height made fish way construction infeasible (Bork et al. 2012:823).

During the 1950s, before the construction of Iron Gate Dam, the CDFG initiated a program to restore fisheries along the Klamath River. The program involved the removal of abandoned mining dams and log jams to open 200 miles of "excellent spawning and nursery streams" (Saldana 1969). To prevent fingerlings being diverted to irrigation ditches, the department worked with local ranchers to install fish screens in irrigation diversions. Fish traps were also placed in heavily diverted streams. In 1965, the Los Angeles Times reported that an estimated 1.5 million salmon and steelhead were "salvaged by these ingenious devices" (Saldana 1968).

In 1976, California had 13 hatcheries rearing fall Chinook salmon, Coho salmon, and winter steelhead trout. One was federal, ten were state, and two were private, with nearly half of them operating along the Sacramento River (Wahle and Smith 1979:22). Most were constructed and managed as mitigation for the loss of spawning grounds due to dam and other water projects, including Siskiyou County's Iron Gate hatchery built by Copco successor Pacific Power in 1966 (Wahle and Smith 1979:22).

Oregon

Oregon's earliest fish management legislation preceded its 1859 statehood. Following the establishment of the Oregon Territory in 1848, the Territorial Constitution was formed, with Section 12 providing that rivers and streams occupied by salmon should not be dammed or obstructed unless fish passage was established. In 1855, the Columbia River Tribes signed a treaty with the United States to reserve their rights to hunt and fish in the "usual and accustomed places" (ODFW 2018). Additional legislation passed in 1872, requiring fish ways over dams and prohibiting the use of poison or explosives for fishing practices. Oregon's first state Fish Commission was formed in 1878 but was not officially recognized until 1887, when it received a $1,000 appropriation from the state legislature. The Fish Commission, now the Oregon Department of Fish and Wildlife, was the earliest official entity tasked with protecting state fish, wildlife, and forests. In the following decades, the commission's name, responsibilities, and approaches evolved (Halvorson 2002; ODFW 2018).

Steep declines in fish population prompted implementation of fish hatcheries in Oregon. By 1875, U.S. Fish Commission hatcheries in California began serving an advisory role to Oregon hatchery operators (Bohner 2018:6). In 1876, the Oregon and Washington Fish Propagation Company constructed the first documented fish hatchery in the Columbia River Basin. More Oregon hatcheries were established in conjunction with the state's growing population and industries (Bohner 2018:3-4). In 1887, the Oregon Board of Fish Commissioners was authorized, and by 1911, Oregon formed the State Board of Game and Fish Commissioners, a sign of the state's growing interest in fish management (Bohner 2018:10-11).

In 1898, the State of Oregon passed salmon protection legislation. These laws prohibited fishing on spawning tributaries to the Columbia River; authorized the Fish Commissioner to remove fish passage barriers and to close streams stocked with fish; prohibited the introduction of non-indigenous fish to the state; and authorized the Board of Fish Commissioners to buy and construct fish hatcheries. Also, in 1928, Oregon voted to outlaw fish wheels in response to dwindling fish populations (Gifford 2018).

Fish management met ongoing challenges, particularly during the 1930s, when the number of hydroelectric facilities in Oregon substantially increased. A series of new dams along the Columbia River inundated the spawning habitat of salmon, increasing juvenile mortality and worsening the loss of returning adults. At that time, hatcheries were perceived as tools for supporting native fish populations, and hatchery construction became part of hydroelectric facility projects (Bohner 2018:14-15).

With the technological advances in fish husbandry following World War II, Oregon hatcheries became increasingly standardized (Bohner 2018:18). Although increasingly sophisticated propagation techniques buoyed fish populations, concerns about the ability of hatcheries to ensure large-scale returns remained in

doubt; particularly among state officials and anglers. Investigations into the populations of salmon and steelhead on the Klamath River indicated that artificial propagation methods were insufficient (Bohner 2018:11, 14).

5.8.3 Fish Management Practices on the Klamath River: Fish Ladders, Egg Collecting Stations, and Hatcheries

This section provides historical information about early barriers to anadromous fish migration along the Klamath River in California as well as in Oregon, where the Klamath River begins flowing from its source. The discussions of historical fish ladders, egg collecting stations, and hatcheries underscore the impacts of commercial ventures on the river's fish and fish habitat.

Fish Ladders

Klamathon Crib Dam and Fish Ladder, Hornbrook, Siskiyou County, California (1889, 1892)

Klamathon, California, had one of the earliest constructed fish ways along the Klamath River. In 1889, the town's Klamath River Lumber and Improvement Company (KRLIC) built a 5-foot-tall, log-crib dam, shown in Figure 5-18, designed to move logs toward its mill. That fall, the dam temporarily blocked fish migrations and prevented nearly all fall-run salmon from reaching upstream spawning grounds. Boxes positioned along the dam's downstream side also illegally trapped the migrating fish. Fifteen to 20 people worked around the clock selling thousands of captured salmon. Once state officials became aware of the situation, they enforced the legal requirement that the KRLIC build a fish ladder to allow anadromous fish passage (Hamilton et al. 2016:335-336). Witness accounts indicate that the ladder was ineffective. Local resident George Wright recalled that, despite the fish ladder, salmon would gather below the dam by the thousands: "People for many miles would [go] there to get the salmon to salt or dry for the winter's food supply" (Wright 1953). The deteriorating ladder was rebuilt in 1892, and again in 1898, at which time the *San Francisco Call* reported that "the dam on the Klamath River at Pokegama has been provided with a new fish ladder which works nicely" (Hamilton et al. 2016:337; *San Francisco Call* 1898). The dam was destroyed by fire, along with most of the town, in 1902. Loss of the dam led to a resurgence of upstream fish migrations (Hamilton et al. 2016:337). See Klamathon Station below for information on egg collection.

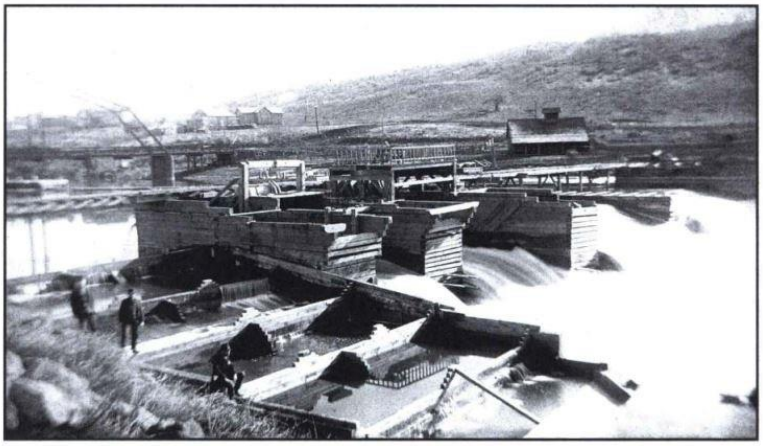


Figure 5-18 Klamathon dam and fish ladder, circa 1899 (courtesy of Siskiyou County Museum/P06707 PL Klamathon 3, in Beckham 2006:96)

Link River Dam Fish Ladder, Klamath Falls, Klamath County, Oregon (1925)

The Link River hydroelectric development, originally developed by the Klamath Falls Light and Water Company (KFLWC) and Klamath Light and Power Company, includes the Link River dam (1921). The KFLWC's powerhouse was built on the eastern side of the river in 1895 and provided the first commercially generated electricity in Klamath County (Durio 2003:23). The Link River dam was constructed for hydroelectric and irrigation projects (Durio 2003:23–25; Kramer 2003a:5). The 435-foot-long reinforced concrete dam has an average height of 16 feet and was originally built without a fish ladder, blocking anadromous trout from reaching upstream spawning grounds. Kramer (2003a:4) and Durio (2003) note that Link River's East Side water conveyance system (1924) includes an abandoned fish bypass near the forebay. The abandoned fish bypass indicates that Copco attempted to provide a mechanism for fish passage before the dam's fish ladder was built. The fish bypass appears to have been ineffective, because in April 1925, the Klamath Sportsmen's Association requested that the Oregon Fish and Game Commission require Copco to install a fish ladder (*Evening Herald* 1925). By June 1925, a "pool and weir" fish ladder with 10 pools was nearly completed (*Klamath News* 1925). In 1988, an additional pool was installed at the downstream end to reduce excessive water surface drop at the ladder entrance (USBR 2001:3). A major addition was installed in 2003 to allow passage of endangered short-nosed and Lost River sucker fish and redband trout to Upper Klamath Lake (Kramer 2003a:4; Slayden 2017). The dam is owned by the USBR and operated by PacifiCorp.

Keno Dam and Fish Ladder, Keno, Klamath County, Oregon (1920, 1931, 1966)

Keno Dam is about 20 miles downstream from the Link River dam. The original Keno site contained a 1920 dam and small powerhouse that generated hydropower for a timber mill (Kramer 2003a:5-6). During the early 1920s, Copco purchased the site and acquired the Keno Power Company, which managed the site. The merger of Keno Power Company into Copco became official in 1927. The original site facilities were replaced in 1931 with the Keno Regulating Dam ("Needle Dam"), a timber dam that regulated flow from Klamath Falls. In 1966, Pacific Power (Copco's successor) replaced the Needle Dam with a concrete gravity dam to

regulate reservoir water levels, the level of Lake Ewauna, and the Klamath River between Keno Dam and Lake Ewauna. At that time, Pacific Power also discontinued power generation at the site and removed the powerhouse (Durio 2003:31). The existing Keno Dam, completed in 1966, is a 723-foot-long, reinforced-concrete dam with a maximum height of 25 feet (Kramer 2003a:5). The dam's reinforced-concrete fish ladder has three switchbacks and over 20 pools. Discharged flow from a pipe attracts fish to the ladder (Durio 2003:31). Below the dam, the 4.7-mile Keno reach flows into the J.C. Boyle Reservoir (known locally as Topsy Reservoir). The dam is owned and operated by PacifiCorp.

J.C. Boyle Dam and Fish Ladder (1958) (Klamath County, Oregon)

The J.C. Boyle fish ladder was integrated into construction of the J.C. Boyle Dam. The fish ladder permits upstream fish, primarily river trout, to rise approximately 60 feet to pass through the dam, while the dam's four rotating fish screens collect fish and divert them downstream through a fish screen bypass pipe (USBR 2012:16-18). The J.C. Boyle fish ladder does not accommodate salmon, which cannot surmount the other downstream dams. The J.C. Boyle fish ladder has not been modified since its original construction and is deemed to have an outdated design. The design, and other potential factors, has greatly reduced the number of trout able to pass through the dam. In 1961, approximately 5,000 trout ascended the ladder; however, in 1991, only 70 did so (Hume 2016). The dam is owned and operated by PacifiCorp.

Egg Collecting Stations

Hatcheries operated in conjunction with egg collecting stations, which used traps, nets, and racks to capture fish migrating upstream to their spawning grounds. After trapping the fish, station crew members removed the eggs from the females for eventual transport to the hatchery. Historic state fish and game reports indicate that some egg collecting stations, such as Shovel Creek, also hatched a certain amount of eggs on-site and released the fry into nearby streams. By 1921, the CFGC announced that, "the various egg-collecting stations along the Klamath River are in full swing . . . The first of the rainbow trout are 'running' in Bogus Creek, Camp Creek and Fall Creek and something over a million of eggs have been taken to date. The run of fish in Cottonwood Creek is somewhat later, but indications are for a successful take of eggs at the Hornbrook [Cottonwood Creek] Station" (Snyder 1921:123). In addition to traps and racks, collecting stations used fish racks, pipelines to convey water to fish tanks, holding and spawning tanks, retaining walls to prevent erosion near rivers and streams, bridges for access to roads/railroads, and worker accommodations such as shacks, cabins, and cottages.

Shovel Creek (Beswick) Station (1889-1912, 1929-1934) (Siskiyou County, California)

The Klamath River's first egg collecting station was established along Shovel Creek near Beswick in Siskiyou County, California. During initial operations between 1889 and 1912, the station supplied rainbow trout eggs (likely steelhead) to the Mt. Shasta hatchery and also released eggs hatched at the station into Shovel Creek (State Board of Fish Commissioners 1902:35-36; Leitritz 1970:11).

Figure 5-19 H. W. Shebley and H. E. Southern, California Department of Fishculture, examining trout at Cottonwood Creek, near Hornbrook, Siskiyou County, circa 1904 (Shebley 1922:66)

During the station's early years, it was run by the State of California, which transferred the station to the USBF on an unknown date. Around 1913, a small salmon and trout hatchery operation was initiated at the station. The hatchery activities continued for about 6 years until 1919, the same year that Fall Creek hatchery was established (Fortune et al. 1966:22). At that time, Cottonwood Creek station management reverted to the state, making CFGC the exclusive fishery manager for the Klamath River (Fortune et al. 1966:22). In summer 1919, the state leased a new creek site from landowner Marshal Horn and later built a permanent rack system and larger holding tank at the Cottonwood Creek station (Figure 5-19; Shebley 1922:79). The CFGC's 1927 biennial report, published in 1929, indicates that the state planned to move the station farther downstream and closer to the Klamath River. The new station location included a new concrete holding tank, concrete wing dam to divert water to the tank, and two-room worker cottage (Shebley 1929:41).

Klamathon Station (1910–1940) (Siskiyou County, California)

The Klamathon station (1910–1940), established by the USBF, initially collected eggs for propagation at the Klamathon hatchery. In 1915, when the State of California assumed operations, the small hatchery building was closed, and collected eggs were transported to Mt. Shasta hatchery (CDFW 2019). In late summer 1918, the newly completed Copco No. 1 dam had permanently blocked fish passage to the Upper Klamath River. At that time, the Klamathon station was transferred to the State of California. Copco, which financed construction of the Fall Creek hatchery, also paid for major upgrades at Klamathon, such as new fish racks.

The plan was for Klamathon to supply the new Fall Creek hatchery with its salmon egg stock (CFGC 1921:25; Lane & Lane Associates 1981:150).

In fall 1919, the renovated Klamathon station was ready to run at full capacity with a crew of five to six workers. The crew placed fish racks in the river to trap salmon migrating upstream. Fish entering the trap would be held between the racks or released to continue upstream (Snyder and Scofield 1924:9). Crew members then removed the fish from the racks and placed them in holding tanks pending spawning operations. That season, nearly 5 million eggs were spawned and transferred to the hatcheries at Mt. Shasta and Fall Creek (Shebley 1920:76). The Klamathon station, shown around 1924 in Figure 5-20, also supplied egg stock for the Sacramento, Eel, and San Joaquin Rivers (CFGC 1921:40).

Figure 5-20 Klamathon Station, inspecting salmon trapped between racks (Snyder and Scofield 1924:10)

The CFGC regarded the Klamathon station as "one of the most important salmon egg-collecting stations in California" (CFGC 1923a:40). The commission described the Klamathon station and Fall Creek hatchery as the "nucleus for most of the salmon cultural operations" in the state (Bryant 1923:20). By the early 1920s, the CFGC determined that salmon and ocean trout runs in the Klamath River were the state's last large runs, because hydropower facilities along other California rivers had destroyed over 90 percent of spawning grounds (CFGC 1923b:103). When CDFG transferred Chinook salmon egg taking operations from Klamathon to Fall Creek hatchery in 1940, Klamathon was reduced to a salmon counting station (Leitritz 1970:62-63).

Bogus Creek (1910–1941) and Camp Creek (1910–1934) Stations (Siskiyou County, California)

The Bogus Creek (1910–1941) and Camp Creek (1910–1934) stations were used mainly for trapping steelhead, and Camp Creek station (Figure 3-21) was generally considered part of the Bogus Creek station based on their proximity to each other (Shebley 1922:93). Fish were trapped at these stations as they ascended the creeks near their confluence with the Klamath River (CFGC 1921:26). The eggs were transported for rearing at the Mt. Shasta hatchery and later the Fall Creek hatchery (CDFW 2019).

H. W. Shebley of the California Department of Fishculture scouted out and identified the sites for the stations. After Shebley observed that extreme flooding jeopardized the trout egg take at Shasta River station, he was

> *[D]etermined to put in a rack and trap at Bogus Creek, four miles north of Thrall, on the line of the Klamath Lake Railroad. I [Shebley] had examined this creek years ago for the purpose of collecting rainbow trout eggs, but, owing to the almost impassable trail that leads down that canyon, I gave the plan up until after the construction of the Klamath Lake Railroad (Shebley 1910:92).*

In January 1910, Shebley ordered construction materials for a fish rack and trap, which he had framed at Mt. Shasta hatchery, then shipped to Bogus Creek for installation. A small cabin was also built for the station workers. A. E. Doney initially ran the station. Once the season ended, Doney and his assistants carried the eggs from the canyon to the railroad bridge to be taken on a hand car to Thrall, where the eggs were transported to Mt. Shasta via the SPRR. The lease that the state obtained allowed for operation of the station each season until April for a period of 10 years (Shebley 1910:92).

The Bogus Creek station underwent major improvements in conjunction with the 1919 opening of Fall Creek hatchery. The improvements, such as a new spawning tank and additional worker housing, increased capacity and enabled the station to distribute sufficient eggs to both the Mt. Shasta and Fall Creek hatcheries. About 5 million eggs were collected at the station in 1921 (CFGC 1923a:39). In 1926, a timber dam and suspension bridge were built across the creek, and a new concrete tank trap was constructed (Shebley 1929:42).

The Bogus Creek station crew also operated the Camp Creek station (1910–1934). After the Fall Creek hatchery opened, the state completed Camp Creek station improvements such as a new holding tank for spawning fish, a small concrete retaining pier, and 365 feet of new flume between the creek and holding tank. A new 257-foot suspension bridge was also built across the Klamath River for carrying eggs to the railroad station. Before construction of the bridge, workers transported the eggs by boat to the railroad for shipping to the state hatcheries (CFGC 1923a:40-41).

Figure 5-21 Camp Creek Station, 1922 (CFGC 1923a:41)

Ward Canyon Station (1915) (Siskiyou County, California)

In 1915, before completion of Copco No. 1 (1918) and the Fall Creek hatchery (1919), the Ward Canyon egg collecting station operated for one season only (Leitritz 1970:12). The station's precise location is unknown; however, the name indicates that it was located at or near the Copco No. 1 dam site in Siskiyou County. The only information found on this station is listings in the CDFG's biennial reports and a brief mention by Leitritz (1970), who does not state where the eggs were taken after collection.

Fish Hatcheries

The purpose of hatcheries on the Upper Klamath River was to compensate for the loss of native fish by stocking the Klamath Basin's waterways with hatchery-raised fish (Lufkin 1991:636; Mills et al. 1997; White 1995:89-90). Hatcheries were employed where other provisions for fish passage, such as fish ladders over very tall dams, would be inadequate to mitigate fish depopulation. In addition to the Fall Creek hatchery, three other historic state-run hatcheries have been established along the Upper Klamath River. The Spencer Creek hatchery in Oregon and the Klamath River experimental hatchery and Iron Gate hatchery in California are discussed below.

There may have been other small, historic hatchery operations along the Upper Klamath that have not been documented by the California Department of Fish and Wildlife (CDFW) or its predecessors. Additionally, some egg collecting stations such as Cottonwood Creek engaged in hatchery activities as a function secondary to egg collection and/or on a temporary basis.

Spencer Creek Egg Station and Hatchery (1914–ca. 1954) (Klamath County, Oregon)

Spencer Creek hatchery built near Keno, Oregon, was an early trout hatchery and egg collecting station just upstream from the Klamath River (*Oregon Daily Journal* 1913). Plans for construction were announced in the Klamath Falls *Evening Herald* on March 7, 1913 (*Evening Herald* 1913a). Located on Spencer Creek, about 2 miles northeast of the J.C. Boyle Dam site, the hatchery was expected to be completed in the spring

of 1914 (*Evening Herald* 1913b). Based on a 1947 photograph of the hatchery building, shown in Figure 5-22, and a 1952 aerial photograph of the site, the hatchery was a small operation at that time, with a single building and a fish trap across Spencer Creek. While the hatchery was under construction in 1914, the native fish population in Klamath County was already suffering a significant decline. In January 1914, the *Evening Herald* reported that fish populations in Klamath River, Spencer Creek, and its tributaries were at risk due to excessive angling. To supplement the fish population, the state board of fish and game commissioners stocked the waterways with trout. The hatchery at Spencer Creek was expected to help protect and control the trout population in the Klamath River and its tributaries (*Evening Herald* 1914a).

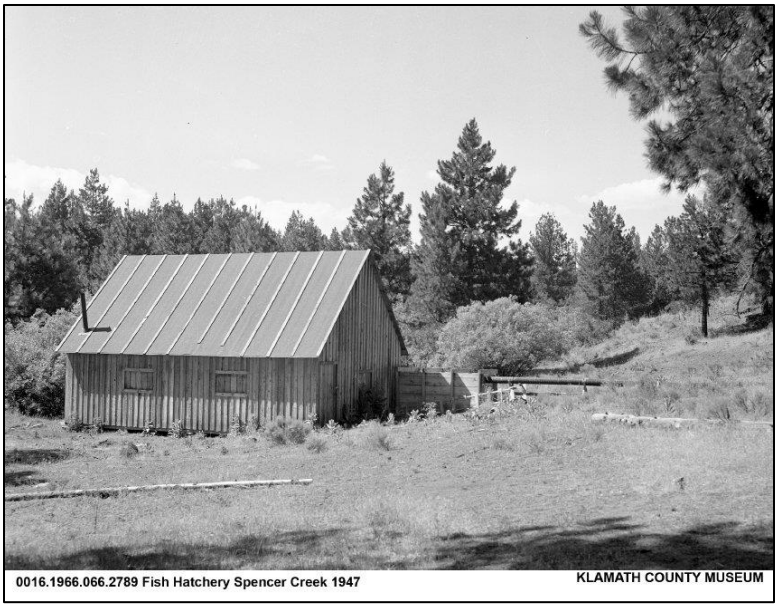


Figure 5-22 Spencer Creek hatchery building, 1947 (courtesy of Klamath County Museum)

By June 1914, the hatchery had opened, and thousands of rainbow trout and eastern brook trout fingerlings were reportedly released (*Evening Herald* 1914b). In August 1914, plans were announced to build a new, larger hatchery building that would triple the existing capacity (*Evening Herald* 1914c, 1914d). When the hatchery expansion was completed, the hatchery became the primary source of trout fry distributed throughout the State of Oregon. R. E. Clanton, Oregon's Superintendent of Hatcheries, referred to the Spencer Creek hatchery as the "finest trout hatchery site in the state" (*Evening Herald* 1914d). On June 16, 1915, the *Evening Herald* announced in a headline: "600,000 Fish For Klamath County: Spencer Creek Hatchery Has Turned Out More Fish This Year Than All The Rest Of the State – Distribution Soon" (*Evening Herald* 1915). Four years later, in 1919, 3 million eggs were hatched, with 2 million transferred to the Bonneville hatchery near Portland and 1 million delivered to the Crooked Creek hatchery on the Klamath Indian Reservation (*Evening Herald* 1919).

Spencer Creek hatchery remained, according to the local newspaper, "one of the best sources for trout eggs in the state" and set a record for production in 1927, with an egg take of over 7 million (*Klamath News* 1928). The hatchery's precise closure date is unknown; however, the *Gazette-Times* (Corvallis, Oregon) referenced egg taking at Spencer Creek in 1954 that produced over 1.5 million rainbow trout eggs (*Gazette-*

*Time*s 1954). The Spencer Creek hatchery closed at some point between 1954 and 1958, when the site was inundated by the J.C. Boyle Reservoir.

Fall Creek Hatchery (California) (1919–1949, 1979–2003) (Siskiyou County, California)

The Fall Creek hatchery's history highlights the increasing environmental threats to the Klamath River's native fish from twentieth-century commercial, industrial, and recreational activities, particularly hydropower development. From opening season in 1919 to the official closure in 1949, Fall Creek hatchery was central to salmon and trout propagation in the Klamath Basin. Annual counts of Chinook fingerlings from Fall Creek hatchery that were planted in the Klamath River ranged from nearly 3 million in 1920 to 755,908 in 1948 (KRBFTF 1991). In 1918, the CFGC proposed building the Fall Creek hatchery as a mitigation alternative to the fish ladder originally planned for the new Copco No. 1 dam. California's 1915 Flow Act required dam builders to install fish ladders to enable upstream fish migration for spawning; however, the proposed Copco ladder was designed to be at least 110 feet in height, too steep for salmon and trout passage (*Mail Tribune* 1918). As an alternative to the impractical ladder, Copco made an agreement with the CFGC to fund construction of a hatchery along Fall Creek near the company's power plant. The purpose of the hatchery was to propagate Chinook salmon and to populate the Upper Klamath River above the dam with steelhead trout. When construction was completed, the hatchery encompassed a 125-foot hatchery building, shown in Figure 5-23, as well as two hatchery cottages, and three fish holding ponds (none of which remain).

Figure 5-23 Fall Creek hatchery building, completed in 1919 (photography by J.H. Wales in 1935, in Leitritz 1970:37)

The Fall Creek hatchery underwent a major expansion in 1937, when six additional rearing ponds were built to increase holding capacity for fall release of salmon and steelhead (Leitritz 1970:38). Two ponds (raceways) within a single concrete structure were built near the hatchery building and four others within a single structure were built about 400 feet to the south. Despite the hatchery's fish-rearing activities during the 1920s and 1930s, operations at Copco No. 1 and other factors continued to harm native salmon and

steelhead populations. Dam operations led to marked river level fluctuations daily, which alternately dried out the river then inundated it, stranding fish and disturbing downstream spawning areas (Doremus and Tarlock 2008:79).

In 1979, three decades after its original 1949 closure, the State of California reopened Fall Creek hatchery. Between 1979 and 2003, the CDFG regularly raised Chinook salmon in the hatchery raceways and released the fingerlings downstream near Iron Gate hatchery. When state funding for the hatchery ended in May 2004, fish rearing at Fall Creek hatchery ceased (CDFW 2019). The hatchery is still managed as part of Iron Gate hatchery by the CDFW; however, the Fall Creek hatchery facilities are not currently in use.

Klamath River Experimental Hatchery (1959–1960) (Siskiyou County, California)

Before construction began on the Iron Gate Dam (1962) and Iron Gate hatchery (1966), the Klamath River experimental hatchery was established upriver, adjacent to the Copco No. 2 powerhouse. Open from 1959 to 1960, the hatchery's purpose was to "determine the feasibility of a hatchery" below Iron Gate Dam. The hatchery implemented two "standard California wooden hatchery troughs" and two 3- by 4- by 16-foot rearing tanks (Leitritz 1970:46). The Copco No. 2 penstock supplied the hatchery with water through a 6-inch irrigation line (Hill and Bell n.d.). The hatchery used Chinook salmon and steelhead trout eggs from fish trapped at Fall Creek. Coho salmon eggs from Trinity River fish were eyed at Mt. Shasta hatchery and transported 55 miles north to the experimental hatchery. ("Eyed" eggs are fertilized and show the early nervous system). Based on the outcome at the experimental hatchery, the Klamath River water in that vicinity was ultimately determined "suitable for fish culture," paving the way for construction of the permanent Iron Gate hatchery downstream at the mouth of Bogus Creek (Leitritz 1970:46).

Iron Gate Dam Fish Facilities (1962) and Iron Gate Hatchery (1966–present) (Siskiyou County, California)

The Iron Gate dam fish facilities and associated Iron Gate hatchery were constructed as mitigation for the Iron Gate Dam, which eliminated about 16 miles of natural salmonid spawning habitat between the Iron Gate site and the Copco No. 2 dam. Iron Gate Dam's regulating function was deemed necessary for Klamath River fish habitat, because Copco No. 1 and No. 2 hydroelectric operations caused water level fluctuations that frequently left fish stranded. Pacific Power hired Morrison-Knudsen to construct the hatchery. Morrison-Knudsen had also constructed the Iron Gate dam and powerhouse (Neal 1965).

Dam Fish Facilities (1962)

The dam fish facilities, designed by the CDFG, occupy about 2 acres at the base of Iron Gate Dam (*Herald and News* 1962a). The facilities consist of a fish ladder and trap, spawning building, holding ponds, water supply pipe, and aerator. Morrison-Knudsen built the concrete fish ladder, shown in Figure 5-24, as well as the spawning building and the holdings ponds (CDFW 2014:4; Pacific Power 1962:15). At the dam's left abutment, two intakes deliver cold reservoir water into the water supply pipe. Before completion of the facilities, temporary fish traps were used at Klamathon, downstream from Iron Gate, during the fall fish run. The eggs caught in the Klamathon traps filled the Mt. Shasta Hatchery to capacity (Pacific Power 1962:12).

Figure 5-24 Iron Gate dam fish facilities, fish ladder construction, December 27, 1961 (PacifiCorp archive image IG-231)

The dam fish facilities were placed into operation in 1962, in conjunction with completion of the Iron Gate hydroelectric development (CDFW 2014:4; Pacific Power 1962:15). In spring 1962, approximately a half million eggs were obtained from about 1,000 adult steelhead trapped at the Iron Gate dam fish facilities. By early May, the first 37,000 steelhead fry hatched at the Iron Gate dam fish facilities were released in gravel beds of Bogus Creek tributary, which flows into the Klamath River downstream of the dam (*Herald and News* 1962d). In 1964, Pacific Power installed an aerator at the dam site's southern side to improve water quality for fish-related operations (Durio 2003:109).

A 1962 Pacific Power booklet described the workings of the dam fish facilities, shown in Figure 5-25:

> *Salmon and steelhead traveling up the river are attracted by the flow of water discharged from the [Iron Gate] powerhouse, which leads them into a fish ladder. A series of 20 pools leads them up in a sweeping curve to a series of six 'holding ponds.' Each of these ponds is 30 feet in diameter and approximately four feet deep. They are lined with redwood. Here the fish are held to 'ripen' until they are ready to spawn. Water to operate these holding ponds and the fish ladder is completely independent of the water used to operate the power-producing equipment. It flows through the dam in a 30-inch tube [water supply pipe] which parallels the large power penstock. Two separate intakes permit water to be drawn from different levels of the reservoir as proper temperature indicates. If necessary, auxiliary water for these fish facilities also can be pumped from the tailrace. This fish water flows first into the series of holding ponds, each of which is connected to the fish ladder, and thence down the ladder to provide the current which attracts the migrant fish. The ladder is a series of 10-*

foot pools which form a stair-step arrangement to lead the salmon and steelhead up to the holding ponds (Pacific Power 1962:6).

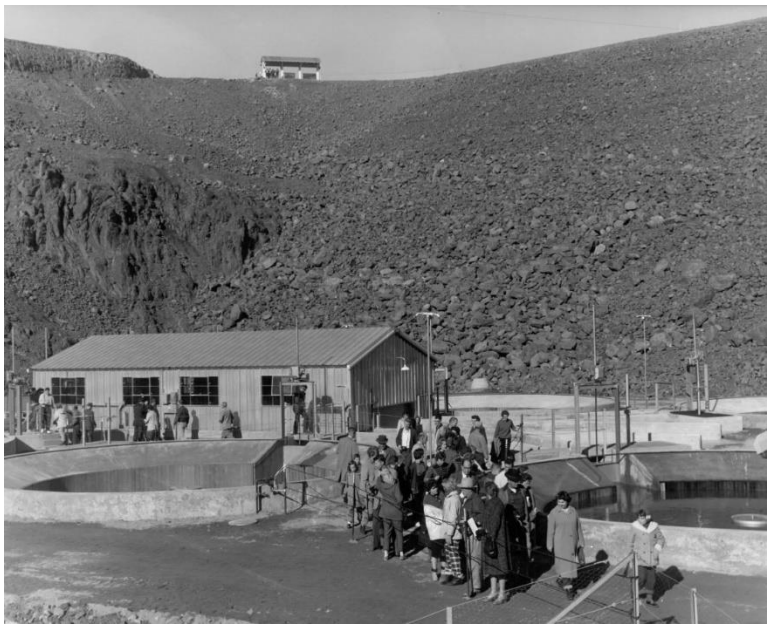


Figure 5-25 Iron Gate dam fish facilities: spawning building and holding ponds, with Iron Gate Dam in background, during the Iron Gate dedication on February 3, 1962

After completion of the dam fish facilities, CDFG and the United States Fish and Wildlife Service (USFWS) personnel contended that Pacific Power was still legally obligated to construct a fish hatchery for mitigation (Pacific Power 1962:12). The FPC held a hearing on the matter in June 1962 (Pacific Power 1962:12). The following month, the CDFG and Pacific Power reached an agreement that Pacific Power would construct a fish hatchery near Iron Gate Dam, estimated to cost $1 million (Lythgoe 1962).

Iron Gate Fish Hatchery (1966–present)

The 17-acre Iron Gate Fish Hatchery, shown in Figure 5-26, was completed in 1966 to operate in conjunction with the upriver dam fish facilities. Eggs obtained at the spawning building (dam fish facilities) are transported to the downstream hatchery building.

Figure 5-26 Iron Gate fish hatchery, view facing southwest

The hatchery produces Chinook salmon, steelhead trout, and coho salmon by processing eggs collected and spawned at the Iron Gate dam fish facilities. Most of the hatchery's juvenile fish are released directly into the Klamath River. After the hatchery was completed, it became California's most prolific for anadromous fish (Merriman 1974). At capacity, the hatchery could hold 2.8 million Chinook salmon reared to 90 days and 75,000 coho salmon and 200,000 steelhead reared to yearling size (Saldana 1969). The hatchery building, central to the hatchery's operations, is shown in Figure 5-27.

Pacific Power fish biologist Charles Jack Hanel designed the Iron Gate Fish Hatchery to comply with CDFG and USFWS standards (Merriman 1974). For his design of Iron Gate Fish Hatchery, Hanel was named Waltonian of the Year by the Oregon chapter of the Izaak Walton League, a national conservation organization (*Mail Tribune* 2002).

Figure 5-27 Iron Gate hatchery building, view facing northwest

In the November 1965 issue of its monthly magazine, Morrison-Knudsen summarized construction on the fish hatchery to date: "The new fish-rearing facilities, located one mile downstream from the [Iron Gate] dam, were begun in September [1965] and are scheduled for completion in February of next year [1966]. They include four 22x400-foot concrete-lined rearing ponds and six accompanying buildings . . ." (Morrison-Knudsen 1965:10). On March 22, 1966, the hatchery was completed, and Pacific Power held an on-site ceremony to mark transfer of hatchery operations to the CDFG (Humboldt Standard 1966). The CDFW still manages hatchery operations (the CDFW was the CDFG until 2013). PacifiCorp, the successor to Pacific Power, funds hatchery operations and maintenance. Since the hatchery was built, the federal government has made efforts to further safeguard the downstream Klamath River fishery. In 1981, the U.S. Department of the Interior designated the Klamath River below Iron Gate Dam part of the National Wildlife and Scenic River System, in large part, "to protect its outstanding anadromous fishery values" (Shake 1991:2). Five years later, Congress passed the Klamath River Basin Fishery Resources Restoration Act (Public Law 99-552, October 27, 1986).

The Iron Gate Fish Hatchery continues to function in conjunction with fish facilities at the base of Iron Gate Dam, which consist of a fish ladder, spawning building, holding ponds (or tanks), water supply pipe, and aerator. Most Iron Gate Hatchery fish are released directly into the Klamath River from the hatchery. Occasionally, fish are trucked downstream for use in testing trapping equipment. Average annual fish production between 2005 and 2010 was nearly 6.5 million fish (ICF Jones & Stokes 2010:A-34). In 2012, the hatchery's annual production goals were 6 million Chinook, 200,000 steelhead, and 75,000 coho (USBR 2012:22-24).

As of 2010, the hatchery employed seven permanent employees: two fish hatchery managers, four fish and wildlife technicians, and one office technician. Seasonal personnel worked when funds were available (CDFW 2014:3). Although the CDFW operates 21 hatcheries throughout the state, Iron Gate Fish Hatchery is Siskiyou County's only CDFW salmon and steelhead hatchery and the only one located along the Klamath River (CDFW 2018).

Fish Science and Experimentation at Klamath River Hatcheries

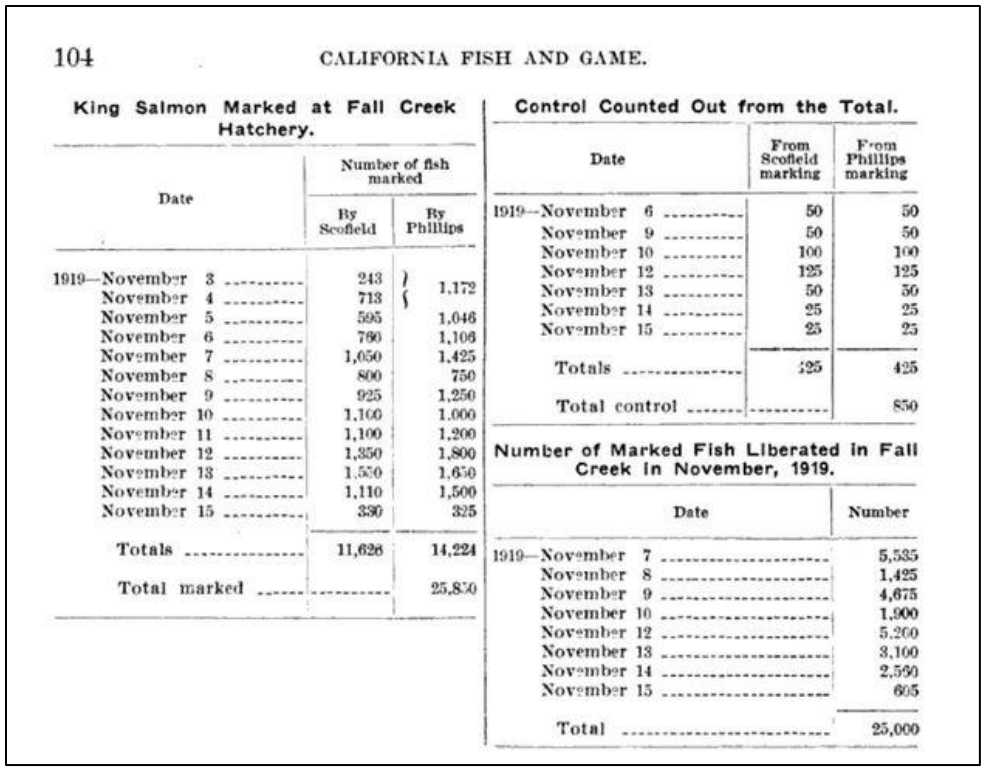
The historic-era fish science activities conducted at the Fall Creek and Iron Gate hatcheries supported the hatcheries' efforts at anadromous fish propagation and conservation.

Fall Creek hatchery was used as both a fish-rearing facility and a research venue focused on conservation of the Klamath River Chinook salmon. Conservation research was deemed vital, because the fate of the Chinook population in the Sacramento River, the state's other major commercial salmon fishery, appeared grave (Snyder 1930:7). Fall Creek hatchery's opening season in 1919 corresponded with initial coordinated investigations by the Bureau of Commercial Fisheries and CDFG. Data collection for Chinook salmon related to growth, age, migration, and behavior (CFGC 1927:68).

Before 1912, reliable statistics on Chinook salmon were not available. Furthermore, prior to 1919, state-sponsored experiments produced no significant "returns" for lack of reliable observers and insufficient coordination with the commercial fishing industry (Snyder 1930:7,67). One noted experiment in 1916 demonstrated that a salmon introduced into the Klamath River, although originating from another stream, would return to the Klamath. Another experiment in 1918 revealed a more extensive ocean range for Sacramento River salmon than previously thought (Snyder 1930:68).

Much of the research during the following decade was supervised by John Otterbein Snyder through Stanford University, with aid from Eugene C. Scofield and G.H. Clark (CFGC 1927:69). Snyder (1930) comprehensively reports on Chinook salmon research in the Klamath River, including Fall Creek hatchery, between 1919 and 1930. He concludes that, "Depletion of Klamath salmon is not only apparent, but it seems to be progressing at an alarming rate. There is evidence also that artificial propagation alone is not able to cope with the situation" (Snyder 1930:121).

As soon as it opened, Fall Creek hatchery became an important research site. During the Fall Creek hatchery's inaugural 1919 season, the CFGC had already begun sponsoring on-site research. One of the first series of experiments based at Fall Creek hatchery was the "stock transfer" studies by Snyder and W. L. Scofield, which introduced Sacramento River Chinook salmon at Fall Creek hatchery. W. L. Scofield, a relative of Eugene C. Scofield, described the experiment's methodology in an article entitled "King Salmon Marking Experiment at Klamath River, 1919." He wrote that an agent from the USBF obtained Chinook salmon eggs from Mill Creek, a tributary of the Sacramento River, in November 1918. A shipment of over 1.1 million eyed eggs was transferred to Fall Creek hatchery, arriving on February 13, 1919. The eggs were hatched at Fall Creek that month and reared in the hatchery building. In July, "25,000 of these small king salmon were placed in the cement-sided pond at Fall Creek hatchery and the others were liberated in Fall Creek" just below the Copco No. 1 dam. L. Phillips and W. L. Scofield marked the fish by removing the adipose and right ventral fins with cuticle scissors between November 3 and 15. By November 15, all marked fish had been released into Fall Creek (Scofield 1920:101-103, see Figure 5-28).



104 CALIFORNIA FISH AND GAME.

King Salmon Marked at Fall Creek Hatchery.

Date	Number of fish marked	
	By Scofield	By Phillips
1919—November 3	243	1,172
November 4	713	
November 5	595	1,046
November 6	780	1,106
November 7	1,050	1,425
November 8	800	750
November 9	925	1,250
November 10	1,100	1,000
November 11	1,100	1,200
November 12	1,350	1,800
November 13	1,550	1,650
November 14	1,110	1,500
November 15	330	325
Totals	11,628	14,224
Total marked		25,850

Control Counted Out from the Total.

Date	From Scofield marking	From Phillips marking
1919—November 6	50	50
November 9	50	50
November 10	100	100
November 12	125	125
November 13	50	50
November 14	25	25
November 15	25	25
Totals	425	425
Total control		850

Number of Marked Fish Liberated in Fall Creek in November, 1919.

Date	Number
1919—November 7	5,535
November 8	1,425
November 9	4,675
November 10	1,900
November 12	5,260
November 13	3,100
November 14	2,560
November 15	605
Total	25,000

Figure 5-28 Chinook salmon marked and released into Fall Creek during Snyder and Scofield's stock transfer experiment (Scofield 1920:104)

The experiment was well-publicized and included a small monetary reward for data relating to captured fish (Snyder 1930:68). A September 1920 issue of the *Marin Journal* provided an update on the research activities:

Experiments in marking fish propagated in state fish hatcheries and planted in the streams of the state, as a means of arriving at some estimate of the percentage which grow to maturity, are being conducted at the Fall Creek hatchery at Hornbrook. During November 1919, approximately 25,000 young king [Chinook] salmon were marked by clipping off the adipose and right ventral fins. Observations are said to have proven that small fish so marked can be identified at any age (*Marin Journal* 1920).

The study revealed that Sacramento River fish returned to the ocean fishery at a rate of 0.04 percent as opposed to 0.73 percent for native Klamath River fish. The Sacramento River fish also returned to the Klamath River at the lower rate of 0.012 percent as opposed to 0.12 percent for native fish. The study concluded that "well-adapted stocks" provide a substantially higher return on investment in hatchery programs (KRBFTF 1991).

The next Klamath River experiment was initiated at Fall Creek in 1922 to further examine migration patterns of artificially propagated Chinook salmon. The eggs of Chinook salmon were collected at the Klamathon racks, fertilized, and hatched at Fall Creek. E. V. Cassell, superintendent of Fall Creek hatchery, monitored the fry in the hatchery rearing ponds. Before distribution, the fish were marked to determine whether, upon

maturation, they would return to the tributaries where they were reared or introduced. Between 1925 and 1927, about 500 of the 18,500 marked fish were recovered during their return migration from the ocean (CFGC 1927:68-69). A similar experiment in 1923–1924 involved marking 75,000 juvenile salmon raised at the Fall Creek hatchery. The results of both experiments indicated that juvenile fish introduced into the waters of a particular tributary tend to seek out that tributary on their return migration from the ocean (Snyder 1930:76).

In 1945, the CDFG acknowledged that, "artificial production of anadromous salmonids has not proven more efficient than natural production, nor has it been found economically justifiable" (KRBFTF 1991, citing Van Cleve 1945 in McEvoy 1986). After 30 years in operation, Fall Creek hatchery became one of 11 state-operated hatcheries that closed in the late 1940s as part of efforts to “modernize” its hatchery system (*Telegram-Tribune* 1949).

Iron Gate Hatchery (Siskiyou County, California)

Iron Gate hatchery has been the site of innovations related to fish science. In 1969, CDFG fish biologists working at Iron Gate developed a new technique for retrieving eggs from spawning steelhead without harming the adult female: after tranquilizing the fish in a tank, a small stream of air discharged from a syringe into the female fish causes eggs to be released into a container (*Sacramento Bee* 1969).

Following the implementation of this technique, Pacific Power, the CDFG, and the Oregon State Game Commission (OSGC) embarked on a joint venture to study the feasibility of establishing a steelhead sport fishery above Copco No. 1 dam (*Sacramento Bee* 1970). The 3-year study plan involved rearing 100,000 steelhead annually at Iron Gate Fish Hatchery, marking and releasing them below the hatchery, and trapping returning adults at Iron Gate (*Sacramento Bee* 1967). After the adult steelhead were trapped, CDFG transported them by customized OSGC tank truck 27 miles to a section of the Klamath River at the California–Oregon border (*Sacramento Bee* 1969). In December 1970, because of the study, steelhead appeared above Copco No. 1 for the first time in more than 50 years (*Sacramento Bee* 1970).

5.9 Recreation

The Klamath River area has long been a gathering place for fishing, hunting, and other forms of recreation. Recreationists still engage in bank and boat fishing, hunting, reservoir boating, whitewater boating, camping, sightseeing, swimming, picnicking, waterskiing, viewing scenery and wildlife, mountain biking, hiking, and off-highway vehicle use.

5.9.1 Fishing and Hunting

During the late nineteenth century, fishing and hunting among European American residents of the Upper Klamath River area progressed beyond subsistence-based activities to ones that provided a livelihood for local residents. Among the first of these individuals was Robert Whittle, who established a ferry at present-day Keno in the 1860s and fished and hunted to supply food to Yreka-based miners (Beckham 2006:94). The Klamath River and its tributaries began to draw increasing numbers of recreational anglers from

throughout California and neighboring states. Successful fishing excursions led many to regard the Klamath River basin as the "steelhead capitol of the world (Shelby and Stein 1984:83)." In 1900, Joseph G. Pierce published a booklet promoting the Klamath region's fishing grounds which, he claimed, "taken altogether, for variety, quality, and abundance… [had] scarcely an equal in America for game and fish" (KCHS 1999).

Popular Klamath fishing spots such as Shovel Creek, which flows into the Klamath River 1 mile south of the Oregon border, have captured the imagination of anglers since the turn of the twentieth century, even when access was difficult and accommodations were lacking. A 1909 *San Francisco Sunday Call* article referred to the area as "The Famous Fishing and Hunting Ground of Northern California" and illustrated successful instances of trout fly fishing and hunting with text and photographs (*San Francisco Sunday Call* 1909). As transportation facilities, including railroad, opened the area to visitors and lodging became available, the river maintained is reputation as being "more plentifully stocked with fish than any in California" (Cumming and Dunn 1911:20). The former Chase stage station provided accommodations to those fishing at Spencer Creek, Oregon. The SPRR promoted Klamath River fishing with advertisements for special rates at Klamath County's "fish and outing resorts" (*Evening Herald* 1916d).

In addition to river-based fishing which continues today, the reservoirs such as Copco Lake have provided fishing opportunities. In May 1961, California fishing authorities touted Copco as "the best fresh-water fishing lake in the state," and noted that catch included yellow perch, "a scrappy 'cold water' fish virtually unknown in other California waters" (*Sunset Magazine* 1961). In 1969, Phil Ford, Outdoor Writer at the *San Mateo Times*, recommended Copco Lake for lunker rainbows, silver-side salmon, and black bass. Anglers stopped at Flying "C" Ranch headquarters in Montague, east of Yreka, to check in and rent a boat (Ford 1969). By then, W. H. Clifford of Los Angeles, California, had purchased the land surrounding Copco Lake, and visitors needed permission to fish there (Beckham 2006:89). Throughout the twentieth century, the Klamath River, its reservoirs, and tributaries remained an important source of bank, boat, and fly fishing (Shelby and Stein 1984:83-84; EIS 3.20-7).

In addition to fishing, the Klamath basin has abundant game animal, such as deer, elk, pheasant, grouse, sage-hen, prairie chicken, and rabbit. Waterfowl frequent the marshes surrounding the reservoirs. Copco Lake has provided habitat for heron, crane, duck, eagle, and kingfisher, particularly during the summer (Jenkins 1960).

5.9.2 Klamath Hot Springs (Siskiyou County, California)

Klamath Hot Springs, upriver from present Copco Lake at the confluence of Shovel Creek and the Klamath River, evolved into a world-renowned resort known for its mineral springs and mud baths. Native Americans first gathered at the springs for soaking and fishing, followed by nineteenth-century European trappers. A. M. Johnson homesteaded the land in 1860, and Richard Beswick and his wife purchased it around 1870. A stage station and a small hotel with 10 guest rooms operated at the site. In 1887, Beswick sold the land to the Edson brothers, who built the grand Klamath Hot Springs Hotel. The 75-room resort was constructed in the Second Empire architectural style with "bath house, barber shop, fish-cleaning facility, stage barn, ice house, hydroelectric plant, swimming pool, and landscaped gardens" (PacifiCorp 2004:6-68). The springs'

picturesque environment and reputation for healing turned the resort into one of Klamath Country's most popular recreational attractions.

Visitors arrived at the springs via the SPRR from Klamath Falls or the stage from Ager (Cumming and Dunn 1911:1). The three-story stone hotel and cottages could accommodate 150 guests, who paid $10 to $16 per week (Beckham 2006:170). The resort not only offered "one of the most attractive mineral spring resorts in the State," but excellent fishing and hunting (Beckham 2006:171, quoting Southern Pacific 1905). The *California for the Sportsman* promoted the accommodations at Klamath Hot Springs for anglers and hunters. George Cook and Henry Kerwin guided deer hunting parties along Shovel Creek. Visitors also hunted quail, dove, duck, cougar, and brown bear (Beckham 2006:91; *Covina Argus* 1920). The Edsons provided camping facilities at the mouth of Shovel Creek for those wishing to sleep under the stars (Beckham 2006:169). Famous guests included President Herbert Hoover, novelist Zane Gray, and pilot Amelia Earhart.

After fire destroyed the hotel in 1915, the Edsons built a community dance pavilion atop the stone ruins. The property has passed through several owners, including Copco, which purchased it in 1924 (Beckham 2006:171). Fishing and camping in the hot springs area continued well into the twentieth century (*Herald and News* 1948).

5.9.3 Boating

Recreational boating in the Klamath waterways got a boost at the turn of the twentieth century when steamboat owners began to offer outings. The steamboat *Alma* initiated Sunday excursions in 1901 and the *Winema* in 1905, in addition to regular passenger service (PacifiCorp 2004: Exhibit E: 6-68). Soon, boating enthusiasts were organizing their own excursions. In 1934, the Southern Oregon Boat club constructed improvements at Copco Lake, such as a dock, boat launching driveway, and sanitation facilities, to facilitate boating parties. The club also cleared ground by the shore for picnicking and other riverside activities (*Mail Tribune* 1937).

The development of the KHP created new boating opportunities along the Klamath River. The J.C. Boyle bypass reach, which extends about 4.3 miles from the dam to the powerhouse, provides whitewater boating during spill periods as well as trout fishing and other forms of recreation (PacifiCorp 2004:2-52). Hell's Corner reach extends about 16 miles from J.C. Boyle powerhouse to Copco Lake. The reach's 11-mile segment between the powerhouse and the Oregon border became an Oregon State Scenic Waterway in 1988 and a Scenic River in 1994. In addition to whitewater boating, visitors engage in trout fly-fishing and other forms of riverside recreation (PacifiCorp 2004:2-67).

5.9.4 Day-Trips and Historic Tours

Day trips and historic tours have offered residents and visitors a way to explore the Klamath area's landscape and cultural sites. During the 1940s and 1950s, as automobiles gained popularity, the region's landscape and historic sites drew visitors motoring through the area. Many made the drive from Klamath Falls, along the Klamath River and over Topsy Grade to view the scenery, particularly spring wildflowers and

fall foliage. The trip from Klamath Falls led motorists west along OR 66 through Keno to the now-demolished Klamath River Store where the historic Topsy Grade Road begins. A dirt road descending to the riverbank passed Big Bend, Frain Ranch, an old stage station, and the Pokegama log chute, with several picnic sites on the way (*Herald and News* 1957a).

Local historical societies have long sponsored tours of the surrounding area. In 1948, local historians Devere and Helen Helfrich escorted 40 passengers in nine cars on such an excursion. The group, composed mostly of Klamath and Siskiyou Counties historical societies members, journeyed from the courthouse in Klamath Falls, Oregon, along the historic Applegate Trail route to Hornbrook, California. They visited historic ranches and stage stations along the way, as well as log chute and mill sites (*Herald and News* 1948).

This type of history-based tourism has continued to be a popular activity. In 1957, local historical society members and guests took a field trip to Pokegama's logging camp for a lecture by local historians (*Herald and News* 1957b). In June 1976, a wagon train re-enactment group traced the Applegate Trail across the Southern Cascades. On July 24, 1994, the historical society organized a drive from Keno along Highway 26 to Fall Creek, Copco Lake, and east along Topsy Road to the Way Cemetery. The group returned to Ager via Klamath Hot Springs (Beckham 2006:172). There have also been "Horse and Buggy Tours" across part of the Pokegama Plateau, in which participants visited historic sites, and mountain bike trips with the BLM to Topsy School, Robbers' Rock, and Frain Ranch (Beckham 2006:173-174).

The Project area contains 42 recreation sites, mostly at the reservoirs and along the Klamath River (PacifiCorp 2004: Recreation Resources FTR: 4-15). The area also offers national forests, national and state parks, national monuments, National Wildlife Refuges, and the Klamath River Wild and Scenic River. Camping, a popular activity in the river basin, generally occurs in conjunction with fishing and hunting. Camping opportunities along the river and reservoirs expanded during the 1960s, after construction of J.C. Boyle and Iron Gate Dams, as Pacific Power completed a series of improved campgrounds.

Chapter 6: References

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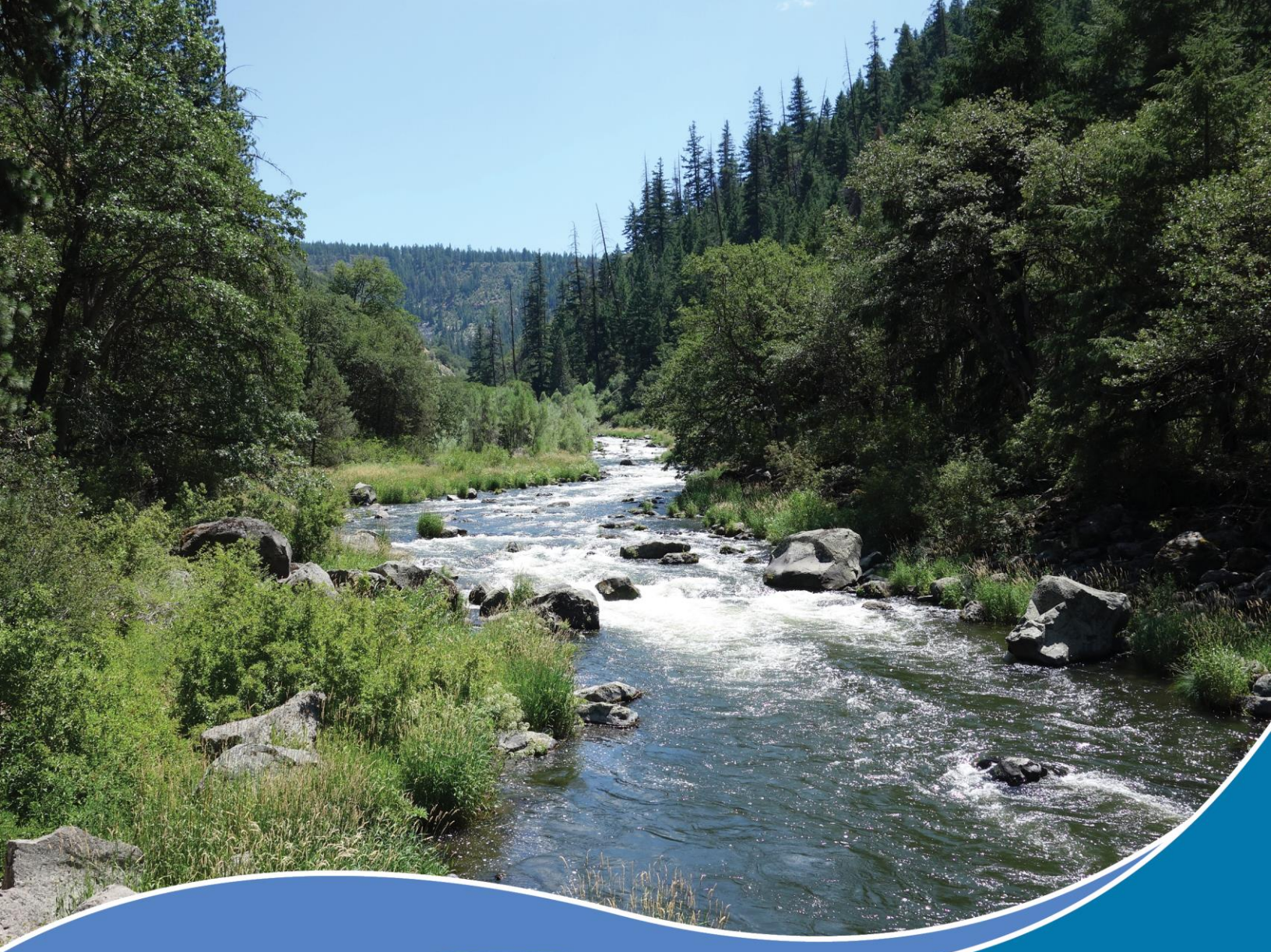
APPENDIX C MONITORING AND INADVERTENT DISCOVERY PLAN



Lower Klamath Project

Archaeological Monitoring and Inadvertent Discovery Plan

KLAMATH RIVER RENEWAL CORPORATION

February 2021

Prepared for:

Klamath River Renewal Corporation
Federal Energy Regulatory Commission
Lower Klamath Project Cultural Resources Working Group

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Acronyms and Abbreviations

AB52	California Assembly Bill 52
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
BLM	Bureau of Land Management
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historic Resources Inventory System
CIS	Commission on Indian Services
CRS	Cultural Resource Specialist
CRWG	Cultural Resources Working Group
EIR	Environmental Impact Report
FCH	Fall Creek Hatchery
FERC	Federal Energy Regulatory Commission
HPMP	Historic Properties Management Plan
IDP	Inadvertent Discovery Plan
IEV	invasive exotic vegetation
IGH	Iron Gate Hatchery
KHSA	Klamath Hydroelectric Settlement Agreement
KRRC	Klamath River Renewal Corporation
LVPP	Looting and Vandalism Prevention Plan
MLD	Most Likely Descendant
MIDP	Monitoring and Inadvertent Discovery Plan
MOA	Memorandum of Agreement
NAGPRA	Native American Graves and Repatriation Act
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
PRC	Public Resources Code
RM	river mile
SHPO	State Historic Preservation Officer
TCP	Traditional Cultural Property
TCR	Tribal Cultural Resource
USFS	U.S. Forest Service
U.S.C.	United States Code

KEY DEFINITIONS

This Monitoring and Inadvertent Discovery Plan (MIDP) uses several terms to describe the location of the Proposed Action and cultural resources. The following definitions describe these terms and their uses in this document, which are intended to be consistent with federal and state laws.

Archaeological isolate: An archaeological isolate in Oregon is defined as one (1) to nine (9) artifacts discovered in a location that appears to reflect a single event, loci, or activity. The presence of any feature advances the find into a site status. Similar guidelines will be followed in California, where a strict written policy is not provided. Alternatively, on lands managed by federal agencies, the policies of those agencies will be followed.

Archaeological object: The federal definition of an object is a material thing of functional, aesthetic, cultural, historical, or scientific value that may be, by nature or design, movable yet related to a specific setting or environment (36 CFR § 60.3). The State of Oregon defines an object as comprising the physical evidence of an indigenous and subsequent culture, including material remains of past human life including monuments, symbols, tools, facilities, and technological by-products, that is at least 75 years old[1] (Oregon Revised Statutes [ORS] 192.005). California defines an object as a manifestation primarily artistic in nature, or relatively small in scale and simply constructed. Although it may be movable by nature or design, an object must be associated with a specific setting or environment. The "object" should be in a setting appropriate to its significant historical use, role, or character; for example, a fountain or boundary marker (14 California Code of Regulations [CCR] Appendix A).

Archaeological site: The federal definition of a site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself maintains historical or archaeological value regardless of the value of any existing structure (36 CFR § 60.3). The term "archaeological site" refers to those sites that are eligible for or are listed on the NRHP (historic properties) as well as those that do not qualify for the NRHP. Oregon defines a site as 10 or more artifacts (including lithic debitage) or a feature likely to have been generated by patterned cultural activity within a surface area reasonable to that activity (a form of density measure), that is at least 75 years old[2] (ORS 358.905). California defines an archaeological site as a bounded area of a resource containing archaeological deposits or features defined in part by the character and location of such deposits or features (14 CCR Appendix A).

Area of Potential Effects (APE): The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist (36 CFR § 800.16(d)). The Proposed Action's APE is primarily established as a 0.5-mile-wide area extending from the shoreline of each side of the Klamath River from the upper reach of the J.C. Boyle Reservoir to the river mouth at the Pacific Ocean. However, around the reservoirs where topography is more open and rolling, the APE extends at least an additional 0.5 mile to create

[1] Because Section 106 of the NHPA applies, this Project will use the NRHP guideline of 50 years.
[2] Because Section 106 of the NHPA applies, this Project will use the NRHP guideline of 50 years.

a minimum 1-mile-wide area in these locations for addressing potential for indirect effects primarily related to potential viewshed alterations from reservoir removal. Due to the potential for landscape-level visual changes, the APE around each reservoir may extend beyond the 1-mile-wide area to include areas that are within sightlines of the reservoirs and ADI.

Associated funerary object: Objects reasonably believed to have been placed with human remains as part of a death rite or ceremony. The use of the adjective "associated" refers to the fact that these items retain their association with the human remains with which they were found and that these human remains can be located. It applies to all objects that are stored together as well as objects for which adequate records exist permitting a reasonable reassociation between the funerary objects and the human remains that they were buried with (25 U.S.C. 3001 (3)(A)).

Burial site: Any natural or prepared physical location, whether originally below, on, or above the surface of the earth, into which as part of the death rite or ceremony of a culture, individual human remains are deposited (25 U.S.C. § 3001 (1); ORS 358.905).

Construction area: Areas where construction activities will occur in the Project area.

Construction monitoring: Direct oversight of ground-disturbing activities by a qualified monitor/tribal advisor within areas where there is a high potential for inadvertent discoveries, and/or where historic properties are known to exist and must be avoided.

Cultural patrimony: An object having ongoing historical, traditional, or cultural importance central to the Native American group or culture itself, rather than property owned by an individual Native American, and which, therefore, cannot be alienated, appropriated, or conveyed by any individual regardless of whether or not the individual is a member of the Indian tribe or Native Hawaiian organization and such object shall have been considered inalienable by such Native American group at the time the object was separated from such group (25 USC § 3001 (3)(D)).

Cultural resources: Locations of human activity, occupation, or use. Cultural resources are not defined in federal law but include archaeological, historic, or architectural sites, structures, or places with important public and scientific uses and locations of traditional cultural or religious importance to specific social or cultural groups

Definite Decommissioning Plan: The Project's Definite Decommissioning Plan (2020) details removal limits construction access, staging and disposal sites, demolition methods, imported materials, and waste disposal for each of the four dam facilities. Other key components include measures to reduce effects to aquatic and terrestrial resources, road and bridge improvements, relocation of the City of Yreka's pipeline across Iron Gate Reservoir and associated diversion facility improvements, demolition of various recreation facilities adjacent to the reservoirs, recreation improvements, downstream flood control improvements, groundwater system improvements, water supply improvements, fish hatchery modification and improvements, and measures to protect identified historic, cultural, and tribal resources.

Footprint: The geographic limits of work as presented in the Definite Decommissioning Plan (KRRC 2020A). In addition, the project footprint extends below Iron Gate Dam to Humbug Creek, in California.

Historic property: This term is defined in 36 CFR § 800.16(l)(1) as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP…" The term "includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to and Indian tribe or Native Hawaiian organization and that meet the National Register criteria."

Historic Properties Management Plan (HPMP): As defined by FERC, an HPMP is a plan for considering and managing effects on historic properties of activities associated with constructing, operating, and maintaining hydropower projects.

Human remains: The States of California and Oregon define the term human remains or "remains" as the body of a deceased person, regardless of its stage of decomposition, and cremated remains (California Code § 7001; ORS 97.010. The regulations of the Native American Graves and Repatriation Act (NAGPRA; Public Law 101-601; 25 U.S.C. §§ 3001-3013) define human remains as the physical remains of the body of a person of Native American ancestry. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets. For the purposes of determining cultural affiliation, human remains incorporated into a funerary object, sacred object, or object of cultural patrimony must be considered as part of that item (43 CFR § 10.2 (d)(1)).

Inadvertent discovery: Any discoveries of human skeletal remains, artifacts, archaeological sites, or any other cultural resources during ground-disturbing or monitoring activities associated with the Proposed Action. The Section 106 process addresses "post-review discoveries" under 36 CFR 800.13. The Native American Graves Protection and Repatriation Regulations (43 CFR § 10.2 (g)(4)) define an inadvertent discovery as the unanticipated encounter or detection of human remains, funerary objects, sacred objects, or objects of cultural patrimony found under or on the surface of federal or tribal lands pursuant to Section 3 (d) of NAGPRA.

Limits of work: The physical extent of on-the-ground construction activities (i.e., demolition and removal) and restoration activities proposed as part of the Proposed Action.

Looted: A looted antiquity is one recovered from the ground in an unscientific manner. The antiquity is decontextualized, and physical integrity is jeopardized (Gerstenblith 2016). The term "looting" is applied to illegal excavation and artifact theft at archaeological sites (USFS 2015).

Memorandum of Agreement (MOA): An agreement document between federal agencies and others stipulating how adverse effects of federal actions on historic properties will be resolved under Section 106 and its governing regulations.

Parcel B lands: Project lands subject to transfer by KRRC to the States or to a designated third-party designee once KRRC has met all surrender license conditions.

Proposed Action: Refers to the Lower Klamath Project. KRRC proposes to remove four hydroelectric developments (J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate), along with appurtenant facilities that are located on the Klamath River approximately 200 miles from the Pacific Ocean in the States of Oregon and California. The Proposed Action consists of measures to remove the four developments, remediate and restore the reservoir sites, avoid or minimize adverse impacts downstream, and assure completion of the Proposed Action with committed funds. Proposed Action stages outlined in the Proposed Action's Definite Decommissioning Plan (2020) include (1) site preparation and construction, (2) reservoir and post-reservoir drawdown, (3) facilities decommissioning, (4) reservoir area management following drawdown, and (5) other key components.

Project area: The area defined by the boundaries of the Proposed Action. Such boundaries encompass lands and waters between the upper reach of J.C. Boyle Reservoir (RM 234.1) and the toe of Iron Gate Dam (RM 193.1). This definition of Project area is used for purposes of the Definite Decommissioning Plan. It may be revised for purposes of environmental review under the National Environmental Policy Act, the CEQA, or other applicable laws, in future procedures.

Sacred object: Specific ceremonial objects which are needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present-day adherents (25 U.S.C. 3001 (3)(C)).

Site condition monitoring: Repeat, periodic site inspections to an individual archaeological site to assess changes over time to site integrity as a result of the Proposed Action.

Traditional Cultural Property (TCP): A property that is eligible for inclusion in the NRHP based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. TCPs are rooted in a traditional community's history and are important in maintaining the continuing cultural identity of the community.

Tribal Cultural Resource (TCR): TCRs are defined in California PRC § 21074(1)(a) as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the affected tribe, and that is: listed or eligible for listing in the national or California Register of Historical Resources, or in a local register of historical resources; or a resource that the lead agency determines is a TCR. California Native American tribes traditionally and culturally affiliated with the geographic area of a project may have expertise concerning their TCRs (PRC § 21080.3.1).

Unassociated funerary object: Items that "…as a part of a death rite or ceremony of a culture are reasonably believed to have been placed with individual human remains either at the time of death or later…", but for which the human remains are not in the possession or control of the museum or Federal agency. These objects also must meet one of two further conditions. They must be identified by a preponderance of the evidence as either "… related to specific individuals or families or to known human remains…" or "…as having been removed from a specific burial site of an individual culturally affiliated with a particular Indian tribe (25 U.S.C. 3001 (3)(B)).

Vandalism: The willful destruction or spoiling of archaeological and historic sites, including graffiti, defacement, demolition, removal, and other criminal damage (USFS 2015).

Chapter 1: Introduction

1. INTRODUCTION

1.1 Purpose

The Klamath River Renewal Corporation (KRRC) proposes to remove four hydroelectric developments (J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate), along with appurtenant facilities that are located on the Klamath River approximately 200 miles from the Pacific Ocean in the states of Oregon and California. The Lower Klamath Project (hereafter Project or Proposed Action; Federal Energy Regulatory Commission [FERC] Project No. 14803) will achieve a free-flowing condition and volitional fish passage in river reaches currently occupied by these developments (river mile [RM] 193.1 to 234.1), which are currently owned and operated by PacifiCorp. Dam removal will be achieved through a FERC license transfer and surrender process.

The purpose of this Monitoring and Inadvertent Discovery Plan (MIDP) is to provide procedures and guidance to be followed during archaeological monitoring and after an inadvertent (or "post-review") discovery of archaeological resources or human remains. This MIDP is a management tool being implemented by KRRC and is an attachment to the Historic Properties Management Plan (HPMP). The MIDP supports potential requirements of FERC's License Surrender Order issued under the agency's authority pursuant to the Federal Power Act, follows the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106, and supports the Proposed Action's compliance with federal and state laws.

KRRC will conduct two types of monitoring: construction monitoring and site condition monitoring. "Construction monitoring" refers to direct oversight of ground-disturbing activities by a qualified monitor/tribal advisor within areas where there is a high potential for inadvertent discoveries, and/or where historic properties are known to exist and must be avoided. "Site condition monitoring" refers to repeat, periodic site inspections to an individual archaeological site to assess changes over time to site integrity because of the Proposed Action. These methods of monitoring achieve different goals and are therefore differentiated in this plan, although many of the response procedures will be the same.

1.2 Project Overview

PacifiCorp, through related cultural resources inventories conducted for the previous Klamath Hydroelectric Project (FERC Project No. 2082) relicensing effort (PacifiCorp 2004) and current cultural resources inventories being completed by KRRC, has taken steps to identify archaeological sites that are considered eligible or potentially eligible (unevaluated) for listing in the National Register of Historic Places (NRHP). These are referred to as "historic properties." The Proposed Action has the potential to affect archaeological historic properties, including both known resources and other unknown resources that may be discovered during implementation of the Proposed Action.

Ground disturbance caused by construction equipment, erosion or landslip resulting from reservoir drawdown, looting and vandalism or unauthorized excavation by the public, and unintentional

disturbance caused by unauthorized recreational uses are just some of the potential impacts that could adversely affect archaeological historic properties. A Memorandum of Agreement (MOA) is being executed among consulting parties for the Project and stipulates the implementation of a Historic Properties Management Plan (HPMP) to guide the Project's compliance with Section 106 of the NHPA. KRRC is developing the HPMP to reduce, avoid, and minimize impacts to historic properties (AECOM Technical Services, Inc. [AECOM] 2020a). This MIDP supports the HPMP by providing procedures for archaeological monitoring and for responding to inadvertent discoveries.

The HPMP provides more detail on decommissioning actions, cultural resource regulations, and information on historic properties affected by the Proposed Action.

1.3 Plan Term

The MIDP commences upon approval by FERC and the Oregon and California State Historic Preservation Officers (SHPOs), after FERC issues the license surrender order. The MIDP is applicable until FERC terminates the license.

1.4 Project Location

The Lower Klamath Project area is located on the upper Klamath River in Klamath County, Oregon (south-central Oregon) and Siskiyou County, California (north-central California). The nearest principal cities are Klamath Falls, Oregon, located about 15 miles northeast of the upstream end of the Project area; Medford, Oregon, 45 miles northwest of the downstream end of the Project area; and Yreka, California, 20 miles southwest of the downstream end of the Project area. Figure 1-1 is a map of the Project area.

The four hydroelectric developments that compose the Lower Klamath Project are the J.C. Boyle, Copco, and Iron Gate reservoirs. J.C. Boyle is a 350- acre pool located in Townships 39 and 40 South, Range 7 East, Klamath County, Oregon. Copco is a 972-acre pool located 22 river miles downstream of the latter in Township 48 North, Range 4 West, Siskiyou County, California. Iron Gate is also located in California, approximately 2 miles downstream of Copco Dam. Iron Gate reservoir is 942 acres within Townships 47 and 48 North, Range 5 West. The three pools have flooded extensive portions of the Klamath River channel, its floodplain, and canyon. The river run segment begins at the Oregon–California border and continues 6 miles to the head of Copco Reservoir.

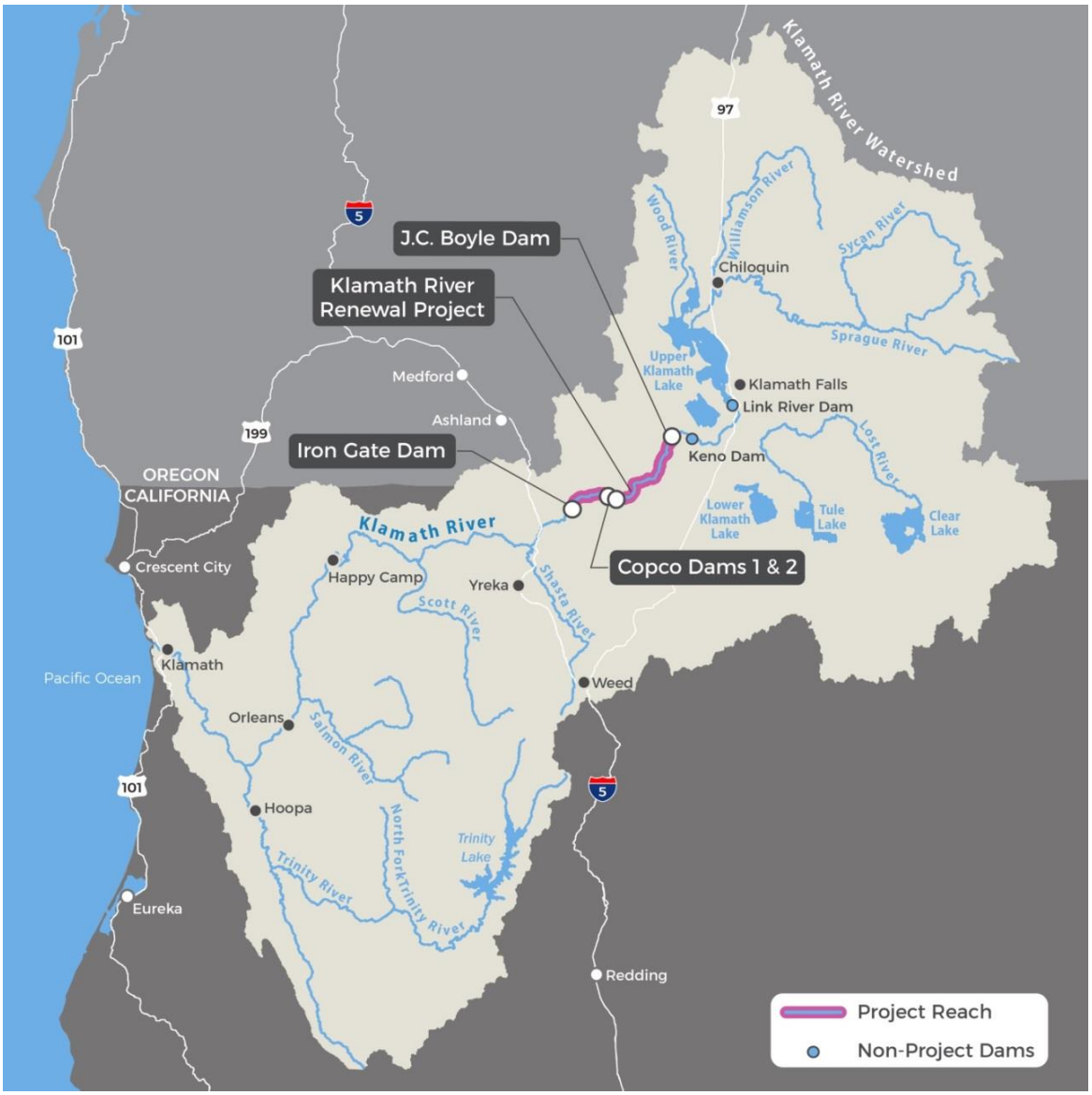


Figure 1-1: Klamath Basin watershed and Project facility locations.

1.5 Land Ownership and Plan Applicability

The Proposed Action will occur primarily within private lands, including those identified as "Parcel B lands" in the Klamath Hydroelectric Settlement Agreement (KHSA). The process by which land will be transferred is outlined in the KHSA Section 7.6.4. First, PacifiCorp will transfer Parcel B lands to KRRC before facilities removal begins. PacifiCorp will continue to operate and maintain the proposed Lower Klamath Project and will assume the financial and legal liabilities for the developments pending surrender of the transferred license. However, KRRC alone will remove the dams. Once KRRC has completed facilities removal and all surrender conditions have been satisfied, KRRC will transfer ownership of these lands to the respective States or to a designated third-party transferee.

The Area of Potential Effects (APE) is described in the HPMP. Within the APE, the project footprint corresponding to limits of work includes 4,755.16 acres (KRRC 2020b). KRRC will own and manage 2,870.74 acres of Parcel B lands, which account for approximately 60.4 percent of the Project footprint, including the land containing most of the powerhouses; portions of the transmission lines, conduits, canals, and dam facilities; and land underlying the reservoirs, Klamath River, and tributary streams. PacifiCorp will retain ownership of Fall Creek lands and other lands, totaling approximately 106 acres (2.2 percent). Approximately 304.79 acres (6.4 percent) are federally owned: portions of the J.C. Boyle canal and the entire powerhouse as well as portions of Iron Gate Reservoir are on Bureau of Land Management (BLM) land (253.8 acres; 5.3 percent), while the United States Forest Service (USFS) administers lands (50.99 acres, 1.1 percent) that fall within the revised 100-year floodplain below Iron Gate Dam (exclusive of Parcel B lands). Private ownership by others accounts for 1473.5 acres (31 percent). No state lands are included.

Lands situated below the Iron Gate Dam are generally held by private interests but also include parcels managed by the U.S. Bureau of Indian Affairs (BIA) and included within the reservation boundaries of the Yurok Tribe of the Yurok Reservation, Hoopa Valley Tribe, Quartz Valley Indian Tribe, and Resighini Rancheria. The Project also includes lands held by the BIA in Trust for the Karuk Tribe in addition to lands held in fee-simple status by the Karuk Tribe.

This MIDP applies to private lands owned by KRRC and PacifiCorp, which account for the majority of the Proposed Action's project footprint. The MIDP is not applicable to federal and tribal lands.

Figure 1-2 depicts land ownership including locations of Parcel B lands. Refer to the HPMP for additional information about the APE.

1.6 Document Organization

This MIDP has been prepared as an attachment to the HPMP. Chapter 1 of the document provides an overview of the Project, including a description of Project activities.

Chapter 2 describes the statutory and regulatory context as it applies to inadvertent discoveries.

Chapter 3 describes the roles and responsibilities of the individuals and organizations who will implement the procedures in this MIDP, as well as qualifications and training requirements.

Chapter 4 provides the methods that KRRC will follow for construction monitoring, which is monitoring that will occur during ground-disturbing construction activities and may lead to inadvertent discoveries of new resources.

Chapter 5 summarizes the methods that KRRC will follow for site condition monitoring, which involves repeat site inspections of documented historic properties to identify potential impacts caused by the Project.

Chapter 6 describes the Project approach to recordation and documentation resulting from monitoring.

Chapter 7 lists protocol KRRC will follow in the event of an archaeological discovery, including assessment and treatment of such discoveries.

Chapter 8 lists protocol KRRC will follow in the event of a human remains discovery.

Chapter 9 describes KRRC's approach to collection, curation, and permitting based on land ownership.

Chapter 10 provides current contact information for those parties who may need to be contacted under this MIDP.

Chapter 11 lists the references cited.

Chapter 12 list the preparers of this report and their qualifications.

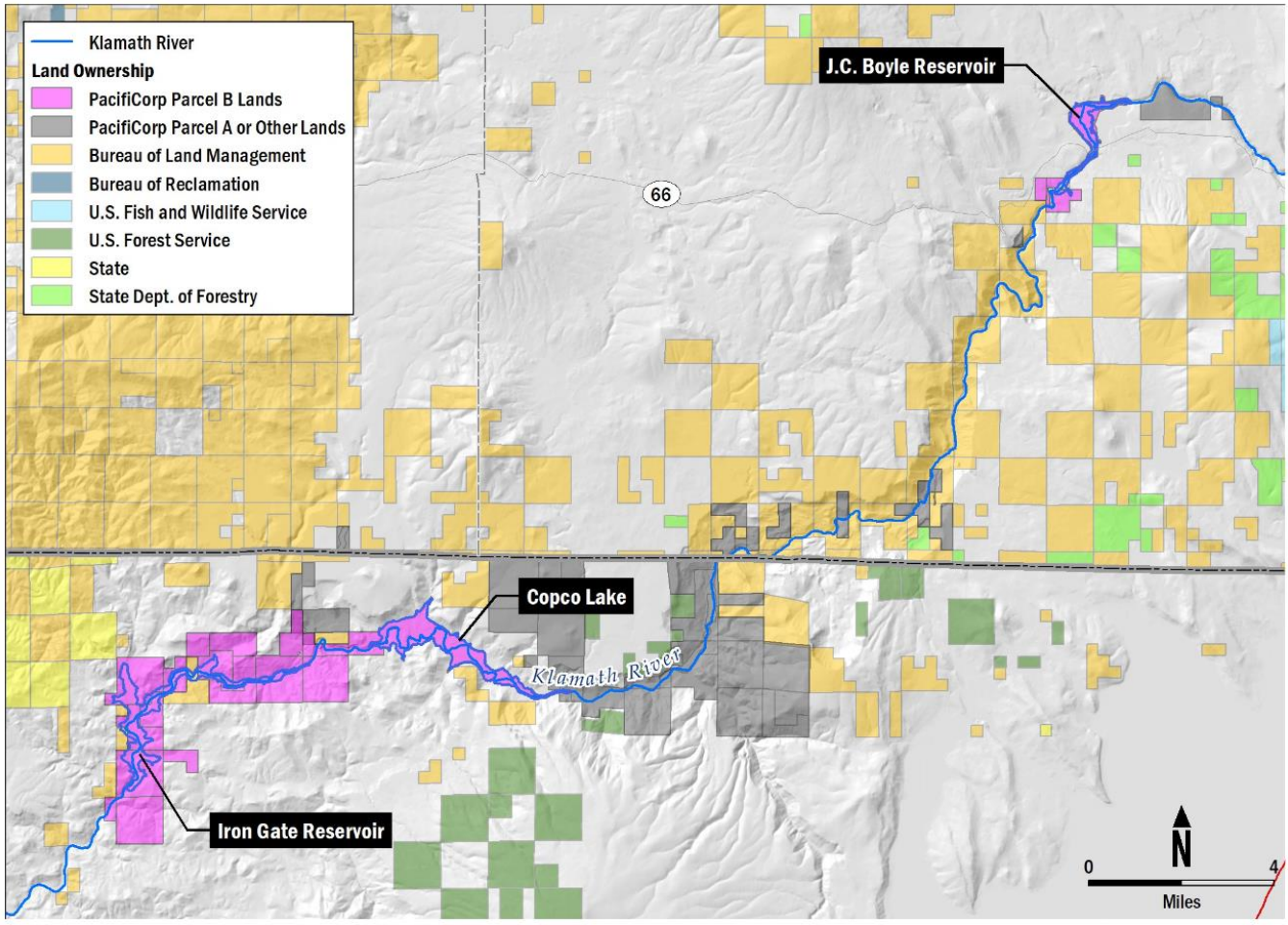


Figure 1-2: Map depicting land ownership, including Parcel B lands.

Chapter 2: Statutory and Regulatory Context

2. STATUTORY AND REGULATORY CONTEXT

Cultural resources are protected by federal, state, local, and tribal laws, regulations, guidelines, and customs. The purpose of these laws is to protect and manage cultural resource locations and human remains, including those that may be accidentally or "inadvertently" discovered as a result of construction or other ground-disturbing activities.

2.1 Laws and Land Ownership

Applicable laws and penalties are based in part on land ownership. While federal law is consistently applied across the nation, state, local, and tribal law differs from place to place.

Work to be conducted for the Lower Klamath Project will occur primarily on private lands and fall within the States of California and Oregon. State laws and regulations apply to these private lands. States have authority for state-owned lands and private lands (except for the trafficking provisions of federal acts).

Federal laws, regulations, and guidance apply to portions of the Project area that intersect with federal ownership by BLM and USFS (Figure 1-2). Agency-specific instructions apply to federal and tribal lands that will guide compliance with federal laws and regulations, particularly the Archaeological Resources Protection Act and Native American Graves and Repatriation Act (NAGPRA; Public Law 101-601; 25 U.S.C. §§ 3001-3013), in the event cultural resources and/or human remains are encountered on these lands.

Select state and federal laws with applicability to inadvertent discoveries are presented in Table 2.-1. Refer to the HPMP for other details about these and other cultural resources laws and regulations.

2.2 Regulations for Inadvertent Discoveries of Archaeological Resources

2.2.1 Federal Land

Portions of the Proposed Action fall within lands managed by the BLM or the USFS. Federal laws, regulations, and guidance regarding inadvertent discoveries on BLM and USFS land apply at these locations. The Archaeological Resources Protection Act of 1979 (ARPA) (Public Law 96–95 as amended, 93 Stat. 721, codified at 16 U.S.C. §§ 470aa– 470mm) was enacted to provide more effective law enforcement to protect public archeological sites. ARPA provides more detailed descriptions of the prohibited activities over the Antiquities Act and larger civil and criminal penalties for convicted violators. The Act describes the range of prohibited actions, including damage or

defacement in addition to unpermitted excavation or removal. Selling, purchasing, and other trafficking activities whether within the United States or internationally are also prohibited.

The NHPA (16 U.S.C. 470 et seq.) was enacted to preserve historical and archaeological sites. The NHPA created the NRHP, the list of National Historic Landmarks, and the State Historic Preservation Offices (SHPOs). The law was amended in 1992 to allow federally recognized Indian tribes to take on formal responsibility for the preservation of significant historic properties on tribal lands. The Act also requires federal agencies to evaluate the impact of all federally funded or permitted projects on historic properties through the Section 106 Review process (36CFR 800). The Section 106 process addresses post-review discoveries under 36 CFR 800.13. This allows for subsequent discoveries to be addressed using a programmatic agreement (PA) to govern the actions to be taken when historic properties are discovered during implementation of an undertaking (CFR 800.13(a)). KRRC will adhere to a PA for this Project. However, where no agreements are in place, the agency official must determine actions to resolve adverse effects and notify the SHPO, any Indian tribe that might attach religious and cultural significance to the affected property, and the ACHP, within 48 hours of the discovery (CFR 800.13(b)(3)). The SHPO, Indian tribes, and ACHP shall respond within 48 hours of the notification. For post-review discoveries, the federal agency, in consultation with the SHPO/THPO, may assume a newly discovered property to be eligible for the NRHP for purposes of Section 106 (CFR 800.13(c)).

2.2.2 California

California has several laws and regulations that protect Native American heritage. While the treatment and disposition of native American human remains and associated grave goods are addressed by California codes, other native American cultural items or artifacts are not, and culturally affiliated tribes should be consulted. For resources that may be discovered on private land and public parks or places, Penal Code 6221/2 (destruction, defacement of objects of archaeological or historical interest) states that every person who willfully injures or destroys any object of archaeological or historical interest or value is guilty of a misdemeanor. On California public land, under Public Resources Code (PRC) Section 5097.5 no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands. Violation is subject to a misdemeanor. Under PRC Section 5097.99 (Possession of Native American Artifacts or Human Remains), knowingly or willfully obtaining or possessing native American artifacts or human remains taken from a grave or cairn on or after January 1, 1984, unless authorized under PRC sections 5097.94 or 5097.98, is a felony. Additional laws and regulations apply to human remains and associated grave artifacts, as discussed in the following section.

2.2.3 Oregon

Several Oregon statutes and regulations (ORS 97.740, ORS 358.905-358.961, ORS 390.235, Oregon Administrative Rules (OAR) 736-051-0090) protect significant archaeological sites on non-federal public (state, county, city) and private lands. Significance is based on the potential of an

archaeological site to be eligible for inclusion on the NRHP, which means the site possesses important archaeological information on a local, regional, or national level. Under Oregon law, an archaeological site can be determined significant in writing by a Native American tribe. Archaeological sites are considered significant until their eligibility for the NRHP can be evaluated. Under state law, damage to archaeological sites is a Class B Misdemeanor. Disturbance of Native American human remains or associated funerary objects is considered a Class C Felony. The artifacts from a site on private lands are also the property of the landowner, except for Native American human remains, burials, associated funerary objects, sacred objects, and objects of cultural patrimony (ORS 97.740).

2.3 Regulations for Inadvertent Discoveries of Human Remains

2.3.1 Federal Land

NAGPRA (25 U.S.C. §§ 3001 et seq.) and its implementing regulations (43 CFR § 10), require that any person who inadvertently discovers Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony on federal lands must notify the responsible federal official. The responsible federal official then has consultation obligations to follow consistent with NAGPRA requirements and internal agency protocols. These protocols also typically involve immediate work stoppage, initiation of consultation with the Project proponent and tribes as soon as possible but no later than 3 working days (43 CFR § 10.4 (d)(1)), and the development of recovery plans, all of which align with and can be integrated into the protocols outlined in this MIDP. Under NAGPRA, the activity that resulted in the inadvertent discovery may resume 30 days after certification by the notified federal agency of receipt of the written confirmation of notification of inadvertent discovery if the resumption of the activity is otherwise lawful. The activity may also resume, if otherwise lawful, at any time that a written, binding agreement is executed between the federal agency and the affiliated Indian tribes or Native Hawaiian organizations that adopts a recovery plan for the excavation or removal of the human remains, funerary objects, sacred objects, or objects of cultural patrimony following 43 CFR § 10.3 (b)(1) of these regulations. The disposition of all human remains, funerary objects, sacred objects, or objects of cultural patrimony must be carried out following 43 CFR § 10.6.

2.3.2 California

If human remains are found on private or state lands in California, the county coroner shall be notified in accordance with the procedures stated in California Health and Safety Code § 7050.5(b) to the extent feasible, and KRRC will circulate a letter report to affected tribes, the Native American Heritage Commission (NAHC), and other appropriate land management agencies, within 72 hours of the discovery. When possible, the affected tribe shall be notified and allowed, pursuant to PRC § 5097.98(a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects should be treated and reinterred of with appropriate dignity. The tribe shall complete its inspection and make treatment recommendations within 48 hours of gaining access to the site. The tribe shall have the final determination as to the disposition and

treatment of human remains and funerary objects. Said determination may include avoidance of the human remains, reburial on-site, or reburial on tribal or other lands that will not be disturbed in the future.

If the coroner determines that the remains are Native American, not subject to the coroner's authority, and are located on private or state land, the coroner has 24 hours to notify the NAHC of the determination. The NAHC is required under PRC § 5097.98 to identify a Most Likely Descendant (MLD), notify that person, and request that they inspect the remains and make recommendations for treatment and/or disposition. Work will be suspended in the area of the find until the land manager or lead agency, as applicable, approves the proposed mitigation and treatment of the human remains. If the NAHC is unable to identify a descendent, or the descendent identified fails to make a recommendation, or the recommendation of the MLD is rejected and the mediation provided for in PRC § 5097.94(k) fails to provide measures acceptable to the landowner, the human remains and associated burial items will be reburied, with appropriate dignity, on the property in a location not subject to further subsurface disturbance.

The tribe may wish to rebury human remains and funerary objects or ceremonial and cultural items on or near the site of their discovery, in an area that will not be subject to future disturbances. Reburial of human remains shall be accomplished in compliance with PRC §§ 5097.98(a) and (b). Unless otherwise required by law, the site of any reburial of Native American human remains will not be governed by public disclosure requirements of the California Public Records Act, California Government Code § 6250 et seq. The Medical Examiner shall withhold public disclosure of information related to such reburial pursuant to the specific exemption set forth in California Government Code § 6254(r). The location of the reburial will be recorded with the California Historic Resources Inventory System ("CHRIS") on a form that is acceptable to the CHRIS center. A clause regarding the confidentiality of site information will be attached to the title on the property.

2.3.3 Oregon

Native American ancestral remains, funerary objects, sacred objects, and objects of cultural patrimony associated with Oregon tribes are protected under Oregon state law, including the potential to assess criminal penalties (ORS 97.740-.760 & 358.905-.961). The laws recognize and codify the tribes' rights in the decision-making process regarding ancestral remains and associated objects. Therefore, both the discovered ancestral remains and their associated objects should be treated in a sensitive and respectful manner by all parties involved.

If human remains that are inadvertently discovered are not clearly modern, then there is high probability that the remains are Native American and therefore ORS 97.745(4) applies, which requires immediate notification to State Police, the SHPO, Commission on Indian Services (CIS), and all appropriate Native American tribes. To determine who the "appropriate Native American tribe" is, KRRC shall contact the Legislative CIS within 24 hours (or the next business day). To determine whether the human remains are Native American, KRRC shall contact the appropriate Native American tribes (as defined by the CIS) at the initial discovery. There may be more than one appropriate Native American tribe to be contacted.

Table 2-1: Select Federal and State Laws and Regulations Applicable to Archaeological and Human Remains Discoveries

Jurisdiction	Law/Statute	Summary of Regulations	Penalties for Violation
Federal	Archaeological Resource Protection Act (ARPA) of 1979	Public Law 96–95 as amended, 93 Stat. 721, codified at 16 U.S.C. §§ 470aa– 470mm, was enacted to provide more effective law enforcement to protect public archeological sites. Prohibited actions include damage or defacement in addition to unpermitted excavation or removal. Selling, purchasing, and other trafficking activities are also prohibited. ARPA establishes a permit process on public and Native American lands. Site location information is confidential.	Violations carry misdemeanor to felony criminal penalties including a maximum fine of $10,000 and 1 year imprisonment (for damages less than $500), up to a $20,000 fine and 2 years imprisonment (for damages over $500), and up to a $100,000 fine and 5 years imprisonment for a second violation (16 United States Code § 470ee(d)).
Federal	National Historic Preservation Act (NHPA)	The NHPA (16 U.S.C. 470 et seq.) was enacted to preserve historical and archaeological sites. The Section 106 Review process (36CFR 800) addresses post-review discoveries under 36 CFR 800.13. This allows for subsequent discoveries to be addressed using a programmatic agreement (PA) when historic properties are discovered during implementation of an undertaking (CFR 800.13(a)). Where no agreements are in place, the agency official must determine actions to resolve adverse effects and notify the SHPO, any Indian tribe that might attach religious and cultural significance to the affected property, and the ACHP, within 48 hours of the discovery (CFR 800.13(b)(3)). The SHPO, Indian tribes, and ACHP shall respond within 48 hours of the notification. For post-review discoveries, the federal agency, in consultation with the SHPO/THPO, may assume a newly-discovered property to be eligible for the NRHP for purposes of Section 106 (CFR 800.13(c)).	-

Jurisdiction	Law/Statute	Summary of Regulations	Penalties for Violation
Federal	Native American Graves Protection and Repatriation Act (NAGPRA) of 1990	NAGPRA (25 U.S.C. §§ 3001 et seq.) and its implementing regulations (43 CFR § 10) require that any person who inadvertently discovers Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony on federal lands must notify the responsible federal official. Protocols typically involve immediate work stoppage, consultation with the Project proponent and tribes no later than 3 working days (43 CFR § 10.4 (d)(1)), and the development of recovery plans. The activity that resulted in the inadvertent discovery may resume 30 days after certification by the notified federal agency, or at any time that a written, binding agreement is executed between the federal agency and the affiliated Indian tribes that adopts a recovery plan following 43 CFR § 10.3 (b)(1). The disposition of all human remains, funerary objects, sacred objects, or objects of cultural patrimony must be carried out following 43 CFR § 10.6.	Penalties for a first offense may reach 12 months imprisonment and a $100,000 fine.
Federal	36 Code of Federal Regulations § 261 (U.S. Forest Service land)	36 C.F.R. § 261 prohibits damaging any natural feature or other property of the United States as well as removing any natural feature or other property of the United States and digging in, excavating, disturbing, injuring, destroying, or in any way damaging any prehistoric, historic, or archaeological resource, structure, site, artifact, or property or removing any prehistoric, historic, or archaeological resource, structure, site, artifact, or property.	Violations of these prohibitions are punishable by a fine of not more than $5,000 or imprisonment of not more than 6 months or both.
State of California	Archaeological Sites Removal or Destruction; prohibition (Public Resources Code [PRC] Section 5097.5)	No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.	Violation is subject to a misdemeanor charge punishable by a fine not exceeding $10,000, or by imprisonment, or both.
State of California	Discovery of Native American Remains (PRC 5097.98)	Provides for notification to most likely descendant Native Americans from the deceased native American. The descendants shall complete their inspection and state preferences for treatment within 48 hours of being granted access to the site. The landowner shall ensure that the immediate vicinity of the discovery is not further disturbed by development activity until after discussion and conferring with descendants.	-

Jurisdiction	Law/Statute	Summary of Regulations	Penalties for Violation
State of California	Possession of Native American Grave Goods or Human Remains (PRC Section 5097.99)	It is a felony to obtain or possess Native American remains or associated grave goods on or after 1984/1988, or to remove without authority of law Native American artifacts or human remains from a Native American grave or cairn with an intent to sell or dissect or with malice or wantonness.	Violation is subject to a felony charge punishable by imprisonment in the state prison.
State of California	Native American Historic Resource Protection Act (Senate Bill 1816; PRC Section 5097.993-.994)	Provides that any person who unlawfully and maliciously excavates upon, removes, destroys, injures, or defaces a Native American historic, cultural, or sacred site, situated on private land or within any public park or place, is guilty of a misdemeanor, if the person knew or should have known that it was a Native American site, art object, inscription, or feature.	Violation is subject to imprisonment in the county jail for up to 1 year, to a fine not to exceed $10,000, or both. A person found guilty of a violation of those provisions may also face a civil penalty in an amount not to exceed $50,000 per violation.
State of California	California Health and Safety Code § 7050.5(b)	If human remains are found on private or state lands in California, the county coroner shall be notified. The affected tribes, the Native American Heritage Commission (NAHC), and other appropriate land management agencies must be notified within 72 hours of the discovery. This code provides the process for identifying a Most Likely Descendant and mitigation/mediation and disposition.	-
State of California	Destruction of Historic Properties (Penal Code 6221/2)	Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor.	Violation is subject to a misdemeanor charge punishable by a fine not exceeding $10,000, or by imprisonment, or both.
State of Oregon	Indian Graves and Protected Objects (Oregon Revised Statutes [ORS] 97.740-97.760)	Defines prohibited acts and protects all Native American cairns and graves and associated cultural items and establishes procedures for their treatment. ORS 97.745(4) requires immediate notification to State Police, the SHPO, Commission on Indian Services (CIS), and all appropriate Native American tribes.	Violation is a Class C felony (ORS 97.740-760) with a maximum fine of $125,000 and up to 5 years imprisonment (ORS 161.605 and 161.625).
State of Oregon	Archaeological Objects and Sites (ORS 358.905-358.961)	Law provides definitions of archaeological sites, significance, and objects of cultural patrimony; prohibits the sale and exchange of cultural items or damage to archaeological sites on public and private lands. A permit is needed before any activity that will excavate, injure, destroy, or alter an archaeological site or object, or remove an archaeological object from private or non-federal public land. Indian tribe(s) must be notified of excavations associated with a prehistoric or historic American Indian archaeological site.	Violation is a Class B misdemeanor (ORS 358.905-955) with a maximum fine of $2,500 and up to 6 months imprisonment (ORS 161.615 and 161.635).

Jurisdiction	Law/Statute	Summary of Regulations	Penalties for Violation
State of Oregon	Permit and Conditions for Excavation or Removal of Archaeological or Historical Materials (ORS 390.235-390.237)	A state permit is required to make an exploratory subsurface investigation on public lands or to excavate within a known archaeological site (Oregon Administrative Rules for Archaeological Permits for Public and Private Lands [OAR 736-051-0000 through 0090]).	Violation of the provisions of subsection (1)(a) of this section is a Class B misdemeanor. [Formerly 273.705; 1993 c.459 §12; 1995 c.543 §7; 1995 c.588 §2; 2015 c.767 §171]

Chapter 3: Roles and Training

3. ROLES AND TRAINING

Cultural resources monitoring will be used as a treatment measure to help minimize the potential for adverse effects on known, newly identified, and inadvertently discovered cultural resources and historic properties. All ground -disturbing activities in archaeologically sensitive areas within the Proposed Action footprint require the presence of cultural resources monitors to minimize impacts to the practical extent feasible and implement procedures detailed in the MIDP. Cultural resources not identified during preconstruction inventory will be treated in a planned and systematic manner to minimize adverse effects. Multiple concurrent operations will be undertaken to complete the Proposed Action. This will require multiple on-site archaeological monitoring teams. Cultural resources monitoring will be completed by archaeologists and tribal advisors.

Prior to construction, all staff involved with actions that may require cultural resources monitoring will receive training regarding the roles and responsibilities of cultural resources personnel and other field staff. Project-specific training will include, at a minimum: (1) guidance on the roles and responsibilities of all field personnel regarding the consideration of impacts on cultural resources; (2) integration of the MIDP protocols for cultural resources monitoring; (3) stop-work protocols; and (4) health and safety requirements.

This plan identifies the roles, responsibilities and qualifications of the archaeological monitors. Tribal advisors will participate as members of monitoring teams and will observe construction and ground-disturbing activities, will help coordinate compliance with the inadvertent discovery protocols, and will work closely with the cultural resources monitors and environmental compliance specialists.

KRRC will be responsible for the tribal advisors' program, including managing the contracting and arranging employment opportunities.

3.1 Roles and Responsibilities

This section reviews the roles and responsibilities of key parties involved with cultural resources monitoring. In addition to KRRC and tribal advisors, other entities (e.g., BLM, USFS, SHPO, other state agencies and commissions, ACHP, and tribes) are integrally involved the process, and their roles upon inadvertent discovery of cultural resources are explained in the following sections.

3.1.1 FERC

FERC serves as the lead federal agency for purposes of compliance with Section 106 of the NHPA. FERC has assigned authority to KRRC (Proponent) to complete the Proposed Action in accordance with Section 106 and its implementing regulations (36 CFR § 800). FERC will be consulted during any inadvertent discovery and retains final authority in issuing resume work orders following stoppage due to an inadvertent discovery.

3.1.2 KRRC

Prior to construction, KRRC will designate the Cultural Resource Specialist (CRS) position. KRRC will become the interim land-manager for PacifiCorp Parcel B properties transferred during the decommissioning and license surrender process. KRRC will be consulted during any inadvertent discovery.

3.1.3 Cultural Resource Specialist

Cultural resources monitoring will be supervised by a designated CRS, selected and hired by KRRC, who will meet federal-level qualification standards for archaeologists as described in *The Secretary of Interior's Standards and Guidelines* Professional Qualification Standards (36 CFR § Part 61). Previous experience in the capacity as a project manager or principal investigator (PI) with Pacific Northwest regional experience will be required, as well as demonstrated familiarity with human osteology and the identification of Native American remains and sacred objects. State qualification standards will also be applicable (e.g., OAR § 736-051-0070(19)).

The CRS will design and implement Project-specific training requirements and ensure that on-site monitors retain necessary qualifications. The CRS will be familiar with the geoarchaeological sensitivity analysis, and have demonstrable familiarity with the regional archaeology, archaeological monitoring, and maintain working knowledge of relevant background and archaeological context documents (e.g., Definite Decommissioning Plan, Phase II Evaluation Report, HPMP).

The KRRC-designated CRS will coordinate and supervise monitoring teams and retains authority to implement the MIDP. The CRS serves as the primary conduit for all consultation among the parties. It is the responsibility of the CRS to coordinate with FERC, Oregon and/or California SHPOs, KRRC/PacifiCorp, Indian tribes, landowners, and other consulting parties, including county coroners, and other law enforcement officials, when necessary.

3.1.4 Cultural Resources Monitors

On-site cultural resources monitors will be selected and hired by KRRC. Monitors will have regional experience as a crew chief in the identification, evaluation, and treatment of cultural resources under Section 106 processes, including previous field monitoring experience. Cultural resources monitors act as the on-site representatives of the CRS and may be required to make eligibility recommendations, guide avoidance and treatment measures, and document inadvertent discoveries.

Professionally qualified cultural resources monitors will be present during ground-disturbing activities in areas designated as requiring cultural resources monitoring. The types of disturbances, situations, and locations that require on-site monitoring are described below. The on-site cultural resources monitors will communicate with construction personnel and other field staff regarding inadvertent discovery protocols in situations where previously undocumented archaeological or historic cultural resources, including human remains and associated funerary objects, are encountered.

Cultural resources monitors have the authority to suspend construction for suspected or actual discoveries to be inspected, recorded, evaluated, and treated. The monitors will coordinate with construction personnel and the CRS to perform the secure, notify, and support functions detailed in the MIDP. Work suspension only applies to the discovery and a 100-foot buffer area. Work outside this area may continue under observation of a qualified archaeological monitor during suspension or work stoppage. Actions for each on-site monitor will be directed and managed by the KRRC designated CRS.

The on-site monitors will be responsible for maintaining daily logs and following documentation protocols for each inadvertent discovery. Log information includes areas monitored, the nature of the actions being monitored, location and description of any cultural resources identified during monitoring, sample photographs of daily activity (excepting photographs of human remains), records of conversations regarding daily construction and monitoring activity, and recommendations for on-site actions, such as security and treatment recommendations.

3.1.5 Tribal Advisors

Tribal advisors will be selected by affected tribes. One tribal advisor will be requested to accompany each archaeological team or cultural resources monitor and shall be present as feasible and appropriate pursuant to the schedule for different phases of the Proposed Action, to address unknown TCRs that are exposed. Tribal advisors will provide guidance to the monitoring team if cultural resources are encountered during ground-disturbing activities and will work through the cultural resources monitor and CRS in the event looting or vandalism is observed. Each tribal advisor must complete the KRRC cultural and tribal resources training prior to field mobilization, which will be administered by the CRS. Other qualifications or training standards for the tribal advisors will be provided by their respective tribes prior to field mobilization of the tribal advisor (e.g., the Klamath Tribes offers a 40-hour training program; other tribes have similar internal training programs).

3.1.6 Construction Field Supervisors/Contractor

These individuals will represent the contracting companies who will be involved with construction. This person will have the responsibility and authority to suspend work and enforce CRS recommendations, and will report to the prime contractor's Project Manager.

3.1.7 Project Geologist/Erosion Control Specialist

This individual, assigned by KRRC or the contractor, will be trained in use of erosion control methods and installation. The CRS will coordinate pre-approved emergency erosion control needs with the Project geologist. The Project geologist will be responsible for advising and installing appropriate erosion control measures on a site-by-site basis.

3.2 Training

Prior to construction, all staff involved with actions that may result in inadvertent discoveries will receive cultural resources training.

3.2.1 KRRC Cultural and Tribal Resources Training Program

All archaeological monitors, tribal representatives, field crew, and construction personnel will attend a cultural resources sensitivity training. This training will provide information regarding applicable archaeological laws and regulations and the roles and responsibilities of cultural resources personnel and other field staff. The aim of this training program is to develop a reasonable resource identification and monitoring process while minimizing the potential for adverse effects from the Proposed Action to known and previously unidentified historic properties. In addition to cultural resources training, safety and environmental training will also be provided to all personnel working on construction.

KRRC will develop and conduct the cultural and tribal resources training program, in coordination with tribal advisors, no less than 6 months prior to reservoir drawdown. Training will familiarize construction personnel with the types of archaeological resources that may be encountered during construction and will also outline the steps to be followed in the event of an archaeological or human remains discovery during construction.

Orientation and training will cover a variety of legal and ethical topics. Training will at a minimum include (1) guidance on identifying potential cultural materials and human remains; (2) cultural sensitivity training including respect for tribal advisors; (3) communication procedures and protocols that will be followed immediately when unanticipated cultural resources or human remains are discovered, or if evidence of looting and vandalism is observed; and (4) safety protocols.

Training will outline legal penalties for violation of laws/vandalism/looting, as well as KRRC's internal cultural resource policy of penalties for personnel who violate cultural resources procedures. KRRC will train contractors in the importance of contractor specifications including a requirement to stay within designated work areas only. KRRC will ensure employees and contractors are provided a confidentiality statement for signature, prepared by the KRRC legal team, which informs employees and contractors of laws regarding vandalism/looting and restrictions regarding providing any confidential information, including site location information. Training will also include steps to take and notification process for observations of looting and vandalism (active or past).

Consequences for Violations by KRRC Personnel

Prior to commencement of ground-disturbing construction activities, KRRC will adopt an internal policy for treating violations caused by KRRC personnel and subcontractors. KRRC's internal action plan will call for legal prosecution against all persons committing cultural resources violations. KRRC's internal action plan will also call for possible disciplinary action, including but not limited to, suspension and/or termination for any employees caught in the intentional act of vandalism or looting.

3.2.2 Tribal Training Programs

Individual tribes may require training programs for their tribal advisors to be qualified for accompanying the archaeological monitoring teams. This training is separate from KRRC's training program and respective tribes will provide training for participating tribal personnel.

3.2.3 Health and Safety Training

Cultural resources monitors and tribal advisors will have Project-specific health and safety training. The CRS will work with the construction supervisors and health and safety lead to assess safe conditions and locations for monitoring activities. For example, monitoring during reservoir drawdown is expected to primarily occur from roadways and other established surfaces outside the dewatering/dewatered zone. Access into the dewatered area will not be permitted until allowed by soil conditions, after exposed sediments have sufficiently dried, as determined by the construction team's health and safety lead.

Chapter 4: Construction Monitoring

4. CONSTRUCTION MONITORING

This chapter outlines the monitoring process during ground-disturbing construction activities associated with the Proposed Action. Construction monitoring involves direct oversight of ground-disturbing activities by a qualified monitor/tribal advisor. Construction monitoring is differentiated herein from "site condition monitoring", which involves periodic, repeat inspections as addressed in the following chapter). The goals of construction monitoring include the following:

- Ensuring accidental impacts to historic properties do not occur during construction
- Identifying new resources
- Ensuring laws and regulations are followed in the event of an inadvertent discovery

4.1 Avoidance of Historic Properties

KRRC will coordinate appropriate avoidance of archaeological historic properties and unevaluated resources. The construction contractor will be provided with the latest spatial information related to cultural resources, and this information will be considered in construction planning to minimize impacts to known resources to the extent possible.

To ensure avoidance by ground-disturbing activity that will occur within 100 feet of a historic property or unevaluated resource, KRRC's CRS will be responsible for flagging sensitive cultural resources in the vicinity of construction areas at least 2 weeks prior to the planned construction activities. The CRS will establish a method for flagging to visibly delineate the site plus a buffer, such as lath staking with color-coded flagging tape or other similar method. Staking, flagging, and other markings used to identify historic properties will be removed as soon as possible after the undertaking has been completed and avoidance has been achieved. KRRC will provide monitors and tribal advisors during ground-disturbing activities construction to assist with avoidance of these areas.

4.2 Monitoring Methods

Cultural resources monitors will observe excavation and soil removal for the presence of cultural materials and features during ground-disturbing construction. Monitoring will occur alongside construction equipment and will require close communication with construction supervisors and equipment operators. At the discretion of the cultural resources monitor, ground-disturbing activities (exclusive of reservoir drawdown) may be slowed or suspended when a suspected cultural resource is encountered, to allow the monitor to confirm and/or assess any apparent discoveries. The monitor may request assistance from the on-site excavation team, including the equipment operators, at locations where cultural resources may be present. The monitor may also request permission to enter excavation areas to clean and examine profile walls, obtain matrix samples, or record stratigraphy at locations where archaeological resources are present. At the request of the monitor, excavation may be slowed or otherwise modified to provide exposures of subsurface deposits, features, and stratigraphic profiles.

4.2.1 Screening

Newly exposed soils and on-site spoil piles will be visually examined concurrently with monitoring excavations. Occasional samples of excavated soils may be collected by the monitor and screened through ¼-inch mesh screen prior to disposal. If potentially significant cultural resources are identified in excavated soils or spoil piles, a screening station may be set up adjacent to the spoil piles for screening of cultural materials. Mesh size will be 1/8-inch mesh screen when archaeological materials are encountered.

4.2.2 Documentation

The cultural resources monitors will record the details of the activities on daily monitoring forms. Activities recorded will include descriptions of the construction area and methods, cultural materials, soil profiles, sketches, and photographs. Areas of native soil and fill will also be noted on the monitoring forms in order to develop a chronology of fill placement and filling techniques. See Chapter 6 for additional information on recordation and documentation, including annual summary monitoring reports.

4.2.3 Communication

The CRS will provide weekly or other periodic updates to consulting parties while construction monitoring is underway. The frequency interval may be adjusted in no findings are made and depending on the construction schedule however the purpose is to ensure effective communication is occurring throughout the duration of monitoring.

4.2.4 Response and Treatment Measures

Archaeological monitors and the CRS will follow procedures in Chapters 7 and 8 for inadvertent discoveries of archaeological resources and human remains identified during construction monitoring.

4.3 Monitoring Locations

Locations for construction monitoring will include: (1) locations of historic properties, including unevaluated, eligible, and listed archaeological resources, and (2) locations of medium to high sensitivity based on a predictive modeling and geoarchaeological sensitivity . The HPMP provides additional information on the geoarchaeological sensitivity model and the list of currently known historic properties.

4.3.1 Monitoring of Medium to High Sensitivity Areas (Predictive Modeling)

KRRC developed a geoarchaeological sensitivity model using topographic surface information, historical topographic surface information, modeled sediment thickness, geomorphic units, geologic units, currently documented cultural resource locations, and possible submerged resource locations

based on KRRC's submerged resources analysis. KRRC will implement construction monitoring for ground-disturbing activities in medium to high sensitivity areas, as delineated by the geoarchaeological sensitivity model results. KRRC will provide available information about these locations to the on-site monitor.

The CRS will employ a GIS dataset that includes the sensitivity model information. Multiple layers of information are included in the GIS dataset and are expected to change, including construction areas, locations of inadvertent discoveries, and priority monitoring areas. The CRS will be responsible for securely storing and updating the model as new resources are identified.

4.3.2 Eligible, Listed, and Unevaluated Archaeological Resources

KRRC will monitor ground-disturbing activities within 100 feet of previously recorded eligible, potentially eligible, unevaluated, and listed archaeological resources. If monitoring in these areas identifies an expansion of the previously recorded site boundary, the standard monitoring protocols will apply (i.e., materials will be collected and a new site form will be provided). These scenarios will typically not be considered inadvertent discoveries requiring stop work procedures.

4.3.3 Monitoring of Not Eligible Archaeological Resources

Archaeological resources that are determined not eligible for the NRHP, as concurred with by SHPO, will not be monitored. However, it is possible that construction monitoring will overlap a site determined not eligible because the geoarchaeological sensitivity model indicates the landform has a high sensitivity for other resource types (e.g., a historic archaeological site is not eligible, but the geoarchaeological sensitivity model suggests pre-contact resources could be deeply buried beneath the historic site). Artifacts will not be collected from the not eligible resources and no further management will be required.

4.3.4 Monitoring of Demolition of Built Environment Resources

The Klamath Hydroelectric Project facilities were constructed between 1903 and 1958 by the California Oregon Power Company and its predecessors, and historic hydroelectric facilities include various diversion dams, support structures, flumes, canals, tunnels, and other related buildings and structures. These historic built environment resources comprise a Historic District and could have associated archaeological sites 50 years old or older that are exposed during demolition or other construction activities. KRRC will not monitor Proposed Action activities associated with the demolition and removal of built environment historic properties (e.g., dams, intake structures) unless associated ground-disturbing areas occur within a high sensitivity area (based on the geoarchaeological sensitivity model).

Contextually associated infrastructure (e.g., buried utilities, foundations, industrial debris) will not be considered archaeological inadvertent discoveries and will not require recordation or further treatment. However, if intact, unexpected historic features or precontact materials are encountered, these will be evaluated and treated as inadvertent discoveries.

4.4 Monitoring Schedule

Construction monitoring will occur as needed based on the geoarchaeological sensitivity model and specific construction activities. Construction monitoring is anticipated to begin in conjunction with the pre-construction activities and extend through all subsequent stages for the Proposed Action.

Chapter 5: Site Condition Monitoring

5. SITE CONDITION MONITORING

Archaeological historic properties may need additional monitoring over time to assess the effects from erosion and/or changes in visitation and land use once the reservoirs are replaced with an active river corridor. KRRC will conduct site condition monitoring, or routine site inspections to assess these potential effects. Site condition monitoring is differentiated herein from construction monitoring, which occurs only when ground-disturbing construction activities are occurring, as described in the preceding chapter. Site condition monitoring will be conducted as a post-construction activity.

Site condition monitoring includes repeated visits to an archaeological site in order to measure physical changes over time. The goal of this plan is to identify possible site impacts by detecting and measuring changes to a site's physical condition over time that could potentially alter its eligibility through the following:

- Standardized field monitoring forms
- Procedures for baseline and routine monitoring
- Standardized GPS data collection
- Consistent, quality repeat photographs

5.1 Monitoring Methods

The collection of accurate data is important for comparability over time and for effective management of impacts that might alter a site's eligibility. Methods used in this document are patterned after measures developed for the Federal Columbia River Power System project along the Columbia River and elsewhere (Jenevein 2014; Sampson 2009; Solimano et al. 2013).

5.1.1 Baseline Inspection

The CRS with monitor and/or tribal advisor will complete a baseline visit to all archaeological historic properties prior to reservoir drawdown. The purpose will be to provide details regarding current site condition. The CRS will document current site impacts in detail so that future changes to the site condition may be detected. Overview photographs will be taken, and specific photograph points will be selected and documented by GPS. Inclinometers and/or erosion stakes will be installed at this time for those historic properties that may be subject to reservoir erosion (KRRC 2018:144). During the baseline visit, a preexisting permanent feature or installed datum (i.e., capped rebar) will be used as a photo point to take photos from in multiple directions. All required photographs and site measurements will be duplicated during repeat inspections.

Photo points will be established in areas currently impacted or threatened by future damage, to compare previous and current conditions. During the baseline inspection, selected photo points will be described in detail and photographed. Each photo point will be assigned an individual identifying number.

5.1.2 Repeat Inspections

During repeat inspections, the CRS and monitor and/or tribal advisor will physically visit historic properties and document any observable changes on a standardized form. Periodic inspections may observe evidence of erosion, deflation, aggradation, looting and vandalism, or no discernible changes. They will duplicate the photographs and note any impacts. Additional erosion monitoring stations may be installed if needed to document new damage. The monitor and CRS will report observations of looting and vandalism following the KRRC Looting and Vandalism Prevention Plan (LVPP) attachment to the HPMP.

5.1.3 Erosion Monitoring

Erosion monitoring will measure the vertical and/or horizontal loss or gain of sediment. The type and location of reference points will be site-specific. Thus, if a site appears to be eroding across its surface, control (i.e., inclinometers or erosion stakes) will be established to provide vertical measures. However, sites that appear to be eroding along one or more lateral margins will have reference points established to provide both horizontal and vertical measures.

While archaeologists or other personnel may measure sediment movement, the loss of more than 3 vertical centimeters or 10 horizontal centimeters of sediment at an archaeological historic property will trigger examination by an archaeologist and consideration of archaeological treatment measures. If newly exposed, highly diagnostic artifacts are encountered, the archaeologist will map and collect them. If erosion exposes previously unknown cultural deposits, KRRC will record and evaluate these resources.

5.1.4 Alternative Options During Reservoir Drawdown – Pedestrian Access Not Allowed

During the period of reservoir drawdown where access will not be allowed due to health and safety concerns associated with drawdown, KRRC will consider use of unmanned aircraft (drones) to provide periodic surveillance of at-risk sites. An alternate option may include access via watercraft.

5.1.5 Photographic Documentation

Photographic documentation will be focused on replication of the same photo points with each site visit. The CRS will maintain a catalog of the photo points, date established, and description. Photographs will have a minimum resolution of 1600 x 1200 pixels and be saved in 24-bit or larger format.

5.1.6 Post-Field Reporting

The CRS will maintain a preliminary Site Inspection Summary Table that can be transmitted to the CRWG in a timely manner in the event treatment measures are needed for threatened or damaged sites. The table will include information such as site number, site type, eligibility status, monitoring

date, water elevation (if applicable), site impacts or concerns, and recommendations. The table will be incorporated into annual monitoring reports.

5.1.7 Response and Treatment Measures

These monitoring measures are intended to enable KRRC to determine the ongoing conditions of archaeological resources and identify problems that may be adversely affecting potentially eligible sites. Alerts at individual archaeological sites include more than one annual instance of unauthorized recreational uses that displace artifacts, more than one annual instance of unauthorized artifact collecting, any unauthorized excavation, or erosion that exceeds 3 centimeters vertically or 10 centimeters horizontally. KRRC will consider additional actions for these types of observations. Specific responses will be determined on a case-by-case basis and reviewed with FERC, the affected Indian tribes, SHPOs, and the ACHP before implementation, following guidelines in the HPMP.

The CRS will address incidences of looting and vandalism observed as part of the site condition monitoring following procedures of the HPMP's LVPP. Archaeological treatment measures are detailed in the HPMP.

5.2 Monitoring Locations

Locations of archaeological historic properties that will be subject to site condition monitoring are summarized in the HPMP and are based on a site's status as a historic property and potential threats. The CRS will adjust this list as new inadvertent discoveries are made and as potential threats change.

Sites needing the highest level of site condition monitoring intensity are anticipated to be those sites that are exposed during reservoir drawdown in the Iron Gate, Copco, and J.C. Boyle pools. Sites on the north side of the Klamath River in California, between Copco and Stateline, are less accessible to the general public and have much less need for site condition monitoring related to looting and vandalism concerns. Areas near Copco are close to facilities where KRRC staff can effectively monitor public activity on a routine basis during the reservoir drawdown.

The sites where monitoring will be less frequent are generally inaccessible to vehicular traffic and/or have relatively difficult public access and are not located in a potential reservoir erosion zone. Lack of easy public access helps limit potential ground disturbance.

5.3 Monitoring Schedule

The schedule and frequency for site condition monitoring is summarized in Table 5-1. The frequency of site condition monitoring will generally decrease over time, unless concerns are triggered due to observations of impacts.

5.3.1 Pre-Drawdown

Prior to construction, KRRC will complete at least one visit to each historic property to establish baseline conditions before reservoir drawdown. The CRS will document baseline conditions, establish photographic points, and install survey monuments and/or inclinometers for historic properties subject to potential erosion.

5.3.2 Reservoir Drawdown and Diversion (0-6 months)

The reservoir drawdown will occur in two phases. The first will include drawing water levels down to levels to minimal operating levels, followed by actual dam removal and complete draining of reservoirs. Once initiated, drawdown activities will not be stopped. Drawdown is estimated to take place over a 6-month period. The target drawdown rate is about 5 feet per day.

During drawdown, fine sediment accumulated from behind the dams will be flushed down the river system and may deposit up to several feet of "pudding"-like sediment and algae as the river recedes. This deposition will create a temporarily unsafe environment in some areas, and typical pedestrian survey/monitoring methods will not be possible within the drawdown zone. Impacts to cultural resources could include erosion and/or burial by accumulating fine sediment, both within the reservoirs and along the downstream river channel.

During the reservoir drawdown and diversion stage, KRRC will:

- Complete routine inspections of at-risk archaeological historic properties along the reservoir, including new discoveries, for any signs of geological instability (e.g., cracking or slumping). If geological instability is observed, KRRC will complete daily inspections of those at-risk historic properties.
- Conduct routine surveillance using unmanned aircraft (drones) or watercraft when health and safety concerns prevent access to reservoir areas to assess potential erosion of historic properties.
- Install additional inclinometers in sensitive cultural resource locations subject to erosion. The CRS or qualified monitor will observe, document, and report any evidence of site impacts resultant from drawdown actions.
- Complete systematic inventory during/after drawdown to document newly exposed portions of previously documented cultural resources, and to identify any new resources that may require further mitigation and management including monitoring.

5.3.3 Post-Drawdown Year 1

Beginning the month after the reservoir drawdown is complete, KRRC will begin one year of regular inspections. The de-watered areas will be immediately hydroseeded as reservoir restoration activities begin. Dam removal, road and bridge modifications, use of staging areas and disposal sites, and transmission line removal activities, and reservoir restoration activities will occur. Some of these actions would extend for years. KRRC will continue to monitor construction within high sensitivity areas following standard monitoring methods, in addition to monthly site condition monitoring for historic properties and newly exposed resources.

5.3.4 Post-Drawdown Years 2 and 3

After Year 1 of monthly monitoring is complete, KRRC will begin two years of quarterly (4 times per year) inspections for all historic properties. Years 2 and 3 will overlap continued reservoir restoration activities and other components such as road improvements, Yreka Water Supply improvements, recreation facilities removal and development, downstream flood control improvements, and other components. By this time, most at-risk historic properties should have appropriate management measures in place so that a reduced frequency in site condition monitoring is warranted.

The quarterly inspections will be applicable for 2 years, or until KRRC has transferred applicable lands.

Table 5-1 outlines the proposed schedule for site condition monitoring (site inspections) that will look for evidence of impacts to archaeological historic properties, including those listed in the Proposed Action's HPMP as well as any potentially significant inadvertent discoveries such as sites identified after the reservoir drawdown (currently submerged resources). The frequency of monitoring intervals will be established in consultation with the CRWG prior to the initiation of construction activities.

Table 5-1: Site Condition Monitoring Schedule and Frequency

Project Stage	Site Condition Monitoring	Onset/Trigger	Duration	Monitoring Interval
Pre-Reservoir Drawdown	No less than 3 months prior to reservoir drawdown, the CRS will visit all historic properties to establish baseline conditions. The CRS will document current conditions on a standardized form and establish photographic points. The CRS will install survey monuments and/or inclinometers for historic properties at risk for potential erosion.	3 months prior to drawdown	One time	n/a
Reservoir Drawdown and Diversion	KRRC will conduct routine pedestrian inspections of at-risk historic properties during reservoir drawdown for any evidence of embankment instability, erosion, looting or vandalism, and other impacts. If such evidence is observed, KRRC will increase the frequency of inspections of those at-risk historic properties	Start of Drawdown	6 months (Or End of Drawdown)	TBD
	KRRC will conduct periodic inspections by unmanned aircraft or water vessel for at-risk historic properties that cannot be safely accessed during the drawdown and to help identify any newly emergent resources following water recession.	Start of Drawdown	6 months (Or End of Drawdown)	TBD
Post-Drawdown Year 1	KRRC will conduct regularinspections of all historic properties for 12 months (1 year) following reservoir drawdown completion.	Completion of Drawdown	12 months (Year 1)	TBD
Post-Drawdown Years 2 and 3	KRRC will conduct quarterly (4 times per year) inspections of historic properties while other project components are underway.	Completion of Year 1 of monthly monitoring	2 years (Years 2-3) or until KRRC has transferred applicable lands	Quarterly

Notes: CRS = cultural resources specialist; KRRC = Klamath River Renewal Corporation

Chapter 6: Recordation, Documentation, and Reporting

6. RECORDATION,DOCUMENTATION, AND REPORTING

6.1 Resource Recordation

KRRC monitors will be responsible for all recordation, documentation, and reporting activities. Monitors may use various methods of recording information, including written descriptions, mapping, photography, GPS, and video. These records will assist with the assessment of archaeological resources if discovered. All identified cultural resources, inclusive of isolates, features, and sites, will be recorded on standard archaeological recordation forms. Archaeological sites identified in the State of Oregon will be recorded using the Oregon SHPO Standard Site Form. In California, sites will be recorded using appropriate California Department of Parks and Recreation forms.

Site recordation involves first walking over the site at intervals contingent upon artifact density. Artifacts and features will be marked with pin flags or flagging tape, which will be removed following recording. Site boundaries will be identified based on surface extent of cultural materials and features. Flaked stone debitage from prehistoric sites will be inventoried by technological type and stage of reduction and recorded on a Flaked Stone Tally sheet. Historic cans will be inventoried using a Tin Canister Tally sheet designed to identify types, aid in dating the historic assemblages, and create comparable descriptions of historic deposits. Remains of historic structures, if encountered, will be further documented using state-specific structural records, while any linear features will be documented on linear feature records. If any rock features are found, they will not be touched or altered. All cultural resources identified in the field will be plotted on 7.5-minute topographic quadrangle maps, and GPS mapping of each resource location will be undertaken using GPS receivers. Any previously recorded sites will be revisited during the inventory, and existing site records will be reviewed for content and accuracy. Revisions, additions, or other observations will be recorded on appropriate and up-to-date site forms.

Archaeological sites will be mapped using a compass and tape or, in the case of larger sites, pacing or GPS readings. As appropriate, site sketch maps will include site boundaries; major topographic features; approximate topographic contours; artifact concentrations; features; temporally or functionally diagnostic artifacts; modern features such as roads, fences, and power lines that could aid in the later relocation of the site and/or that have a bearing on site integrity; and other signs of disturbance. Cultural features will be drawn and will be photographed using digital cameras. Diagnostic artifacts will be described, photographed, and drawn as appropriate. Overview photographs of the site will be also taken. All data necessary to complete the Oregon SHPO Standard Site Form will be collected in the field and be typewritten upon returning from the field.

Isolated finds, typically consisting of nine or fewer artifacts (unless superseded by agency-specific definitions), will be recorded using either an Oregon State Cultural Resources Isolate Form or a California Primary Record. Recordation will include photography (as appropriate) and location delineated by GPS coordinates.

6.2 Monitoring Forms

The CRS will develop standardized forms for the Proposed Action, including daily monitoring forms, photographic logs, excavation forms, site condition monitoring forms, and others.

6.3 Data Management

The CRS will be responsible for maintaining the monitoring data (spreadsheets, GIS/GPS information, photographs, updated geoarchaeological sensitivity model) and distributing data to the States of California (SHPO) and Oregon (SHPO) when Parcel B lands are transferred. The states will be responsible for future distribution of the data to any appropriate third parties that may obtain land as part of the transfer process.

6.4 Documentation

The monitor will be responsible for recordation of all cultural materials discovered during construction monitoring, following SHPO guidelines for either California or Oregon. The on-site monitor will record the details of the activities on monitoring forms for each day on which monitoring is conducted. Data recorded will include descriptions of the construction area, excavation methods, cultural materials, soil profiles, sketches, and photographs. All cultural resource features and artifacts will be mapped (using GPS technology and field sketch maps), inventoried, and photographed, and stratigraphic profiles and soil and sediment descriptions will be provided. The on-site monitor will submit a daily monitoring report to the CRS.

6.5 Annual Monitoring Reports

The CRS, with support from the on-site monitors, will prepare an annual summary monitoring report including monitoring observations, recommendations or interventions to prevent further damage to, responses, and other updates. The annual report will be submitted to FERC and the Oregon and California SHPOs and will summarize all monitoring activities and describe any new discoveries.

SHPO Site Inventory Forms or Archaeological Isolate Forms will also be included as necessary for the appropriate state in which the resource was identified. The CRS will provide site form updates for observations of changes in condition or site boundaries. The monitoring report will be prepared in addition to any other documentation required by site-specific treatment or recovery plans. Site-specific treatment plans, results reports, field notes, and any other documentation will be appended to the annual monitoring report as needed. The report will be submitted to the consulting parties for review. These documents are confidential and exempt from disclosure under federal and state law (see Section 304 of the NHPA as implemented in 36 CFR § 800.11(c))

Chapter 7: Archaeological Discovery Protocol

7. ARCHAEOLOGICAL DISCOVERY PROTOCOL

KRRC will follow these steps in the event a potentially significant (ie., eligible for the NRHP) archaeological object and/or site more than 50 years old (not human remains) is encountered during construction and restoration activities. All protocols are consistent with federal and state compliance requirements. KRRC will engage in continued consultation with FERC, affected tribes, and the Oregon and California SHPOs to develop an expedited approach to quickly resolve anticipated routine discovery situations.

Examples of archaeological objects and/or cultural materials include the following items:

- Tools made of stone, bone, shell, horn, or antler, including projectile points, scrapers, cutting tools, and grinding stones
- Collections of shells, fish, and mammal bones
- Buried collections of cobble stones that may represent fire hearths or other human activity
- Culturally modified soil
- Old building materials and foundations
- Industrial or agricultural equipment
- Materials such as bottles, tin cans, ceramics, glass beads, and other objects

7.1 Procedures

KRRC will take the following steps when an inadvertent discovery for archaeological objects and/or cultural materials that are not human remains or potential funerary objects, sacred objects, and objects of cultural patrimony:

Step 1 - Suspend Work and Protect the Discovery Location

If any member of a construction or other field crew believes that he or she has discovered an archaeological object and/or cultural resource that is not human remains, the person making the discovery will immediately notify the field team supervisor, archaeological monitor, and CRS, who will immediately halt the work being done in that area. KRRC will suspend construction activities within a radius of 100 feet of the discovery in all non-dewatering situations. The CRS/field team supervisor will secure the immediate area of the discovery site and will not allow vehicles, equipment, and unauthorized personnel to traverse the discovery site. Work may continue outside of the discovery area buffer under supervision of a monitor. (See Section 7.2 for exemptions to this process during reservoir drawdown.) The person making the discovery will maintain confidentiality about what was discovered and will not discuss the discovery with outside parties.

Step 2 - Provide Initial Assessment

The CRS will provide an initial assessment of the discovery. If the CRS assesses the resource as not meeting the definition of a potentially eligible archaeological object and/or cultural resource, the CRS will document the decision in writing and authorize the suspended work to resume at the discovery location without further notifications.

For confirmed archaeological discoveries, the CRS will make an initial assessment of the potential significance of the discovery based on NRHP eligibility per 36 CFR § 800.4(c). For post-review discoveries, KRRC and FERC, in consultation with the SHPO/THPO, may also assume a newly discovered property to be eligible for the NRHP for purposes of Section 106 (36 CFR 800.13(c)).

Eligible Archaeological Resource Types

Artifacts and features that are eligible for the NRHP are those that can contribute to our understanding of history or prehistory and/or have associative value under other NRHP criteria. Potential archaeological resources will be initially evaluated for significance according to Criterion D (i.e., the potential to yield information important in prehistory or history) and site integrity; however, all four NRHP Criteria will be considered for a comprehensive evaluation. In the field, data requirements to verify eligibility under Criterion D include the need for an adequate archaeological context in the form of intact archaeological strata, features with discernible relations, and diagnostic artifacts that could establish a time frame. For archaeological interpretation, it is important that the physical context not be disturbed or mixed, otherwise the associations between site components that make reasonable interpretation possible are lost. If a discovery is assumed to be eligible per 36 CFR 800.13(c), the agency official shall specify the NRHP criteria used to assume the property's eligibility so that information can be used in the resolution of adverse effects.

Not Eligible Archaeological Resource Types

Several types of historical debris and features over 50 years old may be discovered as a result of construction but are not inherently important as archaeological resources. These are typically materials and features that are common and lack important information potential or associative context. Examples include:

- Industrial debris already documented with the built-resource environment
- Post-demolition built-resource foundations and associated materials
- Rock, brick rubble, gravel, and sand used as fill material
- Wood and lumber fragments
- Rubber tire fragments and non-diagnostic automobile parts
- Machinery parts and miscellaneous tools
- Non-diagnostic glass (e.g., window, bottle) and ceramic fragments
- Miscellaneous non-diagnostic metal fragments
- Abandoned utilities (isolated pipes) and wires/cables
- Underground gas/oil storage tanks
- Fragmentary artifacts that are non-diagnostic in nature and within unstratified fill, with no discernable important associations or context

Step 3 – Proceed with Notifications

Resources Not Eligible for the NRHP

If KRRC assesses the resource as likely not eligible for the NRHP, KRRC will notify the FERC, SHPO, tribes that might attach religious and cultural significance to the affected property, ACHP, and the landowner within no more than 48 hours of the discovery (36 CFR § 800.13(b)(3)). The notification will describe KRRC's assessment of NRHP eligibility and proposed actions. The FERC, SHPO, tribes, ACHP and landowner will respond within 48 hours of the notification (36 CFR § 800.13(3)(3)). KRRC will consider their recommendations, in coordination with FERC. If the parties agree the resource is not eligible, KRRC will authorize work to resume. The CRS will continue with formal documentation of the resource and include the resource in an Annual Monitoring Report.

Resources Potentially Eligible for the NRHP

If KRRC assesses the resource as potentially eligible for the NRHP, KRRC will notify FERC, SHPO, tribes that might attach religious and cultural significance to the affected property, the ACHP, and the landowner of this assessment and determine actions to resolve adverse effects within 48 hours of the discovery (36 CFR § 800.13(b)(3)). The FERC, SHPO, tribes, the ACHP, and landowner shall respond within 48 hours of the notification (35CFR800.13(3)). KRRC will consider their recommendations, in coordination with FERC.

- If KRRC determines the resource is potentially eligible and there will be adverse effect, KRRC will issue a formal Stop Work Order for activities at the discovery site.
- If KRRC determines there is no adverse effect, KRRC will notify FERC, SHPO, affected tribes, the ACHP, and other consulting parties (36 CFR § 800.5) and authorize Start Work at the discovery site.

Step 4 - Implement Treatment Measures

In accordance with the Section 106 process to resolve an adverse effect upon discovered resources that are eligible for the NRHP (36 CFR § 800.6), KRRC will prepare Archaeological Treatment Plans to mitigate or avoid adverse effects to identified archaeological historic properties, including inadvertent discoveries which may be assumed to be eligible for the purposes of Section 106 (36 CFR § 800.13(c)). The Archaeological Treatment Plans will describe the affected historic property, including information on the characteristics that qualify it for the National Register; a description of the undertaking's effects; an explanation of why the criteria of adverse effect are applicable, and conditions or future actions to avoid, minimize or mitigate adverse effects (36 CFR § 800.11).

Prior to decommissioning, KRRC will conduct additional consultation with the tribes and agencies to identify specific and timely measures to address discovery situations. To the extent feasible, responses to standard discovery situations will be developed in advance of construction through this consultation process. Such treatment and mitigation options could include, but are not limited to:

- Detailed mapping and photography
- Archival research
- Restrict public access (erect fences and barriers)

- Site condition monitoring
- Sample collection
- Limited probing
- Increase security measures
- Strategic routing of roads, recreation sites, livestock routes to reduce impacts
- Strategic signage and/or plantings to deter unauthorized uses
- Emergency stabilization (temporary or permanent erosion control measures)
- Capping/armoring
- Emergency data recovery
- Alternative mitigation such as archaeological site mitigation banking (the acquisition and preservation of archaeological sites away from the project area in return for doing little or no direct mitigation on the sites affected by the project)
- Other measures that may be suggested through the consultation process

KRRC will provide an Archaeological Treatment Plan to the FERC, SHPO, affected tribes, the ACHP, and landowner outlining proposed measures to resolve adverse effects within 2 working days of KRRC's determination of effect on an eligible property. Refer to the HPMP for additional details about potential archaeological treatment measures.

Appropriate measures will be adapted to changing conditions, such as to drawdown schedules, seasonal changes in public use, and observed issues such as illicit artifact collection. Some treatment measures, such as capping, would be implemented on a site-by-site basis. Table 7-1 presents some possible scenarios that may be encountered during implementation of the Proposed Action, as well as response and treatment options that KRRC may consider.

Table 7-1: Archaeological Treatment Plan Potential Scenarios, Impacts, and Responses

Potential Scenario(s)	Primary Impact Identified	Potential Response and Treatment Measures
A new submerged archaeological site is identified during reservoir drawdown	Water Erosion	• Detailed mapping and photography • Site condition monitoring via detailed drone imagery or site inspections, depending on safe access • Emergency data recovery if drawdown is estimated to affect 25% or more of the site, if access is possible • Emergency stabilization if drawdown is estimated to affect 25% or more of the site, if access is possible • If access is unsafe and protective measures are not possible, alternative mitigation
	Alluvial Sediment Deposition	• Treatment will be limited to detailed mapping and photography and site condition monitoring because a sediment cap would be a protective measure
A new submerged historic feature (e.g., rock wall, fence, irrigation ditch, weir, bridge abutment, foundation) is identified during reservoir drawdown	Water Erosion Alluvial	• Detailed mapping and photography • Site condition monitoring via detailed drone imagery or site inspections, depending on safe access • Additional archival research • Limited shovel probing only if associated archaeological deposits are suspected based on the type of historic feature
	Sediment Deposition	• Treatment will be limited to detailed mapping and photography and site condition monitoring because a sediment cap would be a protective measure • Additional archival research
A previously documented archaeological site along the reservoir rim begins to erode	Landslip Erosion	• Site condition monitoring and photographic comparison • Emergency data recovery if rim stability/measurable bank loss is at risk of affecting 25% or more of the site, if access is possible • Emergency stabilization if rim stability/measurable bank loss is estimated to affect 25% or more of the site, if access is possible • Temporary or permanent site protection measures (e.g., cap resource) • If access is unsafe and protective measures are not possible, alternative mitigation
A new archaeological site is encountered during construction	Damage/ Displacement	• Detailed mapping and photography • Limited probing • Sample collection • Emergency data recovery • Emergency stabilization • Temporary or permanent site protection measures (e.g., cap resource) • Avoidance through strategic routing of project elements (e.g., roads, recreation sites)

Potential Scenario(s)	Primary Impact Identified	Potential Response and Treatment Measures
A new archaeological isolate is encountered during construction	Damage/ Displacement	• Detailed mapping and photography • Limited probing to determine status as isolate
A previously documented archaeological site is affected by wildfire, earthquake, flood, or other natural disaster	Damage/ Displacement	• Site condition monitoring and photographic comparison • Emergency data recovery if disaster affects 25% or more of the site, if access is possible • Emergency stabilization if disaster affects 25% or more of the site, if access is possible • If access is unsafe and protective measures are not possible, alternative mitigation
An incidence of looting and/or vandalism is observed at an archaeological site	Damage/ Displacement/ Loss	• Implement Looting and Vandalism Protection Plan, including Damage Assessment for criminal investigation • Temporary or permanent site protection measures (e.g., cap resource, strategic plantings, install signage) • Increase site security (e.g., install surveillance cameras, increase patrols) • Site restoration • Emergency data recovery • Reevaluate and restrict public access to or visibility of vulnerable sites
Unauthorized vehicle and recreational uses are observed at an archaeological site	Damage/ Displacement	• Site condition monitoring and photographic comparison • Temporary or permanent site protection measures (e.g., cap resource, strategic plantings, install signage) • Reevaluate and restrict public access to or visibility of vulnerable sites
Evidence of livestock damage is observed at an archaeological site	Damage/ Displacement	• Site condition monitoring and photographic comparison • Temporary or permanent site protection measures (e.g., cap resource, strategic plantings, erect fence) • Reevaluate and restrict livestock access to vulnerable sites

Step 5 – Complete Documentation

The CRS and on-site cultural resources monitor are responsible for completing documentation of the events and logging communications. Documentation will include detailed notes on the date and time of each phone call with a description of the conversation and list of next steps discussed. The CRS will coordinate response strategies and executing further work at the site as needed. The CRS will ensure distribution of summary technical reports. Other documentation may include photographs and notes from field visits, conversation records and memoranda, or other correspondence with all involved parties. If the discovery warrants further field work, analysis, and reporting, KRRC will provide the deliverables of those investigations on a case-by-case basis.

Step 6 – Start Work after Authorization

KRRC will resume activities at the discovery location only after the SHPO or other designated federal official (for BLM and USFS lands) determines, in consultation with FERC, KRRC, landowner, ACHP, affected tribes, that compliance with laws and regulations is complete and provides authorization for KRRC to proceed.

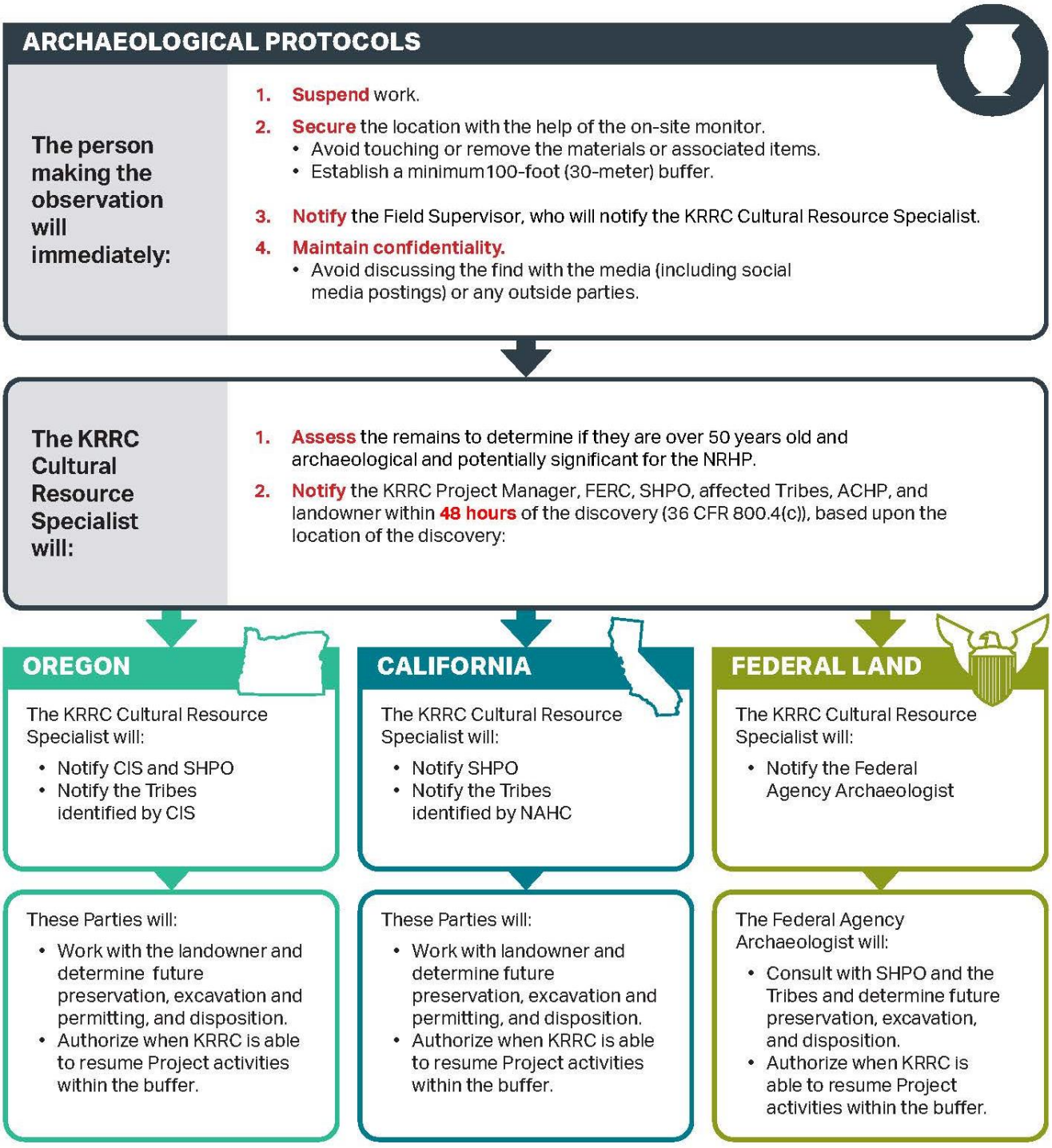
Figure 7-1 depicts a process flowchart for initial archaeological protocols after an inadvertent discovery Figure 7-2 summarizes the overall management process, including determination of eligibility and effect, after an inadvertent discovery.

7.2 Exemption to this Process During Drawdown

Reservoir drawdown activities will not be stopped once initiated. If an inadvertent discovery is made, suspending or stopping work to further assess a site (see Step 1, above) will not be possible. The periods of review outlined above will not be practicable for protection of at-risk resources discovered during the reservoir drawdown.

In this scenario, KRRC will follow a process similar to that outlined in 36 CFR § 800.12 for Emergency Situations, which provides that if circumstances do not permit the appropriate days for comment, KRRC will notify the FERC, SHPO, tribes, and ACHP, and invite any comments within the time available (36 CFR § 800.4.12 (b)(2)).

KRRC will authorize the CRS to use immediate measures for protecting the discovery location (i.e., pre-approved temporary emergency stabilization) on a case-by-case basis, with only minimal consultation. Refer to the HPMP for additional details about Archaeological Treatment Plan measures.



Notes: CIS = *Oregon Commission of Indian Services;* ***NAHC =*** *Native American Heritage Commission;* ***SHPO =*** *State Historic Preservation Office*

Figure 7-1: Process flowchart for initial archaeological protocols based on location

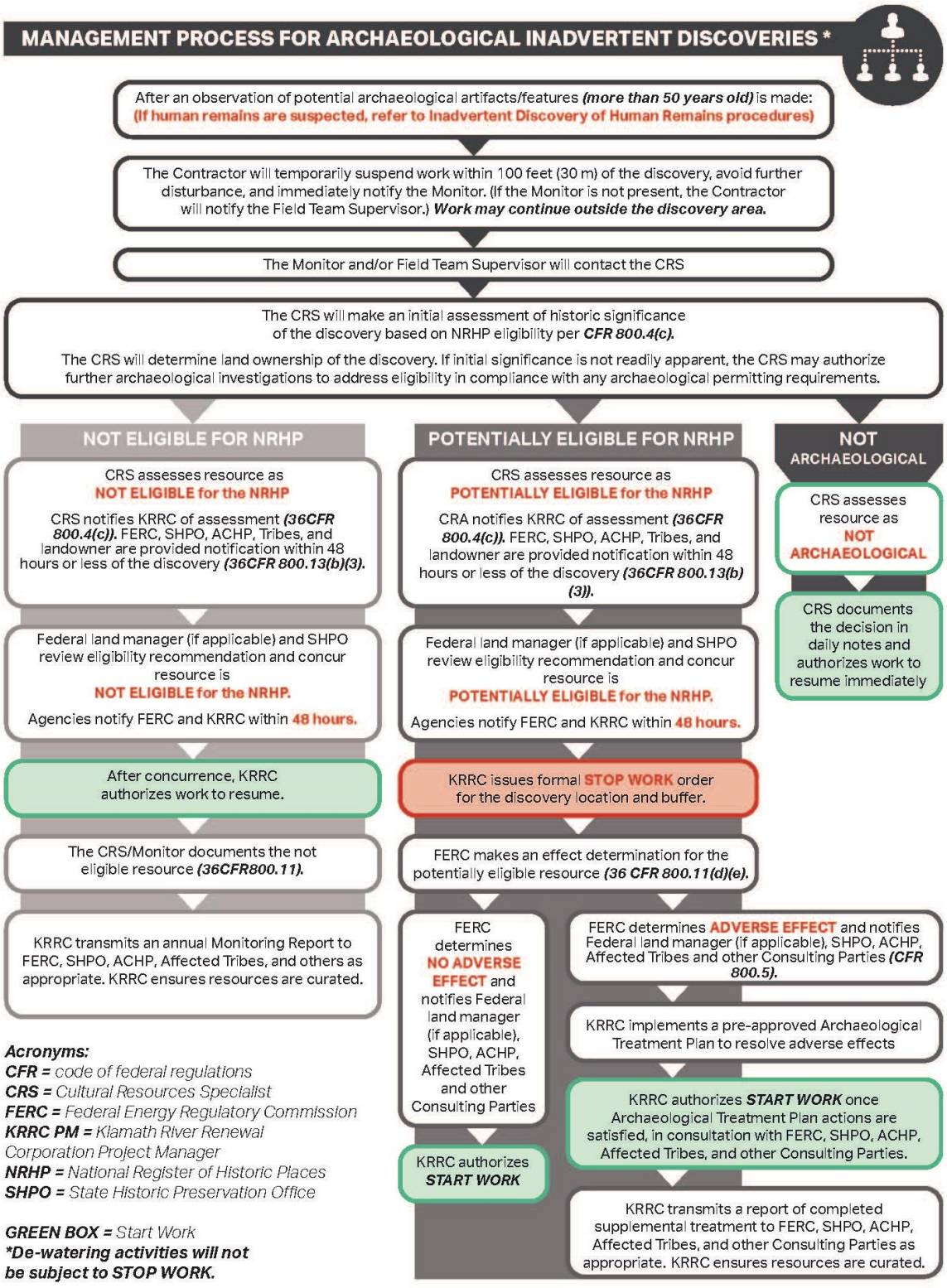


Figure 7-2: Summary management process flowchart for archaeological inadvertent discoveries

Chapter 8: Human Remains Discovery Protocol

8. HUMAN REMAINS DISCOVERY PROTOCOL

The protocols specified below will be implemented in the event of the discovery of human remains, funerary objects, sacred objects, and objects of cultural patrimony during construction, decommissioning, or restoration activities, in coordination with the CRWG and Native American tribes, inclusive of the tribes that engaged in the Section 106 process and the tribes that engaged in the California State Water Board's AB52 consultation process. The protocols have been approved by FERC as the federal agency official for purposes of Section 106.

"Human remains" discovery protocol applies to more than just human skeletal remains. Both tribal and European American traditions may involve the burial of associated cultural items with the deceased. Other Native American traditions include ceremonial burning of human remains, funerary objects, and animals. Ashes, soils, and other remnants of these burning ceremonies, as well as associated funerary objects and unassociated funerary objects buried with or found near human remains, are to be treated in the same manner as skeletal remains or bone fragments that remain intact.

Many different objects may be funerary objects, sacred objects, and objects of cultural patrimony under NAGPRA (see Section 1.5, Definitions). Each tribe may define such objects differently. Some examples could include, but are not limited to, obsidian "wealth" blades; waisted obsidian ceremonial knives; ear plugs and spools; anthropomorphic and zoomorphic figurines, clubs, and pestles; bone and glass beads; dice; camas digging stick handles; marine and freshwater shell pendants or beads; labrets; objects for personal adornment such as jewelry; feathers; pipes; artifacts that have been "killed" (purposely broken or with a hole in it so as to release its spirit); and artifacts or remains covered in red ochre.

The kind of traditional treatment to, if any, and planned disposition, of human remains, funerary objects, sacred objects, and/or objects of cultural patrimony must be determined on a case-by-case basis in consultation with the affected tribe(s). Specific procedures to be followed in the event of a discovery will depend on the ownership status of the lands where the human remains and/or objects are discovered. Both California and Oregon have designated agencies, including the Native American Heritage Commission (NAHC) for California and the Oregon Legislative Commission on Indian Services (CIS) that coordinate discoveries of Native American human remains and objects with affected tribe(s).

Human remains and/or associated grave goods will be protected to the extent feasible until appropriate disposition has been determined, in accordance with the protocol and applicable federal, state, and local statutes and regulations.

Protocols to be followed in case of an inadvertent discovery of human remains are outlined in Figure 8-1.

KRRC will follow these steps will in the event of an inadvertent discovery of human remains, funerary objects, sacred objects, and objects of cultural patrimony:

Step 1 – Stop Work and Protect the Discovery

If any member of a monitoring, construction, or other field crew believes that he or she has discovered human remains, KRRC will stop all work within a minimum of 100 feet of the discovery to the extent possible. The on-site cultural resources monitor will immediately notify the field supervisor and then call the CRS. The on-site monitor or field supervisor (if no archaeological monitor is present) will immediately establish a 100-foot buffer. Project activities will be not be allowed within 100 feet of the discovery until authorization is provided through implementation of the protocols outlined below, unless such a restriction is not feasible. As noted above, reservoir drawdown cannot be stopped once initiated.

The on-site monitor, field supervisor, and/or CRS will ensure the remains are not touched, moved, photographed, or otherwise disturbed. Remains will immediately be covered with a clean tarp only, for temporary protection in place and to shield them from being photographed. No vehicles, equipment, and unauthorized personnel will be permitted to traverse the area until approved by the CRS. The on-site monitor or field supervisor will take notes on the location and be able to accurately provide location information during the notification processes. KRRC will not leave the location unsecured at any time and will maintain confidentiality.

Step 2 – Proceed with Notifications

The CRS will complete the notification process. Notification includes disclosure of the materials discovered, the time and location of the discovery, and any other relevant information. The process for contacts to be made following a discovery of human remains is summarized below and on Figure 8-1.

1. If human remains and/or objects are encountered, the CRS will first notify the KRRC Project Manager to assist with implementing immediate stop work orders and site security measures, as needed.
2. The CRS will immediately contact the appropriate agency officials based on land ownership where the human remains and/or objects are found:
    - Federal/tribal land: The CRS will immediately notify the designated agency official of the federal land management agency. Further treatment will be at the direction of the designated agency official, including whether the remains are archaeological or if they are a law enforcement issue. The federal land management agency, in consultation with FERC, as the lead agency, will be responsible for compliance with NAGPRA and its implementing regulations for all NAGPRA-related inadvertent discoveries and discovery situations on federal or tribal lands. FERC and the land management agency will consult with the appropriate Native American tribe(s) or other ethnic groups related to the human remains identified to determine the treatment and disposition measures consistent with applicable federal laws, regulations, and policies.

- California state and private land: The CRS will immediately notify the County Coroner, who will notify the NAHC if the remains are Native American. The NAHC will determine the appropriate Native American tribe(s) that are Most Likely Descendants. Treatment of human burials found on state or private lands in California are covered under the PRC, Division 5, Parks and Monuments (Division 5 added by Stats. 1939, Ch. 94.), Chapter 1.75. Native American Historical, Cultural, and Sacred Sites, and the California Native American Graves Protection and Repatriation Act of 2001 (Chapter 5 of Part 2 of Division 7 of the Health and Safety Code).
- Oregon state and private land: The CRS will immediately notify the state police, CIS, and appropriate Native American tribe(s) (which are determined by the CIS). Treatment of human burials found on state or private lands are covered under ORS 97.745.

The subsequent steps apply to discoveries on California and Oregon state and private land:

3. The CRS will also immediately notify the appropriate SHPO of the discovery, by telephone. The CRS will keep SHPO informed of all discussions regarding the remains until their final status is resolved.
4. The CRS will also notify FERC, the private landowner (as applicable), and the ACHP.
5. KRRC will invite tribal representatives to be present during the coroner's inspections of the remains.
6. If the human remains are a law enforcement issue (not found in an archaeological context), all further work at the discovery site will be at the discretion of local law enforcement, including notification that work may resume.
7. If the human remains are not a law enforcement issue, the NAHC (California) or CIS (Oregon) will be notified by law enforcement.
8. The NAHC or CIS will be responsible for notifying and coordinating the discovery response with the appropriate tribes in their state. The CRS remains responsible for notifications to other entities.
9. If the human skeletal remains are determined to be historic non-Indian remains, FERC and the appropriate SHPO will determine treatment.

Step 3 – Implement Treatment Measures

KRRC will not resume work until involved parties have been notified and consulted with regarding an appropriate course of action. The CRS, on-site cultural resources monitor, and representatives from other consulting parties including SHPO and tribes, may be needed to help assess the discovery. The CRS will help develop a discovery plan or similar document to guide the appropriate course of action, which may involve excavation and/or *in situ* stabilization of the human remains.

1. KRRC will not disturb, manipulate, or transport human remains and associated objects from the original location of discovery until a site-specific treatment plan is developed and consultation has occurred.
2. All parties involved and the appropriate Native American tribes will implement a culturally sensitive plan for reburial.

3. If the human remains are determined to be European American (i.e., non-Native American burials older than 50 years of age and not a law enforcement issue), KRRC, FERC, the applicable SHPO, landowner, and other consulting parties, as needed, will consult regarding the appropriate treatment. The CRS, in coordination with the on-site monitor and consulting parties, will prepare a site-specific treatment plan to be reviewed and approved by the consulting parties. If the coroner determines the remains to be historical and non-Indian, KRRC will use historic documentation and attempt to locate familial descendants. The location of reburials will be noted on planning maps to prevent future disturbance. These maps will not be available to the public.

Step 4 – Complete Documentation

The CRS and on-site cultural resources monitor will complete documentation of the events and logging communications. Documentation will include detailed notes on the date and time of each phone call with a description of the conversation and list of next steps discussed. The CRS will coordinate response strategies and executing further work at the site as needed. The CRS will ensure distribution of summary technical reports. Other documentation may include photographs and notes from field visits, conversation records and memoranda, or other correspondence with all involved parties. If the discovery warrants further field work, analysis, and reporting, KRRC will provide deliverables on a case-by-case basis.

Step 5 – Start Work after Authorization

KRRC will resume Project activities at the discovery location only after the SHPO or other designated federal official (for BLM and USFS lands) determines, in consultation with FERC, KRRC, landowner, ACHP, and NAHC or CIS, that compliance with laws and regulations is complete and provides written authorization for KRRC to proceed.

If the human remains are considered a law enforcement issue, only law enforcement personnel can issue resume work orders.

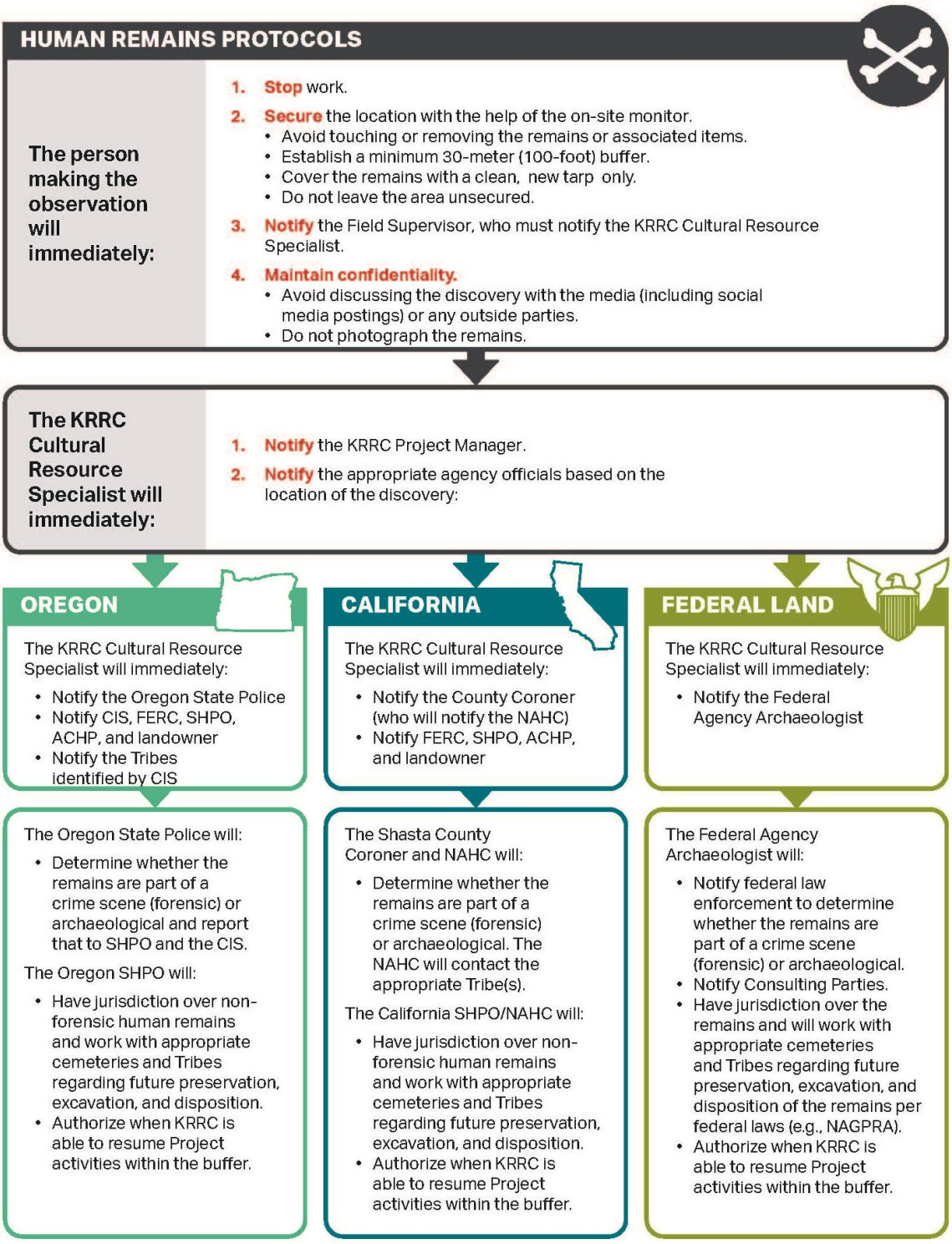


Figure 8-1: Human remains protocols flow chart

Chapter 9: Collection, Curation, and Permitting

9. COLLECTION, CURATION, AND PERMITTING

The geographic location of the archaeological resource will determine collection procedures. For the duration of this MIDP, most of the Proposed Action footprint/limits of work will be in private ownership by KRRC. After the license surrender and subsequent land transfer takes place, collection and curation policies are expected to be revised.

9.1 Collection

Tangible cultural resources discovered during monitoring will be collected, once necessary state and/or federal archaeological permits are in place and any site-specific archaeological treatment plans have been approved. All precontact and historic artifacts collected will be analyzed, catalogued, and temporarily curated at a preselected and secure location.

Figure 9-1 summarizes Archaeological Permitting, Curation, and Collection Policies.

9.2 Curation

Ultimate disposition of cultural materials (not applicable to human remains) will be determined by the applicable landowner. Artifacts and other cultural resources not classified as human remains or funerary objects are the property of the landowner.

KRRC will, in consultation with the SHPOs and affected tribes, identify proper curation facilities, using Department of the Interior federal guidelines for curation (36 CFR § 79). KRRC will provide and pay for long-term curation of prehistoric, ethnohistoric, and historic artifacts, data samples, and records resulting from the investigations that are implemented to support the license surrender. KRRC will consult with affected federally and non-federally recognized tribes and try to reach agreement about permanent storage of collected materials.

The CRS will work through the NAHC (California) and the CIS (Oregon), who will determine MLDs and will direct proper treatment and disposition of human remains or funerary objects.

9.3 Archaeological Permitting

For the period of decommissioning, most of the Proposed Action footprint will be in private ownership by KRRC. KRRC will obtain an Oregon State Archaeological Excavation Permit in advance of dewatering and decommissioning. KRRC will also obtain appropriate federal and state archaeological permits to conduct archaeological monitoring on federal and state-managed lands. See Figure 9-1, Archaeological Permitting, Curation, and Collection Policies.

Federal

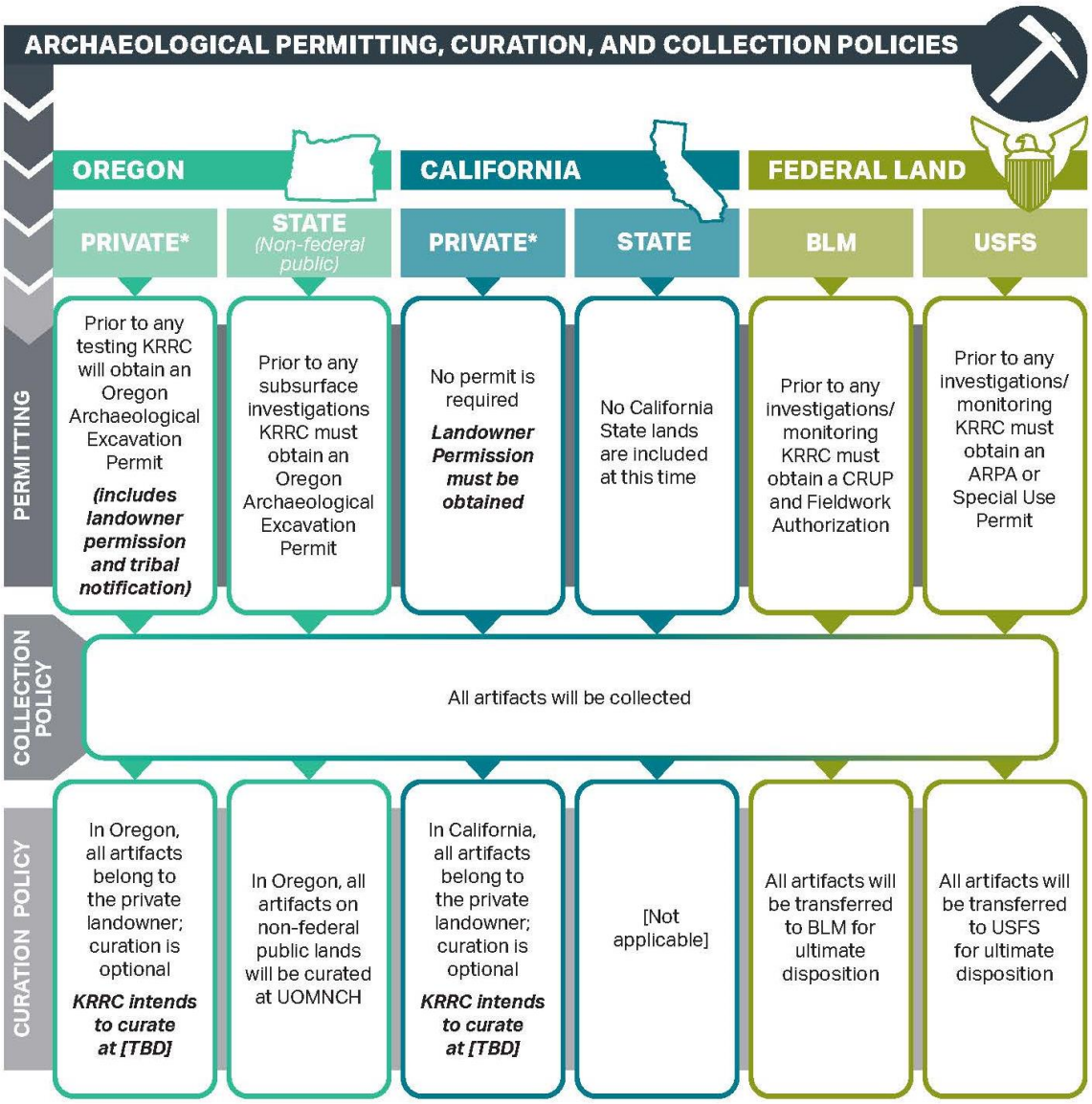
On federal lands (e.g., BLM, USFS), excavation or removal (collection) of archaeological resources necessitates a permit from the federal land manager. In the event of inadvertent discovery on BLM lands, any surface collections or field activities that have the potential to disturb the discovery will be conducted under a fieldwork authorization issued under a statewide BLM Cultural Resource Use Permit. On USFS lands, any archaeological fieldwork or disturbance of an inadvertent discovery will be conducted under the terms and conditions of an Archaeological Resources Protection Act Permit or Special Use Permit.

California

In the State of California, required permits or permissions will be obtained from the state land manager or private landowner prior to conducting any archaeological field work or collection. On private lands, collection of artifacts requires the written permission from the property owner to whom the artifacts belong.

Oregon

In the State of Oregon, a person may not excavate or alter a known archaeological site on non-federal public or private lands, make an exploratory excavation on non-federal public lands to determine the presence of an archaeological site, or remove from public or non-federal private lands any material of an archaeological, historic, prehistoric, or anthropological nature without first obtaining an State of Oregon archaeological permit issued by the Oregon SHPO (see ORS 390.235(1)(a) and 358.920). Separate archaeological permits are needed for each property owner or public land manager where archaeological investigations are needed. An archaeological permit may be obtained by an individual who meets the state qualifications of a professional archaeologist (ORS 390.235 (6)(b)). Given that the construction will occur on non-federal public lands and private lands, any surface collections or subsurface investigations that have the potential to disturb, destroy, or otherwise alter a site or sensitive area may not be conducted without a State of Oregon archaeological permit. KRRC will obtain necessary permits from Oregon SHPO in case of an inadvertent discovery before further assessment work proceeds.



Most of the Proposed Action falls within private land ownership

Acronyms:
ARPA = *Archaeological Resources Protection Act*
BLM = *Bureau of Land Management*
CDFW = *California Department of Fish and Wildlife*
CRUP = *Cultural Resources Use Permit (BLM)*
FERC = *Federal Energy Regulatory Commission*
SHPO = *State Historic Preservation O ice*
UOMCH = *University of Oregon Museum of Natural and Cultural History*
USFS = *United States Forest Service*

Figure 9-1: Flowchart showing expected archaeological permitting, curation, and collection policies based on land ownership

Chapter 10: Contact Information

10. CONTACT INFORMATION

This section provides current (2020) contact information for agencies, Tribes, and other parties to be notified under this plan. The following tables include contacts, looting and vandalism law enforcement contacts, and agency and tribal contacts based on geographic location by state. Contact information is expected to change over the course of the Project. The KRRC CRS will maintain up-to-date contact information.

10.1 Project Contacts

Table 10-1: Project Contacts

Name	Organization	Role	Phone	Email
	TBD	Cultural Resource Specialist		
	FERC			
Mark Bransom	KRRC	Chief Executive Officer	O. (510) 679-6929	mark@klamathrenewal.org

Table notes: FERC = Federal Energy Regulatory Commission; KRRC = Klamath River Renewal Corporation

10.2 Law Enforcement Contacts

Table 10-2: Looting and Vandalism Law Enforcement Contact Information, by Jurisdiction

Landowner/Location	Law Enforcement	Name and Role	Phone	Email
KRRC - California	Siskiyou County Sheriff			
KRRC - Oregon	Klamath County Sheriff			
USFS	USFS Law Enforcement			
BLM	BLM Law Enforcement			

Table notes: BLM = Bureau of Land Management; KRRC = Klamath River Renewal Corporation; USFS = U.S. Forest Service

10.3 California

Table 10-3: California Contact Information

Name	Organization	Role	Phone	Email
Jon Lopey, Sheriff-Coroner or Lt. Mark Hilsenberg, Chief Deputy Coroner	Siskiyou County Law Enforcement	Coroner, Primary Contact for Human Remains	0. (530) 842-8300	
--	Native American Heritage Commission	Primary Contact for Native American Human Remains in CA	0. (916) 373-3710	--
Brendon Greenaway	California State Historic Preservation Office	State Archaeologist, Primary SHPO Contact for CA	0. (916) 445-7036	Brendon.greenaway@parks.ca.gov
Eric Ritter	BLM, Redding Field Office	Archaeologist	0. (530) 224-2131	eritter@blm.gov
Jeanne Goetz	USFS, Klamath National Forest	Heritage Resources Specialist	0. (530) 841-4488	jgoetz@fs.fed.us
Blake Follis	Modoc Nation	Environmental Director	0. (918) 542-1190	blake.follis@modoctribe.com
Roy Hall	Shasta Nation	Chief	0. (530) 468-2314	shastanation@hotmail.com
Janice Crowe	Shasta Indian Nation	Chairperson	0. (530) 244-2742	twocrowes63@att.net
Crystal Robinson	Quartz Valley Indian Reservation	Environmental Director	0. (530) 468-5907 ext. 318	Crystal.Robinson@qvir-nsn.gov
Alex Watts-Tobin	Karuk Tribe	THPO	0. (530) 627-3446 ext. 3015	atobin@karuk.us
Rosie Clayburn	Yurok Tribe	THPO	0. (707) 482-1350 ext. 1309	rclayburn@yuroktribe.nsn.us
Rachel Sundberg	Cher'Ae Heights of the Trinidad Rancheria	THPO	0. (707 677-0211	rsundberg@trinidadrancheria.com
Megan Van Pelt	Resighini Rancheria	Executive Director	0. 707-954-1173	meganvanpeld@resighinirancheria.com

Table notes: SHPO = State Historic Preservation Office; THPO = Tribal Historic Preservation Office

10.4 Oregon

Table 10-4: Oregon Contact Information

Name	Organization	Role	Phone	Email
TBD	Oregon State Police	Human Remains Contact	O. (503) 731-4717 C. (503) 708-6461 Dispatch: (503) 731-3030	-
Dennis Griffin	Oregon State Historic Preservation Office	State Archaeologist, Primary SHPO contact for OR	O. (503) 986-0674 C. (503) 881-5038	Dennis.Griffin@oregon.gov
Mitch Sparks	Oregon Commission on Indian Services	Executive Director	O. (503) 986-1067	LCIS@oregonlegislature.gov
Laird Naylor Sara Boyko	BLM BLM	Lead Archaeologist, KFRA Project Archaeologist	O: (541) 885-4139 O: (541) 885-4114	lnaylor@blm.gov sboyko@blm.gov
Perry Chocktoot	Klamath Tribes	Culture and Heritage Director for Klamath Tribes	O. (541) 783-2764 ext. 107	perry.chocktoot@klamathtribes.com
Robert Kentta	Confederated Tribes of Siletz	Cultural Resource Specialist	O. (541) 444-8244	rkenta@ctsi.nsn.us

Table notes: SHPO = State Historic Preservation Office; THPO = Tribal Historic Preservation Officer

Chapter 11: References

11. REFERENCES

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Chapter 12: List of Preparers

12. LIST OF PREPARERS

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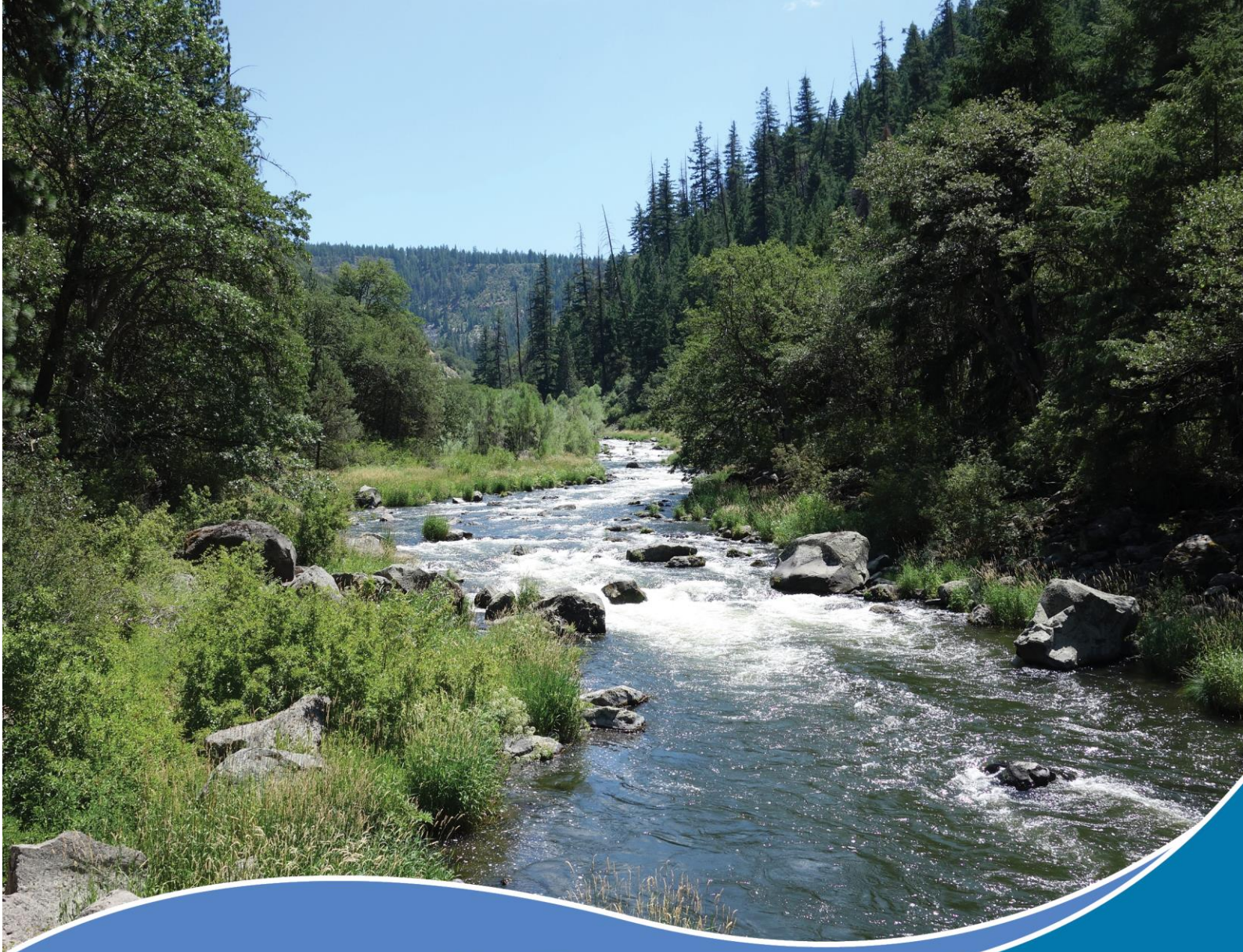
APPENDIX D LOOTING AND VANDALISM PREVENTION PLAN



Lower Klamath Project

Looting and Vandalism Prevention Plan

February 2021

KLAMATH RIVER RENEWAL CORPORATION

Prepared for:

Klamath River Renewal Corporation
Federal Energy Regulatory Commission
Lower Klamath Project Cultural Resources Working Group

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Appendix

ACRONYMS AND ABBREVIATIONS

AB52	California State Assembly Bill 52
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
BLM	Bureau of Land Management
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
C.F.R.	Code of Federal Regulations
CRHR	California Register of Historical Resources
CRS	Cultural Resource Specialist
CRWG	Cultural Resources Working Group
EIR	Environmental Impact Report
FERC	Federal Energy Regulatory Commission
HPMP	Historic Properties Management Plan
KHSA	Klamath Hydroelectric Settlement Agreement
KRRC	Klamath River Renewal Corporation
LVPP	Looting and Vandalism Prevention Plan
MOA	Memorandum of Agreement
MIDP	Monitoring and Inadvertent Discovery Plan
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
PRC	Public Resources Code
RM	river mile
SHPO	State Historic Preservation Officer
TCP	Traditional Cultural Property
TCR	Tribal Cultural Resource
TCRMP	Tribal Cultural Resources Management Plan
U.S.C.	United States Code
USFS	United States Forest Service

KEY DEFINITIONS

This document uses several terms to describe the location of the Proposed Action and cultural resources. The following definitions describe these terms and their uses in this document, which are intended to be consistent with federal and state laws.

Archaeological crime: Vandalism of, and theft from, archaeological sites and collections, and trafficking of restricted archaeological remains (Benderson 2016).

Archaeological object: The federal definition of an object is a material thing of functional, aesthetic, cultural, historical, or scientific value that may be, by nature or design, movable yet related to a specific setting or environment (36 CFR § 60.3). The State of Oregon defines an object as comprising the physical evidence of an indigenous and subsequent culture, including material remains of past human life including monuments, symbols, tools, facilities, and technological by-products, that is at least 75 years old[1] (Oregon Revised Statutes [ORS] 192.005). California defines an object as a manifestation primarily artistic in nature, or relatively small in scale and simply constructed. Although it may be movable by nature or design, an object must be associated with a specific setting or environment. The "object" should be in a setting appropriate to its significant historical use, role, or character; for example, a fountain or boundary marker (14 California Code of Regulations [CCR] Appendix A).

Archaeological site: The federal definition of a site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself maintains historical or archaeological value regardless of the value of any existing structure (36 CFR § 60.3). The term "archaeological site" refers to those sites that are eligible for or are listed on the NRHP (historic properties) as well as those that do not qualify for the NRHP. Oregon defines a site as 10 or more artifacts (including lithic debitage) or a feature likely to have been generated by patterned cultural activity within a surface area reasonable to that activity (a form of density measure), that is at least 75 years old[2] (ORS 358.905). California defines an archaeological site as a bounded area of a resource containing archaeological deposits or features defined in part by the character and location of such deposits or features (14 CCR Appendix A).

Area of Potential Effects (APE): The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist (36 CFR § 800.16(d)). The Proposed Action's APE is primarily established as a 0.5-mile-wide area extending from the shoreline of each side of the Klamath River from the upper reach of the J.C. Boyle Reservoir to the river mouth at the Pacific Ocean. However, around the reservoirs where topography is more open and rolling, the APE extends at least an additional 0.5 mile to create a minimum 1-mile-wide area in these locations for addressing potential for indirect effects primarily related to potential viewshed alterations from reservoir removal. Due to the potential for landscape-

[1] Because Section 106 of the NHPA applies, this Project will use the NRHP guideline of 50 years.
[2] Because Section 106 of the NHPA applies, this Project will use the NRHP guideline of 50 years.

level visual changes, the APE around each reservoir may extend beyond the 1-mile-wide area to include areas that are within sightlines of the reservoirs and ADI.

Associated funerary object: Objects reasonably believed to have been placed with human remains as part of a death rite or ceremony. The use of the adjective "associated" refers to the fact that these items retain their association with the human remains with which they were found and that these human remains can be located. It applies to all objects that are stored together as well as objects for which adequate records exist permitting a reasonable reassociation between the funerary objects and the human remains that they were buried with (25 U.S.C. 3001 (3)(A)).

Burial site: Any natural or prepared physical location, whether originally below, on, or above the surface of the earth, into which as part of the death rite or ceremony of a culture, individual human remains are deposited (25 U.S.C. § 3001 (1); ORS 358.905).

Construction area: Areas where construction activities will occur in the Project area.

Cultural patrimony: An object having ongoing historical, traditional, or cultural importance central to the Native American group or culture itself, rather than property owned by an individual Native American, and which, therefore, cannot be alienated, appropriated, or conveyed by any individual regardless of whether or not the individual is a member of the Indian tribe or Native Hawaiian organization and such object shall have been considered inalienable by such Native American group at the time the object was separated from such group (25 USC § 3001 (3)(D)).

Cultural resources: Locations of human activity, occupation, or use. Cultural resources are not defined in federal law but include archaeological, historic, or architectural sites, structures, or places with important public and scientific uses and locations of traditional cultural or religious importance to specific social or cultural groups.

Definite Decommissioning Plan: The Proposed Action's Definite Decommissioning Plan (2020) details removal limits construction access, staging and disposal sites, demolition methods, imported materials, and waste disposal for each of the four dam facilities. Other key components include measures to reduce effects to aquatic and terrestrial resources, road and bridge improvements, relocation of the City of Yreka's pipeline across Iron Gate Reservoir and associated diversion facility improvements, demolition of various recreation facilities adjacent to the reservoirs, recreation improvements, downstream flood control improvements, groundwater system improvements, water supply improvements, fish hatchery modification and improvements, and measures to protect identified historic, cultural, and tribal resources.

Footprint: The geographic limits of work as presented in the Definite Decommissioning Plan (KRRC 2020). In addition, the project footprint extends below Iron Gate Dam to Humbug Creek, in California, a distance encompassing approximately 83 river miles

Historic property: This term is defined in 36 CFR § 800.16(l)(1) as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP…" The term "includes artifacts, records, and remains that are related to and located within such properties. The

term includes properties of traditional religious and cultural importance to and Indian tribe or Native Hawaiian organization and that meet the National Register criteria."

Historic Properties Management Plan (HPMP): As defined by FERC, an HPMP is a plan for considering and managing effects on historic properties of activities associated with constructing, operating, and maintaining hydropower projects.

Human remains: The States of California and Oregon define the term human remains or "remains" as the body of a deceased person, regardless of its stage of decomposition, and cremated remains (California Code § 7001; ORS 97.010. The regulations of the Native American Graves and Repatriation Act (NAGPRA; Public Law 101-601; 25 U.S.C. §§ 3001-3013) define human remains as the physical remains of the body of a person of Native American ancestry. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets. For the purposes of determining cultural affiliation, human remains incorporated into a funerary object, sacred object, or object of cultural patrimony must be considered as part of that item (43 CFR § 10.2 (d)(1)).

Inadvertent discovery: Any discoveries of human skeletal remains, artifacts, archaeological sites, or any other cultural resources during ground-disturbing or monitoring activities associated with the Proposed Action. The Section 106 process addresses "post-review discoveries" under 36 CFR 800.13. The Native American Graves Protection and Repatriation Regulations (43 CFR § 10.2 (g)(4)) define an inadvertent discovery as the unanticipated encounter or detection of human remains, funerary objects, sacred objects, or objects of cultural patrimony found under or on the surface of federal or tribal lands pursuant to Section 3 (d) of NAGPRA.

Limits of work: The physical extent of on-the-ground construction activities (i.e., demolition and removal) and restoration activities proposed as part of the Proposed Action.

Looted: A looted antiquity is one recovered from the ground in an unscientific manner. The antiquity is decontextualized, and physical integrity is jeopardized (Gerstenblith 2016). The term "looting" is applied to illegal excavation and artifact theft at archaeological sites (USFS 2015).

Memorandum of Agreement (MOA): An agreement document between federal agencies and others stipulating how adverse effects of federal actions on historic properties will be resolved under Section 106 and its governing regulations.

Parcel B lands: Proposed Action lands subject to transfer by KRRC to the States or to a designated third-party designee once KRRC has met all surrender license conditions.

Proposed Action: Refers to the Lower Klamath Project. KRRC proposes to remove four hydroelectric developments (J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate), along with appurtenant facilities that are located on the Klamath River approximately 200 miles from the Pacific Ocean in the States of Oregon and California. The Proposed Action consists of measures to remove the four developments, remediate and restore the reservoir sites, avoid or minimize adverse impacts downstream, and assure completion of the Proposed Action with committed funds. Proposed Action

stages outlined in the Proposed Action's Definite Decommissioning Plan (2020) include (1) site preparation and construction, (2) reservoir and post-reservoir drawdown, (3) facilities decommissioning, (4) reservoir area management following drawdown, and (5) other key components.

Project area: The area defined by the boundaries of the Proposed Action. Such boundaries encompass lands and waters between the upper reach of J.C. Boyle Reservoir (RM 234.1) and the toe of Iron Gate Dam (RM 193.1). This definition of Project area is used for purposes of the Definite Decommissioning Plan. It may be revised for purposes of environmental review under the National Environmental Policy Act, the CEQA, or other applicable laws, in future procedures.

Sacred object: Specific ceremonial objects which are needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present-day adherents (25 U.S.C. 3001 (3)(C)).

Traditional Cultural Property (TCP): A property that is eligible for inclusion in the NRHP based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. TCPs are rooted in a traditional community's history and are important in maintaining the continuing cultural identity of the community.

Tribal Cultural Resource (TCR): TCRs are defined in California PRC § 21074(1)(a) as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the affected tribe, and that is: listed or eligible for listing in the national or California Register of Historical Resources, or in a local register of historical resources; or a resource that the lead agency determines is a TCR. California Native American tribes traditionally and culturally affiliated with the geographic area of a project may have expertise concerning their TCRs (PRC § 21080.3.1).

Unassociated funerary object: Items that "…as a part of a death rite or ceremony of a culture are reasonably believed to have been placed with individual human remains either at the time of death or later…", but for which the human remains are not in the possession or control of the museum or Federal agency. These objects also must meet one of two further conditions. They must be identified by a preponderance of the evidence as either "… related to specific individuals or families or to known human remains…" or "…as having been removed from a specific burial site of an individual culturally affiliated with a particular Indian tribe (25 U.S.C. 3001 (3)(B)).

Vandalism: The willful destruction or spoiling of archaeological and historic sites, including graffiti, defacement, demolition, removal, and other criminal damage (USFS 2015).

Chapter 1: Introduction

1. INTRODUCTION

1.1 Purpose

The Klamath River Renewal Corporation (KRRC) proposes to remove four hydroelectric developments (J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate), along with appurtenant facilities that are located on the Klamath River approximately 200 miles from the Pacific Ocean in the states of Oregon and California. The Lower Klamath Project (hereafter Project or Proposed Action; Federal Energy Regulatory Commission [FERC] Project No. 14803) will achieve a free-flowing condition and volitional fish passage in river reaches currently occupied by these developments (river mile [RM] 193.1 to 234.1), which are currently owned and operated by PacifiCorp. Dam removal will be achieved through a FERC license transfer and surrender process.

The purpose of this Looting and Vandalism Prevention Plan (LVPP) is to provide strategies for the prevention of, and responses to, incidences of archaeological crimes such as looting and vandalism in order to protect sensitive Tribal Cultural Resources (TCRs) and historic properties. This LVPP is a management tool being implemented by KRRC and is an attachment to the Historic Properties Management Plan (HPMP). The LVPP supports potential requirements of FERC's License Surrender Order issued under the agency's authority pursuant to the Federal Power Act, follows the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106, and supports the Proposed Action's compliance with federal and state laws.

1.2 Project Overview

PacifiCorp, through related cultural resources inventories conducted for the previous Klamath Hydroelectric Project (FERC Project No. 2082) relicensing effort (PacifiCorp 2004) and current cultural resources inventories being completed by KRRC, has taken steps to identify archaeological sites that are considered eligible or potentially eligible (unevaluated) for listing in the National Register of Historic Places (NRHP). These are referred to as "historic properties." The Proposed Action has the potential to affect archaeological historic properties, including both known resources and other unknown resources that may be discovered during implementation of the Proposed Action.

Looting and vandalism or unauthorized excavation by the public and unintentional disturbance caused by unauthorized recreational uses are some of the potential impacts that could adversely affect archaeological historic properties. A Memorandum of Agreement (MOA) is being executed among consulting parties for the Proposed Action and stipulates the implementation of an HPMP to guide the Proposed Action's compliance with Section 106 of the NHPA. KRRC has developed the HPMP to reduce, avoid, and minimize impacts to historic properties (AECOM Technical Services, Inc. [AECOM] 2020a). This LVPP supports the HPMP by providing specific procedures for preventing and responding to incidences of looting and vandalism. The HPMP provides more detail on decommissioning actions, cultural resource regulations, and information on historic properties affected by the Proposed Action.

1.3 Plan Term

The LVPP commences upon approval by FERC and the Oregon and California State Historic Preservation Officers (SHPOs), after FERC issues the license surrender order. The LVPP is applicable until FERC terminates the license.

1.4 Project Location

The Lower Klamath Project area is located on the upper Klamath River in Klamath County, Oregon (south-central Oregon) and Siskiyou County, California (north-central California). The nearest principal cities are Klamath Falls, Oregon, located about 15 miles northeast of the upstream end of the Project area; Medford, Oregon, 45 miles northwest of the downstream end of the Project area; and Yreka, California, 20 miles southwest of the downstream end of the Project area. Figure 1-1 is a map of the Project area.

The four hydroelectric developments that compose the Lower Klamath Project are the J.C. Boyle, Copco, and Iron Gate reservoirs. J.C. Boyle is a 350- acre pool located in Townships 39 and 40 South, Range 7 East, Klamath County, Oregon. Copco is a 972-acre pool located 22 river miles downstream of the latter in Township 48 North, Range 4 West, Siskiyou County, California. Iron Gate is also located in California, approximately 2 miles downstream of Copco Dam. Iron Gate reservoir is 942 acres within Townships 47 and 48 North, Range 5 West. The three pools have flooded extensive portions of the Klamath River channel, its floodplain, and canyon. The river run segment begins at the Oregon–California border and continues 6 miles to the head of Copco Reservoir.

1.5 Land Ownership and Plan Applicability

The Proposed Action will occur primarily within private lands, including those identified as “Parcel B lands” in the Klamath Hydroelectric Settlement Agreement (KHSA). The process by which land will be transferred is outlined in the KHSA Section 7.6.4. First, PacifiCorp will transfer Parcel B lands to KRRC before facilities removal begins. PacifiCorp will continue to operate and maintain the proposed Lower Klamath Project and will assume the financial and legal liabilities for the developments pending surrender of the transferred license. However, KRRC alone will remove the dams. Once KRRC has completed facilities removal and all surrender conditions have been satisfied, KRRC will transfer ownership of these lands to the respective States or to a designated third-party transferee.

The Area of Potential Effects (APE) is described in the HPMP. Within the APE, the project footprint corresponding to limits of work includes 4,755.16 acres (KRRC 2020b). KRRC will own and manage 2,870.74 acres of Parcel B lands, which account for approximately 60.4 percent of the Project footprint, including the land containing most of the powerhouses; portions of the transmission lines, conduits, canals, and dam facilities; and land underlying the reservoirs, Klamath River, and tributary streams. PacifiCorp will retain ownership of Fall Creek lands and other lands, totaling approximately 106 acres (2.2 percent). Approximately 304.79 acres (6.4 percent) are federally owned: portions of the J.C. Boyle canal and the entire powerhouse as well as portions of Iron Gate Reservoir are on Bureau of Land Management (BLM) land (253.8 acres; 5.3 percent), while the United States Forest

Service (USFS) administers lands (50.99 acres, 1.1 percent) that fall within the revised 100-year floodplain below Iron Gate Dam (exclusive of Parcel B lands). Private ownership by others accounts for 1473.5 acres (31 percent). No state lands are included.

Lands situated below the Iron Gate Dam are generally held by private interests but also include parcels managed by the U.S. Bureau of Indian Affairs (BIA) and included within the reservation boundaries of the Yurok Tribe of the Yurok Reservation, Hoopa Valley Tribe, Quartz Valley Indian Tribe, and Resighini Rancheria. The Project also includes lands held by the BIA in Trust for the Karuk Tribe in addition to lands held in fee-simple status by the Karuk Tribe.

This LVPP applies to private lands owned by KRRC and PacifiCorp, which account for the majority of the Proposed Action's project footprint. The LVPP is not applicable to federal and tribal lands.

Figure 1-2 depicts land ownership including locations of Parcel B lands. Refer to the HPMP for additional information about the APE.

1.6 Document Organization

The LVPP has been prepared as an attachment to the HPMP. Chapter 1 of this document summarizes the purpose of the LVPP and a brief overview of the Proposed Action.

Chapter 2 presents the statutory and regulatory context as it relates to archaeological crimes.

Chapter 3 describes the roles and responsibilities of the individuals and organizations who will implement the procedures in this LVPP, as well as qualifications and training requirements.

Chapter 4 summarizes measures KRRC will use to prevent or reduce incidences of looting and vandalism, such as public education, a "See and Say" reporting program, and access restrictions.

Chapter 5 describes KRRC's looting and vandalism response procedures in the event a past or current incident is observed.

Chapter 6 provides current contact information for those parties who may need to be contacted under this LVPP.

Chapter 7 lists the references cited.

Chapter 8 lists the preparers of this document and their qualifications.

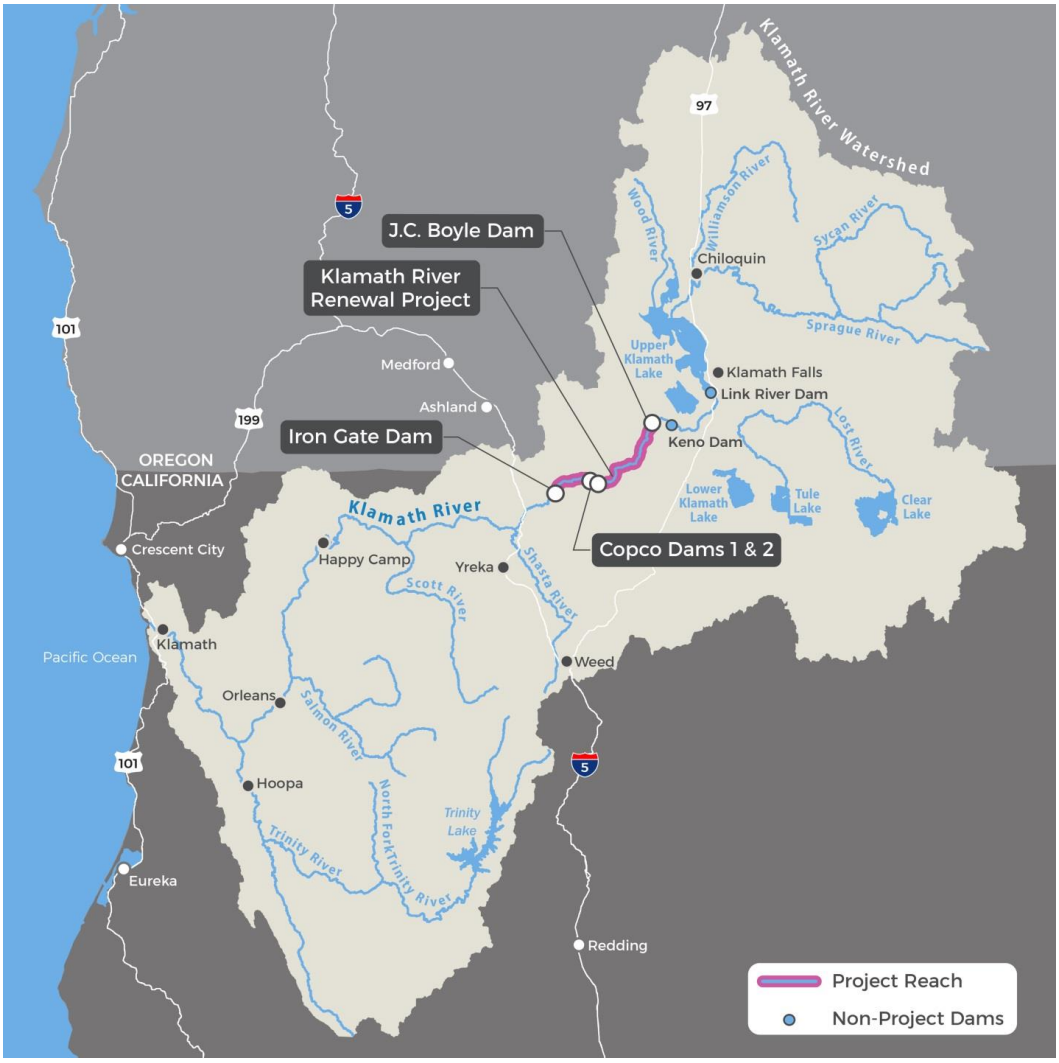

Figure 1-1: Klamath Basin watershed and Proposed Action facility locations.

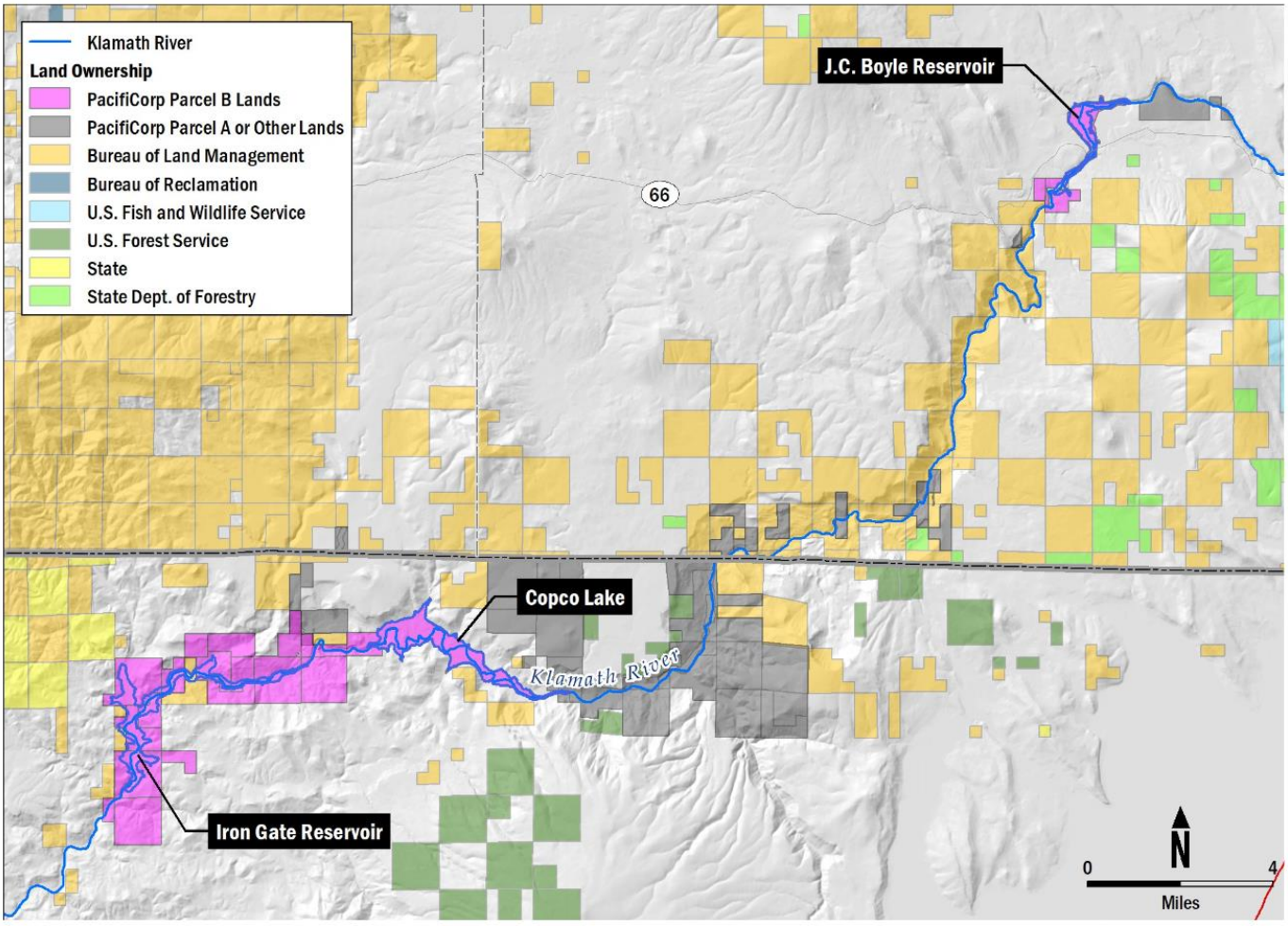

Figure 1-2: Map depicting land ownership, including Parcel B lands.

Chapter 2: Statutory and Regulatory Context

2. STATUTORY AND REGULATORY CONTEXT

The legal background of archaeological resources protection is extensive, reflecting more than 100 years of public concern to preserve the material evidence of the nation's past (Carnett 1991). This section provides a summary of the key federal and state laws and local regulations that form the regulatory framework for development of this LVPP, and highlights aspects related to resource protection. Other laws such as trespassing, vandalism related to graffiti, and theft of property might also apply but are not addressed here.

2.1 Laws and Land Ownership

Applicable laws and penalties are based in part on land ownership. While federal law is consistently applied across the nation, state, local, and tribal law differs from place to place.

Work to be conducted for the Lower Klamath Project will occur primarily on private lands and fall within the States of California and Oregon. State laws and regulations apply to these private lands. Federal laws, regulations, and guidance apply to portions of the Project area that intersect with federal ownership by the BLM and USFS. Agency-specific instructions apply to federal lands.

There is a division of legal authority between federal and state agencies. Federally owned and controlled lands, including tribal lands, are governed by the Antiquities Act of 1906, Historic Sites Act of 1935, NHPA of 1966, Archaeological Resources Protection Act (ARPA; 16 U.S.C. §§ 470aa et seq.) and NAGPRA. States have authority for state-owned lands and locally owned private lands, except for the trafficking provisions of federal acts.

Table 2-1 provides a summary of legislation and penalties pertinent to resource protection, including aspects of looting and vandalism. Refer to the HPMP for additional details about these and other laws and regulations.

2.2 Federal Laws

Sites on federal property have a variety of regulations that apply to protecting these resources. Primary among these are the ARPA (16 U.S.C. § 470aa), which requires stewardship of archaeological resources and regulates any disturbance and includes provisions for fines and other penalties for violation. Federal cases involving looting and vandalism to archaeological sites are frequently prosecuted under ARPA. NAGPRA is another federal law that guides the disposition of Native American human remains and cultural items and prohibits trafficking of these items. These key federal acts pertaining to cultural resources and human remains are summarized below.

2.2.1 Archaeological Resources Protection Act of 1979

The ARPA (Public Law 96–95 as amended, 93 Stat. 721, codified at 16 U.S.C. §§ 470aa–470mm) was enacted in 1979 and confers ownership of archaeological resources found on federally owned and tribal lands, with exceptions now provided in NAGPRA. ARPA was enacted to protect archaeological sites, artifacts, and human remains on federal lands from looting by providing effective law enforcement and penalties for convicted violators. ARPA makes it illegal to excavate or damage archaeological resources found on public or Native American lands without a permit, and to sell, purchase, exchange, transport, or receive archaeological resources that were excavated illegally under federal, state, or local law.

ARPA also calls for the preservation of objects and associated records in a suitable repository once recovered from a site. ARPA was enacted in recognition that archaeological resources are an irreplaceable part of America's heritage and they are increasingly endangered because of the escalating commercial value of some kinds of artifacts (National Park Service 2019). ARPA sets up guidelines for the proper procedures for obtaining permits and permission to excavate archaeological sites on public lands by qualified individuals (National Park Service 2019).

There are three crimes in ARPA (16 U.S.C. § 470EE) that can lead to either criminal or civil penalties. First, the act requires that anyone who excavates or removes archaeological resources from such lands obtain permission from the federal government (16 U.S.C. § 470CC; § 470EE(a)). Second, ARPA prohibits trafficking in archaeological resources obtained in violation of ARPA or any other federal law or regulation (id. § 470EE(b)). Third, it prohibits the trafficking in interstate or foreign commerce of any archaeological resources taken or held in violation of federal, state, or local law (id. § 470EE(c)). An item subject to ARPA must be at least 100 years old.

ARPA provides for both civil fines and criminal penalties, including fines, imprisonment, or both (id. §§ 470EE(d); 470FF). While subsection (b) refers specifically to artifacts from federal or Indian lands, subsection (c) refers to artifacts illegally trafficked in interstate or foreign commerce. The definition of "archaeological resource" is not limited to objects found on federal lands. This opens the possibility for the application of ARPA to cases involving artifacts from private or state lands located within the United States (Gerstenblith 2016:13-15; 16 U.S.C. § 470BB (1)). The criminal and civil penalty sections of ARPA (16 U.S.C. §§ 470aa-mm) require the assessment of damage to archaeological resources that are harmed by unauthorized acts.

Penalties for ARPA Violations

Criminal and Civil penalty section 16 U.S.C. 470(d) states:

> *Any person who knowingly violates, or counsels, procures, solicits, or employs any other person to violate, any prohibition contained in subsection (a), (b), or (c) of this section shall, upon conviction, be fined not more than $10,000 or imprisoned not more than one year, or both: Provided, however, that if the commercial or archaeological value of the archaeological resources involved and the cost of restoration and repair of such resources exceeds the sum of $500, such person shall be fined not more than $20,000 or imprisoned not more than two years, or both. In*

the case of a second or subsequent such violation upon conviction such person shall be fined not more than $100,000, or imprisoned not more than five years, or both.

The maximum fines for Class A misdemeanor and felony violations of federal law by individuals were increased to $100,000 and $250,000, respectively, by the Criminal Fines Improvement Act of 1987 (see 18 USC § 3571(b)); maximum fines for Class A misdemeanor and felony violations by organizations are $200,000 and $500,000, respectively. As a result, these are now the maximum fines for Class A misdemeanor and felony violations of ARPA, even though the original and lower ARPA fine amounts are shown in § 470ee(d) (McAllistar 2007).

Six elements are required for a felony violation of § 470ee(a), as supplemented by § 470ee(d), that relate to the damage assessment process. These include (1) the violation affected an archaeological resource as defined in ARPA; (2) the violation occurred on public (federal) or Indian lands; (3) the violation involved one or more of ARPA's prohibited acts; (4) the prohibited act occurred without an ARPA permit for archaeological investigation; (5) the violator acted knowingly (i.e., with criminal intent); and (6) for a felony offense only, the sum of archaeological value and cost of restoration and repair, or the sum of commercial value and cost of restoration and repair, exceeds $500.00. If this last element is not charged, or is charged but not proven, the ARPA violation is a Class A misdemeanor. The subsections of § 470ee prohibiting the unlawful trafficking of archaeological resources, § 470ee(b) and § 470ee(c), also have distinct elements that must be proven.

Items 1, 3, and 6 are archaeological elements that each require archaeological information to prove, such as archaeological information on the nature of the archaeological resource damage involved in the prohibited act or acts, the archaeological value and cost of restoration and repair determination, and appraisal information for a commercial value determination (McAllistar 2007).

2.2.2 Native American Graves Protection and Repatriation Act of 1990

The NAGPRA (25 U.S.C. § 3001) supports consultation with Native groups when Native burials may be, or are accidentally, disturbed by an action on federal lands, and for inventorying and repatriating collections already held by federal museums and institutions. Native human remains, funerary objects, sacred objects, and objects of cultural patrimony, as defined in NAGPRA, encountered on federal land in connection with an undertaking shall not be intentionally excavated or removed without a permit under ARPA (16 U.S.C. § 470cc) and consultation with the appropriate tribes. NAGPRA regulations apply only to federally managed lands.

NAGPRA is a comprehensive approach to the disposition of Native American human remains and cultural items. The act addresses the rights of lineal descendants, Indian tribes, and Native Hawaiian organizations to Native American cultural items, including human remains, funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA specifies special treatment for Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA stipulates that illegal trafficking in human remains and cultural items may result in criminal penalties.

NAGPRA has two main purposes. One is to require that federal agencies and museums receiving federal funds inventory holdings of Native American funerary remains and funerary objects. They

must also provide written summaries of other cultural items. This helps to forge paths for federal agencies and Native American tribes to work together in identifying and returning human remains and funerary objects.

The second purpose is to give Native American burial sites greater protection. NAGPRA requires that Indian tribes and Native Hawaiian organizations be consulted when archaeological investigations are anticipated or when cultural items are unexpectedly uncovered.

Three primary components characterize NAGPRA. First, under certain circumstances, NAGPRA provides for the restitution of newly discovered human remains and associated burial items discovered on federally owned or controlled land to Native American tribes. Second, NAGPRA provides a mechanism for the restitution to Native American tribes of human remains, associated and unassociated burial goods, sacred objects, and objects of cultural patrimony, that are in the collections of federal agencies and museums that receive federal funding. Third, NAGPRA prohibits trafficking in Native American human remains without the right of possession, as provided under NAGPRA, and in cultural items that were obtained in violation of NAGPRA.

Penalties for NAGPRA Violations

NAGPRA makes it a criminal offense to traffic in Native American human remains without right of possession or in Native American cultural items obtained in violation of the act. Penalties for a first offense may reach 12 months imprisonment and a $100,000 fine. NAGPRA also provides that the Secretary of Interior may assess civil penalties against museums that do not comply with NAGPRA.

2.2.3 Prohibitions in 36 C.F.R. § 261

The Secretary of Agriculture's regulations (36 C.F.R. § 261) provide in part for regulating the occupancy and use of archaeological sites. The ARPA sets two criteria which must be met by national forests in considering whether a site or artifact is significant for protection: (1) The site or artifact must be at least 100 years of age; and (2) Must be of archaeological interest. However, for the protection of all resources on federal land, and for the protection of the visitor, other statutes and regulations do protect resources that are not protected under ARPA.

Penalties for 36 C.F.R. § 261 Violations

The regulations at 36 C.F.R. § 261 prohibit "damaging any natural feature or other property of the United States" as well as "removing any natural feature or other property of the United States" and "Digging in, excavating, disturbing, injuring, destroying, or in any way damaging any prehistoric, historic, or archaeological resource, structure, site, artifact, or property" or "Removing any prehistoric, historic, or archaeological resource, structure, site, artifact, or property." Violations of these prohibitions are punishable by a fine of not more than $5,000 or imprisonment of not more than 6 months or both. While removal of arrowheads found on the surface is exempted from prohibition under ARPA, the regulations quoted above prohibit their removal from USFS lands.

2.3 State Laws

2.3.1 California

California has several laws and regulations that protect archaeological sites and Native American heritage. Those that apply to private land would be enforceable for the Parcel B lands covered under this LVPP.

California Public Resources Code (PRC)

State-level requirements for cultural resources management are within the California PRC, Chapter 1.7, Section 5097.5 (Archaeological, Paleontological, and Historical Sites), and Chapter 1.75, beginning at Section 5097.9 (Native American Historical, Cultural, and Sacred Sites) for lands owned by the state or a state agency. The following PRC sections are pertinent to looting and vandalism protection.

Archaeological Sites Removal or Destruction (PRC Section 5097.5)

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof. Violation is subject to a misdemeanor.

Native American Historic Resource Protection Act (PRC 5097.993-5097.994)

This legislation provides that any person who unlawfully and maliciously excavates upon, removes, destroys, injures, or defaces a Native American historic, cultural, or sacred site, situated on private land or within any public park or place, is guilty of a misdemeanor, if the person knew or should have known that it was a Native American site, art object, inscription, or feature. A person found guilty of the violation is subject to imprisonment in the county jail for up to 1 year, to a fine not to exceed $10,000, or both. A person found guilty of a violation of those provisions may also face a civil penalty in an amount not to exceed $50,000 per violation.

Felony Possession of Native American Human Remains and Artifacts (PRC Section 5097.99)

This legislation makes it a felony to obtain or possess Native American remains or associated grave goods:

> *(a) No person shall obtain or possess any Native American artifacts or human remains which are taken from a Native American grave or cairn on or after January 1, 1984, except as otherwise provided by law or in accordance with an agreement reached pursuant to subdivision (1) of Section 5097.94 or pursuant to Section 5097.98.*

(b) Any person who knowingly or willfully obtains or possesses any Native American artifacts or human remains which are taken from a Native American grave or cairn after January 1, 1988, except as otherwise provided by law or in accordance with an agreement reached pursuant to subdivision (1) of Section 5097.94 or pursuant to Section 5097.98, is guilty of a felony which is punishable by imprisonment in the state prison.

(c) Any person who removes, without authority of law, any Native American artifacts or human remains from a Native American grave or cairn with an intent to sell or dissect or with malice or wantonness is guilty of a felony which is punishable by imprisonment in the state prison.

California Health and Safety Code

The disposition of any human remains is governed by several sections of the California Health and Safety Code. Section 7050.5 establishes intentional disturbance, mutilation, or removal of interred human remains as a misdemeanor. This section requires that further excavation or disturbance of land, upon discovery of human remains outside of a dedicated cemetery, cease until a county coroner makes a report. The county coroner must contact the Native American Heritage Commission within 24 hours if the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the remains to be those of a Native American.

Section 7051 governs the removal of human remain from internment, or from a place of storage while awaiting internment or cremation, with the intent to sell them or to dissect them with malice or wantonness as a public offense punishable by imprisonment in a state prison.

Section 7052 stipulates felony offenses related to human remains, stating that willing mutilation of, disinterment of, removal from a place of disinterment of any remains known to be human are felony offenses.

Section 7054 concerns depositing human remains outside of a cemetery and exempts reburial of Native American remains pursuant to Section 5097.94 from definition of a misdemeanor.

Section 8010-8011 provides for the California Native American Graves Protection and Repatriation Act. This act establishes a state repatriation policy intent that is consistent with and facilitates implementation of the federal NAGPRA. The act strives to ensure that all California Indian human remains and cultural items are treated with dignity and respect. It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. It also states an intent for the state to provide mechanisms for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

Penal Code

Vandalism and Graffiti Law (Penal Code 594)

Every person who maliciously defaces with graffiti or inscribed material, damages, or destroys with respect to any real or personal property not his or her own, in cases other than those specified by state law, is guilty of vandalism. If the damage is worth $400 or more, vandalism is a wobbler in California law (misdemeanor or felony). Penalties may include a jail sentence of between 1 and 3 years and/or a fine of up to $10,000, or even more if the damage is very extensive. If the damage is worth less than $400, vandalism is punishable by misdemeanor penalties of up to 1 year in county jail and/or a maximum $1,000 fine.

Destruction of Historic Properties (Penal Code 6221/2)

Every person who maliciously defaces with graffiti or inscribed material, damages, or destroys with respect to any real or personal property not his or her own, in cases other than those specified by state law, is guilty of vandalism. Violation is subject to a misdemeanor charge.

Destruction of Caves (Penal Code 6223 (a)(2))

Establishes as a misdemeanor the disturbing or alteration of any archaeological evidence in any cave without the written permission of the owner of the cave, punishable by up to 1 year in the county jail or a fine not to exceed $1,000, or both.

2.3.2 Oregon

Oregon State laws are applicable to non-federal public and private lands (i.e., Parcel B lands) in Oregon.

Indian Graves and Protected Objects (ORS 97.740-97.760)

Protects all Native American cairns and graves and associated cultural items. Knowingly impacting Native American graves and cultural items in Oregon is a Class C felony (ORS 97.740-760), with a maximum fine of $125,000 and up to 5 years imprisonment (ORS 151.605 and .625).

Archaeological Objects and Sites (ORS 358.905-358.961)

This law provides definitions of archaeological sites, significance, and cultural patrimony and prohibits the sale and exchange of cultural items or damage to archaeological sites on non-federal public and private lands. Items of cultural patrimony or associated with human remains are protected everywhere, unless the activity is authorized by an archaeological excavation permit. Knowingly impacting an archaeological site on public or private land in Oregon is a Class B misdemeanor (ORS 358.905-961), with a maximum fine of $2,500 and up to 6 months imprisonment (ORS 161.615 and .635).

Permits and Conditions for Excavation or Removal of Archaeological or Historical Materials (ORS 390.235)

A state permit is required to make an exploratory subsurface investigation on public lands or to excavate within a known archaeological site (Administrative Rules for Archaeological Permits for Public and Private Lands [Oregon Administrative Rules (OAR) 736-051-0000 through 0090]). Violation of the provisions of subsection (1)(a) of this section is a Class B misdemeanor (formerly 273.705; 1993 c.459 §12; 1995 c.543 §7; 1995 c.588 §2; 2015 c.767 §171).

Table 2-1. Select Federal and State Laws with Penalties Applicable to Looting and Vandalism

Jurisdiction	Law/Statute	Summary of Regulations	Penalties for Violation
Federal	Archaeological Resource Protection Act (ARPA) of 1979	Public Law 96–95 as amended, 93 Stat. 721, codified at 16 U.S.C. §§ 470aa– 470mm, was enacted to provide more effective law enforcement to protect public archeological sites. Prohibited actions include damage or defacement in addition to unpermitted excavation or removal. Selling, purchasing, and other trafficking activities are also prohibited. ARPA establishes a permit process on public and Native American lands. Site location information is confidential.	Violations carry misdemeanor to felony criminal penalties including a maximum fine of $10,000 and 1 year imprisonment (for damages less than $500), up to a $20,000 fine and 2 years imprisonment (for damages over $500), and up to a $100,000 fine and 5 years imprisonment for a second violation (16 United States Code § 470ee(d)).
Federal	Native American Graves Protection and Repatriation Act (NAGPRA) of 1990	NAGPRA (25 U.S.C. §§ 3001 et seq.) and its implementing regulations (43 CFR § 10) govern excavations and inadvertent discovery of remains and cultural items on federal and tribal lands. NAGPRA makes it a criminal offense to traffic in Native American human remains without right of possession or in Native American cultural items obtained in violation of the act.	Penalties for a first offense may reach 12 months imprisonment and a $100,000 fine.
Federal	36 Code of Federal Regulations § 261 (U.S. Forest Service land)	36 C.F.R. § 261 prohibits damaging any natural feature or other property of the United States as well as removing any natural feature or other property of the United States and digging in, excavating, disturbing, injuring, destroying, or in any way damaging any prehistoric, historic, or archaeological resource, structure, site, artifact, or property or removing any prehistoric, historic, or archaeological resource, structure, site, artifact, or property.	Violations are punishable by a fine of not more than $5,000 or imprisonment of not more than 6 months or both.
State of California	Archaeological Sites Removal or Destruction; prohibition (Public Resources Code [PRC] Section 5097.5)	No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands.	Violation is subject to a misdemeanor charge punishable by a fine not exceeding $10,000, or by imprisonment, or both.
State of California	Possession of Native American Grave Goods or Human Remains (PRC Section 5097.99)	It is a felony to obtain or possess Native American remains or associated grave goods on or after 1984/1988, or to remove without authority of law Native American artifacts or human remains from a Native American grave or cairn with an intent to sell or dissect or with malice or wantonness.	Felony punishable by imprisonment in the state prison.

Jurisdiction	Law/Statute	Summary of Regulations	Penalties for Violation
State of California	Native American Historic Resource Protection Act (Senate Bill 1816; PRC Section 5097.993-.994)	Provides that any person who unlawfully and maliciously excavates upon, removes, destroys, injures, or defaces a Native American historic, cultural, or sacred site, situated on private land or within any public park or place, is guilty of a misdemeanor, if the person knew or should have known that it was a Native American site, art object, inscription, or feature.	A person found guilty of the violation is subject to imprisonment in the county jail for up to 1 year, to a fine not to exceed $10,000, or both. A person found guilty of a violation of those provisions may also face a civil penalty in an amount not to exceed $50,000 per violation.
State of California	Vandalism and Graffiti Law (Penal Code 594)	Every person who maliciously defaces with graffiti or inscribed material, damages, or destroys with respect to any real or personal property not his or her own, in cases other than those specified by state law, is guilty of vandalism.	If the damage is worth $400 or more, vandalism is a wobbler in California law (misdemeanor or felony). Penalties may include a jail sentence of between 1 and 3 years and/or a fine of up to $10,000, or even more if the damage is very extensive. If the damage is worth less than $400, vandalism is punishable by misdemeanor penalties of up to 1 year in county jail and/or a maximum $1,000 fine.
State of California	Destruction of Historic Properties (Penal Code 6221/2)	Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor.	Violation is subject to a misdemeanor charge punishable by a fine not exceeding $10,000, or by imprisonment, or both.
State of California	Destruction of Caves (Penal Code 6223 (a)(2))	Prohibits the disturbing or alteration of any archaeological evidence in any cave without the written permission of the owner of the cave.	Violation is subject to a misdemeanor charge punishable by up to 1 year in the county jail or a fine not to exceed $1,000, or both.
State of Oregon	Indian Graves and Protected Objects (Oregon Revised Statutes [ORS] 97.740-97.760)	Protects all Native American cairns and graves and associated cultural items.	Violation is a Class C felony (ORS 97.740-760) with a maximum fine of $125,000 and up to 5 years imprisonment (ORS 151.605 and 161.625).

Jurisdiction	Law/Statute	Summary of Regulations	Penalties for Violation
State of Oregon	Archaeological Objects and Sites (ORS 358.905-358.961)	Law provides definitions of archaeological sites, significance, and objects of cultural patrimony; prohibits the sale and exchange of cultural items or damage to archaeological sites on public and private lands. A permit is needed before any activity that will excavate, injure, destroy, or alter an archaeological site or object, or remove an archaeological object from private or non-federal public land.	Violation is a Class B misdemeanor (ORS 358.905-955) with a maximum fine of $2,500 and up to 6 months imprisonment (ORS 161.615 and 161.635).
State of Oregon	Permit and Conditions for Excavation or Removal of Archaeological or Historical Materials (ORS 390.235)	A state permit is required to make an exploratory subsurface investigation on public lands or to excavate within a known archaeological site (Oregon Administrative Rules for Archaeological Permits for Public and Private Lands [OAR 736-051-0000 through 0090]).	Violation is a Class B misdemeanor. [Formerly 273.705; 1993 c.459 §12; 1995 c.543 §7; 1995 c.588 §2; 2015 c.767 §171]

Chapter 3: Roles and Training

3. ROLES AND TRAINING

KRRC will implement several programs and measures aimed at preventing looting and vandalism. This section describes KRRC's roles and responsibilities, and the Cultural and Tribal Resources Training Program for employees and subcontractors.

3.1 Roles and Responsibilities

This section reviews the roles and responsibilities of key parties involved with cultural and tribal resources for the Proposed Action.

3.1.1 FERC

FERC serves as the lead federal agency for purposes of compliance with Section 106 of the NHPA. FERC has assigned authority to KRRC (Proponent) to complete the Proposed Action in accordance with Section 106 and its implementing regulations (36 C.F.R. § 800). FERC will ensure KRRC implements the measures committed to in the LVPP.

3.1.2 KRRC

Prior to construction, KRRC will designate the Cultural Resource Specialist (CRS) position. KRRC will be responsible for providing training to construction personnel and will be notified following any incidence of looting and vandalism. KRRC will become the interim land manager for all properties that are transferred during the license surrender and decommissioning process.

3.1.3 Cultural Resource Specialist

Cultural resources monitoring will be supervised by a designated CRS who will meet federal-level qualification standards for archaeologists as described in *The Secretary of Interior's Standards and Guidelines* Professional Qualification Standards (36 CFR § Part 61). Previous experience in the capacity as a project manager or principal investigator (PI) with Pacific Northwest regional experience will be required, as well as demonstrated familiarity with human osteology and the identification of Native American remains and sacred objects. State qualification standards will also be applicable (e.g., OAR § 736-051-0070(19)).

The CRS will design and implement Project-specific training requirements and ensure that on-site monitors retain necessary qualifications. The CRS will be familiar with the geoarchaeological sensitivity analysis, and have demonstrable familiarity with the regional archaeology, archaeological monitoring, and maintain working knowledge of relevant background and archaeological context documents (e.g., Definite Decommissioning Plan, Phase II Evaluation Report, HPMP).

The KRRC-designated CRS will coordinate and supervise monitoring teams and retains authority to implement the LVPP. The CRS serves as the primary conduit for all consultation among the parties. It is the responsibility of the CRS to coordinate with FERC, Oregon and/or California SHPOs,

KRRC/PacifiCorp, Indian tribes, landowners, and other consulting parties, including county coroners, and other law enforcement officials, when necessary.

3.1.4 Cultural Resources Monitors

On-site cultural resources monitors will have regional experience as a crew chief in the identification, evaluation, and treatment of cultural resources under Section 106 processes, including previous field monitoring experience. Cultural resources monitors act as the on-site representatives of the CRS and may be required to make eligibility recommendations, guide avoidance and treatment measures, and document incidences of looting and vandalism.

Professionally qualified cultural resources monitors will be present during ground-disturbing activities in areas designated as requiring cultural resources monitoring. The types of disturbances, situations, and locations that require monitoring are described in the Proposed Action's *Monitoring and Inadvertent Discovery Plan* (MIDP) (KRRC 2020c). Cultural resources monitors act as the on-site representatives of the CRS and may conduct periodic monitoring visits to known TCR/sensitive sites under the supervision of the CRS.

Cultural resources monitors have the authority to suspend construction activities within the immediate vicinity of a suspected or actual discoveries to be inspected, recorded, evaluated, and treated, including for incidences of looting and vandalism. The monitors will coordinate with construction personnel and the CRS to perform the secure, notify, and support functions detailed in the MIDP. Work suspension will be limited to the location of the discovery and a 100-foot buffer area. Work outside this area may continue under observation of a qualified archaeological monitor during suspension or work stoppage. Actions for each on-site monitor will be directed and managed by the project-designated CRS.

The on-site monitors will be responsible for maintaining daily logs and following documentation protocols. Log information includes areas monitored, the nature of the actions being monitored, location and description of any cultural resources identified during monitoring, sample photographs of daily activity (excepting photographs of human remains), records of conversations regarding daily construction and monitoring activity, and recommendations for on-site actions, such as security and treatment recommendations.

3.1.5 Tribal Advisors

Tribal advisors will be selected by affected tribes. One tribal advisor will be requested to accompany each archaeological team or cultural resources monitor and shall be present as feasible and appropriate pursuant to the schedule for different phases of the Proposed Action, to address unknown TCRs that are exposed. Tribal advisors will provide guidance to the monitoring team if cultural resources are encountered during ground-disturbing activities and will work through the cultural resources monitor and CRS in the event looting or vandalism is observed. Each tribal advisor must complete the KRRC cultural and tribal resources training prior to field mobilization, which will be administered by the CRS. Other qualifications or training standards for the tribal advisors will be

provided by their respective tribes prior to field mobilization of the tribal advisor (e.g., the Klamath Tribes offers a 40-hour training program; other tribes have similar internal training programs).

3.1.6 Construction Field Supervisors/Contractor

These individuals will represent the contracting companies who will be involved with construction. These individuals will have the responsibility and authority to suspend work and enforce CRS recommendations, and will report to the prime contractor's Project Manager.

3.2 Training

Prior to construction, all staff involved with actions that may result in inadvertent discoveries will receive Project-specific cultural resources training.

3.2.1 Cultural and Tribal Resources Training Program

All archaeological monitors, tribal representatives, field crew, and construction personnel must attend a cultural resources sensitivity training. This training will provide information regarding applicable archaeological laws and regulations and the roles and responsibilities of cultural resources personnel and other field staff. The aim of this training program is to develop a reasonable resource identification and monitoring process while minimizing the potential for adverse effects from the Proposed Action to known and previously unidentified historic properties. In addition to cultural resources training, safety and environmental training will also be provided to all personnel working on construction.

KRRC will develop the cultural and tribal resources training program, in coordination with tribal advisors, no less than 6 months prior to reservoir drawdown. Training will familiarize construction personnel with the types of archaeological resources that may be encountered during construction and will also outline the steps to be followed in the event of an archaeological or human remains discovery during construction.

Orientation and training will cover a variety of legal and ethical topics. Project-specific training will at a minimum include (1) guidance on identifying potential cultural materials and human remains; (2) cultural sensitivity training including respect for tribal advisors; (3) communication procedures and protocols that must be followed immediately when unanticipated cultural resources or human remains are discovered or if evidence of looting and vandalism is observed; and (4) safety protocols.

Training will outline legal penalties for violation of laws/vandalism/looting, as well as KRRC's internal cultural resource policy of penalties for Project personnel who violate cultural resources procedures. KRRC will train contractors in the importance of contractor specifications including a requirement to stay within designated work areas. KRRC will ensure employees and contractors are provided a confidentiality statement for signature, prepared by the KRRC legal team, which informs employees and contractors of laws regarding vandalism/looting and restrictions regarding providing any confidential information, including site location information, that could be relayed as part of the

Proposed Action. Training will also include steps to take and notification process for observations of looting and vandalism (active or past).

Consequences for Violations by KRRC Personnel

Prior to commencement of any Proposed Action construction activities, KRRC will adopt an internal policy for treating violations caused by KRRC personnel and subcontractors. KRRC's internal action plan will call for legal prosecution against all persons committing cultural resources violations. KRRC's internal action plan will also call for possible disciplinary action, including but not limited to suspension and/or termination for any employees caught in the intentional act of vandalism or looting.

3.2.2 Tribal Training Programs

Individual tribes may require training programs for their tribal advisors to be qualified for accompanying the archaeological monitoring teams. This training is separate from KRRC's training program and respective tribes will provide training for their participating tribal personnel.

Chapter 4: Prevention Measures

4. PREVENTION MEASURES

KRRC will implement strategies aimed at preventing or reducing looting and vandalism activities. These include public education measures with the objective of informing recreators and visitors as to the importance of preservation as well as laws and penalties for violations; a mechanism for the public to report suspicious activities via a "See and Say Program"; and public access restrictions during reservoir drawdown and dam removal activities when newly exposed archaeological sites may be most vulnerable.

4.1 Law Enforcement Coordination and Training

For the period of the applicability of this LVPP, most at-risk archaeological historic properties fall on private land. KRRC will coordinate with the Siskiyou County Sheriff's Office (CA) and Klamath County Sheriff's Office (OR) for archaeological crimes committed on private land. KRRC will also coordinate to the extent feasible with additional state and federal law enforcement personnel, including USFS law enforcement officers, BLM rangers, and California and Oregon fish and wildlife officers and Oregon State Parks staff, who have jurisdiction or routine patrol capabilities along the river corridor.

4.1.1 County Law Enforcement

Prior to initiation of pre-construction activities, KRRC will reach out to the Siskiyou County Sheriff's Office and Klamath County Sheriff's Office to identify a primary point of contact to respond to an incidence of looting and vandalism. KRRC will offer to sponsor an annual law enforcement training program for the designated law enforcement point(s) of contact, which may be put on by the CRS in conjunction with tribal advisors, to enhance coordination and understanding of cultural resources violations.

4.1.2 State Law Enforcement

Response by state law enforcement agencies (Oregon State Police and California State Highway Patrol) is not anticipated for looting and vandalism crimes. The exception is if human remains are involved, in which case human remains findings are reported to the state police. This is covered in the Project's *Monitoring and Inadvertent Discovery Plan* (KRRC 2020c). However, to ensure that local law enforcement is collectively aware of the problem, the CRS will also report any incidences of looting and vandalism to state law enforcement.

4.1.3 Federal Law Enforcement

The Proposed Action's project footprint has very little land in federal ownership; therefore, looting and vandalism of sites affiliated with the Proposed Action have limited likelihood of invoking federal laws and regulations. However, some laws such as trafficking could invoke a federal law enforcement response even if not on federal land. The BLM/USFS heritage managers will be actively involved in any law enforcement activity regarding at-risk sites on federal land. To ensure that local

law enforcement is collectively aware, the CRS will also report any incidences of looting and vandalism to federal law enforcement

4.2 Public Education

KRRC will create an outreach program for public visitors (e.g., river rafters, campground hosts and visitors) to the Klamath River area after its restoration by establishing information kiosks at campgrounds and day-use areas that discuss cultural and tribal resources and site protection. Appropriate locations for the public information kiosks are to be determined but will be coordinated with the Proposed Action's *Recreation Plan*. KRRC will provide strategic signage and pamphlets at public information kiosks and as part of potential recreational permitting (in coordination with the Cultural Resources Working Group [CRWG] and KRRC).

4.3 Public Reporting "See and Say" Program

KRRC will provide a phone number for public reporting of suspicious looting and vandalism observations ("If you see something, say something!"). KRRC will post signs along major access routes, at public education kiosks, and in areas where looting and vandalism occurs. The signs will provide the following type of language:

- *Cultural resources are important to our heritage and are protected by law. No digging or artifact collecting is permitted.* (Signs will cite laws and penalties for violations so that suspects cannot say they were ignorant of the laws.)
- *If you see suspicious looting or vandalism activities, call* [KRRC phone number to be determined]. *Report who you saw, what you saw, when you saw it, where it occurred, and why it is suspicious.*
- *KRRC is offering a $1,000 reward to informants whose tips lead to the identification, citation, or arrest of a looter or vandal.*

4.4 Public Access Restrictions and Security Measures

KRRC will restrict public access during the drawdown and dam removal process through fencing/gates, public notification and signage for purposes of public safety. Security measures include an on-site presence by security personnel during drawdown and decommissioning at construction areas. KRRC will utilize existing fence and gates and erect additional fence and gates, as necessary, to temporarily or permanently restrict access to construction work areas.

4.4.1 KRRC/Kiewit On-Site Personnel

KRRC and their prime construction contractor, Kiewit Corporation, will retain on-site personnel and other security measures during drawdown and decommissioning of dams for construction operations. Site safety personnel will be on-site for 10-hour work shifts, 6 days a week throughout the construction duration, excepting holidays.

4.4.2 Erect Fences/Barriers/Gates along Roadways

KRRC will provide signage and erect vehicular access barricades to temporarily or permanently restrict access to roadway construction areas and at designated reservoir access points as applicable to construction areas. Locations of these temporary or permanent physical barriers will align with the construction areas per the Construction Drawings fence layout.

4.5 Reporting of Unauthorized Uses

Unauthorized uses of developed and dispersed recreation sites are an avenue for increased looting and vandalism, as well as resulting unintentional impacts to cultural sites. The CRS will report to the appropriate authorities (depending on land ownership) any observations of recurrent unauthorized recreation (camping, latrine, off-road vehicles) uses that may affect historic properties. For KRRC lands, the CRS will coordinate site protection measures such as strategic plantings or signage to discourage unauthorized uses.

4.6 Site Condition Monitoring (Site Inspections)

KRRC will conduct routine site condition monitoring, also known as site inspections (differentiated herein from construction monitoring, which occurs when ground-disturbing construction activities are ongoing) during and after decommissioning to assess the effects of erosion, restoration, changes in visitation, and other Proposed Action activities, as well as any evidence for looting and vandalism. The Proposed Action's *Monitoring Plan* details the process for site inspections. If evidence for looting and/or vandalism is observed, KRRC will implement the process outlined in this LVPP.

4.7 Site Protection Measures

KRRC will use various site protection measures to prevent looting and vandalism, including but not limited to the following strategies:

- Fences/barriers/gates along roadways
- Strategic routing of access roads
- Strategic routing of recreation sites
- Strategic plantings
- Strategic signage
- Capping of resources

Appropriate measures will be developed on a site-by-site basis to minimize potential opportunities for looting and vandalism. Refer to the Proposed Action's *Historic Properties Management Plan* (KRRC 2020b) for site-specific management measures.

Chapter 5: Looting and Vandalism Response

5. LOOTING AND VANDALISM RESPONSE

Looting and vandalism response protocols provide the steps that KRRC will follow in the event any employee involved with the Proposed Action witnesses illegal acts, suspicious activities, or evidence of looting or vandalism to archaeological sites or other cultural resources.

5.1 Purpose

The purpose of the looting and vandalism response protocols is to ensure that cultural resources are appropriately managed in accordance with state and federal laws in the event looting or vandalism is observed. These procedures will be presented to all Project personnel as part of the cultural resources awareness training. A copy of the *Looting and Vandalism Observation Form* (Appendix A) will be maintained on-site by construction field supervisors.

5.2 Examples of Looting, Vandalism, or Suspicious Behavior

KRRC personnel will report observations of looting, vandalism, and/or suspicious behavior to their construction field supervisor and the CRS. Examples of vandalism and looting, which may be intentional or unknowing, could include:

- Graffiti, spray painting, knife etching, or otherwise drawing on or defacing cultural resources
- Shooting at resources such as rock art
- Driving off-highway vehicles over sensitive resources
- Unauthorized digging in sensitive areas
- Collecting or otherwise removing cultural materials such as artifacts or portable features

Examples of suspicious behavior could include:

- People frequently leaning over and picking up objects
- Use of metal detectors
- Use of a long stick or walking stick to turn over objects on the ground
- Use of earth moving equipment in remote areas
- Possession of artifacts
- Digging with shovels or trowels and use of sifting screens not related to construction activities.

5.3 Procedures

KRRC personnel will follow these steps in the event vandalism and looting activities are observed during Project implementation. This includes active or "in progress" looting/vandalism or evidence that past activities have occurred at a site. As part of the Cultural and Tribal Resources Training Program, KRRC personnel and subcontractors will be instructed to follow these procedures:

Step 1 – Maintain safety

If any member of a construction or other field crew believes that he or she is witnessing active looting or vandalism of an archaeological resource, the priority will be to avoid confrontation that could escalate into an unsafe situation. Professional looters and vandals may be armed, and alcohol and drugs are frequently involved. Law enforcement, not KRRC personnel or subcontractors, will be responsible for direct confrontation and enforcement of any violations.

If an employee comes across an active incident of looting and/or vandalism, he or she will:

- Record observations from a safe distance, note any conversations, and take legible notes.
- Avoid drawing attention to him- or herself or allowing the looter/vandal to see the taking of photographs, videos, or notes.
- "Act innocent" to limit confrontation if direct conversation with the looters/vandals cannot be avoided.

Step 2 – Notify

For in-progress looting and vandalism observations: The person making the observation must immediately notify local law enforcement (911 [or designated law enforcement point of contact]). Any employee, including the witness, monitor, or field supervisor, may call law enforcement if they feel the situation is an emergency that warrants an immediate law enforcement response.

For past looting and vandalism observations: The person making the observation must immediately notify the on-site monitor or construction field supervisor, who will notify the CRS by telephone. If the CRS is not immediately reachable, the alternate KRRC designee [TBD] will be contacted.

Step 3 – Avoid further damage

If an employee comes across a recently looted site, he or she will take all reasonable measures to avoid compromising any evidence and will not:

- Walk in the site.
- Touch or move artifacts, trash, tools, or anything else that might have been used or disturbed by the looters/vandals. Often violators leave trash containing fingerprints or saliva, which can lead to positive identification. Their footprints, tire treads, and even their tools leave distinctive impressions.

- Leave the site unprotected. If possible, the employee will remain at the scene until law enforcement officers arrive. A vandalized or looted site is a crime scene. Evidence must be collected by a trained law enforcement officer.

Step 4 – Fill out the Looting/Vandalism Observation Form

The person making the observation, assisted by the monitor/field supervisor if available, will fill out the attached *Looting/Vandalism Observation Form* (Appendix A), and include information about date/place/time of observations, personnel involved, resource affected, impacts to the resource, and persons responsible for the damage, if known. When applicable, the observer will note details such as license plate/vehicle description, description of the person, and any other details about the event, as well as photograph the activities, damage, and persons responsible for the damage if this can be done so safely, as this may help law enforcement and prosecution if a crime has been committed.

Step 5 – CRS will Make Additional Notifications

If law enforcement has not already been contacted as part of an in-progress response (Step 2), the CRS will report the looting and vandalism to law enforcement, FERC, SHPO, and tribes within 24 hours of the incident. The notification will provide observations and share the actions that have been taken regarding the affected resource, and any recommendations.

Step 6 – CRS will Complete a Damage Assessment

Within 1 week of the incident, and in coordination with law enforcement, the CRS will make an initial damage assessment of the disturbance to any resource affected by looting or vandalism, regardless of NRHP eligibility status, consistent with National Park Service methods and as specified for ARPA violations (McAllister 2007). The CRS will:

- Identify damage locations
- Identify the types of damage to the resource
- Measure the amount of damage (including volume)
- Collect any damaged/exposed resources at risk for further damage
- Document the findings (notes, photographs [still and/or video] of damage, maps of the archaeological site and damage locations)
- Provide preliminary cost and value determinations, as appropriate
- Prepare a Damage Assessment Report

In conjunction with the Damage Assessment, KRRC will provide an assessment of NRHP eligibility for any resources that are unevaluated. FERC's assessment of NRHP eligibility (36 C.F.R. § 800.4(c)) and proposed actions (35 C.F.R. § 800.13(3)) will be documented.

- If SHPO concurs that the damaged resource is eligible, SHPO will notify FERC and KRRC, and KRRC will provide an Archaeological Treatment Plan and proposed mitigation measures to SHPO and FERC (Step 7).

- If SHPO concurs that the damaged resource is not eligible, no further treatment or mitigation will be required. However, KRRC will implement all appropriate site restoration recommendations (artifact reburial, filling in of holes, etc.)

Step 7 – KRRC will Proceed with Archaeological Treatment Plan/Mitigation Measures

KRRC will implement the Archaeological Treatment Plan which could include emergency restoration and repair or other mitigation measures developed in consultation with law enforcement, FERC, SHPO, and the tribes. Treatment of adverse effects to archaeological sites involving archaeological research will be consistent with the HPMP guiding research directions, field methods, and analytical strategies. KRRC will consider restoration and immediately increasing site protection measures (i.e., surveillance cameras, security patrols, fencing, signage).

Step 8 – KRRC will Coordinate with Law Enforcement

For any actionable legal cases, KRRC will coordinate with law enforcement regarding prosecution.

5.4 Annual Reporting

On an annual basis, KRRC will transmit a report of completed supplemental treatment to FERC, SHPOs, affected tribes, and other consulting parties as appropriate, as part of the annual report required under the HPMP. KRRC will consider reburial or curation of damaged cultural materials.

5.5 Continuation of the LVPP

KRRC shall implement the measures stipulated in this document until FERC terminates the license surrender order. KRRC will consult with the successor landowners to investigate mechanisms for continuing responsibilities of the LVPP after KRRC ceases ownership.

Chapter 6: Contact Information

6. CONTACT INFORMATION

This section provides current (2020) contact information for agencies, Tribes, and other parties to be notified under this plan. The following tables include Project contacts, looting and vandalism law enforcement contacts, and agency and tribal contacts based on geographic location by state. Contact information is expected to change over the course of the Proposed Action. The KRRC CRS will maintain up-to-date contact information.

6.1 Project Contacts

Table 6-1. Project Contacts

Name	Organization	Role	Phone	Email
	TBD	Cultural Resource Specialist		
	FERC			
Mark Bransom	KRRC	Chief Executive Officer	O. (510) 679-6929	mark@klamathrenewal.org

Table notes: FERC = Federal Energy Regulatory Council; KRRC = Klamath River Renewal Corporation

6.2 Looting and Vandalism Law Enforcement Contacts

Table 6-2. Looting and Vandalism Law Enforcement Contact Information, by Jurisdiction

Landowner/Location	Law Enforcement	Name and Role	Phone	Email
KRRC - California	Siskiyou County Sheriff			
KRRC - Oregon	Klamath County Sheriff			
USFS	USFS Law Enforcement			
BLM	BLM Law Enforcement			

Table notes: BLM = Bureau of Land Management; KRRC = Klamath River Renewal Corporation; USFS = U.S. Forest Service

6.3 California

Table 6-3. California Contact Information

Name	Organization	Role	Phone	Email
Jon Lopey, Sheriff-Coroner or Lt. Mark Hilsenberg, Chief Deputy Coroner	Siskiyou County Law Enforcement	Coroner, Primary Contact for Human Remains	O. (530) 842-8300	
	Native American Heritage Commission	Primary Contact for Native American Human Remains in CA	O. (916) 373-3710	
Brendon Greenaway	California State Historic Preservation Office	State Archaeologist, Primary SHPO Contact for CA	O. (916) 445-7036	Brendon.greenaway@park.ca.gov
Eric Ritter	BLM, Redding Field Office	Archaeologist	O. (530) 224-2131	eritter@blm.gov
Jeanne Goetz	USFS, Klamath National Forest	Heritage Resources Specialist	O. (530) 841-4488	jgoetz@fs.fed.us
Blake Follis	Modoc Nation	Environmental Director	O. (918) 542-1190	blake.follis@modoctribe.com
Roy Hall	Shasta Nation	Chief	O. (530) 468-2314	shastanation@hotmail.com
Janice Crowe	Shasta Indian Nation	Chairperson	O. (530) 244-2742	twocrowes63@att.net
Crystal Robinson	Quartz Valley Indian Reservation	Environmental Director	O. (530) 468-5907 ext. 318	Crystal.Robinson@qvir-nsn.gov
Alex Watts-Tobin	Karuk Tribe	THPO	O. (530) 627-3446 ext. 3015	atobin@karuk.us
Rosie Clayburn	Yurok Tribe	THPO	O. (707) 482-1350 ext. 1309	rclayburn@yuroktribe.nsn.us

Name	Organization	Role	Phone	Email
Rachel Sundberg	Cher'Ae Heights of the Trinidad Rancheria	THPO	O. (707 677-0211	rsundberg@trinidadrancheria.com
Megan Van Pelt	Resighini Rancheria	Executive Director	O. 707-954-1173	meganvanpeld@resighinirancheria.com

Table notes: SHPO = State Historic Preservation Office; THPO = Tribal Historic Preservation Officer

6.4 Oregon

Table 6-4. Oregon Contact Information

Name	Organization	Role	Phone	Email
TBD	Oregon State Police	Human Remains Contact	O. (503) 731-4717 C. (503) 708-6461 Dispatch: (503) 731-3030	-
Dennis Griffin	Oregon State Historic Preservation Office	State Archaeologist, Primary SHPO contact for OR	O. (503) 986-0674 C. (503) 881-5038	Dennis.Griffin@oregon.gov
Mitch Sparks	Oregon Commission on Indian Services	Executive Director	O. (503) 986-1067	LCIS@oregonlegislature.gov
Laird Naylor Sara Boyko	BLM BLM	Lead Archaeologist, KFRA Project Archaeologist	O: (541) 885-4139 O: (541) 885-4114	lnaylor@blm.gov sboyko@blm.gov
Perry Chocktoot	Klamath Tribes	Culture and Heritage Director for Klamath Tribes	O. (541) 783-2764 ext. 107	perry.chocktoot@klamathtribes.com
Robert Kentta	Confederated Tribes of Siletz	Cultural Resource Specialist	O. (541) 444-8244	rkenta@ctsi.nsn.us

Table notes: SHPO = State Historic Preservation Office; THPO = Tribal Historic Preservation Officer

Chapter 7: References

7. REFERENCES

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2016 Introduction. Cultural Property Law. Volume 64, Number 2. March. U.S. Department of Justice Executive Office for United States Attorneys.

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2019 BLM Manual 8140. Electronic document, https://www.blm.gov/sites/blm.gov/files/uploads/mediacenter_blmpolicymanual8140.pdf, accessed October 20, 2019.

Carnett, Carol

1991 Legal Background of Archeological Resource Protection. Electronic document, https://www.nps.gov/archeology/PUBS/TECHBR/tch11PR.htm, accessed October 20, 2019.

Gerstenblith, Patty

2016 The Legal Framework for the Prosecution of Crimes Involving Archaeological Objects. Volume 64, Number 2. March. U.S. Department of Justice Executive Office for United States Attorneys. Electronic document, https://www.justice.gov/usao/file/834826/download. Accessed July 20, 2019.

KRRC (Klamath River Renewal Corporation)

2020a *Supplemental Response to Independent Board of Consultants' Recommendations.* February 28, 2020. Prepared for the Federal Regulatory Commission (FERC). Available, http://www.klamathrenewal.org/definite-plan/.

2020b Klamath River Renewal Project: Draft Historic Properties Management Plan.

2020c Draft Cultural Resources Monitoring and Inadvertent Discovery Plan.

McAllistar, Martin E.

2007 Archaeological Resource Damage Assessment: Legal Basis and Methods. Brief 20. COI Departmental Consulting Archeologist/NPS Archeology Program, National Park Service, Washington, DC. Electronic document, https://www.nps.gov/archeology/pubs/techbr/tch20.htm, accessed October 20, 2019.

National Park Service

2019 Archeology Laws and Ethics. Electronic document, https://www.nps.gov/Archeology/PUBLIC/publicLaw.htm, accessed October 20, 2019.

PacifiCorp

2004 Cultural Resources Final Technical Report and Associated Confidential Appendices. Klamath Hydroelectric Project FERC No. 2082. PacifiCorp, Portland, Oregon.

State Water Board (California State Water Board)

2018 Lower Klamath Project License Surrender Draft Environmental Impact Report.

United States Bureau of Reclamation and California Department of Fish and Wildlife

2012 U.S.D.I., Bureau of Reclamation and California Department of Fish & Game. Klamath Facilities Removal Final EIS/EIR.

USFS (United States Forest Service)

2015 Forest Service Handbook (FSH 2309.12), Heritage Program Management Handbook. Electronic document, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd517819.pdf, accessed October 20, 2019.

Chapter 8: List of Preparers

8. LIST OF PREPARERS

Name	Education	Qualifications
Sarah McDaniel, MA, RPA	M.A. Anthropology B.A. International Studies	20 years of experience in archaeology and cultural resources management.
Elena Nilsson, MA, RPA	M.A. Anthropology B.A. English	41 years of experience in archaeology and cultural resources management.

APPENDIX A SAMPLE LOOTING AND VANDALISM OBSERVATION FORM

KLAMATH RIVER RENEWAL

Looting and Vandalism Observation Form

Recorder's Name/Position: _____

Date of observation: _____ Time of observation: _____

Location: _____

Description of looting/vandalism and tools being used (*digging, collecting, spray painting, shovel, metal detector, screen, paint cans*, etc.): _____

_____

_____

_____

Use or possession of weapons, alcohol, or drugs observed:_____

_____

_____

Description of the person(s) (*height, weight, race, hair color, clothing, identifying marks, strange behavior*): _____

_____

_____

_____

Route of travel of the person(s) away from the location:_____

_____

Is this a known resource? ☐ Yes #_____ ☐ No ☐ Uncertain

Description of vehicle (*make, model, color, license plate*):_____

_____

_____

☐ If safe to do so, take photographs/videos of: 1) the overall setting, and 2) the damage to archaeological materials. Text or email to the CRS along with this form:

Digital Photo #: _____ Description: _____

Digital Photo #: _____ Description: _____

Any other observations and responses: _____

_____

_____

_____

_____

☐ IMPORTANT: Submit this form to the KRRC Cultural Resource Specialist the same day of the observation.

Submitted to: _____ Date: _____ Time: _____

Submitted by Signature: _____

www.klamathrenewal.org

APPENDIX E CORRESPONDENCE ON THE HPMP

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P O BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax (916) 653-9824
calshpo@ohp.parks.ca.gov

28 May, 2003

Reply To: FERC030505A

Michael Strickler
Hydro Resources Project Manager
PacifiCorp
825 N.E. Multnomah, Suite 1500
Portland, Oregon 97232

Re: Iron Gate Hydroelectric Project (FERC No. 2082), Modification of Dam Crest

Dear Mr. Strickler:

Thank you for your letter dated May 2, 2003 regarding proposed modification of the.Iron Gate Hydroelectric Project on the Klamath River near Hornbrook, California. PacifiCorp owns and operates the Iron Gate Hydroelectric facility as part of the Energy Regulatory Commission (FERC) Licensed Klamath Project, FERC Project Number 2082.

You have provided me with the results of your efforts to determine for the benefit of FERC, whether the above undertaking may affect historic properties. You have done this, and are consulting with me, in order to enable FERC to comply with Section 106 of the National Historic Preservation Act and implementing regulations codified at 36 CFR Part 800.

You state that the Iron Gate Dam was completed in 1962 and therefore does not meet the SO-year-minimum age criteria for eligibility for listing on the National Register (NR). Although this statement is factual, applying the 50-year criterion without qualification may run the risk of overlooking a potentially exceptional property. In this case, however, I have concluded that the evidence that you provided demonstrates that the Iron Gate Hydroelectric Project does not possess exceptional importance and does not otherwise meet the requirements for eligibility under Criteria Consideration G for properties that have achieved significance within the last fifty years. I will assume that FERC has made this determination unless I hear to the contrary from them within 15 calendar days after you have furnished them with a copy of this letter.

You also state that the scope of the project will only alter the crest of the non-historic Iron Gate Dam and spillway. Recent cultural survey did not find any cultural sites or materials in any of the areas proposed for construction, and no other ground disturbing activities or alterations are planned to the surrounding buildings or grounds. You are requesting my concurrence in your determination that the Iron Gate Dam is not eligible for the NR and in a finding that this undertaking will have no adverse effect on historic properties.

I have reviewed the documentation furnished and have the following comments:

1) The steps taken to identify historic properties that may be affected by this undertaking are satisfactory.
2) I concur with your recommendation to FERC that there are no historic properties within the Area of Potential Effects (APE).
3) Since there are no historic properties within the APE, FERC could request concurrence on a finding of "no historic properties affected" [36 CFR §800.4(d)(l)] instead of a finding of "no adverse effect".
4) In order to expedite closure of this consultation I will assume that FERC has made this finding unless I hear to the contrary from them within 15 calendar days after you have furnished them with a copy of this letter.
5) I would not object to an official finding by FERC that there are no historic properties that may be affected by this undertaking.

Thank you for considering historic properties during project planning. If you have any questions, please contact Andrea Galvin at (916) 653-4533 or agalv@ohp.parks.ca.gov.

Sincerely,

Dr. Knox Mellon
State Historic Preservation Officer

KLAMATH
RIVER RENEWAL
CORPORATION

May 3, 2018

Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Ste. 100
Sacramento, CA 95816

RE: Initiation of Informal Consultation for the Lower Klamath Project (FERC No. 14803)

Dear Ms. Polanco,

Klamath River Renewal Corporation (KRRC) and PacifiCorp request the initiation of informal consultation with the California Office of Historic Preservation regarding the Lower Klamath Project (Project; FERC No. 14803) and your comments on the preliminary Area of Potential Effects (APE) defined for the Project by AECOM, our technical representative. Informal consultation is being requested under a November 10, 2016, "Notice of Applications Filed With the Commission" (Attachment 1) issued by the Federal Energy Regulatory Commission (FERC) which designated PacifiCorp and KRRC as the Commission's non-federal representative for carrying out informal consultation to help facilitate FERC's compliance with Section 106 of the National Historic Preservation Act (54 U.S.C § 300101 et seq.) and the Advisory Council's regulations at 36 C.F.R. § 800.2(c)(4). KRRC and PacifiCorp (Proponents) have submitted to FERC a License Surrender Application (LSA) for the Project. FERC considers review of the LSA an "undertaking" (36 C.F.R § 800.16(y)) and thus subject to Section 106 as implemented in 36 C.F.R. Part 800.

The Project seeks the decommissioning and removal of four dam developments (Iron Gate, Copco No. 1 and No. 2, and J.C. Boyle), located on the Klamath River, which are currently owned and operated by PacifiCorp. The J.C. Boyle development is located in Klamath County, Oregon, with the other three developments located in Siskiyou County, California. The purpose of the project is to achieve a free flowing river condition and full volitional fish passage through the reaches of the Klamath River currently impacted by the four dams.

This letter provides a summary of the Project's administrative background, a status update on informal consultation efforts conducted to date, a brief Project description, and a written definition of the preliminary APE, accompanied by maps. Your comments on the preliminary APE are requested at this time to help focus KRRC's and PacifiCorp's informal consultation efforts [36 C.F.R. § 800.2(c)(4)] with agencies, tribes, and other interested parties, as well as to focus that dialogue in more meaningful content for FERC's subsequent formal consultation process.

Administrative Background

KRRC is a 501(c)(3) organization created by the Klamath Hydroelectric Settlement Agreement (KHSA), as amended in 2016, to decommission the four dam developments owned by PacifiCorp (see the attached APE map book for overview and detail maps showing the project location). PacifiCorp is a leading western U.S. energy services provider and the largest grid owner-operator in the West. For the Lower Klamath Project, KRRC is the transferee, while PacifiCorp is the transferor.

KRRC and PacifiCorp jointly filed a combined license amendment and license transfer application with FERC on September 23, 2016. The license amendment asked FERC to administratively remove the four dam developments from the Klamath Hydroelectric Project license (No. 2082). The transfer amendment asked that the four developments be administratively placed into a new license for the Lower Klamath Project (No. 14803). On March 15, 2018, FERC granted the license amendment application and deferred the license transfer, pending receipt of required additional information. On April 16, 2018, PacifiCorp filed a motion asking FERC to change the effective date for the new Lower Klamath license so splitting the license happens concurrently with the license transfer. PacifiCorp will continue to operate each of the four developments proposed as the Lower Klamath Project until the Commission approves the License Transfer Application and KRRC accepts the license.

KRRC filed a separate license surrender application on September 23, 2016 for Project No. 14803 that, if approved, would allow KRRC to decommission the four facilities. Under the amended KHSA, KRRC would oversee dam removal activities, which, if approved, are expected to begin in 2020 with dam removal occurring in 2021. PacifiCorp would continue to operate the dams until they are decommissioned.

Consultation Status

KRRC and its technical representative, AECOM, have formed a Cultural Resources Working Group (CRWG) to compile information to assist FERC in its Section 106 compliance efforts. KRRC invited the participation of the representatives of California Office of Historic Preservation; Oregon State Historic Preservation Office; US Army Corps of Engineers; USDI Bureau of Reclamation; Klamath Falls and Redding Field Offices of the USDI Bureau of Land Management; USDA Klamath National Forest; and PacifiCorp. To date, the CRWG has participated in three teleconference calls where: a Project overview was provided (September 2017), a preliminary Area of Potential Effects was discussed (December 2017), and preliminary work plans for 2018 were reviewed (March 2018).

KRRC has also initiated informal consultation with Indian tribes. KRRC sent letters to 25 Indian tribes native to or currently residing in northern California and southern Oregon requesting their participation in the informal consultation process. Eight Indian tribes (Karuk Tribe, Klamath Tribes, Modoc Tribe of Oklahoma, Quartz Valley Indian Rancheria, Shasta Indian Nation, Shasta Nation, Cher' Ae Heights of the

Trinidad Rancheria, and Yurok Tribe) have confirmed their interest in participating in the informal consultation process. A Project introduction meeting with the participating Indian Tribes was held on April 6, 2018 in Yreka, California.

FERC conducted scoping meetings in January and February 2018 with six federally recognized Indian Tribes regarding the KRRC and PacifiCorp license amendment and transfer application. The tribes invited to the meetings include the Hoopa Valley Tribe, Karuk Tribe, Klamath Tribes, Modoc Tribe of Oklahoma, Quartz Valley Indian Rancheria, and Yurok Tribe.

As KRRC advances consultation with federal, state, and local agencies and Indian tribes, we will also be soliciting input about which other consulting parties may have knowledge or an interest in historic properties in the Project area. This outreach will include contacting local-level government entities, historical societies and museums, and other groups with a focus on historic preservation, history, and archaeology. We welcome suggestions from your office on additional entities that we should consider contacting.

Project Summary

The proposed Project includes the decommissioning and removal of four dam developments (Iron Gate, Copco No. 1 and No. 2, and J.C. Boyle) on the Klamath River. In September 2017, KRRC prepared a technical support document for the California State Water Resources Control Board (SWRCB) and the Oregon Department of Environmental Quality (ODEQ) for their use in preparing Clean Water Act Section 401 Water Quality Certifications required before FERC can issue a final surrender order for the Project. This document[1] also provided technical and field information for use in preparation of an Environmental Impact Report (EIR) consistent with the California Environmental Quality Act (CEQA). An Administrative Draft version of a Definite Plan[2] for Decommissioning was provided to the SWRCB in January 2018, providing an update on schedule and additional technical information. KRRC is currently preparing the Definite Plan for submittal to FERC in June 2018.

The year prior to removal of the dams and hydropower facilities, improvements to the diversion tunnels at Iron Gate Dam and Copco No. 1 dam, City of Yreka water supply line and intake, Iron Gate and Fall Creek fish hatcheries, roads and bridges, and flood mitigation features will be built (currently planned for 2020). Prior to dam removal, the water surface elevation in each reservoir will be drawn down as low as possible to facilitate accumulated sediment evacuation and to create a dry work area for facility removal activities.

[1] Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/lower_klamath_ferc14803/1_3_18_krrc_updated_submittal.pdf
[2] Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/lower_klamath_ferc14803/1_3_18_krrc_updated_submittal.pdf

In general, drawdown will begin on January 1 of the drawdown year (currently planned for 2021), and will extend through March 15 of the same year. After drawdown is accomplished, remaining reservoir sediments will be stabilized to the extent feasible and dam and hydropower facility removal will begin in the same year. Full reservoir area restoration will also be accomplished and will begin after drawdown, and extend throughout the year, and possibly extend into the subsequent year. Vegetation establishment could extend several years.

Other key project components include measures to reduce Project related effects to cultural, aquatic, and terrestrial resources; and development of a recreation plan for existing and possibly new developments.

Changes or refinements to the Project description, resulting from new information, updated analysis, or new project components, will be incorporated into future correspondence and documents provided to your office and discussed during CRWG meetings.

Contact Information

If you have any questions or would like any additional information, please contact me, Mark Bransom, at the number or e-mail listed below, or Elena Nilsson, AECOM cultural resources lead, at elena.nilsson@aecom.com (530-893-9675 ext. 1231).

Thank you for your support of this effort. We look forward to continuing our work with you.

Best regards,

Mark Bransom,
Executive Director, KRRC

mark@klamathrenewal.org
415-820-4441

Attachments

1. FERC Notice of Applications Filed with the Commission
2. Preliminary APE Description
3. Preliminary APE Map Set

Attachment 1

FERC Notice of Applications Filed with the Commission

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp	Project No. 2082-062
Klamath River Renewal Corporation	Project No. 2082-063
	Project No. 14803-000
	Project No. 14803-001

NOTICE OF APPLICATIONS FILED WITH THE COMMISSION

(November 10, 2016)

Take notice that the following hydroelectric applications have been filed with the Commission and are available for public inspection:

a. Types of Applications:	Application for Amendment and Partial Transfer of License; Application for Surrender of License
b. Project Nos.:	2082-062 and 14803-000 (amendment and transfer application); 2082-063 and 14803-001 (surrender application)
c. Date Filed:	September 23, 2016
d. Applicants:	For license amendment and transfer: PacifiCorp (transferor) and Klamath River Renewal Corporation (transferee) For license surrender: Klamath River Renewal Corporation
e. Name of Projects:	Klamath Project (P-2082) Lower Klamath Project (P-14803)
f. Locations:	Klamath Project - on the Klamath River in Klamath County, Oregon, and on the Klamath River and Fall Creek in Siskiyou County, California. The project includes about 477 acres of federal lands administered by the Bureau of Reclamation and the Bureau of Land Management.

Lower Klamath Project - on the Klamath River in Klamath County, Oregon, and Siskiyou County, California. The project would include about 395 acres of federal lands administered by the Bureau of Land Management.

g. Filed Pursuant to: Federal Power Act, 16 USC 791a-825r.

h. Applicants Contact: Sarah Kamman, Vice President and General Counsel, PacifiCorp, 825 NE Multnomah Street, Suite 2000, Portland, OR 97232, (503) 813-5865, sarah kamman@pacificorp.com

Michael Carrier, President, Klamath River Renewal Corporation, 423 Washington Street, 3rd Floor, San Francisco, CA 94111, (415) 820-4441, michael@klamathrenewal.org

i. FERC Contacts: Amendment and Transfer: Steve Hocking, (202) 502-8753, Steve.Hocking@ferc.gov

Surrender: John Mudre: (202) 502-8902, john.mudre@ferc.gov

j. Description of Amendment and Transfer Request: The applicants request that the Commission transfer the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments of the existing Klamath Project No. 2082 from PacifiCorp to the Klamath River Renewal Corporation (Renewal Corporation) and create a new project, the Lower Klamath Project, for the transferred developments with the Renewal Corporation as the sole licensee. PacifiCorp requests that the license for Project No. 2082 be amended to delete references to the four transferred developments. The applicants state that they will make a supplemental filing on or before March 1, 2017, demonstrating the legal, technical, and financial capabilities of the Renewal Corporation to perform its responsibilities as transferee. Applicants further request that the Commission act on the amendment and transfer application by December 31, 2017, and allow the Renewal Corporation six months from the issuance date of the order approving transfer to submit proof of its acceptance of license transfer.

k. Description of Surrender Request: The Renewal Corporation's request to surrender and decommission the Lower Klamath Project, including removal of the project dams is contingent upon a Commission order amending PacifiCorp's existing Klamath Project (P-2082) license to create a new project, the Lower Klamath Project, and transferring the Lower Klamath Project to the Renewal Corporation, as described in item (j), above. The Lower Klamath Project, as envisioned by the Renewal Corporation, would consist of the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments of the existing Klamath Project No. 2082, and the Renewal Corporation would be the sole licensee. The

Renewal Corporation requests that the Commission not act on this request until it is ready to accept license transfer and states that it will file, by December 31, 2017, its decommissioning plan to serve as the basis for Commission staff's environmental and engineering review of the surrender application. Because only a licensee may file to surrender a license and the Commission does not accept contingent applications, the surrender application is deemed to be filed by both PacifiCorp and the Renewal Corporation. *See* 18 C.F.R. §§ 6.1 and 4.32(j). Therefore, while action on the amendment and transfer application is pending, the Commission will maintain both applications in the dockets for both project numbers. If the Commission approves the transfer and the Renewal Corporation accepts the license, following which the Renewal Corporation would become the sole licensee, the surrender proceeding would continue solely in Project No. 14803.

l. With this notice, we are initiating informal consultation with: (a) the U.S. Fish and Wildlife Service and NOAA Fisheries under section 7 of the Endangered Species Act and the joint agency implementing regulations at 50 C.F.R. Part 402; (b) NOAA Fisheries under section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR § 600.920; and (c) the California and Oregon State Historic Preservation Officers, as required by section 106 of the National Historic Preservation Act, and the implementing regulations of the Advisory Council on Historic Preservation at 36 C.F.R. Part 800.

m. With this notice, we are designating PacifiCorp and the Renewal Corporation as the Commission's non-federal representative for carrying out informal consultation, pursuant to section 7 of the Endangered Species Act, section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, and section 106 of the National Historic Preservation Act and the Advisory Council's regulations at 36 C.F.R. § 800.2(c)(4).

n. Locations of the Applications: Copies of the applications are available for inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street, NE, Room 2A, Washington, DC 20426, or by calling (202) 502-8371. These filings may also be viewed on the Commission's website at http://www.ferc.gov/docs-filing/elibrary.asp. Enter the docket number excluding the last three digits in the docket number field to access the document. You may also register online at http://www.ferc.gov/docs-filing/esubscription.asp to be notified via email of new filings and issuances related to this or other pending projects. For assistance, call 1-866-208-3676 or e-mail FERCOnlineSupport@ferc.gov, for TTY, call (202) 502-8659. Copies are also available for inspection and reproduction at the addresses in item (h), above.

o. Individuals desiring to be included on the Commission's mailing list for these proceedings should so indicate by writing to the Secretary of the Commission.

p. Additional Information: We are not requesting comments at this time. After receiving the applicants' supplemental filings on or before March 1, 2017, for the license transfer and December 31, 2017, for the surrender, the Commission will issue notices requesting comments, protests, and motions to intervene.

Kimberly D. Bose,
Secretary

Attachment 2

Preliminary Area of Potential Effects Description

Preliminary APE for the Lower Klamath Project License Surrender Application (FERC Project No. 14803)

1.0 INTRODUCTION

1.1 Regulatory Context for Establishing an APE

The implementing regulations of the NHPA, require that the federal agency determine if its undertaking has the potential to cause effects on historic properties[3] (36 CFR 800.3(a)). This is accomplished in part by determining and documenting the Area of Potential Effects (APE) (36 CFR 800.4(a)(1)). The APE means the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." Furthermore, the APE "is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking" (36 CFR 800.16(d)). Once an APE is defined, the scope of identification efforts within the APE can be determined. This document is intended to provide guidance to facilitate APE consultations.

1.2 APE, Study Area, Project Area, and FERC Project Boundary

The APE is distinct and different from other project-defined "areas" that are often referred to in discussion. For example, background research on known archaeological sites may encompass a broader geographic area referred to as the "**Study Area**." The study area for cultural resources[4] may be larger than the APE and is designed to allow for the retrieval of information about known sites, site types, buildings, structures, objects, districts, ethnographic landscape features, land use patterns from prehistoric and historic eras, as well as Traditional Cultural Properties (TCPs) and Indian Sacred Sites.[5] Background research may include resources from outside this area, particularly broader ethnographic and historic overviews that provide context for the resources identified in the Study Area. To date, KRRC has completed an updated records search for a Study Area that includes the length of the Klamath River from its origin at the southern end of Upper Klamath Lake, in Oregon, to the mouth of the river at the Pacific Ocean. This Study Area comprises a 0.5-mile wide zone extending either side of the reservoir shorelines (J.C. Boyle, Copco Lake, and Iron Gate Reservoir) or from the center point of the Klamath River in areas where the river remains flowing.

The "**Project Area**" is also distinct from the APE. For this discussion, the Project Area refers specifically to the *Project Limits of Work and Access* as defined on maps included with the project's California Environmental Quality Act (CEQA) and California and Oregon Section 410 Water Quality

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[3] 36 CFR 800.16 defines a historic property as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

[4] Cultural resources are those tangible and intangible aspects of human cultural systems, both past and present, that are valued by or representative of a given culture, or that contain information about a culture.

[5] The definition of an Indian Sacred Site is governed by Executive Order 13007 of May 24, 1996. The order defines an Indian Sacred Site as: Any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site. It is the Tribe or the traditional religious practitioner of the Tribe, not the federal government that identifies a sacred site.

Certifications Technical Support Document (KRRC 2017). The preliminary APE (defined below) includes the entirety of the Project Area.

Lastly, the "**FERC Project Boundary**" which includes the geographic extent of the Klamath Hydropower Project (FERC #2082) included the geographic area a licensee must own or control on behalf of its licensed hydropower projects and is likewise distinct from the APE. Due to FERC's jurisdiction, the FERC Project Boundary for the Lower Klamath Project (FERC Project No. 14803) is wholly included within the preliminary APE.

Table 1. Area Terms Ordered According to Diminishing Size.

Term	Description
Study Area	• Larger than APE to better understand cultural context. • The length of the Klamath River from the highest reach of the J.C. Boyle Reservoir downstream to Humbug Creek (83 river miles) and a 0.5-mile wide zone extending on either side of the reservoir shorelines (J.C. Boyle, Copco Lake, and Iron Gate Reservoir) or from the center point of the Klamath River in areas where the river remains flowing.
Area of Potential Effects (APE)	• The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist (36 CFR 800.16(d)). (See Project-specific definition below).
Project Area	• Sometimes referred to as the "direct APE." Also called the "Project Limits of Work and Access" as defined on maps included with the 2017 "Klamath River Renewal Project Technical Support Document" (KRRC 2017).
FERC Project Boundary	• The jurisdictional limits of the FERC hydroelectric license and located entirely within the APE. For this Project, the FERC Project Boundary refers to the limits of the Lower Klamath Project (FERC Project No. 14803).

1.3 Previous Iterations of the APE

Previous FERC license applications, National Environmental Policy Act (NEPA) Environmental Impact Statements (EIS), California Environmental Quality Act (CEQA) Environmental Impact Reports (EIR), and Section 106 of the National Historic Preservation Act (Section 106) compliance reports, related to the relicensing, operation, and/or decommissioning of the Klamath Hydroelectric Project (FERC Project No. 2082) have produced varying definitions of the APE. This is primarily due to the varying scopes of the projects.

The 2004 PacifiCorp relicensing project involved all eight of the Klamath Hydroelectric Project developments, including the decommissioning of the East Side and West Side developments, the removal of the Keno development, and continued operations of the J. C. Boyle, Copco No. 1, Copco No. 2, Iron Gate, and Fall Creek developments. In contrast, the later 2012 Klamath Facilities Removal focused exclusively on the removal of four of PacifiCorp's Klamath River developments - J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate – and did not consider the remaining Klamath Hydroelectric Project developments (East Side, West Side, Keno, and Fall Creek). Table 2 summarizes the APEs identified in previous Klamath Hydroelectric Project cultural resources studies.

Table 2. Summary of Klamath River Project Previous APE Iterations.

Reference	APE Description
PacifiCorp 2004 (License Application Exhibit E Page 6-33; PacifiCorp 2004:121-122)	• PacifiCorp APE: All lands within the FERC Project boundary under the existing license, all lands within the PacifiCorp proposed FERC Project boundary for the new license, and river reaches below each Project development. Included proposed Project hydropower facilities, recreation sites, proposed wildlife enhancement lands, and river reaches between Project developments. • Cultural Resources Working Group (CRWG) APE: Included the FERC Project boundary, riparian and hydrologically connected areas along Project-affected reaches, and culturally sensitive lands within the Klamath River Canyon from ridgetop to ridgetop (rim to rim). • PacifiCorp and CRWG Compromise: Field Inventory Corridor (FIC) studied instead of an APE. FIC covered the area between the outlet of Upper Klamath Lake (River Mile [RM] 254.7) downstream to approximately 1 mile southwest of the Iron Gate dam (RM 189.2). • Downriver tribes (Karuk and Yurok) felt the APE should be more broadly defined to extend from Iron Gate down to the mouth of the Klamath River (at the Pacific Ocean) due to potential Project effects on salmon fisheries and other (non-archaeological) cultural resources along the Klamath River corridor.
PacifiCorp 2006 Revised APE (FERC 2007 EIS/EIR (Page 3-539)	• Based on proposal to decommission East Side and West Side developments and to remove Keno development from the project. • Excluded Keno reservoir, the Klamath River from Keno reservoir to the head of J.C. Boyle reservoir, and the river

Reference	APE Description
	reach from just below J.C. Boyle powerhouse to the Oregon-California state line.
FERC 2007 EIS/EIR (Page 3-551)	• Entirety of the APE as delineated by PacifiCorp in its October 2004 draft HPMP and that portion of the Klamath River reach from Iron Gate to the mouth.
Bureau of Reclamation 2012 EIS/EIR (Section 3.13.1 Area of Analysis)	• The Klamath River from the outlet at Keno Dam to the river's outlet at the Pacific Ocean and extending outward for 0.5 miles from each bank of the river, plus a 0.5-mile-wide corridor from the high water mark surrounding each of the four reservoirs, and all four dams and associated facilities.

PacifiCorp's 2004 APE designated for the relicensing project included all proposed hydropower developments, recreation sites, proposed wildlife enhancement lands, and river reaches between the various Klamath Hydroelectric Project developments. This covered all lands within the FERC Project boundary under the existing license, all lands within the PacifiCorp proposed FERC Project boundary for the new license, and river reaches below each Project development. The archaeological survey conducted for the PacifiCorp relicensing study focused on a broader "field inventory corridor" (FIC) based on input from the Cultural Resource Working Group, including the tribes, who felt the APE should be considerably larger than the FERC Project boundary. The FIC comprised the area between the outlet of Upper Klamath Lake (River Mile [RM] 254.7) downstream to approximately 1 mile southwest of the Iron Gate dam (RM 189.2), as river geomorphology studies indicated little to no effect on downstream river bank erosion beyond Interstate 5 for the project as then defined. Therefore, the 2004 APE extended a short distance downstream from Iron Gate dam to just below the Iron Gate fish hatchery.

FERC's 2007 Final Environmental Impact Statement (FEIS) for the hydroelectric facility relicensing followed the extent of the 2004 APE and reported that PacifiCorp subsequently proposed another APE (March 2006). In a revised Historic Properties Management Plan (HPMP), PacifiCorp defined a revised APE that reflected its proposal to decommission the East and West Side developments and to remove Keno development from the project. This revised APE also excluded Keno Reservoir, the Klamath River to the head of J.C. Boyle Reservoir, and the river reach from just below the J.C. Boyle powerhouse to the Oregon-California state line. The FEIS stated that neither the Oregon nor the California SHPO had concurred with either the 2004 or the 2006 versions of the APE. The APE at that time essentially conformed to PacifiCorp's proposed project boundary, and the FEIS analysis noted that the 2004 version was generally consistent with the customary minimum APE. The revised 2006 version, however, excluded lands that FERC would need to consider as part of the APE and thus assess how historic properties would be affected. The 2007 FEIS stipulated that the APE would appropriately encompass (1) the entirety of the 2004 APE as delineated by PacifiCorp in the 2004 Draft HPMP and (2) that portion of the Klamath River reach from Iron Gate Dam to the mouth. The expanded APE was justified by the potential for effects on riparian vegetation that could result in destabilized shorelines and subsequent erosion of archaeological sites. The expansion would also allow FERC to consider potential project effects on TCPs, specifically on the Klamath Cultural Riverscape in which the totality of natural environment is a contributing element.

Finally, in 2012, the Bureau of Reclamation (BOR) and the California Department of Fish and Game completed the Klamath Facilities Removal Environmental Impact Statement/Environmental Impact Report (EIS/EIR) that offered another version of the APE. This version largely built on the 2007 FERC definition and offered an "Area of Analysis" that extended along the Klamath River from Keno Dam downstream to the Pacific Ocean and included a half-mile-wide buffer around this extent. The Klamath Facilities Removal APE offered the broadest geographic area yet considered for potential impacts on cultural resources and incorporated the concept of a FIC into the Area of Analysis.

In defining the preliminary APE for the Klamath River Renewal Project (see below), each of these related APEs was considered to provide a balanced definition that reflects APE boundaries defined in previous environmental documents, as well as those informally discussed in the CRWG meetings.

2.0 PRELIMINARY APE FOR THE LOWER KLAMATH PROJECT LICENSE SURRENDER APPLICATION

Defining an APE provides both the lead federal agency and consulting parties with a basis for understanding the geographic extent of anticipated impacts of the proposed project, which is necessary to determine whether the project may adversely affect historic properties. The different types of potential effects that may be caused by dam decommissioning have resulted in defining an Area of Direct Impacts (ADI) within the preliminary APE that delineates where there are anticipated direct physical impacts, particularly areas subject to ground disturbance such as dam facility removal and reservoir restoration activities. The ADI corresponds with the "Project Area" or the *Project Limits of Work and Access* as discussed in other documents. The distinction of an ADI also helps inform discussions regarding level of effort for cultural resources surveys and NRHP eligibility evaluations.

The preliminary APE is defined as a 0.5-mile wide area on each side of the Klamath River and the current reservoir limits, extending from the upper reach of J.C. Boyle Reservoir (RM 228) in Oregon, to the river mouth at the Pacific Ocean (RM 0), in California. Attachment 3 provides the location of the preliminary APE. This geography represents a complex array of natural and cultural features that collectively represent what has been termed a cultural riverscape associated with significant patterns of events in the traditional histories of the Yurok, Karuk, Hupa, Shasta, and Klamath Tribes (King 2004). This riverscape may include known archaeological or historical sites, TCPs, Sacred Sites, natural features of cultural importance, wildlife, the waterway itself, and other features. The riverscape has been defined as a place that meets the eligibility criteria and retains sufficient integrity for inclusion on the NRHP (King 2004). Although the Oregon and California SHPOs have not concurred with this NRHP eligibility recommendation, the riverscape concept is a useful construct for ensuring that the current Project considers the possibility of indirect effects within the river canyon area outside of the ADI. The Klamath Riverscape concept also acknowledges the crucial and significant role that the river and its environs play in the lifeway practices of multiple Indian tribes.

The preliminary APE is largely consistent with the APE's defined by FERC (2007) and BOR (2012) (see Table 2). FERC's 2007 APE encompassed the entirety of the APE delineated by PacifiCorp in their October 2004 HPMP [6] and that portion of the Klamath river reach from Iron Gate dam to the mouth. The BOR's 2012 APE included the Klamath River from the outlet at Keno Dam to the river's outlet at the Pacific Ocean.

This project's preliminary APE similarly extends along the Klamath River to its mouth at the Pacific Ocean, but excludes a 26-mile stretch from the northern end of J.C. Boyle Reservoir (RM 228) to

[6] All lands within the FERC Project boundary under the existing license, all lands within the PacifiCorp proposed FERC Project boundary for the new license, and river reaches below each Project development.

Upper Klamath Lake (RM 254). This northernmost area has been omitted from the preliminary APE for a number of reasons: (1) it is outside the FERC jurisdictional boundary for the Lower Klamath Project (FERC No. 14803); (2) as currently understood, the northernmost area would not be affected by the undertaking (i.e., the water levels upriver from the northern end of J.C. Boyle Reservoir won't change and/or the downriver dam removals would not trigger changes to these upriver facilities either directly or operationally); and (3) other upriver hydroelectric facilities (Link River Dam and Keno Dam) would remain part of the Klamath Hydroelectric Project (FERC No. 2082) and continue operations under existing licenses, permits, and/or agreements between private entities and/or federal agencies.

The preliminary APE encompasses a Traditional Cultural Property (TCP) composed of seven locations in the Big Bend, Oregon area identified by Klamath Tribes consultants for the FERC relicensing project (Deur 2003). Other TCPs were identified by the Klamath Tribes consultants upstream (outside) of the preliminary APE, on the Klamath River, north of J.C. Boyle Reservoir, and in the Sprague River, Williamson River, Wood River, and Upper Klamath Lake basin. The preliminary APE also comprises the locations of TCPs and Sensitive Cultural Resources (SCRs) identified by the Shasta Nation for the FERC relicensing project (Daniels 2006).

In defining the APE, it is not necessary to know if effects will occur, only that they may occur based on KRRC's current analysis of the proposed actions. To ensure the consideration of possible downstream effects on the river below Iron Gate Dam, as well as within the river reaches between J.C. Boyle Reservoir and Copco Lake, a geographically broad APE is proposed. This APE also allows for consideration of potential direct and indirect effects on the surrounding cultural landscape, the potentially NRHP-eligible Klamath Riverscape and other identified TCPs, Sacred Sites, and historic districts located within the Klamath River Canyon.

The potential for direct or indirect impacts in areas outside the Klamath River Canyon is considered unlikely. For example, while the removal of water from the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate reservoirs may result in indirect visual impacts due to the unnatural looking unvegetated ring around the former reservoirs, this impact does not necessarily expand beyond the historic properties located along the river corridor and its immediate environs, which comprises a varied topography that ranges from steep canyons to low hills that limit the potential for indirect effects. Given the visual and auditory screening imposed by these land forms and the nature of the facilities, the project is not expected to result in auditory, atmospheric, or other indirect changes that may affect cultural resource locations beyond the preliminary APE boundary.

2.1 Area of Direct Impacts (ADI)

The ADI defined within the preliminary APE includes two primary components that largely correspond geographically to the *Project Limits of Work and Access* as presented in the project's California Environmental Quality Act (CEQA), California, and Oregon 410 Water Quality Certifications Technical Support Document (KRRC 2017), with the inclusion of a few isolated areas. Attachment 3 includes maps showing the location of the proposed ADI components. The ADI may be updated to reflect ongoing changes in project engineering, such as the specific location of disposal areas and access roads, as well as information learned through the tribal consultation process.

Within Oregon, the ADI comprises the *Project Limits of Work and Access* associated with the decommissioning of J.C. Boyle Dam and its associated facilities. ADI lands include discontinuous areas located between the upper reach of the J.C. Boyle Reservoir (RM 228) and RM 220, as shown on Attachment 3, Sheets 1-4. The ADI within California encompass a roughly continuous, 33-mile long area located between the eastern end of Copco Lake (RM 204) and Humbug Creek (RM 171), as shown on Attachment 3, Sheets 11-23.

The two primary components of the ADI include:

1. Existing dam facility sites, associated reservoirs and water conveyance systems, and features related to the original components of the Klamath Hydroelectric Project (FERC No. 2082).

2. Project components outside of the immediate reservoir and facility areas, including disposal areas, staging areas, access roads, former recreation areas, culvert and bridge replacement areas, road improvement areas, and unique isolated components, such as bridges (pedestrian and railroad), transmission lines, and substations that will likely need to be removed, raised, or monitored. This component would also include any new recreation sites developed along the river. It also includes lands below Iron Gate dam to Humbug Creek within the projected altered 100-year floodplain.

Secondary components of the ADI are listed below. This list is subject to change as project planning advances.

- In Oregon, J.C. Boyle Dam and Reservoir, including intake structure, spillway, dam, timber bridge, fish ladder, canal headgate, and the warehouse, shed, and residential buildings. Downstream from the dam, the J.C. Boyle work area includes the canal, forebay, spillway, scour hole, tunnel, penstocks, powerhouse, and substation. This area is inclusive of staging areas, temporary access roads, and fill and disposal areas.
- In California, Copco No. 1 Dam and reservoir, abutment/intake structure, penstocks, powerhouse, diversion tunnel, switchyard, and the residential and maintenance buildings, associated staging and disposal areas, and temporary access roads.
- In California, Copco No. 2 Dam, including embankments and abutment walls, conveyance tunnel to wood-stave penstock, overflow spillway tunnel, penstock, control center building, powerhouse, maintenance buildings, Copco Village, and associated staging areas, fill areas, and temporary access roads. The Daggett Road Bridge downstream from the village is also scheduled for replacement.
- In California, Iron Gate Dam and reservoir, diversion tunnel, intake structure, spillway, penstock/intake structure, fish holding facilities, power house, aerator, residential building, the Iron Gate Fish Hatchery, and associated fill, disposal, staging areas, and temporary access roads. The Lakeview Road Bridge is also scheduled for replacement, as is the City Yreka water supply pipeline, which crosses the Klamath River near the upstream end of the reservoir impounded behind Iron Gate Dam.

Non-reservoir area components of the ADI include features such as buildings, structures, and pedestrian and railroad bridges between Iron Gate Reservoir and Humbug Creek, in California, that may be affected by the altered 100-year flood plain. In Oregon and California, non-reservoir area components include roads that will be altered to account for increase project-related transport; culvert and bridge replacement areas; and proposed recreation areas and existing recreation areas that may be impacted due to adjustments required to access a river instead of a reservoir environment.

Humbug Creek, in California, is selected as a preliminary downstream boundary for the ADI based on the potential for structures above this point on the river to be within the altered 100-year floodplain following the removal of the dams. River areas below Humbug Creek are likely subject to less flooding (and less scour potential) from dam removal. There are an estimated 45 structures located in the altered 100-year floodplain between Iron Gate Dam and Humbug Creek with an additional 10 structures located near the altered floodplain. These structures should be subject to document review and potential National Register evaluation (including survey) as it is reasonable to anticipate effects on these properties directly resulting from dam removal and subsequent changes to the flood plain dynamics.

2.1.1 Level of Effort Discussion

The delineation of the ADI helps inform the level of identification efforts and methodologies to be employed to identify, evaluate, and treat historic properties. Within the ADI, historic properties identification efforts will focus on archival research, records searches, and literature review (largely completed for this area); pedestrian inventory of previously unsurveyed areas; gathering information from ethnographic research; consultation with tribes regarding TCPs, Indian Sacred Sites, and other areas of concerns; and consultation with other consulting parties. Each cultural resource identified within the ADI will be evaluated for National Register eligibility, and eligible resources (individual historic properties and/or historic districts) that are determined to be adversely affected by the project will require the development of mitigation measures that may include data recovery, site monitoring, Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) recordation, public interpretation, or other creative mitigation measures decided through ongoing consultation among interested parties. Many of these treatment considerations are captured in the 2017 CEQA Technical Support Document (KRRC 2017) and in previous HPMPs, and effects analyses from earlier documentation involving the Klamath River Dams (BOR 2012; Cardno ENTRIX 2012; FERC 2007; and PacifiCorp 2004) and will be considered during consultation.

Outside the ADI, historic properties identification efforts will focus on archival research, records searches, and literature review. Known archaeological and built environment sites, as well as TCPs, Indian Sacred Sites, historic districts, and cultural landscapes will be identified to facilitate ongoing consultation and consideration of potential direct and indirect effects. Presently, no pedestrian field survey is recommended and no NRHP eligibility determinations are planned outside of the ADI.

3.0 REFERENCES

Bureau of Reclamation (BOR)

2012 U.S.D.I. Bureau of Reclamation and California Department of Fish and Game. Klamath Facilities Removal Final EIS/EIR.

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2012 Klamath Secretarial Determination Cultural Resources Report. Prepared for the Bureau of Reclamation.

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2007 Federal Energy Regulatory Commission. Final Environmental Impact Statement for Hydroelectric License, Klamath Hydroelectric Project FERC Project No. 2087-027, Oregon and California.

King, Thomas F.
2004 First Salmon: The Klamath Cultural Riverscape and the Klamath River Hydroelectric Project. Prepared for the Klamath River Intertribal Fish and Water Commission.

Klamath River Renewal Corporation (KRRC)
2017 Klamath River Renewal Project California Environmental Quality Act (CEQA) and California and Oregon 401 Water Quality Certifications Technical Support Document.

PacifiCorp
2004 Cultural Resources Final Technical Report and Associated Confidential Appendices. Klamath Hydroelectric Project FERC No. 2082. PacifiCorp, Portland, Oregon.

Attachment 3

Preliminary Area of Potential Effects Map Set

KLAMATH
RIVER RENEWAL
CORPORATION

May 3, 2018

Dennis Griffin
State Archaeologist
State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, OR 97301

RE: Initiation of Informal Consultation for the Lower Klamath Project (FERC No. 14803)

Dear Mr. Griffin,

Klamath River Renewal Corporation (KRRC) and PacifiCorp request the initiation of informal consultation with the Oregon State Historic Preservation Office regarding the Lower Klamath Project (Project; FERC No. 14803) and your comments on the preliminary Area of Potential Effects (APE) defined for the Project by AECOM, our technical representative. Informal consultation is being requested under a November 10, 2016, "Notice of Applications Filed With the Commission" (Attachment 1) issued by the Federal Energy Regulatory Commission (FERC) which designated PacifiCorp and KRRC as the Commission's non-federal representative for carrying out informal consultation to help facilitate FERC's compliance with Section 106 of the National Historic Preservation Act (54 U.S.C § 300101 et seq.) and the Advisory Council's regulations at 36 C.F.R. § 800.2(c)(4). KRRC and PacifiCorp (Proponents) have submitted to FERC a License Surrender Application (LSA) for the Project. FERC considers review of the LSA an "undertaking" (36 C.F.R § 800.16(y)) and thus subject to Section 106 as implemented in 36 C.F.R. Part 800.

The Project seeks the decommissioning and removal of four dam developments (Iron Gate, Copco No. 1 and No. 2, and J.C. Boyle), located on the Klamath River, which are currently owned and operated by PacifiCorp. The J.C. Boyle development is located in Klamath County, Oregon, with the other three developments located in Siskiyou County, California. The purpose of the project is to achieve a free flowing river condition and full volitional fish passage through the reaches of the Klamath River currently impacted by the four dams.

This letter provides a summary of the Project's administrative background, a status update on informal consultation efforts conducted to date, a brief Project description, and a written definition of the preliminary APE, accompanied by maps. Your comments on the preliminary APE are requested at this time to help focus KRRC's and PacifiCorp's informal consultation efforts [36 C.F.R. § 800.2(c)(4)] with agencies, tribes, and other interested parties, as well as to focus that dialogue in more meaningful content for FERC's subsequent formal consultation process.

Administrative Background

KRRC is a 501(c)(3) organization created by the Klamath Hydroelectric Settlement Agreement (KHSA), as amended in 2016, to decommission the four dam developments owned by PacifiCorp (see the attached APE map book for overview and detail maps showing the project location). PacifiCorp is a leading western U.S. energy services provider and the largest grid owner-operator in the West. For the Lower Klamath Project, KRRC is the transferee, while PacifiCorp is the transferor.

KRRC and PacifiCorp jointly filed a combined license amendment and license transfer application with FERC on September 23, 2016. The license amendment asked FERC to administratively remove the four dam developments from the Klamath Hydroelectric Project license (No. 2082). The transfer amendment asked that the four developments be administratively placed into a new license for the Lower Klamath Project (No. 14803). On March 15, 2018, FERC granted the license amendment application and deferred the license transfer, pending receipt of required additional information. On April 16, 2018, PacifiCorp filed a motion asking FERC to change the effective date for the new Lower Klamath license so splitting the license happens concurrently with the license transfer. PacifiCorp will continue to operate each of the four developments proposed as the Lower Klamath Project until the Commission approves the License Transfer Application and KRRC accepts the license.

KRRC filed a separate license surrender application on September 23, 2016 for Project No. 14803 that, if approved, would allow KRRC to decommission the four facilities. Under the amended KHSA, KRRC would oversee dam removal activities, which, if approved, are expected to begin in 2020 with dam removal occurring in 2021. PacifiCorp would continue to operate the dams until they are decommissioned.

Consultation Status

KRRC and its technical representative, AECOM, have formed a Cultural Resources Working Group (CRWG) to compile information to assist FERC in its Section 106 compliance efforts. KRRC invited the participation of the representatives of California Office of Historic Preservation; Oregon State Historic Preservation Office; US Army Corps of Engineers; USDI Bureau of Reclamation; Klamath Falls and Redding Field Offices of the USDI Bureau of Land Management; USDA Klamath National Forest; and PacifiCorp. To date, the CRWG has participated in three teleconference calls where: a Project overview was provided (September 2017), a preliminary Area of Potential Effects was discussed (December 2017), and preliminary work plans for 2018 were reviewed (March 2018).

KRRC has also initiated informal consultation with Indian tribes. KRRC sent letters to 25 Indian tribes native to or currently residing in northern California and southern Oregon requesting their participation in

the informal consultation process. Eight Indian tribes (Karuk Tribe, Klamath Tribes, Modoc Tribe of Oklahoma, Quartz Valley Indian Rancheria, Shasta Indian Nation, Shasta Nation, Cher' Ae Heights of the Trinidad Rancheria, and Yurok Tribe) have confirmed their interest in participating in the informal consultation process. A Project introduction meeting with the participating Indian Tribes was held on April 6, 2018 in Yreka, California.

FERC conducted scoping meetings in January and February 2018 with six federally recognized Indian Tribes regarding the KRRC and PacifiCorp license amendment and transfer application. The tribes invited to the meetings include the Hoopa Valley Tribe, Karuk Tribe, Klamath Tribes, Modoc Tribe of Oklahoma, Quartz Valley Indian Rancheria, and Yurok Tribe.

As KRRC advances consultation with federal, state, and local agencies and Indian tribes, we will also be soliciting input about which other consulting parties may have knowledge or an interest in historic properties in the Project area. This outreach will include contacting local-level government entities, historical societies and museums, and other groups with a focus on historic preservation, history, and archaeology. We welcome suggestions from your office on additional entities that we should consider contacting.

Project Summary

The proposed Project includes the decommissioning and removal of four dam developments (Iron Gate, Copco No. 1 and No. 2, and J.C. Boyle) on the Klamath River. In September 2017, KRRC prepared a technical support document for the California State Water Resources Control Board (SWRCB) and the Oregon Department of Environmental Quality (ODEQ) for their use in preparing Clean Water Act Section 401 Water Quality Certifications required before FERC can issue a final surrender order for the Project. This document[1] also provided technical and field information for use in preparation of an Environmental Impact Report (EIR) consistent with the California Environmental Quality Act (CEQA). An Administrative Draft version of a Definite Plan[2] for Decommissioning was provided to the SWRCB in January 2018, providing an update on schedule and additional technical information. KRRC is currently preparing the Definite Plan for submittal to FERC in June 2018.

The year prior to removal of the dams and hydropower facilities, improvements to the diversion tunnels at Iron Gate Dam and Copco No. 1 dam, City of Yreka water supply line and intake, Iron Gate and Fall Creek fish hatcheries, roads and bridges, and flood mitigation features will be built (currently planned for 2020).

[1] Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/lower_klamath_ferc14803/1_3_18_krrc_updated_submittal.pdf
[2] Available at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/lower_klamath_ferc14803/1_3_18_krrc_updated_submittal.pdf

Prior to dam removal, the water surface elevation in each reservoir will be drawn down as low as possible to facilitate accumulated sediment evacuation and to create a dry work area for facility removal activities. In general, drawdown will begin on January 1 of the drawdown year (currently planned for 2021), and will extend through March 15 of the same year. After drawdown is accomplished, remaining reservoir sediments will be stabilized to the extent feasible and dam and hydropower facility removal will begin in the same year. Full reservoir area restoration will also be accomplished and will begin after drawdown, and extend throughout the year, and possibly extend into the subsequent year. Vegetation establishment could extend several years.

Other key project components include measures to reduce Project related effects to cultural, aquatic, and terrestrial resources; and development of a recreation plan for existing and possibly new developments.

Changes or refinements to the Project description, resulting from new information, updated analysis, or new project components, will be incorporated into future correspondence and documents provided to your office and discussed during CRWG meetings.

Contact Information

If you have any questions or would like any additional information, please contact me, Mark Bransom, at the number or e-mail listed below, or Elena Nilsson, AECOM cultural resources lead, at elena.nilsson@aecom.com (530-893-9675 ext. 1231).

Thank you for your support of this effort. We look forward to continuing our work with you.

Best regards,

Mark Bransom,
Executive Director, KRRC

mark@klamathrenewal.org
415-820-4441

Attachments

1. FERC Notice of Applications Filed with the Commission
2. Preliminary APE Description
3. Preliminary APE Map Set

Attachment 1

FERC Notice of Applications Filed with the Commission

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp	Project No. 2082-062
Klamath River Renewal Corporation	Project No. 2082-063
	Project No. 14803-000
	Project No. 14803-001

NOTICE OF APPLICATIONS FILED WITH THE COMMISSION

(November 10, 2016)

Take notice that the following hydroelectric applications have been filed with the Commission and are available for public inspection:

a. Types of Applications:	Application for Amendment and Partial Transfer of License; Application for Surrender of License
b. Project Nos.:	2082-062 and 14803-000 (amendment and transfer application); 2082-063 and 14803-001 (surrender application)
c. Date Filed:	September 23, 2016
d. Applicants:	For license amendment and transfer: PacifiCorp (transferor) and Klamath River Renewal Corporation (transferee) For license surrender: Klamath River Renewal Corporation
e. Name of Projects:	Klamath Project (P-2082) Lower Klamath Project (P-14803)
f. Locations:	Klamath Project - on the Klamath River in Klamath County, Oregon, and on the Klamath River and Fall Creek in Siskiyou County, California. The project includes about 477 acres of federal lands administered by the Bureau of Reclamation and the Bureau of Land Management.

Lower Klamath Project - on the Klamath River in Klamath County, Oregon, and Siskiyou County, California. The project would include about 395 acres of federal lands administered by the Bureau of Land Management.

g. Filed Pursuant to: Federal Power Act, 16 USC 791a-825r.

h. Applicants Contact: Sarah Kamman, Vice President and General Counsel, PacifiCorp, 825 NE Multnomah Street, Suite 2000, Portland, OR 97232, (503) 813-5865, sarah kamman@pacificorp.com

Michael Carrier, President, Klamath River Renewal Corporation, 423 Washington Street, 3rd Floor, San Francisco, CA 94111, (415) 820-4441, michael@klamathrenewal.org

i. FERC Contacts: Amendment and Transfer: Steve Hocking, (202) 502-8753, Steve.Hocking@ferc.gov

Surrender: John Mudre: (202) 502-8902, john.mudre@ferc.gov

j. Description of Amendment and Transfer Request: The applicants request that the Commission transfer the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments of the existing Klamath Project No. 2082 from PacifiCorp to the Klamath River Renewal Corporation (Renewal Corporation) and create a new project, the Lower Klamath Project, for the transferred developments with the Renewal Corporation as the sole licensee. PacifiCorp requests that the license for Project No. 2082 be amended to delete references to the four transferred developments. The applicants state that they will make a supplemental filing on or before March 1, 2017, demonstrating the legal, technical, and financial capabilities of the Renewal Corporation to perform its responsibilities as transferee. Applicants further request that the Commission act on the amendment and transfer application by December 31, 2017, and allow the Renewal Corporation six months from the issuance date of the order approving transfer to submit proof of its acceptance of license transfer.

k. Description of Surrender Request: The Renewal Corporation's request to surrender and decommission the Lower Klamath Project, including removal of the project dams is contingent upon a Commission order amending PacifiCorp's existing Klamath Project (P-2082) license to create a new project, the Lower Klamath Project, and transferring the Lower Klamath Project to the Renewal Corporation, as described in item (j), above. The Lower Klamath Project, as envisioned by the Renewal Corporation, would consist of the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments of the existing Klamath Project No. 2082, and the Renewal Corporation would be the sole licensee. The

Renewal Corporation requests that the Commission not act on this request until it is ready to accept license transfer and states that it will file, by December 31, 2017, its decommissioning plan to serve as the basis for Commission staff's environmental and engineering review of the surrender application. Because only a licensee may file to surrender a license and the Commission does not accept contingent applications, the surrender application is deemed to be filed by both PacifiCorp and the Renewal Corporation. *See* 18 C.F.R. §§ 6.1 and 4.32(j). Therefore, while action on the amendment and transfer application is pending, the Commission will maintain both applications in the dockets for both project numbers. If the Commission approves the transfer and the Renewal Corporation accepts the license, following which the Renewal Corporation would become the sole licensee, the surrender proceeding would continue solely in Project No. 14803.

l. With this notice, we are initiating informal consultation with: (a) the U.S. Fish and Wildlife Service and NOAA Fisheries under section 7 of the Endangered Species Act and the joint agency implementing regulations at 50 C.F.R. Part 402; (b) NOAA Fisheries under section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR § 600.920; and (c) the California and Oregon State Historic Preservation Officers, as required by section 106 of the National Historic Preservation Act, and the implementing regulations of the Advisory Council on Historic Preservation at 36 C.F.R. Part 800.

m. With this notice, we are designating PacifiCorp and the Renewal Corporation as the Commission's non-federal representative for carrying out informal consultation, pursuant to section 7 of the Endangered Species Act, section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, and section 106 of the National Historic Preservation Act and the Advisory Council's regulations at 36 C.F.R. § 800.2(c)(4).

n. Locations of the Applications: Copies of the applications are available for inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street, NE, Room 2A, Washington, DC 20426, or by calling (202) 502-8371. These filings may also be viewed on the Commission's website at http://www.ferc.gov/docs-filing/elibrary.asp. Enter the docket number excluding the last three digits in the docket number field to access the document. You may also register online at http://www.ferc.gov/docs-filing/esubscription.asp to be notified via email of new filings and issuances related to this or other pending projects. For assistance, call 1-866-208-3676 or e-mail FERCOnlineSupport@ferc.gov, for TTY, call (202) 502-8659. Copies are also available for inspection and reproduction at the addresses in item (h), above.

o. Individuals desiring to be included on the Commission's mailing list for these proceedings should so indicate by writing to the Secretary of the Commission.

p. Additional Information: We are not requesting comments at this time. After receiving the applicants' supplemental filings on or before March 1, 2017, for the license transfer and December 31, 2017, for the surrender, the Commission will issue notices requesting comments, protests, and motions to intervene.

Kimberly D. Bose,
Secretary

Attachment 2

Preliminary Area of Potential Effects Description

Preliminary APE for the Lower Klamath Project License Surrender Application (FERC Project No. 14803)

1.0 INTRODUCTION

1.1 Regulatory Context for Establishing an APE

The implementing regulations of the NHPA, require that the federal agency determine if its undertaking has the potential to cause effects on historic properties[3] (36 CFR 800.3(a)). This is accomplished in part by determining and documenting the Area of Potential Effects (APE) (36 CFR 800.4(a)(1)). The APE means the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." Furthermore, the APE "is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking" (36 CFR 800.16(d)). Once an APE is defined, the scope of identification efforts within the APE can be determined. This document is intended to provide guidance to facilitate APE consultations.

1.2 APE, Study Area, Project Area, and FERC Project Boundary

The APE is distinct and different from other project-defined "areas" that are often referred to in discussion. For example, background research on known archaeological sites may encompass a broader geographic area referred to as the "**Study Area**." The study area for cultural resources[4] may be larger than the APE and is designed to allow for the retrieval of information about known sites, site types, buildings, structures, objects, districts, ethnographic landscape features, land use patterns from prehistoric and historic eras, as well as Traditional Cultural Properties (TCPs) and Indian Sacred Sites.[5] Background research may include resources from outside this area, particularly broader ethnographic and historic overviews that provide context for the resources identified in the Study Area. To date, KRRC has completed an updated records search for a Study Area that includes the length of the Klamath River from its origin at the southern end of Upper Klamath Lake, in Oregon, to the mouth of the river at the Pacific Ocean. This Study Area comprises a 0.5-mile wide zone extending either side of the reservoir shorelines (J.C. Boyle, Copco Lake, and Iron Gate Reservoir) or from the center point of the Klamath River in areas where the river remains flowing.

The "**Project Area**" is also distinct from the APE. For this discussion, the Project Area refers specifically to the *Project Limits of Work and Access* as defined on maps included with the project's California Environmental Quality Act (CEQA) and California and Oregon Section 410 Water Quality

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[3] 36 CFR 800.16 defines a historic property as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

[4] Cultural resources are those tangible and intangible aspects of human cultural systems, both past and present, that are valued by or representative of a given culture, or that contain information about a culture.

[5] The definition of an Indian Sacred Site is governed by Executive Order 13007 of May 24, 1996. The order defines an Indian Sacred Site as: Any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site. It is the Tribe or the traditional religious practitioner of the Tribe, not the federal government that identifies a sacred site.

Certifications Technical Support Document (KRRC 2017). The preliminary APE (defined below) includes the entirety of the Project Area.

Lastly, the "**FERC Project Boundary**" which includes the geographic extent of the Klamath Hydropower Project (FERC #2082) included the geographic area a licensee must own or control on behalf of its licensed hydropower projects and is likewise distinct from the APE. Due to FERC's jurisdiction, the FERC Project Boundary for the Lower Klamath Project (FERC Project No. 14803) is wholly included within the preliminary APE.

Table 1. Area Terms Ordered According to Diminishing Size.

Term	Description
Study Area	• Larger than APE to better understand cultural context. • The length of the Klamath River from the highest reach of the J.C. Boyle Reservoir downstream to Humbug Creek (83 river miles) and a 0.5-mile wide zone extending on either side of the reservoir shorelines (J.C. Boyle, Copco Lake, and Iron Gate Reservoir) or from the center point of the Klamath River in areas where the river remains flowing.
Area of Potential Effects (APE)	• The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist (36 CFR 800.16(d)). (See Project-specific definition below).
Project Area	• Sometimes referred to as the "direct APE." Also called the "Project Limits of Work and Access" as defined on maps included with the 2017 "Klamath River Renewal Project Technical Support Document" (KRRC 2017).
FERC Project Boundary	• The jurisdictional limits of the FERC hydroelectric license and located entirely within the APE. For this Project, the FERC Project Boundary refers to the limits of the Lower Klamath Project (FERC Project No. 14803).

1.3 Previous Iterations of the APE

Previous FERC license applications, National Environmental Policy Act (NEPA) Environmental Impact Statements (EIS), California Environmental Quality Act (CEQA) Environmental Impact Reports (EIR), and Section 106 of the National Historic Preservation Act (Section 106) compliance reports, related to the relicensing, operation, and/or decommissioning of the Klamath Hydroelectric Project (FERC Project No. 2082) have produced varying definitions of the APE. This is primarily due to the varying scopes of the projects.

The 2004 PacifiCorp relicensing project involved all eight of the Klamath Hydroelectric Project developments, including the decommissioning of the East Side and West Side developments, the removal of the Keno development, and continued operations of the J. C. Boyle, Copco No. 1, Copco No. 2, Iron Gate, and Fall Creek developments. In contrast, the later 2012 Klamath Facilities Removal focused exclusively on the removal of four of PacifiCorp's Klamath River developments - J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate – and did not consider the remaining Klamath Hydroelectric Project developments (East Side, West Side, Keno, and Fall Creek). Table 2 summarizes the APEs identified in previous Klamath Hydroelectric Project cultural resources studies.

Table 2. Summary of Klamath River Project Previous APE Iterations.

Reference	APE Description
PacifiCorp 2004 (License Application Exhibit E Page 6-33; PacifiCorp 2004:121-122)	• PacifiCorp APE: All lands within the FERC Project boundary under the existing license, all lands within the PacifiCorp proposed FERC Project boundary for the new license, and river reaches below each Project development. Included proposed Project hydropower facilities, recreation sites, proposed wildlife enhancement lands, and river reaches between Project developments. • Cultural Resources Working Group (CRWG) APE: Included the FERC Project boundary, riparian and hydrologically connected areas along Project-affected reaches, and culturally sensitive lands within the Klamath River Canyon from ridgetop to ridgetop (rim to rim). • PacifiCorp and CRWG Compromise: Field Inventory Corridor (FIC) studied instead of an APE. FIC covered the area between the outlet of Upper Klamath Lake (River Mile [RM] 254.7) downstream to approximately 1 mile southwest of the Iron Gate dam (RM 189.2). • Downriver tribes (Karuk and Yurok) felt the APE should be more broadly defined to extend from Iron Gate down to the mouth of the Klamath River (at the Pacific Ocean) due to potential Project effects on salmon fisheries and other (non-archaeological) cultural resources along the Klamath River corridor.
PacifiCorp 2006 Revised APE (FERC 2007 EIS/EIR (Page 3-539)	• Based on proposal to decommission East Side and West Side developments and to remove Keno development from the project. • Excluded Keno reservoir, the Klamath River from Keno reservoir to the head of J.C. Boyle reservoir, and the river

Reference	APE Description
	reach from just below J.C. Boyle powerhouse to the Oregon-California state line.
FERC 2007 EIS/EIR (Page 3-551)	• Entirety of the APE as delineated by PacifiCorp in its October 2004 draft HPMP and that portion of the Klamath River reach from Iron Gate to the mouth.
Bureau of Reclamation 2012 EIS/EIR (Section 3.13.1 Area of Analysis)	• The Klamath River from the outlet at Keno Dam to the river's outlet at the Pacific Ocean and extending outward for 0.5 miles from each bank of the river, plus a 0.5-mile-wide corridor from the high water mark surrounding each of the four reservoirs, and all four dams and associated facilities.

PacifiCorp's 2004 APE designated for the relicensing project included all proposed hydropower developments, recreation sites, proposed wildlife enhancement lands, and river reaches between the various Klamath Hydroelectric Project developments. This covered all lands within the FERC Project boundary under the existing license, all lands within the PacifiCorp proposed FERC Project boundary for the new license, and river reaches below each Project development. The archaeological survey conducted for the PacifiCorp relicensing study focused on a broader "field inventory corridor" (FIC) based on input from the Cultural Resource Working Group, including the tribes, who felt the APE should be considerably larger than the FERC Project boundary. The FIC comprised the area between the outlet of Upper Klamath Lake (River Mile [RM] 254.7) downstream to approximately 1 mile southwest of the Iron Gate dam (RM 189.2), as river geomorphology studies indicated little to no effect on downstream river bank erosion beyond Interstate 5 for the project as then defined. Therefore, the 2004 APE extended a short distance downstream from Iron Gate dam to just below the Iron Gate fish hatchery.

FERC's 2007 Final Environmental Impact Statement (FEIS) for the hydroelectric facility relicensing followed the extent of the 2004 APE and reported that PacifiCorp subsequently proposed another APE (March 2006). In a revised Historic Properties Management Plan (HPMP), PacifiCorp defined a revised APE that reflected its proposal to decommission the East and West Side developments and to remove Keno development from the project. This revised APE also excluded Keno Reservoir, the Klamath River to the head of J.C. Boyle Reservoir, and the river reach from just below the J.C. Boyle powerhouse to the Oregon-California state line. The FEIS stated that neither the Oregon nor the California SHPO had concurred with either the 2004 or the 2006 versions of the APE. The APE at that time essentially conformed to PacifiCorp's proposed project boundary, and the FEIS analysis noted that the 2004 version was generally consistent with the customary minimum APE. The revised 2006 version, however, excluded lands that FERC would need to consider as part of the APE and thus assess how historic properties would be affected. The 2007 FEIS stipulated that the APE would appropriately encompass (1) the entirety of the 2004 APE as delineated by PacifiCorp in the 2004 Draft HPMP and (2) that portion of the Klamath River reach from Iron Gate Dam to the mouth. The expanded APE was justified by the potential for effects on riparian vegetation that could result in destabilized shorelines and subsequent erosion of archaeological sites. The expansion would also allow FERC to consider potential project effects on TCPs, specifically on the Klamath Cultural Riverscape in which the totality of natural environment is a contributing element.

Finally, in 2012, the Bureau of Reclamation (BOR) and the California Department of Fish and Game completed the Klamath Facilities Removal Environmental Impact Statement/Environmental Impact Report (EIS/EIR) that offered another version of the APE. This version largely built on the 2007 FERC definition and offered an "Area of Analysis" that extended along the Klamath River from Keno Dam downstream to the Pacific Ocean and included a half-mile-wide buffer around this extent. The Klamath Facilities Removal APE offered the broadest geographic area yet considered for potential impacts on cultural resources and incorporated the concept of a FIC into the Area of Analysis.

In defining the preliminary APE for the Klamath River Renewal Project (see below), each of these related APEs was considered to provide a balanced definition that reflects APE boundaries defined in previous environmental documents, as well as those informally discussed in the CRWG meetings.

2.0 PRELIMINARY APE FOR THE LOWER KLAMATH PROJECT LICENSE SURRENDER APPLICATION

Defining an APE provides both the lead federal agency and consulting parties with a basis for understanding the geographic extent of anticipated impacts of the proposed project, which is necessary to determine whether the project may adversely affect historic properties. The different types of potential effects that may be caused by dam decommissioning have resulted in defining an Area of Direct Impacts (ADI) within the preliminary APE that delineates where there are anticipated direct physical impacts, particularly areas subject to ground disturbance such as dam facility removal and reservoir restoration activities. The ADI corresponds with the "Project Area" or the *Project Limits of Work and Access* as discussed in other documents. The distinction of an ADI also helps inform discussions regarding level of effort for cultural resources surveys and NRHP eligibility evaluations.

The preliminary APE is defined as a 0.5-mile wide area on each side of the Klamath River and the current reservoir limits, extending from the upper reach of J.C. Boyle Reservoir (RM 228) in Oregon, to the river mouth at the Pacific Ocean (RM 0), in California. Attachment 3 provides the location of the preliminary APE. This geography represents a complex array of natural and cultural features that collectively represent what has been termed a cultural riverscape associated with significant patterns of events in the traditional histories of the Yurok, Karuk, Hupa, Shasta, and Klamath Tribes (King 2004). This riverscape may include known archaeological or historical sites, TCPs, Sacred Sites, natural features of cultural importance, wildlife, the waterway itself, and other features. The riverscape has been defined as a place that meets the eligibility criteria and retains sufficient integrity for inclusion on the NRHP (King 2004). Although the Oregon and California SHPOs have not concurred with this NRHP eligibility recommendation, the riverscape concept is a useful construct for ensuring that the current Project considers the possibility of indirect effects within the river canyon area outside of the ADI. The Klamath Riverscape concept also acknowledges the crucial and significant role that the river and its environs play in the lifeway practices of multiple Indian tribes.

The preliminary APE is largely consistent with the APE's defined by FERC (2007) and BOR (2012) (see Table 2). FERC's 2007 APE encompassed the entirety of the APE delineated by PacifiCorp in their October 2004 HPMP [6] and that portion of the Klamath river reach from Iron Gate dam to the mouth. The BOR's 2012 APE included the Klamath River from the outlet at Keno Dam to the river's outlet at the Pacific Ocean.

This project's preliminary APE similarly extends along the Klamath River to its mouth at the Pacific Ocean, but excludes a 26-mile stretch from the northern end of J.C. Boyle Reservoir (RM 228) to

[6] All lands within the FERC Project boundary under the existing license, all lands within the PacifiCorp proposed FERC Project boundary for the new license, and river reaches below each Project development.

Upper Klamath Lake (RM 254). This northernmost area has been omitted from the preliminary APE for a number of reasons: (1) it is outside the FERC jurisdictional boundary for the Lower Klamath Project (FERC No. 14803); (2) as currently understood, the northernmost area would not be affected by the undertaking (i.e., the water levels upriver from the northern end of J.C. Boyle Reservoir won't change and/or the downriver dam removals would not trigger changes to these upriver facilities either directly or operationally); and (3) other upriver hydroelectric facilities (Link River Dam and Keno Dam) would remain part of the Klamath Hydroelectric Project (FERC No. 2082) and continue operations under existing licenses, permits, and/or agreements between private entities and/or federal agencies.

The preliminary APE encompasses a Traditional Cultural Property (TCP) composed of seven locations in the Big Bend, Oregon area identified by Klamath Tribes consultants for the FERC relicensing project (Deur 2003). Other TCPs were identified by the Klamath Tribes consultants upstream (outside) of the preliminary APE, on the Klamath River, north of J.C. Boyle Reservoir, and in the Sprague River, Williamson River, Wood River, and Upper Klamath Lake basin. The preliminary APE also comprises the locations of TCPs and Sensitive Cultural Resources (SCRs) identified by the Shasta Nation for the FERC relicensing project (Daniels 2006).

In defining the APE, it is not necessary to know if effects will occur, only that they may occur based on KRRC's current analysis of the proposed actions. To ensure the consideration of possible downstream effects on the river below Iron Gate Dam, as well as within the river reaches between J.C. Boyle Reservoir and Copco Lake, a geographically broad APE is proposed. This APE also allows for consideration of potential direct and indirect effects on the surrounding cultural landscape, the potentially NRHP-eligible Klamath Riverscape and other identified TCPs, Sacred Sites, and historic districts located within the Klamath River Canyon.

The potential for direct or indirect impacts in areas outside the Klamath River Canyon is considered unlikely. For example, while the removal of water from the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate reservoirs may result in indirect visual impacts due to the unnatural looking unvegetated ring around the former reservoirs, this impact does not necessarily expand beyond the historic properties located along the river corridor and its immediate environs, which comprises a varied topography that ranges from steep canyons to low hills that limit the potential for indirect effects. Given the visual and auditory screening imposed by these land forms and the nature of the facilities, the project is not expected to result in auditory, atmospheric, or other indirect changes that may affect cultural resource locations beyond the preliminary APE boundary.

2.1 Area of Direct Impacts (ADI)

The ADI defined within the preliminary APE includes two primary components that largely correspond geographically to the *Project Limits of Work and Access* as presented in the project's California Environmental Quality Act (CEQA), California, and Oregon 410 Water Quality Certifications Technical Support Document (KRRC 2017), with the inclusion of a few isolated areas. Attachment 3 includes maps showing the location of the proposed ADI components. The ADI may be updated to reflect ongoing changes in project engineering, such as the specific location of disposal areas and access roads, as well as information learned through the tribal consultation process.

Within Oregon, the ADI comprises the *Project Limits of Work and Access* associated with the decommissioning of J.C. Boyle Dam and its associated facilities. ADI lands include discontinuous areas located between the upper reach of the J.C. Boyle Reservoir (RM 228) and RM 220, as shown on Attachment 3, Sheets 1-4. The ADI within California encompass a roughly continuous, 33-mile long area located between the eastern end of Copco Lake (RM 204) and Humbug Creek (RM 171), as shown on Attachment 3, Sheets 11-23.

The two primary components of the ADI include:

1. Existing dam facility sites, associated reservoirs and water conveyance systems, and features related to the original components of the Klamath Hydroelectric Project (FERC No. 2082).

2. Project components outside of the immediate reservoir and facility areas, including disposal areas, staging areas, access roads, former recreation areas, culvert and bridge replacement areas, road improvement areas, and unique isolated components, such as bridges (pedestrian and railroad), transmission lines, and substations that will likely need to be removed, raised, or monitored. This component would also include any new recreation sites developed along the river. It also includes lands below Iron Gate dam to Humbug Creek within the projected altered 100-year floodplain.

Secondary components of the ADI are listed below. This list is subject to change as project planning advances.

- In Oregon, J.C. Boyle Dam and Reservoir, including intake structure, spillway, dam, timber bridge, fish ladder, canal headgate, and the warehouse, shed, and residential buildings. Downstream from the dam, the J.C. Boyle work area includes the canal, forebay, spillway, scour hole, tunnel, penstocks, powerhouse, and substation. This area is inclusive of staging areas, temporary access roads, and fill and disposal areas.
- In California, Copco No. 1 Dam and reservoir, abutment/intake structure, penstocks, powerhouse, diversion tunnel, switchyard, and the residential and maintenance buildings, associated staging and disposal areas, and temporary access roads.
- In California, Copco No. 2 Dam, including embankments and abutment walls, conveyance tunnel to wood-stave penstock, overflow spillway tunnel, penstock, control center building, powerhouse, maintenance buildings, Copco Village, and associated staging areas, fill areas, and temporary access roads. The Daggett Road Bridge downstream from the village is also scheduled for replacement.
- In California, Iron Gate Dam and reservoir, diversion tunnel, intake structure, spillway, penstock/intake structure, fish holding facilities, power house, aerator, residential building, the Iron Gate Fish Hatchery, and associated fill, disposal, staging areas, and temporary access roads. The Lakeview Road Bridge is also scheduled for replacement, as is the City Yreka water supply pipeline, which crosses the Klamath River near the upstream end of the reservoir impounded behind Iron Gate Dam.

Non-reservoir area components of the ADI include features such as buildings, structures, and pedestrian and railroad bridges between Iron Gate Reservoir and Humbug Creek, in California, that may be affected by the altered 100-year flood plain. In Oregon and California, non-reservoir area components include roads that will be altered to account for increase project-related transport; culvert and bridge replacement areas; and proposed recreation areas and existing recreation areas that may be impacted due to adjustments required to access a river instead of a reservoir environment.

Humbug Creek, in California, is selected as a preliminary downstream boundary for the ADI based on the potential for structures above this point on the river to be within the altered 100-year floodplain following the removal of the dams. River areas below Humbug Creek are likely subject to less flooding (and less scour potential) from dam removal. There are an estimated 45 structures located in the altered 100-year floodplain between Iron Gate Dam and Humbug Creek with an additional 10 structures located near the altered floodplain. These structures should be subject to document review and potential National Register evaluation (including survey) as it is reasonable to anticipate effects on these properties directly resulting from dam removal and subsequent changes to the flood plain dynamics.

2.1.1 Level of Effort Discussion

The delineation of the ADI helps inform the level of identification efforts and methodologies to be employed to identify, evaluate, and treat historic properties. Within the ADI, historic properties identification efforts will focus on archival research, records searches, and literature review (largely completed for this area); pedestrian inventory of previously unsurveyed areas; gathering information from ethnographic research; consultation with tribes regarding TCPs, Indian Sacred Sites, and other areas of concerns; and consultation with other consulting parties. Each cultural resource identified within the ADI will be evaluated for National Register eligibility, and eligible resources (individual historic properties and/or historic districts) that are determined to be adversely affected by the project will require the development of mitigation measures that may include data recovery, site monitoring, Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) recordation, public interpretation, or other creative mitigation measures decided through ongoing consultation among interested parties. Many of these treatment considerations are captured in the 2017 CEQA Technical Support Document (KRRC 2017) and in previous HPMPs, and effects analyses from earlier documentation involving the Klamath River Dams (BOR 2012; Cardno ENTRIX 2012; FERC 2007; and PacifiCorp 2004) and will be considered during consultation.

Outside the ADI, historic properties identification efforts will focus on archival research, records searches, and literature review. Known archaeological and built environment sites, as well as TCPs, Indian Sacred Sites, historic districts, and cultural landscapes will be identified to facilitate ongoing consultation and consideration of potential direct and indirect effects. Presently, no pedestrian field survey is recommended and no NRHP eligibility determinations are planned outside of the ADI.

3.0 REFERENCES

Bureau of Reclamation (BOR)

2012 U.S.D.I. Bureau of Reclamation and California Department of Fish and Game. Klamath Facilities Removal Final EIS/EIR.

Carndo ENTRIX

2012 Klamath Secretarial Determination Cultural Resources Report. Prepared for the Bureau of Reclamation.

Daniels, Brian I.

2006 Shasta Nation TCP Study. Klamath Hydroelectric Project FERC No. 2082. Submitted to PacifiCorp, Portland, Oregon.

Deur, Douglas
2003 Summary Report: Traditional Cultural Properties and Sensitive Resource Study – Klamath Tribes. Klamath Hydroelectric Project FERC No. 2082. Submitted to PacifiCorp, Portland, Oregon.

Federal Energy Regulatory Commission (FERC)
2007 Federal Energy Regulatory Commission. Final Environmental Impact Statement for Hydroelectric License, Klamath Hydroelectric Project FERC Project No. 2087-027, Oregon and California.

King, Thomas F.
2004 First Salmon: The Klamath Cultural Riverscape and the Klamath River Hydroelectric Project. Prepared for the Klamath River Intertribal Fish and Water Commission.

Klamath River Renewal Corporation (KRRC)
2017 Klamath River Renewal Project California Environmental Quality Act (CEQA) and California and Oregon 401 Water Quality Certifications Technical Support Document.

PacifiCorp
2004 Cultural Resources Final Technical Report and Associated Confidential Appendices. Klamath Hydroelectric Project FERC No. 2082. PacifiCorp, Portland, Oregon.

Attachment 3

Preliminary Area of Potential Effects Map Set

KLAMATH
RIVER RENEWAL
CORPORATION

June 7, 2018

Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Re: Response to Letter Dated June 1, 2018: Initiation of Consultation and Preliminary Area of Potential Effect, Lower Klamath Project (FERC NO. 14803) Siskiyou County, CA – SHPO File # FERC_2018_0507_001

Dear Ms. Polanco,

Thank you for providing your written comments on the Klamath River Renewal Corporation's (KRRC) request for initiation of consultation and presentation of the preliminary area of potential effect (APE) for the Lower Klamath Project (FERC No. 14803) located in Siskiyou County, California and Klamath County, Oregon. This letter serves as confirmation that KRRC has received your comments. The input you have provided will assist with project compliance with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. 306108) as implemented in 36 CFR Part 800. In addition, your comments will help KRRC further refine the APE and address concerns. They will also serve as a foundation for future Section 106 consultation through the Cultural Resources Working Group (CRWG) and will be shared with participating federal agencies, tribes, and consulting parties.

If you have any questions or comments, or would like any additional information, please contact me, Mark Bransom, at the phone number or e-mail listed below, or Elena Nilsson, AECOM cultural resources lead, at elena.nilsson@aecom.com (530-893-9675).

Sincerely,

Mark Bransom

Mark Bransom,
Executive Director, KRRC

mark@klamathrenewal.org
415-820-4441

Cc: Kathleen Forrest, California SHPO
Brendon Greenaway, California SHPO
Jessica Gabriel, Oregon SHPO
Dennis Griffin, Oregon SHPO
Jeanne Goetz, Klamath National Forest
Eric Ritter, BLM
Russ Howison, PacifiCorp
Elena Nilsson, AECOM

KLAMATH
RIVER RENEWAL
CORPORATION

July 23, 2018

Dennis Griffin
State Archaeologist
State Historic Preservation Office
725 Summer Street NE, Suite C
Salem, OR 97031

Re: Response to Letter Dated June 28, 2018: Initiation of Consultation and Preliminary Area of Potential Effects (APE), Lower Klamath Project (FERC NO. 14803) Siskiyou County, CA and Klamath County, OR – SHPO Case No. 17-1370

Dear Mr. Griffin,

Thank you for providing your written comments on Klamath River Renewal Corporation's (KRRC) request for initiation of consultation and presentation of the preliminary APE for the Lower Klamath Project (FERC No. 14803) located in Siskiyou County, California, and Klamath County, Oregon. This letter serves as confirmation that KRRC has received your comments. The input you have provided will assist with project compliance with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. 306108) as implemented in 36 CFR Part 800. In addition, your comments will help KRRC further refine the APE and address concerns. They will also serve as a foundation for future Section 106 consultation through the Cultural Resources Working Group (CRWG) and will be shared with participating federal agencies, tribes, and consulting parties.

If you have any questions or comments, or would like any additional information, please contact me, Mark Bransom, at the phone number or e-mail listed below, or Elena Nilsson, AECOM cultural resources lead, at elena.nilsson@aecom.com (530-893-9675).

Sincerely,

Mark Bransom,
Executive Director, KRRC

mark@klamathrenewal.org
415-820-4441

cc: Elena Nilsson, AECOM

Oregon
Kate Brown, Governor

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June 28, 2018

Mr. Mark Bransom
Klamath River Renewal Corp
, OR

RE: SHPO Case No. 17-1370
FERC 14803, KRRC Lower Klamath Project,
Removal of dams Oregon and California
Multiple locations, Klamath County

Dear Mr. Bransom:

Our office has recently received a letter from your agency requesting concurrence regarding your Area of Potential Effect (APE) boundaries for the project referenced above. Upon review of your letter/ document, our office has a few comments regarding the boundaries of the project's APE and ADI, as defined in your letter. Our questions include:

1. Section 2.0 - The proposed APE is said to encompass a TCP composed of seven locations in the Big Bend, Oregon area. I do not believe that this TCP has ever been formally recognized or evaluated and our office would like additional information regarding the history, location and extent of this property in order to understand how the proposed project will both encompass the TCP and may impact this property. Deur's 2003 report earmarked seven general areas along the river, downstream from Big Bend but the description of each of these areas is not well defined nor have they been discussed in any detail. They are said to include major villages and trading centers, the east and west canyon rims, area ridges and gathering areas important to the Klamath people. How does your office feel that the proposed APE can adequately encompass this TCP with so little documentation? Before our office is able to understand the extent and applicability of this property in relation to the proposed activity, we would like to receive additional documentation regarding the extent of the Big Bend sensitive areas and hear from the Klamath Tribes to insure that the areas of concern are indeed all included within the proposed APE. You may have detailed maps that show the extent of the TCP and the APE but the aerial photos submitted to our office are not clear enough for us to confirm the extent of the APE with regards to noted feature areas.

2. Section 2.0 - You state that the geographically broad APE being proposed is considering the "potential direct and indirect effects on the surrounding cultural landscape, the potentially NRHP-eligible Klamath Riverscape and other identified TCPs, Sacred Sites, and historic districts located within the Klamath River Canyon." None of the TCP documents that our office received during the earlier Klamath Dam license renewal process (circa 2003-2004) have ever been discussed or reviewed. How are we to know the potential direct and indirect effects on these properties, and more importantly, how is your office insuring that the APE is including all of the above since such discussions have never occurred regarding the reports and their extent? These type of documents are often left vague on purpose with later discussions refining boundaries and potential impacts. I do not believe that such discussions have ever occurred for your agency to base the APE on. At a minimum, the APE should seek formal tribal approval from all associated groups to insure that it does include all potential direct and indirect effects on these properties. Our office can be involved in later discussions as to how these properties might be affected by the proposed project when further discussions ensue, as long as the tribes find that the APE is sufficient as drafted.

3.Area of Direct Impact (ADI) - The description of the ADI appears to be pretty inclusive of the lands that should be within this area. However, the maps included in Attachment 3 are not very clear in demarcating these areas. The colors used to demarcate the ADI and PacifiCorp lands are very close. We suggest that you make these colors more contrasting in future reports and correspondence. Please be sure to include topographic maps for the APE along with future consultations. Solely relaying on aerial photos is difficult to follow over time and can be confusing given the ever changing landscape in the area and the differing aerial photo layers that reviewing offices may have.

4. We concur with California SHPO's comment that the project related effects to both aquatic and terrestrial resources and activities associated with the recreation plan need to be clearly stated as being included within the APE.

5. All potentially historic structures affected by the undertaking, directly or indirectly, must be included within the boundaries submitted to our office for concurrence. Should additional built environment resources be impacted during any phase of the project, an amended APE would be necessary.

Our office looks forward to discussing this project with your agency in the future. If you have any questions or comments regarding this letter, please do not hesitate to contact me. In order to help us track your project accurately, please be sure to reference the SHPO case number above in all correspondence.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@oregon.gov

cc: Elena Nilsson, AECOM

Oregon
Kate Brown, Governor

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September 28, 2018

Mr. Mark Bransom
Klamath River Renewal Corp
, OR

RE: SHPO Case No. 17-1370
FERC 14803, KRRC Lower Klamath Project,
Removal of dams Oregon and California
Multiple locations, Klamath County

Dear Mr. Bransom:

Thank you for the opportunity to review your Appendix L: Cultural Resources Plan associated with the above project. Our office has reviewed your document and we have the following comments:

1). Previously Recorded Cultural Resources (Chapter 6:36-37) – Since this section is primarily relying on information completed many years ago, along with your discussion of previously identified archaeological sites and their eligibility, it would be good to include a table of all of these archaeological sites here along with such eligibility status (including agency recommendation, FERC determination and SHPO concurrence). If determined eligible, under what criterion? If determined not eligible, did the past evaluation consider site eligibility under all four criteria (A through D)? Early archaeological studies tended to focus only on Criterion D and we are curious of a wider review was conducted at the time of previous determinations. Perhaps this table could also note where the project lies with the larger APE (e.g., liable to be directly affected, indirectly or likely no effect). You provide a nice table (6-5) for the built environment but nothing for archaeological sites.

2). Isolated Finds (Chapter 6:37) –This summary states that there have been 108 isolates previously identified in Oregon. Have any of these had probing conducted around them to insure that they are indeed isolate locations of cultural material?

3). Archaeological Districts (Chapter 6:41) – Your summary mentions work on the development of an earlier archaeological district within Oregon that included four groups of multiple sites. Does KRRC plan on picking up on this earlier study and reintroducing this district nomination?

4). Klamath River Canyon Archaeological District (Chapter 6:42) – Your report mentions a publication written by McCutcheon and Dabling in 208. This reference is missing from your bibliography and I don't believe that it has ever been shared with the Oregon SHPO. Has this document been sent to our office in the past? If not, is this something that we can expect to see or is it going to be reanalyzed?

5). TCPs (Chapter 6:46-47) – Oregon SHPO looks forward to future consultation with KRRC and the Klamath Tribes on the various earlier identified TCP locations within Oregon, as well as the Klamath Cultural Riverscape that was earlier introduced that focused on the Klamath River. Such discussions will assist our office in understanding the true extent and impact of the proposed project on the Klamath River. Knowing little about what this discussion will entail, at this time we are unsure if this research and consultation would be considered a viable mitigation topic for the proposed project or simply part of the research that is needed

in order to complete the discussions on the proposed dam removals.

6). Pre-removal Resource Inventory (Chapter 6:48) - We were unable to find a copy of Figure 5.2-1(C) that depicts the disposal sites associated with the removal of the J.C. Boyle Dam. Could you forward our office a copy of this Figure?

7). Archaeological Inventory (Chapter 6:50) – Oregon SHPO's Field Guidelines were updated in 2013. Please reference the most current field guidelines in all future documents.

8). Site Definition (Chapter 6:50) – Oregon SHPO's definition of a feature as being a product of patterned cultural activity within a surface area reasonable to that activity is not based on density measurement. It stems more from a recognition that a feature may exist and that its components are not random (e.g., one camas oven, hearth, peeled tree). Each of these examples would be considered a feature, therefore a site, and you would not need to find multiple numbers of such features in order to be recognized as a site.

9). Archaeological Evaluation (Chapter 7:55) – In future eligibility discussions regarding both archaeological sites and TCPs, please be sure to include a discussion of eligibility based on all four criteria (A-D) rather than simply Criterion D for archaeological sites and Criterion A for TCPs as is often done in past studies.

10). Historic Properties Management Plan (Chapter 8) – Please be sure to include a section on future reporting that references future reports will consider Oregon's SHPO Reporting Guidelines. We want to be sure that all future reports include all components that are needed in order for our office to complete our review in a timely way.

11). References (Chapter 9:69) – As noted above, the reference for McCutcheon and Dabling 208 is missing from this section. Could you also send us a copy of Cardno Entrix's 2012 Klamath Secretarial Determination Cultural Resource report? A copy of this document could not be found and we are interested in refreshing ourselves on this earlier determination study in order to recall where discussions have been left off when last this project was discussed with our office.

Thank you again for the opportunity to review your Cultural Resources Plan and our office looks forward to discussing the above project as it moves forward toward completion.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@oregon.gov

cc: Elena Nilsson, AECOM

State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION Lisa Ann L. Mangat, *Director*
OFFICE OF HISTORIC PRESERVATION

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

September 28, 2018

In reply refer to: FERC_2018_0507_001

Mr. Mark Bransom
Executive Director
Klamath River Renewal Corporation
423 Washington Street
San Francisco, CA 94111

RE: Section 106 Consultation, Appendix L of Definite Plan, Lower Klamath Project (FERC No. 14803) Siskiyou County, CA

Dear Mr. Bransom:

The State Historic Preservation Officer (SHPO) received, on August 30, 2018, the letter continuing consultation on behalf of the Federal Energy Regulatory Commission (FERC) for the above-referenced project in order to comply with Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations found at 36 CFR § 800. The Klamath River Renewal Corporation (KRRC) has been delegated Section 106 consultation authority by the Federal Energy Regulatory Commission (FERC), pursuant to FERC's November 10, 2016 *Notice of Applications Filed With the Commission* and 36 CFR § 800.2(c)(4). Included with the KRRC's letter was a copy of the *Definite Plan for the Lower Klamath Project, Appendix L—Cultural Resources Plan* (Appendix L), prepared in June 2018.

The undertaking seeks the decommissioning and removal of the Iron Gate, Copco No. 1, Copco No. 2, and J.C. Boyle developments, located on the Klamath River and currently owned by PacificCorp. The J.C. Boyle development is located in Klamath County, Oregon, and is not within the jurisdiction of the California SHPO. The remaining three developments are located in Siskiyou County, California. The purpose of the undertaking is to achieve a free flowing river condition and full volitional fish passage through the reaches of the Klamath River currently impacted by the four dams by removing the facilities.

The KRRC and PacificCorps jointly filed a combined license amendment and license transfer application with FERC, requesting FERC to administratively remove the four dam developments from the Klamath Hydroelectric Project license (FERC No. 2082). KRRC filed a separate license surrender application for Project No. 14803 that would

allow KRRC to decommission the four facilities.

The KRRC has requested the SHPO's review and comment of Appendix L. After reviewing the information submitted with your letter, the following comments are offered:

- Section 6.1.4, Ethnographic Information and TCPs
    - A substantial amount of identification and analysis has been previously prepared for the Klamath Cultural Riverscape, including an eligibility determination. Any additional work on this would appear to be part of the identification efforts for the undertaking, rather than mitigation.
    - Documentation should discuss in detail why the Riverscape study could not be completed as part of the identification efforts, but the Historical Landscape Analysis discussed in Section 6.1.5—a new analysis that is likely to cover a very large area as well—could be completed as part of the identification effort.
    - Additionally, I encourage you to review the decision of the State of California Court of Appeals for the *Madera Oversight Coalition, Inc, v. County of Madera* in regards to any mitigation developed for the purposes of the California Environmental Quality Act (CEQA).
- Section 6.2.4, General Inventory and Resource Recordation Methods
    - Built Environment HABS/HAER/HALS Recordation can be an important mitigation, as stated in the document. However, it is appropriate as one of a suite of mitigation when the historic property in question is significant under National Register Criterion C. If a property is significant under one of the other Criteria, HABS/HAER/HALS would not be appropriate mitigation. Mitigation should always be determined in consultation with the consulting parties.
- Section 7.2, Evaluation of Historic Built Environment Resources: The document states that two historical resources reports will be prepared, for hydroelectric and non-hydroelectric resources. It is not clear why the preparation of two documents is necessary, and the California SHPO recommends that only one document be prepared.
- Section 8.1, Historic Properties Management Plan and Programmatic Agreement
    - The project has anticipated the preparation of a Programmatic Agreement. FERC's current template Programmatic Agreement will not be sufficient to address the complexities of this undertaking. The SHPO looks forward to working with FERC and KRRC to develop an appropriate agreement document.
- The SHPO recommends that FERC and the KRRC keep the Advisory Council on Historic Preservation (ACHP) apprised of the ongoing consultation as the undertaking moves forward.

The opportunity to comment on Appendix L of the Definite Plan is appreciated and I look forward to continuing this consultation with you. Please direct any questions or concerns that you may have to Kathleen Forrest, Historian, at 916-445-7022 or Kathleen.Forrest@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Cc: Jessica Gabriel, Oregon SHPO
Dennis Griffin, Oregon SHPO
Jeanne Goetz, Klamath National Forest
Eric Ritter, BLM
Elena Nilsson, AECOM

Oregon
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October 1, 2018

Mr. Mark Bransom
Klamath River Renewal Corp
, OR

RE: SHPO Case No. 17-1370
FERC 14803, KRRC Lower Klamath Project,
Removal of dams Oregon and California
Multiple locations, Klamath County

Dear Mr. Bransom:

Thank you for providing our office an opportunity to comment on Appendix L of the Definite Plan for the Lower Klamath Project. Our comments below pertain only to the historic, built environment. Comments regarding archaeological resources have already been provided by Dennis Griffin, Oregon State Archaeologist (letter dated September 28, 2018).

1. Regarding the proposal to update the existing evaluations is an important piece of the consultation process. In addition to updating and submitting eligibility determination forms to our office, please be sure to account for relevant elements of the Klamath Project that have been demolished, altered, or otherwise affected by federal undertakings since 2003, when the resources were last identified. Bureau of Reclamation's Sacramento office should have these records available. For example, Flume C, a large, concrete flume that represented a highly significant feature of the system, has been replaced, and consultation with our office resolved the adverse effect through mitigation.

2. We look forward to reviewing the draft Historic Properties Management Plan for the Klamath Project, once it becomes available.

3. We look forward to consulting on the Area of Potential Effect (APE), once the preliminary APE has been determined. Please be sure to include areas that may be indirectly affected by the project in any way, in addition to areas affected directly. This may include areas far outside of direct impacts, such as canals, laterals and sub-laterals that may be retired as a result of dam removal, as well as properties that may suffer deferred or unfulfilled maintenance due to loss of use through the retirement of pieces of the system. We appreciate, for example, the inclusion of properties that may be affected by the reintroduction of seasonal flooding and the re-definition of the 100-year flood zone (p.33), and encourage similar forward-thinking considerations when defining the APE.

4. When consulting the online Historic Sites Database for records regarding historic built resources, please bear in mind that the database does not represent a complete record of past consultations with our office. Any properties within the APE should be evaluated and considered during the review process, regardless of the presence or absence of records of past consultation.

5. We concur that using a 45-year age standard for consideration, rather than a 50-year age standard, is appropriate, in order to account for properties that may become 50 years old during the consultation process, prior to implementation of the project. If it appears that the project will take longer than 5 years to complete, we recommend expanding that standard to ensure that all properties are properly accounted for.

6. When considering visual impacts to properties, we recommend against using lack of visibility due to intervening vegetation as means to eliminate these from consideration. Vegetation should only rarely be used for such determinations, and only when there is a high likelihood that this condition will not change, i.e., a forest is between the resource and the source of impacts. Thin lines or swaths of trees, deciduous trees generally, or sections of trees that may be scheduled for harvest will all fail to sustain the standard of blocked visibility too readily (via seasonal changes, timber harvest, or routine cutting/thinning independent of the project) to be a meaningful basis for visibility analysis.

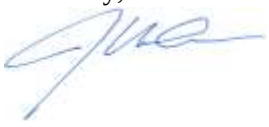
7. When reporting results of built environment surveys, inventories, or re-surveys, please consult with the Oregon SHPO to obtain a subset of the Oregon Historic Sites Database to update existing records and to create new records for adding to the Master database, which we maintain in Salem. Using this tool will dramatically increase review efficiency and facilitate up-to-date record keeping at our office.

8. When considering potential mitigation measures for historic, built resources, please bear in mind that documentation through HABS/HAER/HALS or otherwise is generally considered to be a baseline measure by our office, and is almost always paired with further stipulations designed to project the data to the public in some form, or to inform further mitigation of some type. In some cases, documentation may be deemed to be sufficient, however, this will be comparatively rare, and suitable only for minor structures with marginal eligibility.

9. Because the Klamath Project as a complete resource spans Oregon and California SHPO jurisdictions, please be sure to provide both our office and California SHPO with data related to resources in the opposite state for the purposes of allowing the two SHPOs to fully understand the resource as a whole. Even though the Oregon and California SHPOs will be consulting directly on resources that occur in our states, respectively, consulting agencies must have a full comprehension of the system in its entirety, in order to properly evaluate any individual element within it.

We look forward to further consultation on this project. If you have any questions regarding any of the above, please feel free to contact our office.

Sincerely,



Jason Allen, M.A.
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cc: Elena Nilsson, AECOM

AECOM
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November 15, 2018

Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Ste. 100
Sacramento, CA 95816

RE: Submittal of Revised Area of Potential Effects, Lower Klamath Project, Siskiyou County, California (SHPO No: FERC _2018_0507_001)

Dear Ms. Polanco,

On May 3, 2018, Klamath River Renewal Corporation (KRRC) submitted to your office a written definition of the preliminary Area of Potential Effects (APE) for the Lower Klamath Project, accompanied by maps. At that time, KRRC requested your comments on the preliminary APE to help focus KRRC's and PacifiCorp's consultation efforts [36 C.F.R. § 800.2(c)(4)] with agencies, tribes, and other interested parties, as well as to focus that dialogue in more meaningful content for FERC's subsequent consultation process. On June 1, 2018, KRRC received your comments on the preliminary APE. Based on your comments and those of other agencies and tribes participating in the project's Cultural Resources Working Group (CRWG), KRRC has prepared a revised APE definition and map set, which are attached to this letter.

On behalf of KRRC, AECOM is transmitting the revised APE information to you and requesting your comments as part of regulatory requirements under Section 106 of the National Historic Preservation Act of 1966 (NHPA) as codified in 36 CFR Part 800.

If you have any questions, or would like any additional information regarding the Project, please contact me at 530-893-9675 ext. 1231, or by e-mail at elena.nilsson@aecom.com.

Thank you for your support of this effort. We look forward to continuing our work with you.

Best regards,

Elena Nilsson
Principal Archaeologist

cc: Mark Bransom, KRRC

Enclosure

Oregon
Kate Brown, Governor

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December 4, 2018

Mr. Mark Bransom
Klamath River Renewal Corp
, OR

RE: SHPO Case No. 17-1370
FERC 14803, KRRC Lower Klamath Project,
Removal of dams Oregon and California
Multiple locations, Klamath County

Dear Mr. Bransom:

Our office recently sat in on the meeting that addressed the revised APE boundaries for the above project. However, while comparing the discussion during that meeting to the maps that have been provided to our office, we noted other areas were being discussed that will add to the proposed APE. Such areas include possible rafting locations and campground areas that may be made available directly below the J.C. Boyle Dam, as well as a new rafting access point and parking area may be established in the area of Frain Ranch (albeit across the river from the ranch itself). Due to the extreme sensitivity of these areas and the damage that has been ongoing to significant cultural sites near Frain Ranch in the past, we believe that project related indirect effects could occur to lands along the eastern banks of the Klamath River in this and possibly other areas, and we want to be sure that these lands are considered during any future discussions. Our office looks forward to future discussions are held regarding potential direct and indirect project effects.

In noting that rafting access locations may be proposed in the future, a second look at previous archaeological surveys will also be needed before our office would agree that surveys conducted over 15 years ago would still be considered valid for the current proposed activity. In listening in on the conversation during our last meeting, this assumption seemed to be taken for granted and there are many factors that need to be examined when one hopes to use old survey data for compliance concerns with future projects. Visibility at the time of the initial survey, nature of proposed impacts, degree of subsurface probing or testing that accompanied the earlier investigation, all are components to be considered when deciding if a new survey will be needed along stretches of the river that could be impacted (either directly or indirectly) by the proposed removal of the four Klamath River Dams. We recall that portions of the lands within the earlier proposed Hydro relicensing project along the Klamath River, that was being considered prior to deciding that the dams should be removed rather than relicensed, were slated to be surveyed but we don't think this ever occurred (e.g., BLM lands along the Klamath River in Oregon, Spring Creek diversion and several tributaries and access roads within the earlier FERC boundary). If any of these lands remain in the current project APE that could be affected, a survey of these lands will probably also be required.

In an earlier letter to your office we highlighted the lack of past consultation with our office regarding any of the earlier reported TCP locations that the various Tribes have stated exist along the river. This holds true today and we are looking forward to hearing from you regarding their number, composition, extent, integrity and possible effect. We believe that this information will be necessary before our office is able to understand and concur on project effects. Has a determination of eligibility for these properties yet been made? If so, when should our office expect a letter requesting concurrence? If not, when do you expect such determinations to be made?

Our office has recently added a new built-environment staff person who will be taking over the review of

potential effects to historic properties from the proposed dam removal. Her name is Tracy Swartz. Can you send any pertinent documents that outline the full scope of activities that are being proposed to the existing dam and downriver structures? This would kindly be appreciated!

Our office looks forward to future consultation regarding the above project. If you have any questions or comments regarding this letter, please do not hesitate to contact me. In order to help us track your project accurately, please be sure to reference the SHPO case number above in all correspondence. This letter refers to archaeological resources only. Comments pursuant to a review for above-ground historic resources will be sent separately.

Sincerely,

Dennis Griffin, Ph.D., RPA
State Archaeologist
(503) 986-0674
dennis.griffin@oregon.gov

cc: Mike Kelly, AECOM

Oregon
Kate Brown, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE Ste C
Salem, OR 97301-1266
Phone (503) 986-0690
Fax (503) 986-0793
www.oregonheritage.org

December 13, 2018

Mr. Mark Bransom
Klamath River Renewal Corp
, OR

RE: SHPO Case No. 17-1370
FERC 14803, KRRC Lower Klamath Project,
Removal of dams Oregon and California
Multiple locations, Klamath County

Dear Mr. Bransom:

Thank you for the opportunity to review the proposed Area of Potential Effects (APE) for the project noted above. The Oregon SHPO concurs that the APE for above-ground architectural resources is sufficient for the scope and scale of the undertaking. A separate letter addressing the adequacy of the APE for archaeological resources was sent on December 4, 2018.

We look forward to continued consultation on this project. Please contact me with any further questions or comments.

Sincerely,

Tracy Schwartz
Historic Preservation Specialist
(503) 986-0677
tracy.schwartz@oregon.gov

cc: Mike Kelly, AECOM

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

September 23, 2020

In reply refer to FERC_2018_0507_001

Mr. Mark Bransom
Executive Director
Klamath River Renewal Corporation
423 Washington Street
San Francisco, CA 94111
VIA EMAIL/FERC E-file

RE: Section 106 Consultation for the Lower Klamath Project, Phase II Evaluation Plan

Dear Ms. Bransom,

The State Historic Preservation Officer (SHPO) received your consultation letter on August 3, 2020 pursuant to Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 300101), as amended, and its implementing regulation found at 36 CFR § 800. The Klamath River Renewal Corporation (KRRC), non-federal representative for the Federal Energy Regulatory Commission (FERC) is continuing consultation with the SHPO regarding the above referenced project. At this time, KRRC is requesting SHPO comments on its revised document: *Lower Klamath Project Phase II Archaeological Research Design and Testing Plan* (AECOM, July 2020).

Follow up email correspondence on September 2, 2020 between my staff and Principal Archaeologist Michael Kelly of AECOM clarified that consultation with Tribal parties on the document is ongoing. This letter is to inform you that I withhold comment until consultation on the plan has been completed with Tribes and the public. In addition, I request a summary of comments received once available. If you have any questions or concerns, please contact Brendon Greenaway at (916) 445-7036 or Brendon.Greenaway@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Electronic cc:

Michael S. Kelly
Principal Archaeologist, AECOM

Ranzetta, Kirk

From: Eric Ritter <eritter@blm.gov>
Sent: Monday, July 16, 2018 1:41 PM
To: Araxi Polony; Nilsson, Elena; Neel, Alden; Anmarie.Medin@parks.ca.gov; Greenaway, Brendon@Parks; Heather Schultz; Jennifer Mata
Subject: Re: [EXTERNAL] Re: Request for Comments on Lower Klamath Project (FERC No. 14803)

Follow Up Flag: Flag for follow up
Flag Status: Completed

I see that on Attachment 3, Sheet 8 of 23 you have not earmarked the BLM lands with important National Register of Historic Places sites. I don't see those sites as having a direct effect from the dam removal other than construction-related traffic using the flats. I also believe that there would be direct effects to the Klamath River corridor between Copco Dam and the upper end of Iron Gate Reservoir. One such scenario would be high flows/debris from dam removal/flood events, etc. And what is the rationale for not having the Klamath River from the mouth of Humbug Creek to its mouth at Requa not being subject to direct effects? Eric Ritter

On Wed, Jul 11, 2018 at 3:43 PM Araxi Polony <araxi@klamathrenewal.org> wrote:

> Mr. Ritter,
>
> Apologies – please find the Preliminary Area of Potential Effects Map Set (Attachment 3) attached here for your reference.
>
> Best,
>
> Araxi
>
> Araxi Polony, Klamath River Renewal Corporation
> Administrative Assistant
> Cell: 510-730-5534 | Office: 510-679-6928
> araxi@klamathrenewal.org
> www.klamathrenewal.org
>
> ---
>
> From: Araxi Polony
> Sent: Wednesday, July 11, 2018 3:06:35 PM
> To: eritter@blm.gov
> Subject: Request for Comments on Lower Klamath Project (FERC No. 14803)
>
> Dear Mr. Ritter,

Please find attached Klamath River Renewal Corporation's letter requesting your comments on the preliminary Area of Potential Effects (APE) defined for the Lower Klamath Project (Project; FERC No. 14803).

In addition, the Preliminary Area of Potential Effects Map Set (Attachment 3) is attached here for your reference. The FERC Notice of Applications File with the Commission (Attachment 1) and Preliminary Area of Potential Effects Description (Attachment 2) are embedded in the letter.

Please let me know if you have any questions.

Best,

Araxi

Araxi Polony, Klamath River Renewal Corporation
Administrative Assistant
Cell: 510-730-5534 | Office: 510-679-6928
araxi@klamathrenewal.org
www.klamathrenewal.org

Ranzetta, Kirk

From: Ranzetta, Kirk
Sent: Tuesday, December 04, 2018 2:16 PM
To: 'Vehmas, Lisa'
Cc: Nilsson, Elena; Stacey Leigh; Joseph Giliberti
Subject: RE: [EXTERNAL] Re: Klamath River Dam Removal Project

Thank you Lisa for the quick response. Greatly appreciated. Feel free to contact myself or Elena Nilsson if you all should have any questions.

All the best.

Regards,

Kirk Ranzetta

From: Vehmas, Lisa [mailto:lvehmas@usbr.gov]
Sent: Tuesday, December 04, 2018 2:13 PM
To: Ranzetta, Kirk
Cc: Nilsson, Elena; Stacey Leigh; Joseph Giliberti
Subject: Re: [EXTERNAL] Re: Klamath River Dam Removal Project

Kirk - We haven't been involved from the 106 end since the Sec Determination process ended and the settlement agreement expired. We don't think we need to be involved, but am looping in
Stacey Leigh who is the regional Cultural Resources lead right now.
Also cc'd is Joe Giliberti, Reclamation's Federal Preservation Officer (the new Tom Lincoln) just in case other questions outside the region arise.

Lisa

On Tue, Dec 4, 2018 at 2:27 PM Ranzetta, Kirk <kirk.ranzetta@aecom.com> wrote:

> Hi Lisa,
>
> I am contacting you on behalf of the Klamath River Renewal Corporation who is currently preparing FERC documents in its efforts to decommission the four dams along the Klamath River in Oregon and California. I am currently working with the larger project team and facilitating Section 106 (NHPA) consultation. Over the past few months we have convened a Cultural Resources Working Group and been making progress in terms of describing the APE for the project, methods for field investigations for cultural resources, etc. In looking through the Advisory Council for Historic Preservation's website, I noticed on there that BOR was listed as the involved agency for that project. I just wanted to confirm that this was a holdover from the Secretarial Determination process as the individual who is listed as the contact for BOR (Tom Lincoln) has apparently retired and the information on the ACHP website does not present any of the most recent project developments and processes.

Could you confirm that this information is old? And also, will the BOR be a part of the Section 106 consultation process as FERC proceeds with considering the decommissioning application? The USFS and BLM have been active participants in the CRWG thus far. Thanks for your help!

Regards,

Kirk

Kirk Ranzetta

Senior Architectural Historian

Direct: 1-503.478.1629 Cell: 1-503.853.6354

Kirk.Ranzetta@aecom.com

AECOM

111 SW Columbia, Suite 1500, Portland, Oregon 97201

T 1-503-222-7200 F 1-503-222-4292

www.aecom.com

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Lisa A. Vehmas
Manager, Environmental Compliance Division
Policy & Administration

Bureau of Reclamation
303.445.2925 (desk)
303.248.6762 (cell)

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp	Project No. 2082-062
Klamath River Renewal Corporation	Project No. 2082-063
	Project No. 14803-000
	Project No. 14803-001

NOTICE OF APPLICATIONS FILED WITH THE COMMISSION

(November 10, 2016)

Take notice that the following hydroelectric applications have been filed with the Commission and are available for public inspection:

a. Types of Applications:	Application for Amendment and Partial Transfer of License; Application for Surrender of License
b. Project Nos.:	2082-062 and 14803-000 (amendment and transfer application); 2082-063 and 14803-001 (surrender application)
c. Date Filed:	September 23, 2016
d. Applicants:	For license amendment and transfer: PacifiCorp (transferor) and Klamath River Renewal Corporation (transferee) For license surrender: Klamath River Renewal Corporation
e. Name of Projects:	Klamath Project (P-2082) Lower Klamath Project (P-14803)
f. Locations:	Klamath Project - on the Klamath River in Klamath County, Oregon, and on the Klamath River and Fall Creek in Siskiyou County, California. The project includes about 477 acres of federal lands administered by the Bureau of Reclamation and the Bureau of Land Management.

Lower Klamath Project - on the Klamath River in Klamath County, Oregon, and Siskiyou County, California. The project would include about 395 acres of federal lands administered by the Bureau of Land Management.

g. Filed Pursuant to: Federal Power Act, 16 USC 791a-825r.

h. Applicants Contact: Sarah Kamman, Vice President and General Counsel, PacifiCorp, 825 NE Multnomah Street, Suite 2000, Portland, OR 97232, (503) 813-5865, sarah kamman@pacificorp.com

Michael Carrier, President, Klamath River Renewal Corporation, 423 Washington Street, 3rd Floor, San Francisco, CA 94111, (415) 820-4441, michael@klamathrenewal.org

i. FERC Contacts: Amendment and Transfer: Steve Hocking, (202) 502-8753, Steve.Hocking@ferc.gov

Surrender: John Mudre: (202) 502-8902, john.mudre@ferc.gov

j. Description of Amendment and Transfer Request: The applicants request that the Commission transfer the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments of the existing Klamath Project No. 2082 from PacifiCorp to the Klamath River Renewal Corporation (Renewal Corporation) and create a new project, the Lower Klamath Project, for the transferred developments with the Renewal Corporation as the sole licensee. PacifiCorp requests that the license for Project No. 2082 be amended to delete references to the four transferred developments. The applicants state that they will make a supplemental filing on or before March 1, 2017, demonstrating the legal, technical, and financial capabilities of the Renewal Corporation to perform its responsibilities as transferee. Applicants further request that the Commission act on the amendment and transfer application by December 31, 2017, and allow the Renewal Corporation six months from the issuance date of the order approving transfer to submit proof of its acceptance of license transfer.

k. Description of Surrender Request: The Renewal Corporation's request to surrender and decommission the Lower Klamath Project, including removal of the project dams is contingent upon a Commission order amending PacifiCorp's existing Klamath Project (P-2082) license to create a new project, the Lower Klamath Project, and transferring the Lower Klamath Project to the Renewal Corporation, as described in item (j), above. The Lower Klamath Project, as envisioned by the Renewal Corporation, would consist of the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments of the existing Klamath Project No. 2082, and the Renewal Corporation would be the sole licensee. The

Renewal Corporation requests that the Commission not act on this request until it is ready to accept license transfer and states that it will file, by December 31, 2017, its decommissioning plan to serve as the basis for Commission staff's environmental and engineering review of the surrender application. Because only a licensee may file to surrender a license and the Commission does not accept contingent applications, the surrender application is deemed to be filed by both PacifiCorp and the Renewal Corporation. *See* 18 C.F.R. §§ 6.1 and 4.32(j). Therefore, while action on the amendment and transfer application is pending, the Commission will maintain both applications in the dockets for both project numbers. If the Commission approves the transfer and the Renewal Corporation accepts the license, following which the Renewal Corporation would become the sole licensee, the surrender proceeding would continue solely in Project No. 14803.

l. With this notice, we are initiating informal consultation with: (a) the U.S. Fish and Wildlife Service and NOAA Fisheries under section 7 of the Endangered Species Act and the joint agency implementing regulations at 50 C.F.R. Part 402; (b) NOAA Fisheries under section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 CFR § 600.920; and (c) the California and Oregon State Historic Preservation Officers, as required by section 106 of the National Historic Preservation Act, and the implementing regulations of the Advisory Council on Historic Preservation at 36 C.F.R. Part 800.

m. With this notice, we are designating PacifiCorp and the Renewal Corporation as the Commission's non-federal representative for carrying out informal consultation, pursuant to section 7 of the Endangered Species Act, section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, and section 106 of the National Historic Preservation Act and the Advisory Council's regulations at 36 C.F.R. § 800.2(c)(4).

n. Locations of the Applications: Copies of the applications are available for inspection and reproduction at the Commission's Public Reference Room, located at 888 First Street, NE, Room 2A, Washington, DC 20426, or by calling (202) 502-8371. These filings may also be viewed on the Commission's website at http://www.ferc.gov/docs-filing/elibrary.asp. Enter the docket number excluding the last three digits in the docket number field to access the document. You may also register online at http://www.ferc.gov/docs-filing/esubscription.asp to be notified via email of new filings and issuances related to this or other pending projects. For assistance, call 1-866-208-3676 or e-mail FERCOnlineSupport@ferc.gov, for TTY, call (202) 502-8659. Copies are also available for inspection and reproduction at the addresses in item (h), above.

o. Individuals desiring to be included on the Commission's mailing list for these proceedings should so indicate by writing to the Secretary of the Commission.

p. Additional Information: We are not requesting comments at this time. After receiving the applicants' supplemental filings on or before March 1, 2017, for the license transfer and December 31, 2017, for the surrender, the Commission will issue notices requesting comments, protests, and motions to intervene.

Kimberly D. Bose,
Secretary

Document Content(s)

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
July 14, 2017

OFFICE OF ENERGY PROJECTS

Project Nos. 2082-063 and 14803-001—
Oregon and California
Klamath Hydroelectric Project
PacifiCorp

Ms. Sarah Kamman
Vice President and General Counsel
PacifiCorp
825 NE Multnomah Street, Suite 2000
Portland, OR 97232

Mr. Michael Carrier, President
Klamath River Renewal Corporation
423 Washington Street, 3rd Floor
San Francisco, CA 94111

Reference: Klamath Hydroelectric Project—Request for Additional Information

Dear Ms. Kamman and Mr. Carrier:

On September 23, 2016, PacifiCorp and the Klamath River Renewal Corporation (Renewal Corporation) filed a joint application for a license transfer and license amendment for the Klamath Hydroelectric Project (P-2082). On the same day, the Renewal Corporation filed an Application for surrender of the license.[1] The amendment/transfer application requests that the Commission amend the license for the project by removing the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments from the license and transferring them from PacifiCorp to the Renewal Corporation, thereby creating a new project, the Lower Klamath Project (FERC No. 14803), with the Renewal Corporation as the sole licensee. The surrender application states that it was made in accordance with the amended Klamath Hydroelectric

[1] As explained in the Commission's November 10, 2016 public notice of the applications, pending Commission action on the license amendment and transfer request, the surrender application is deemed to be filed by both PacifiCorp and the Renewal Corporation.

Settlement Agreement (amended KHSA)[2] to decommission and remove the Lower Klamath Project developments.

The surrender application relies heavily on information contained in the U.S. Department of the Interior and the California Department of Fish and Game's[3] 2012 Klamath Facilities Removal Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR)[4] and earlier studies that the EIS/EIR cites as the basis for most of the analyses in the EIS/EIR. Various factors that could influence some of the economic and environmental effects of the proposed surrender and decommissioning have changed since 2012 when the EIS/EIR was prepared. Additionally, the EIS/EIR effects analysis and recommendations were based on the assumption that certain restoration activities contained in the now-expired Klamath Basin Restoration Agreement (KBRA) would be implemented. Because it is not clear which, if any, of the KBRA's restoration activities will be conducted, it is not clear which of the EIS/EIR's conclusions and recommendations remain applicable. Therefore, based on our preliminary review of the September 23, 2016 surrender application, additional information is needed for Commission staff's analyses of the proposed surrender.

Pursuant to Section 4.32(g) of the Commission's regulations, please include the additional information requested in the enclosed schedule A with the supplemental information you plan to file as described in the surrender application.[5] Within 5 days of receipt of this letter, please provide a copy of this letter and the enclosed schedule A to all agencies with whom you will consult in response to this request. Then, when you file the requested information with the Commission, you also should provide exact copies of the filings to those agencies.

If the submission of any additional information causes any other part of the surrender application to be inaccurate, please revise that part and refile it by the due date. Also, please be aware that further requests for additional information may be sent to you at any time before final action on your application is taken.

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[2] The amended KHSA was executed on April 6, 2016.

[3] Now the California Department of Fish and Wildlife (California DFW).

[4] U.S. Department of the Interior and California Department of Fish and Game. 2012. Klamath Facilities Removal Final Environmental Impact Statement/Environmental Impact Report Volume I. State Clearinghouse # 2010062060. December 2012.

[5] The surrender application states that this supplemental information will be filed by December 31, 2017.

The Commission strongly encourages electronic filing. Please file the requested information using the Commission's eFiling system at http://www.ferc.gov/docs-filing/efiling.asp. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, please send a paper copy to: Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, D.C. 20426. Please put the docket numbers, P-2082-063 and P-14803-001, on the first page of your response.

If you have any questions regarding this letter or the contents of your required contents of the surrender application, please contact John Mudre at (202) 502-8902 or at john.mudre@ferc.gov.

Sincerely,

Timothy Konnert, Chief
West Branch
Division of Hydropower Licensing

Enclosure: Schedule A—Additional Information

cc: Mailing List
Public Files

ADDITIONAL INFORMATION

The following is a list of additional information needs identified during staff's preliminary review of the application for license surrender and decommissioning of the proposed Lower Klamath Project (i.e., the existing J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments and appurtenant features of the Klamath River Project No. 2082). Please file the requested information by December 31, 2017. The requested information may be incorporated into an amended surrender application, a decommissioning plan, or any accompanying environmental analyses, as appropriate.

Initial Statement

1. The Initial Statement, pursuant to section 4.51(a) of the Commission's regulations, states that: "Applicant [(Klamath River Renewal Corporation)] will today file requests for water quality certification with Oregon Department of Environmental Quality (Oregon DEQ) and the California Water Resources Control Board (California Water Board), for the purpose of this License Surrender Application." On October 21, 2016, the California Water Board filed a copy of its letter acknowledging receipt of your application on September 23, 2016. Please file documentation as to when Oregon DEQ received your application.

Exhibit B

2. Exhibit B of the surrender application indicates that PacifiCorp is voluntarily operating Project No. 2082 as described in the 2011–2014 Klamath Hydroelectric Settlement Agreement (KHSA) Implementation Reports. The amended KHSA[6] includes an update on the implementation status of all interim measures for both the original KHSA and the Habitat Conservation Plan along with a timetable for those not yet completed. According to that update, as of the amended KHSA's effective date (April 6, 2016), interim measures 7 (funding), 9, 11 (studies), 13, 17, and 21 had been fully implemented, but the other interim measures were in varied states of completion. Please file an updated status report and implementation schedule

[6] Ady District Improvement Company, et al. 2016. Klamath Hydroelectric Settlement Agreement. February 18, 2010, amended April 6, 2016, pages E2-1 through E2-6.

for the interim measures in the amended KHSA and the Habitat Conservation Plan[7] so staff has a thorough understanding of their status.

Exhibits C and D

3. The surrender application includes (as Exhibit E.3) the "Detailed Plan for Dam Removal – Klamath River Dams, Klamath Hydroelectric Project, FERC License No. 2082, Oregon – California" (Detailed Plan) prepared by the U.S. Bureau of Reclamation in 2012. Although this plan provides substantial information on the planned approach for permitting, implementing, and remediating the removal of project facilities, section 7.2.1 of the amended KHSA indicates that the Detailed Plan will be superseded by a "Definite Plan for Facilities Removal" (Definite Plan), which will be consistent with the Commission's requirements for surrender and include consideration of prudent cost overrun management tools, such as performance bonds. Please revise exhibit E.3 to replace the Detailed Plan with the Definite Plan.

4. The surrender application proposes the simultaneous removal of the four lower dams with the dewatering periods[8] scheduled to minimize sediment release into downstream areas during critical times for important aquatic species and life stages (e.g., anadromous fish spawning, rearing, and in- and out-migration). The schedule indicates that the deconstruction period, including dewatering and facilities removal, would occur over about 20 months.[9] The EIS/EIR prepared in support of the original KHSA[10] states

[7] PacifiCorp. 2012. PacifiCorp Klamath Hydroelectric Project Interim Operations Habitat Conservation Plan for Coho Salmon. Prepared by PacifiCorp Energy, Inc., Portland, OR. Submitted to the National Marine Fisheries Service, Arcata Area Office, Arcata, CA. February 16, 2012. Available at: http://www.westcoast.fisheries.noaa.gov/habitat/conservation_plans/pacificorps_energy_hcp.html. Accessed July 5, 2012.

[8] The dewatering period is the time from when water releases intended to drain the reservoir begin to when the dam is sufficiently removed such that it no longer retains water.

[9] EIS/EIR, page 2-35.

[10] U.S. Department of the Interior and California Department of Fish and Game. 2012. Klamath Facilities Removal Final Environmental Impact Statement/Environmental Impact Report Volume I. State Clearinghouse # 2010062060. December 2012.

that the deconstruction period drawdown length could vary depending on water year type, with longer drawdowns occurring during wet years and shorter drawdowns during dry years.[11] To reduce the uncertainty regarding the length of time over which flows with high suspended sediment concentrations would occur and potentially negatively affect aquatic resources, please provide the following information:

a. Your proposed measures for to ensuring that reservoir dewatering is completed by the end of February to avoid high suspended sediment concentration after March 15.

b. An assessment of the extent to which a wet year would extend the reservoir dewatering period, the potential effects on downstream environmental resources of deconstruction implementation during a wet year, and the increase in the cost of deconstruction, if it occurred in a wet year. In addition, please provide a detailed discussion of the process and rationale that would be used to determine if any adjustments to the dewatering schedule are needed to minimize the release of sediment during the previously identified critical times for important species and life stages.

Exhibit E

Agreements and Biological Opinions

5. The Upper Klamath Basin Comprehensive Agreement (UKBCA),[12] which was signed April 18, 2014, was developed in concert with the original KHSA and the Klamath Basin Restoration Agreement (KBRA) to provide a "comprehensive solution" for water, fishery, and power issues in the Klamath River Basin. We understand that progress was made in implementing the UKBCA's water use and riparian programs during 2014 and 2015. Publicly available documents describe some of this progress, although the complete and current status of implementing the UKBCA is unclear. To ensure that

[11] EIS/EIR, page 2-33.

[12] Signatories to the UKBCA include the State of California, California Department of Fish and Wildlife, California Natural Resources Agency, State of Oregon, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, Oregon Water Resources Department, Klamath Water Users Association, American Rivers, California Trout, Trout Unlimited, National Marine Fisheries Service, U.S. Department of the Interior, and Sustainable Northwest.

Commission staff has a thorough understanding of the effects of the UKBCA on water availability, please provide a status report documenting the current schedule and status for implementation of the measures described in the UKBCA.

6. The EIS/EIR's evaluations for the Full Facilities Removal of Four Dams and the Partial Facilities Removal of Four Dams (Alternatives 2 and 3, respectively) incorporated the KBRA as a connected action. Since the KBRA was terminated at the end of 2015, Commission staff needs an update on which KBRA actions will be conducted and when they will be implemented. The Fifth Annual Report for the Klamath Settlement Agreements,[13] which was released less than 2 months before the KBRA's termination at the end of December 2015, provides the status of implementation of KBRA measures at that time. For each action in the KBRA, please describe the likelihood of it being implemented, the responsible party, any potential limitations on implementation, and the schedule for implementation. Also, please revise any EIS/EIR conclusions and recommendations that were based on the assumption that the KBRA would be implemented.

7. The original KHSA was predicated on passage of federal legislation. Because no federal legislation was enacted, to implement the KHSA measures, the States of Oregon and California, the United States Departments of the Interior (Interior) and Commerce, and PacifiCorp amended the KHSA on April 6, 2016. Subsequently, Interior, the National Marine Fisheries Service (NMFS), and other KBRA and UKBCA signatory parties signed the 2016 Klamath Power and Facilities Agreement (KPFA) to address the interests of irrigators in the upper basin. Our understanding is that congressional authorizations are required for the federal agency parties to fully participate in certain actions supported in the KPFA. Therefore, please file a list of the KPFA's activities that require congressional authorization to enable implementation, along with the status of receiving each congressional authorization.

8. The biological opinions incorporated into the EIS/EIR have not been finalized. The EIS/EIR assumed implementation of the U.S. Fish and Wildlife

[13] Klamath Basin Coordinating Council. 2015. Fifth Annual Report Implementing the Klamath Basin Settlement Agreements. November.

Service's (FWS's) 2008 biological opinion[14] for suckers and NMFS's 2010 biological opinion[15] for coho salmon. In 2012, NMFS and FWS released a joint preliminary biological opinion[16] for all species listed under the Endangered Species Act, which addressed the effects of dam removal as described in the Detailed Plan, but did not include implementation of the KBRA as part of the proposed action.

To ensure that Commission staff has an understanding of the current status of the various biological opinions pertaining to the proposed removal of the Klamath River dams under the amended KHSA and of operation of Reclamation's Klamath Irrigation Project, please provide an update of the current status of the relevant biological opinions.

Geology and Soils

9. The EIS/EIR predicts response of the channel bed elevation between J.C. Boyle Dam and the Pacific Ocean to removal of the four dams with implementation of the KBRA, based on the results of several extensive modeling efforts, including broad-scale one-dimensional models (SRH-1D and DREAM-1) and a two-dimensional model of Copco No. 1, which draw on prior studies of the Klamath River system. The analyses[17] generally predict

[14] FWS. 2008. Biological/conference opinion regarding the effects of the Bureau of Reclamation's proposed 10-year Operation Plan (April 1, 2008–March 31, 2018) for the Klamath Project and its effects on the endangered Lost River and shortnose suckers. U.S. Fish and Wildlife Service, Klamath Falls Fish and Wildlife Office, Klamath Falls, OR, and Yreka Fish and Wildlife Office, Yreka, CA.

[15] NMFS. 2010. Biological opinion on the operation of the Klamath Project between 2010 and 2018. Prepared for U.S. Bureau of Reclamation. Prepared by NMFS, Southwest Region. March 15, 2010.

[16] NMFS and FWS. 2012. Joint preliminary biological opinion on the proposed removal of four dams on the Klamath River. NMFS, Southwest Region and FWS, Region 8. November 2012.

[17] Refer to pages 9-33 to 9-37 of Technical Report No. SRH-2011-02. Reclamation. 201l. Hydrology, hydraulics and sediment transport studies for the Secretary's Determination on Klamath River dam removal and basin restoration. Prepared for Mid-Pacific Region, US Bureau of Reclamation, Technical Service Center, Denver, CO.

that two years following removal of the dams a channel will be cut through the dam-stored sediments and the maximum aggradation (1.1 to 1.6 feet depending on water year type during dam removal) will occur in the reach between Bogus Creek and Willow Creek. Predicted aggradation is 0.6 to 0.9 foot for Willow Creek to Cottonwood Creek, and less than 0.25 foot downstream of Cottonwood Creek, which is 8 miles downstream of Iron Gate Dam. Although the EIS/EIR states that 2-year SRH-1D simulations estimate "up to 1 foot of reach-averaged deposition of fine and coarse sediment between Iron Gate Dam and Bogus Creek (RM 189.8)," Figure 3.3-15 in the EIS/EIR and Appendix F of the EIS/EIR indicate degradation, not aggradation, in this reach.[18] To resolve this conflicting information, please revise the text and/or Figure 3.3-15 to clarify whether aggradation or degradation is expected to occur in the Iron Gate Dam to Bogus Creek reach.

10. Although the EIS/EIR and supporting studies address the effects of dam removal on general streambed elevation and the storage of sediment in bars and channel fringes between J.C. Boyle Dam and the Pacific Ocean, modeling is not sufficient to evaluate whether the release of dam-stored sediment would aggrade at tributary mouths and form obstacles/barriers to the upstream and/or downstream migration of trout and salmon. Please describe whether and where any such effects are expected and how long such effects would persist. Please also include a proposed approach for monitoring and mitigating any impacts that such obstacles/barriers would have on fish populations downstream of Iron Gate Dam.

11. The conclusion in the EIS/EIR that channel morphology will be restored quickly following dam removal is based on the results of broad-scale, one-dimensional models; a focused, two-dimensional model of Copco No. 1; and flume experiments conducted by Stillwater Sciences in 2008. The conclusions of the models were expressed in general terms. As a result, the time frame for the expected persistence of deposited sediments in pool habitats, which are holding habitat for salmonids, is unclear. Please provide the rationale and assumptions used in estimating the time for reestablishment of pool depths in the reach between Iron Gate Dam and Willow Creek and the establishment of pools in the currently impounded reservoir reaches. In addition, provide a proposed monitoring plan and mitigation measures to address reestablishment of pools to support ESA-listed species after year one of deconstruction.

[18] Refer to pages 3.3-108 and 3.3-109 of the EIS/EIR and page F-17 of Appendix F to the EIS/EIR.

12. The effects of removing the dams on channel response in the vertical direction is evaluated in the Technical Report No. SRH-2011-02, which includes an evaluation of impacts to infrastructure.[19] This infrastructure evaluation is limited to bridges, culverts, and a pipeline near the river and reservoirs between J.C. Boyle Dam and Iron Gate Dam, and does not appear to address potential lateral migration of the channel on infrastructure and private property downstream of Iron Gate Dam. Please provide an assessment of potential damage to infrastructure/property due to channel wandering.

13. Technical Report No. SRH-2011-02 includes an evaluation of sediment transport under the dam removal alternative, which includes both one-dimensional and two-dimensional modeling.[20] The two-dimensional model (SRH-2D) was applied to Copco No. 1 to assess erosion patterns that may occur during reservoir dewatering and to verify the assumptions inherent in the one-dimensional simulations. However, when the SRH-2D model was used to predict sediment erosion and deposition processes during the Elwha Dam removal, Reclamation concluded that the model did not simulate delta channel processes accurately.[21] Reclamation's subsequent model improvements successfully simulated the vertical and lateral erosion processes of the delta for dam removal, although Reclamation found that the improved model still missed some of the details of delta erosion. Please provide an evaluation of the extent to which these model limitations may have affected the two-dimensional modeling for the Klamath Dam removals.

14. Section 3.2.5 of the EIS/EIR states that "while the Alternatives Formulation Report identified the option of mechanical sediment removal as mitigation for sediment erosion impacts associated with removal of the Four Facilities, subsequent analysis found this measure to be infeasible (Lynch 2011)." So we understand options for mitigating sediment erosion impacts associated with dam removal, please file a copy of Lynch (2011).

Water Quantity

[19] Refer to pages 10-1 to 10-25 of Technical Report No. SRH-2011-02.

[20] Refer to pages 9-3 to 9-92 of Technical Report No. SRH-2011-02.

[21] Reclamation. 2014. Modeling of delta erosion during Elwha Dam removal with SRH-2D. Prepared by Yong G. Lai. Peer reviewed by Jennifer Bountry. Technical Report No. SRH-2014-31.

15. Since preparation of the EIS/EIR, a number of actions and other factors may have changed water availability conditions, including: increased groundwater pumping in the upper Klamath Basin,[22] retirement of irrigated agriculture lands, improvements in estimating evapotranspiration from wetlands around Upper Klamath Lake,[23] changes in Klamath Irrigation Project operation, changes in Lewiston Dam operations,[24] and the Oregon Water Resources Department's completion of Phase One of the Klamath River Basin Adjudication of water rights in the Klamath Basin.[25] Because an accurate understanding of the water available to support anadromous fishes is crucial to evaluating the response of salmonids to dam removal, please update the information provided in the EIS/EIR to reflect any changes in the availability of water for release to the Klamath River under the current environmental and regulatory regime.

16. Simultaneous dewatering of the reservoirs would increase river flows during the high-flow period over naturally-occurring levels. To facilitate Commission staff's evaluation of the effect of reservoir dewatering on flooding, please provide simulated Klamath River flows at the USGS gages below Iron Gate Dam, near Seiad Valley, at Orleans, and near Klamath for normal and wet water year types that includes flow contributions from reservoir dewatering.

[22] Gannett, Marshall W. and Katherine H. Breen. 2015. Groundwater levels, trends, and relations to pumping in the Bureau of Reclamation Klamath Project, Oregon and California. U.S. Geological Survey Open-File Report 2015-1145.

[23] Stannard, David I., Marshall W. Gannett, Danial J. Polette, Jason M. Cameron, M. Scott Waibel, and J. Mark Spears. 2013. Evapotranspiration from marsh and open-water sites at Upper Klamath Lake, Oregon, 2008–2010. U.S. Geological Survey Scientific Investigations Report 2013–5014.

[24] Refer to https://www.usbr.gov/mp/nepa/nepa_base.cfm?location=ncao.

[25] Refer to http://www.oregon.gov/owrd/pages/adj/index.aspx.

Water Quality

17. To support our review of the proposed surrender and decommissioning, please provide the current status of any required state or federal permit applications related to water quality,[26] including: Clean Water Act section 401 water quality certifications, section 402 National Pollutant Discharged Elimination System permits, section 404 dredge and fill permits, California DFW section 1602 California streambed alteration permits, and any required water quality permits under the Hoopa Valley Tribe Water Quality Control Plan.

18. Several studies concerning water quality have become available since preparation of the EIS/EIR. These studies include baseline monitoring of water quality and algae communities, an evaluation of the effectiveness of turbine venting at Iron Gate Dam in increasing DO concentrations, and evaluation of several methods for reducing nutrient concentrations in project waters.[27,28] New guidelines for posting public health advisories for toxic algae blooms[29,30] have also been released. To ensure that Commission staff has an accurate understanding of the environmental baseline, please provide up-to-date information on water quality data trends, the status of contaminants in sediments and biota, and algae in the Klamath River Basin. The information for algae should include characterization of the dominant algal species within the Klamath River Basin, and the potential limiting factors for blue-green algae and associated nuisance algal blooms.

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[26] See list of regulations in table 6.1 of the EIS/EIR.

[27] PacifiCorp Energy. 2014. Klamath Hydroelectric Settlement Agreement Implementation Report, FERC Project No. 2082. June 2014.

[28] Otten, Timothy G., Joseph R. Crosswell, Sam Mackey, and Theo W. Dreher. 2015. Application of molecular tools for microbial source tracking and public health risk assessment of a Microcystis bloom traversing 300 km of the Klamath River. Harmful Algae 46:71-81.

[29] Oregon Health Authority. 2016. Oregon Harmful Algae Bloom Surveillance (HABS) Program Public Health Advisory Guidelines Harmful Algae Blooms in Freshwater Bodies. May 2016.

[30] Yurok Tribe. 2016. 2016 Posting Guidelines for Public Health Advisories.

19. Appendix E of the EIS/EIR provides an analysis of the potential effects of suspended sediment resulting from dam removal on certain fish species (fall and spring runs of Chinook salmon, coho salmon, summer and fall/winter runs of steelhead, Pacific lamprey, and green sturgeon). Daily time series of suspended sediment concentrations were developed using the median and 10-percent (referred to as "worst case" for the Proposed Action) exceedance values for each day of the year based on output from the SRH-1D 2.4 sediment transport model, which was run for water years 1961 through 2008. Although this appendix provides figures that display time series for the median and 10-percent exceedance suspended sediment concentrations, it does not provide information on suspended sediment concentrations, lake levels, or river flows that would occur with less than a 10 percent frequency. To provide for a comprehensive understanding of the simulated timing for each year's drawdown, along with the resulting simulated river flows and simulated suspended sediment concentration values, please provide in Excel format the entire dataset for stream flows, reservoir water elevations, and simulated suspended sediment concentrations used for water years 1961 through 2008.

20. The EIS/EIR[31] states that suspended sediment concentrations would begin to decline in late March of the deconstruction year and would continue declining through that year's early summer during normal to dry years, but that a wet year may prolong the dewatering of reservoirs and result in high suspended sediment concentrations for a longer period of time. Because the dewatering is scheduled for late fall-winter to minimize effects on aquatic biota, extending the duration of high suspended sediment concentrations beyond that period has the potential to have adverse effects on life stages of sensitive species present in the river at the time.[32] In order to provide Commission staff with adequate information to evaluate the risks associated with a prolonged dewatering period in a wet year, please provide an assessment of the potential adverse effects on water quality and aquatic resources that would result from high suspended sediment concentrations continuing after mid-March of the deconstruction year.

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[31] On page 3.3-102 of the EIS/EIR.

[32] Sensitive life stages present in spring are out-migrating smolts, adult green sturgeon, and in-migrating steelhead and spring-run Chinook adults. In the summer, rearing juvenile salmonids, green sturgeon adults, and in-migrating spring-run Chinook salmon adults.

21. The EIS/EIR evaluates contaminant concentrations in sediment and aquatic biota[33] based on research conducted during or before 2011 to determine whether sediment mobilization caused by dam removal had the potential to adversely affect aquatic biota and consumers of aquatic biota, including humans. While Camp Dresser & McKee (CDM) (2011)[34] was conducting its evaluation, the freshwater sediment screening levels being used were under review and were subsequently finalized. Since CDM's 2011 evaluation, the U.S. Army Corps of Engineers (Corps),[35] Northwest Regional Sediment Evaluation Team (RSET),[36] and U.S. Environmental Protection Agency (EPA)[37] have revised screening levels for both fresh and marine sediments. Please confirm whether the contaminant screening levels used in the EIS/EIR still represent the accepted criteria for evaluating risks to the freshwater or marine environment posed by sediment resulting from the removal of the Klamath River dams and for fish consumption. If newer criteria are more appropriate, please provide a reassessment of the effects of sediment contaminants on aquatic biota using the currently-accepted criteria. Also, please provide a proposed monitoring and mitigation plan to manage contamination risks caused by dam removal.

[33] On pages 3.2-33 to 3.2-36 of the EIS/EIR.

[34] CDM. 2011. Screening-level evaluation of contaminants in sediments from three reservoirs and the estuary of the Klamath River, 2009-2011. Prepared with assistance from Stillwater Sciences. Prepared for U.S. Department of the Interior, Klamath Dam Removal Water Quality Sub Team. September 2011.

[35] Corps. 2016. Dredged material evaluation and disposal procedures user manual. Prepared by the Dredged Material Management Office, Corps, Seattle District. August 2016.

[36] RSET. 2016. Sediment evaluation framework for the Pacific Northwest. Prepared by the RSET Agencies. July 2016.

[37] EPA. 2016. EPA risk assessment, regional screening levels (RSLs)—Generic tables (May 2016) web page. Available at: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016. Accessed February 3, 2017.

22. A 2012 USGS report[38] summarized available information concerning contaminants in the Klamath River basin and identified data gaps. One of the conclusions of the report was that "the myriad of ecological stressors on the basin's resources can complicate predicting the trajectory and success of restoration efforts, thus it is important to inventory those stressors and identify critical data gaps prior to implementing actions." Given that the report was published in 2012, please provide relevant information from any subsequent studies concerning contaminants in the aquatic environment to allow us to adequately evaluate the potential effects of dam removal.

Aquatic Resources

23. Our November 10, 2016 Notice of Applications Filed With the Commission in this proceeding designated PacifiCorp and the Renewal Corporation as the Commission's non-federal representative for carrying out informal consultation, pursuant to section 7 of the Endangered Species Act, section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act. To allow us to assess compliance with these regulations and support our environmental analysis, please provide an update on the status of these consultations, as well as the status of any pending state or federal permit applications[39] related to aquatic resources, including records of correspondence with relevant permitting agencies.

24. In order for staff to evaluate the current state of aquatic resources that could potentially be impacted by dam removal, please provide available information developed after publication of the EIS/EIR concerning: 1) the population status of spring and fall Chinook salmon, coho salmon, and steelhead; and 2) advancements in understanding of fish diseases, specifically the myxozoan parasites *Ceratonova shasta*[40] and *Parvicapsula minibicornis*, and fish disease outbreaks as they relate to survival of salmonids in the Klamath River Basin.

[38] Eagles-Smith, C.A. and B.L. Johnson. 2012. Contaminants in the Klamath basin: historical patterns, current distribution, and data gap identification. U.S. Geological Survey Administrative Report. 88p.

[39] See list of regulations in table 6.1 of the EIS/EIR.

[40] Formerly *Ceratomyxa shasta*.

25. The Secretarial Overview Report[41] states that the migration of fall-run adult Chinook salmon could be seasonally blocked in the summer by the combination of warm water and low dissolved oxygen in the Keno impoundment. Implementation of the Total Maximum Daily Load (TMDL) standards for this reach (ODEQ, 2010)[42] pursuant to section 303(d) of the Clean Water Act, the original KHSA's Interim Measures, and a restoration component of the KBRA are intended to reduce the severity of this water quality barrier. Nonetheless, the report notes that the seasonal trap and haul of migrating fall-run adult Chinook around Keno Reach "is an envisioned component" of the KBRA in some years following dam removal, until water quality improves. Please provide an update on the status of implementing the TMDLs[43,44] and interim measures related to water quality to further our assessment of expected water quality improvements and associated potential effects on salmonid restoration. Also, in the absence of the KBRA, how would the planned Keno water quality restoration and trap and haul programs be implemented?

Threatened and Endangered Species

26. Please provide information on any species, aquatic or terrestrial, that have been listed or proposed for listing under the federal or state Endangered Species Act since release of the EIS/EIR, as well as any previously-listed species that are now known to occur in the project area. Please also include any new designated or proposed critical habitat.

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[41] Refer to page 114 of the Klamath Dam Removal Overview Report for the Secretary of the Interior, An Assessment of Science and Technical Information. Version 1.1. March 2013.

[42] ODEQ. 2010. Upper Klamath and Lost River subbasins total maximum daily load and water quality management plan. December 2010.

[43] North Coast Regional Water Quality Control Board. 2010. Final staff report for the Klamath River total maximum daily loads addressing temperature, dissolved oxygen, nutrient, and microcystin impairments in California the proposed site specific dissolved oxygen objectives for the Klamath River in California and the Klamath River and Lost River Implementation Plans. March 2010.

[44] Oregon Department of Environmental Quality. 2010. Upper Klamath and Lost River subbasins total maximum daily load and water quality management plan. December 2010.

Socioeconomic Resources

27. Should the Definite Plan contain elements that differ in a significant way from those described in the Detailed Plan, provide an analysis of the potential effects of those differences on socioeconomic resources including: commercial fishing; sport fishing; whitewater boating; regional economics (including Siskiyou County employment, labor income, and output); and tribal demographics and socioeconomic conditions so that we may consider them in our environmental review.

Cultural Resources

28. Our November 10, 2016 Notice of Applications Filed With the Commission in this proceeding designated PacifiCorp and the Renewal Corporation as the Commission's non-federal representative for carrying out informal consultation, pursuant to section 106 of the National Historic Preservation Act and the Advisory Council's regulations at 36 C.F.R. § 800.2(c)(4). To allow us to ensure compliance with section 106 of the National Historic Preservation Act, as amended, please provide the status of all consultation completed, including consultation with the California State Historic Preservation Office, Interior, affected Indian Tribes, the U.S. Forest Service, and others regarding: (a) the identification and National Register of Historic Places evaluation of all cultural resources that would be affected by the proposed action, including archaeological sites, historic-era sites and structures, and historic dams and associated structures; and (b) measures to avoid, minimize, or mitigate adverse effects to all eligible properties. Please include the current status of the development of a Historic Properties Management Plan that would specify all management, treatment, protection, and mitigation measures for resources eligible for listing in the National Register of Historic Places.

29. Similarly, please also provide the status of all consultation with affected Indian Tribes and other tribal organizations with regard to the identification and National Register of Historic Places evaluation of Traditional Cultural Properties (TCPs), the Klamath Tribe's proposed Klamath Riverscape as a cultural landscape or TCP; and the management, disposition, and treatment of human remains.

Document Content(s)

Document Accession #: 20201216-3031 Filed Date: 12/16/2020

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp and
Klamath River Renewal Corporation

Project Nos. 14803-001
2082-063

NOTICE OF APPLICATION FOR SURRENDER OF LICENSE, SOLICITING COMMENTS, MOTIONS TO INTERVENE, AND PROTESTS

(December 16, 2020)

Take notice that the following hydroelectric application has been filed with the Commission and is available for public inspection:

a. Application Type:	Surrender of Project License
b. Project No:	14803-001 and 2082-063
c. Date Filed:	September 23, 2016, and supplemented June 29, 2018; July 29, 2019; February 28, 2020; and November 17, 2020
d. Applicant:	PacifiCorp and Klamath River Renewal Corporation
e. Name of Project:	Lower Klamath Hydroelectric Project
f. Location:	The project is located on the Klamath River in Klamath County, Oregon and Siskiyou County, California. The project includes federal lands managed by the U.S. Bureau of Land Management.
g. Filed Pursuant to:	Federal Power Act, 16 USC 791a - 825r
h. Applicant Contact:	Mark Bransom, Chief Executive Officer, Klamath River Renewal Corporation, 2001 Addison Street, Suite 317, Berkeley, CA 94704, (415) 820-4441, info@klamathrenewal.org Sarah Kamman Vice President and General Counsel, PacifiCorp 825 NE Multnomah Street, Suite 2000, Portland, OR 97232, (503) 813-5865, sarah.kamman@pacificorp.com

i. FERC Contact: Diana Shannon, (202) 502-6136, diana.shannon@ferc.gov

j. Deadline for filing comments, motions to intervene, and protests: **February 15, 2021**

The Commission strongly encourages electronic filing. Please file comments, motions to intervene, and protests using the Commission's eFiling system at http://www.ferc.gov/docs-filing/efiling.asp. Commenters can submit brief comments up to 6,000 characters, without prior registration, using the eComment system at http://www.ferc.gov/docs-filing/ecomment.asp. You must include your name and contact information at the end of your comments. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, you may submit a paper copy. Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852. The first page of any filing should include docket numbers P-14803-001 and P-2082-063. Comments emailed to Commission staff are not considered part of the Commission record.

The Commission's Rules of Practice and Procedure require all intervenors filing documents with the Commission to serve a copy of that document on each person whose name appears on the official service list for the project. Further, if an intervenor files comments or documents with the Commission relating to the merits of an issue that may affect the responsibilities of a particular resource agency, they must also serve a copy of the document on that resource agency.

k. Description of Request: The Klamath River Renewal Corporation (Renewal Corporation) and PacifiCorp request to surrender the license for and decommission the Lower Klamath Project No. 14803 (project). Decommissioning activities would include the full removal of the J.C. Boyle, Copco No. 1, Copco No. 2 and Iron Gate dams, located on the mainstem Klamath River in Klamath County, Oregon and Siskiyou County, California.

On July 16, 2020, the Commission issued an order approving a partial transfer of the license for the project from PacifiCorp to PacifiCorp and the Renewal Corporation as co-licensees. In the amended surrender application filed on November 17, 2020, PacifiCorp and the Renewal Corporation indicated that they will not be accepting co-licensee status. PacifiCorp and the Renewal Corporation state that they intend to file a new transfer application by January 16, 2021, requesting that the Lower Klamath Project be transferred from PacifiCorp to the Renewal Corporation and the states of California

and Oregon, for the purposes of license surrender and decommissioning the four developments.

Also included in the November 17 filing was a Memorandum of Agreement entered into by PacifiCorp, the Renewal Corporation, the Karuk Tribe, the Yurok Tribe, and the states of California and Oregon indicating the parties' support for the new transfer proposal to be filed by January 16, 2021.

With PacifiCorp's consent and technical support, the Renewal Corporation will act as the proponent of the surrender application and is authorized to act as the Commission's non-federal representative in ongoing consultations.

l. Locations of the Application: This filing may be viewed on the Commission's website at http://www.ferc.gov using the "eLibrary" link. Enter the docket number excluding the last three digits in the docket number field to access the document. You may also register online at http://www.ferc.gov/docs-filing/esubscription.asp to be notified via email of new filings and issuances related to this or other pending projects. For assistance, call 1-866-208-3676 or e-mail FERCOnlineSupport@ferc.gov, for TTY, call (202) 502-8659. Agencies may obtain copies of the application directly from the applicant.

m. Individuals desiring to be included on the Commission's mailing list should so indicate by writing to the Secretary of the Commission.

n. Comments, Protests, or Motions to Intervene: Anyone may submit comments, a protest, or a motion to intervene in accordance with the requirements of Rules of Practice and Procedure, 18 CFR 385.210, .211, .214, respectively. In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a motion to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or motions to intervene must be received on or before the specified comment date for the particular application.

o. Filing and Service of Documents: Any filing must (1) bear in all capital letters the title "COMMENTS", "PROTEST", or "MOTION TO INTERVENE" as applicable; (2) set forth in the heading the name of the applicant and the project number of the application to which the filing responds; (3) furnish the name, address, and telephone number of the person commenting, protesting or intervening; and (4) otherwise comply with the requirements of 18 CFR 385.2001 through 385.2005. All comments, motions to intervene, or protests must set forth their evidentiary basis. Any filing made by an

intervenor must be accompanied by proof of service on all persons listed in the service list prepared by the Commission in this proceeding, in accordance with 18 CFR 385.2010.

Kimberly D. Bose,
Secretary.

Document Content(s)

Name	Affiliation	Phone Number (work)	Phone Number (r	Email	Address
Cindy Heitzman, Director	California Preservation Foundation	415.495.0349 x200		cheitzman@californiapreservation.org	101 The Embarcadero, Suite 120, San Francisco, CA 94105
Lisa Gioia, Museum Director	Siskiyou County Museum/Historical Society	530.842.3836		SCMuseum@co.siskiyou.ca.us	910 South Main Street, Yreka, CA 96097
Todd Kepple, Museum Manager	Klamath County Museum/Historical Society	541-882-1000		tkepple@klamathcounty.org	1451 Main Street, Klamath Falls, OR 97601
William Gates, Interim Director	Southern Oregon Historical Society	541.613.4390	5417736536	bill.gates@sohs.org	160 N. Central, Medford, OR 97501
Peggy Moretti	Restore Oregon	503.243.1923		info@restoreoregon.org	1130 SW Morrison Street, Suite 318, Portland, OR 97205
Steve Baker	City of Yreka	530.841.2321		sbaker@ci.yreka.ca.us	701 Fourth Street, Yreka, CA 96097
Terry Barber	County of Siskiyou, CA	530.842.8005		tbarber@co.siskiyou.ca.us	1312 Fairlane, Yreka, CA 96097
Elizabeth Nielsen	County of Siskiyou, CA	530.842.8012	530.598.2776	enielsen@co.siskiyou.ca.us	1312 Fairlane, Yreka, CA 96097
Klamath County Commissioners Office	County of Klamath, OR	541.883.5100		bocc@klamathcounty.org	305 Main St #224, Klamath Falls, OR 97601

Klamath Section 106
Consultation Contact List

Organization	Status	Contact Name/Office	Address	Phone and email
Oregon SHPO	Consulting Party, CRWG Member	Dennis Griffin (State Archaeologist) and Tracy Schwartz	Oregon Heritage, Oregon Parks and Recreation Department, 725 Summer St. NE, Suite C, Salem OR 97301	(503) 986-0690; dennis.griffin@oregon.gov & tracy.schwartz@oregon.gov (503) 986-0677
California SHPO	Consulting Party, CRWG Member	Julianne Polanco (SHPO); Kathleen Forrest (Architectural Review); Anmarie Medin (CRM), Brendon Greenway (Associate State Archaeologist)	1725 23rd Street, Suite 100, Sacramento, CA 95816	(916) 445-7000; brendon.greenaway@parks.ca.gov; anmarie.medin@parks.ca.gov; kathleen.forrest@parks.ca.gov
Six Rivers National Forest (USFS)		Heritage Program Resources Manager	1330 Bayshore Way, Eureak, CA 95501	(707) 442-1721
Klamath National Forest (USFS)	Consulting Party, CRWG Member	Jeannie Goetz (Klamath Forest Archaeologsit/Heritage Program Resources Manager)	1711 South Main Street, Yreka, CA 96097	(530) 841-4488; jgoetz@fs.fed.us
Bureau of Land Management (BLM) Redding	Consulting Party, CRWG Member	Eric Ritter and Aldon Neel, Redding (Northern California District Office)	6640 Lockheed Drive, Redding, CA 96002	(530) 224-2100; eritter@blm.gov; aneel@blm.gov
Bureau of Land Management (BLM) Klamath	Consulting Party, CRWG Member	Laird Naylor, Klamath Falls Field Office	2795 Anderson Ave. Bldg 25, Klamath Falls, OR 97603	(541) 885-4139; lnaylor@blm.gov
US Army Corps of Engineers (USACE)	Consulting Party, CRWG Member	Cameron Purchio, Eureka Field Office	601 Startare Dr # 100, Eureka, CA 95501	(707) 443-0855; cameron.r.purchio@usace.army.mi
Bureau of Indian Affairs (BIA)				
Bureau of Relamation (BoR)				
National Park Service (NPS) Redwood NP			1111 Second Street, Crescent City, CA 95531	(707) 465-7335
Federal Energy Regulatory Commission (FERC)	Lead Federal Agency			
Other Interested Parties				
Del Norte County Historical Society	Potential Interested Party		577 H Street, Cresent City, CA 95531	(707) 464-3922
Humboldt County Historical Society	Potential Interested Party		703 8th Street, Eureka, CA 95501	(707) 445-4342; info@humboldthistory.org
Siskiyou County Museum	Potential Interested Party	Lisa Gioia, Director	910 South Main Street, Yreka, CA 96097	(530) 842-3836; SCMuseum@co.siskiyou.ca.us
Klamath County Musuem	Potential Interested Party	Todd Kepple, Museum Manager	1451 Main Street, Klamath Falls, OR 97601	(541) 882-1000; tkepple@klamathcounty.org
Southern Oregon Historical Society	Potential Interested Party		106 North Central Avenue, Medford, OR 97501	(541) 773-6536
Restore Oregon	Potential Interested Party	Peggy Moretti, Exec. Dir.	1130 SW Morrison Street, Suite 318, Portland, OR 97205	(503) 243-1923; info@restoreoregon.org
Oregon Heritage Commission	Potential Interested Party			
California Preservation Foundation	Potential Interested Party	Cindy Heitzman, Exec. Dir.	5 Third Street, Suite 424, San Francisco, CA 94103	(415) 495-0349; cpf@californiapreservation.org
State Historical Resources Commission (CA)	Potential Interested Party	Twila Willis-Hunter, OHP	1725 23rd Street, Suite 100, Sacramento, CA 95816	calshpo@parks.ca.gov
Local Governments (w/jurisdiction)				
City of Yreka				
Klamath County				
Siskiyou County				
Del Norte County				
Humboldt County				

Date Sent	Date Received	Comments

I

APPENDIX F CONSULTATION MEETING MINUTES

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Meeting Minutes

Subject	Klamath River Restoration Project Cultural Resources Working Group (CRWG) Project Introduction Meeting
Date	September 5, 2017
Time	1:00-2:30 pm PST
Location	WebEx
Attendees	Klamath River Renewal Corporation (KRRC): Mark Bransom AECOM: Mike Kelly, Elena Nilsson, Kirk Ranzetta, Seth Gentzler, Shannon Leonard, Stephanie Butler CDM Smith: Kate Stenberg PacifiCorp: Russ Howison U.S. Forest Service (USFS): Jeanne Goetz California Office of Historic Preservation (CA OHP): Kathleen Forrest Oregon Office of Historic Preservation (OR OHP): Dennis Griffin, Jessica Gabriel Bureau of Land Management (BLM): Eric Ritter
Distribution	CRWG

Purpose
To provide an overview of the Klamath River Restoration Project and introduce participants of the cultural resources working group (CRWG).

Introductions
Elena Nilsson (AECOM) and Mark Bransom (KRRC) welcomed the group. The CRWG team members provided brief introductions. The Bureau of Reclamation (BOR) has declined the invitation to participate in the CRWG at this time. Four returning group members from the PacifiCorp Relicensing Project CRWG (Russ Howison, PacifiCorp; Dennis Griffin, OR OHP; Eric Ritter, BLM; Kirk Ranzetta, AECOM) can provide historical perspective for the Klamath River Renewal Project (Project).

Project Background
Seth Gentzler, AECOM Project Manager, provided a general overview of PacifiCorp's Klamath Hydroelectric Project (KHP) and the current Project. The KHP is PacifiCorp owned and operated, and includes eight facilities. Four of the facilities are part of the Project, consisting of J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate.

A historical background of the various projects related to the KHP was provided, including built dates of the dams (1902-1962); PacifiCorp's 50-year license and 2004 re-license efforts; 2000-2007 studies for Federal Energy Regulatory Commission (FERC) relicensing, resulting in a 2007 Environmental Impact Statement (EIS); and the 2010 Klamath Basin Restoration Agreement (KBRA) and Klamath Hydroelectric Settlement Agreement (KHSA). The KHSA laid out steps to remove the dams and to provide river restoration and identified information needs, and specific questions that should be addressed with new studies and analyses, prior to the Secretary of the Department of the Interior (DOI) making a determination on removal of the Four Facilities (Secretarial Determination).

In 2012, the BOR, as lead federal agency, and California Department of Fish and Game (CDFG), as lead state agency, developed an EIS/EIR to analyze the potential impacts to the environment from the proposed removal of four PacifiCorp dams pursuant to the National Environmental Quality Act (NEPA) and the California Environmental Quality Act (CEQA). The EIS/EIRs environmental assessments were outlined in a 2012 BOR technical study, referred to as the Detailed Plan for Dam Removal (Detailed Plan). The plan addressed full and partial dam removal, as well as four mitigation measures for cultural resources.

In 2013, the BOR also prepared an Overview Report for the SOI to provide a summary of key findings from the Federal technical studies to inform the Secretary in making a decision about dam removal. Congressional action was required to pass legislation to endorse dam removal. The dam removal project was put on hold because Congress did not enact the legislation.

To move the project forward, in 2016 an amended KHSA (Amended KHSA) was signed to remove the need for Congressional authorization, and to pursue dam removal through the FERC license surrender process. The KRRC was established as the dam removal entity (DRE) to implement the Project. Currently, the KRRC is comprised of 12 Board Members, including tribal representatives, and 3 vacancies. In September 2016, KRRC submitted a license amendment and a surrender application to the FERC to remove the four facilities. In November 2016, FERC designated KRRC and PacifiCorp as the representative for carrying out informal consultation pursuant to Section 106 of the National Historic Preservation Act.

Since March 2017, AECOM has been conducting project management and field reconnaissance surveys of the river corridor, including for cultural and biological resources. Geological surveys and visual inspections will be conducted soon. Regulatory and permitting is currently being reviewed by CDM Smith.

The State Water Resources Control Board (SWRCB), as the California Environmental Quality Act (CEQA) lead, is preparing an Environmental Impact Report (EIR) as part of the water quality certification for the Project. SWRCB has requested additional information from KRRC regarding the Project, and the KRRC's technical representative, AECOM, is preparing responses. FERC also has requested additional information as part of the NEPA process and surrender applications.

Project Overview

Elena Nilsson provided a Project overview, focused on previous cultural resources studies conducted for relicensing and dam removal studies, and also discussed Project goals. The goals of the Project are to remove the four dams (Copco No. 1, Copco No. 2, Fall Creek, and Iron Gate) and associated works to achieve a free flowing river, volitional fish passage, and a restored project area.

J.C. Boyle Dam and Powerhouse were built between1956-1958 in Oregon. A number of associated buildings and structures (i.e., fish ladder, dam, spillways, powerhouse) are part of the built environment. The J.C. Boyle Reservoir area was not surveyed for cultural resources before dam construction because it was mostly in private holdings. Some survey work was completed downstream of the reservoir, and 12 sites were identified along the reservoir's margins, mostly pre-contact Native American village sites.

Copco No. 1 Dam is first dam on the river in California, and construction was completed in 1918 and the dam enlarged in 1922. A number of historic structures are associated with the dam, including penstock, diversion tunnel, powerhouse, and ancillary buildings. There were no cultural

studies done in advance of the dam construction. Eight archaeological sites have been identified along the shoreline, and the potential exists for submerged Shasta Indian village sites to occur within the Copco Lake reservoir.

Copco No. 2 Dam is a diversion dam that began operation in 1925. Like Copco 1, there is a complex of historic buildings associated with the dam, including a powerhouse, spillway, wood-stave penstock, and the Copco village complex (housing structures) that currently functions as a PacifiCorp operation center.

The Iron Gate Dam is the last retention development on the river in California and was completed in 1962. Associated buildings and structures include a powerhouse, spillways, and fish hatchery. The Iron Gate reservoir is the only reservoir that had a pre-inundation cultural resources survey, which was completed by the University of Oregon in the early 1960s. One precontact village site – CA-SIS-326 - was excavated before inundation. In addition, eight other cultural sites have been identified bordering the reservoir's shoreline. As with Copco Lake, the potential exists for submerged Shasta Indian village sites to occur within the Iron Gate Reservoir.

Schedule

A project schedule is provided on page 29 of the PowerPoint presentation. In general, Copco No. 1 drawdown will begin in November 2019, and the other dam drawdowns will follow shortly after. The sediment release is scheduled for January 1, 2020. Should permitting cause delays, the project will be delayed to the following year (work needs to start in January of any given year).

Previous Cultural Studies

1. 2002-2004 FERC Relicensing Cultural Resources Studies.
   PacifiCorp consultants (CH2M Hill and HRA) completed a records search, pedestrian survey, tribal ethnographic/riverscape reports, historic context and determination of eligibility for the KHP, and draft Historic Properties Management Plan (HPMP). Monthly CRWG meetings were conducted. The Area of Potential Effects (APE) was not delineated before field work; however, the CRWG developed a "fieldwork inventory corridor", which extended 65 miles along the river corridor from upper Klamath Lake downstream to the Iron Gate Dam area. The field inventory, which began in 2002, focused on areas that had not been previously surveyed for cultural resources.

   In 2003, an APE was delineated by PacifiCorp; and in 2004, surveys were conducted in areas not previously covered. Because of the survey, 302 archaeological resources were identified, including 172 archaeological sites (PacifiCorp 2004). National Register of Historic Places (NHRP) eligibility recommendations were provided for precontact and historic-period sites, but the CA and OR State Historic Preservation Officers (SHPOs) did not finalize the recommendations. Five precontact archaeological districts and one historic archaeological district were also identified; the NRHP eligibility of these districts was not finalized.

   - Dennis Griffin (OR OHP) indicated that not all BLM lands in Oregon were not previously surveyed during the PacifiCorp relicensing project.

PacifiCorp prepared a historic context statement (Kramer 2003a) and determination of eligibility (Kramer 2003b) for the seven hydroelectric facilities comprising the KHP. A historic district, comprised of the Link River, Keno, J.C. Boyle, Copco No. 1, Copco No. 2, and Fall Creek facilities, was recommended NRHP-eligible under Criterion A for its association with the industrial and economic development of southern Oregon and northern California. The NRHP eligibility of

the district has not been finalized. The Iron Gate facility was excluded from the district because it had been previously determined Not Eligible for listing in the NRHP by the State of California.

PacifiCorp sponsored four tribal ethnographic studies prepared by the Klamath (Deur 2003), Shasta (Daniels 2003), Karuk (Salter 2003), and Yurok (Sloan 2003) tribes to address traditional and contemporary use of the Klamath River corridor. Traditional cultural properties (TCPs) were identified.

The Klamath Cultural Riverscape was identified, which focused on the inter-relatedness of natural and cultural aspects of the Klamath River. A draft regulatory analysis of the riverscape was prepared in 2003 by Dr. Thomas Gates Yurok Tribal Historic Preservation Officer (THPO). The following year, an integrated report was prepared from the four ethnographic studies (King 2004). The integrated report identified the entire length of the river as a cultural and ethnographic landscape for the tribes. The Klamath Riverscape was recommended NRHP-eligible; however, the report and eligibility determination was not submitted to the California or Oregon SHPO offices for review and concurrence.

PacifiCorp also prepared a draft Historic Properties Management Plan (HPMP) for management, treatment, protection, and mitigation measures for NRHP-eligible resources; however, the management plan was not finalized. The draft HPMP will be revised as part of the current Project.

2. 2012 BOR Secretarial Determination, Cultural Resources Report.
   CARDNO Entrix completed the cultural resources work for the BOR EIR/EIS study. The records search was updated for a project corridor between the Upper Klamath Lake and Pacific Ocean, but no new survey was conducted. The 2004 NRHP recommendations prepared by PacifiCorp were used for the BOR study. CARDNO Entrix provided NRHP eligibility recommendations for any new sites identified during the records search and not included in the previous PacifiCorp study.

3. 2012 BOR Detailed Plan.
   Four cultural resources mitigation measures were outlined in the BOR EIS/EIR and were also outlined in the Detailed Plan. These mitigation measures will frame the current KRRP work, and the project wants to confirm that these measures are still valid in 2017; and if not, what measures would be appropriate. The measures are:
   - CHR-1: Klamath Hydroelectric Project. Focuses on the 4 hydroelectric facilities and includes updating the 2003 Determination of Eligibility (Kramer 2003b) and reaching a consensus on the determination. Historic American Building Survey/Historic American Engineering Record (HABS/HAER) would be conducted under this measure.
   - CHR-2: Archaeological Resources. Focuses on steps to resolve impacts to archaeological resources, identify and evaluate resources, and develop plans for Section 106 compliance (e.g., Inadvertent Discovery Plan, Treatment Plan, and Memorandum of Understanding).
   - CHR-3: TCPs, Cultural Landscapes, and Klamath Riverscape. Focuses on resolving impacts to TCPs and the riverscape, identifying and evaluating these resources, conducting additional ethnographic research, and developing a Cultural Resources Management Plan (CRMP) for the riverscape, if eligible.
   - CHR-4: Treatment of Human Remains. Resolving impacts on Native American burials through ongoing tribal consultation for the treatment, disposition, and management of human remains exposed or impacted from dam removal and develop a Plan of Action and Inadvertent Discovery Plan.

Next Steps for Section 106 Process
Kirk Ranzetta provided an overview of the next steps envisioned in the Section 106 process. These steps include:

1. Define the APE for the Project
2. Tribal identification and participation in the CRWG
3. NRHP eligibility for built environment resources, archaeological resources, and TCP/ethnographic landscapes. Includes fieldwork to identify resources.
4. Memorandum of Agreement for HABS/HAER documentation of built environment resources. This work has to be done prior to any work on the dams.
5. Programmatic Agreement and preparation of associated plans
6. CRWG communications protocol and recordkeeping

Many of the documents discussed above are published on the KRRC website: http://www.klamathrenewal.org/resources/.

The current project is issued under FERC docket no. P-14803; all pre-2016 documents related to the Klamath River Project are under FERC docket no. 2082.

Questions and Answers

- Kathleen Forrest, CA SHPO. What was the legal hook for the four mitigation measures and how were they determined?
  Response: The mitigation measures were outlined in the 2012 BOR EIS/EIR; however, a formal Record of Decision was not completed. The mitigation measures were developed through the NEPA process and were close to a final decision, but FERC is currently doing a new NEPA process and will be revising the 2012 document. There also is a CA CEQA process to develop a revised EIS. Because the project has not changed, the project anticipates building on or revising the existing mitigation measures through the CRWG.
- Kathleen Forrest, CA SHPO. While the mitigation measures are reasonable and there are no objections, CA SHPO is concerned about HABS/HAER documentation being the only mitigation measure for the built environment. CA SHPO would like to request a summary of how the consulting parties arrived at the HABS/HAER mitigation measure if moving forward with it.
- Jessica Gabriel, OR SHPO. OR SHPO may not have received the 2012 documentation and will need full list of properties, eligibility recommendations, and effects before concurring with mitigation measures. In addition to HABS/HAER, recommend public outreach or public interpretation to allow the resources to be available to the community. Would also like a summary of previous consultation on mitigation measures.
- Kirk Ranzetta, AECOM. What other types of mitigation has the CA SHPO used on comparable projects?
  Response: CA SHPO is looking for something that is useful to the community and driven by the consulting parties.

Future Meetings
Next meeting will be in October 2017. The group will continue to have WebEx meetings, with a possible in person meeting further into the project.

Pending Action Items:

AECOM

- Review 2012 documentation and contact BOR to understand how the HABS/HAER mitigation measures (CHR-1) was developed. Provide a summary of consultation to the CA and OR SHPOs.

The meeting ended at 2:30 pm.

References Cited

Daniels, Brian I.
2003 Preliminary Shasta TCP Study. On file, PacifiCorp, Portland, Oregon.

Deur, Douglas
2003 Traditional Cultural Properties and Sensitive Resource Study. On file, PacifiCorp, Portland, Oregon.

Gates, Thomas
2003 Ethnographic Riverscape: Regulatory Analysis. On file, PacifiCorp, Portland, Oregon.

King, Thomas F.
2004 First Salmon: The Klamath Cultural Riverscape and the Klamath River Hydroelectric Project. Prepared for the Klamath River Intertribal and Fish Commission. On file, PacifiCorp, Portland, Oregon.

Kramer, George
2003a Historic Context Statement: Klamath Hydroelectric Project, FERC No. 2082. On file, PacifiCorp, Portland, Oregon.

2003b Request for Determination of Eligibility: Klamath Hydroelectric Project, FERC No. 2082. On file, PacifiCorp, Portland, Oregon.

PacifiCorp
2004 Final Technical Report Klamath Hydroelectric Project (FERC Project No. 2082) Cultural Resources. On file, PacifiCorp Portland, Oregon.

Salter, John
2003 White Paper On Behalf of the Karuk Tribe of California: A Context Statement Concerning the Effect of the Klamath Hydroelectric Project on Traditional Resource Uses and Cultural Patterns of the Karuk People within the Klamath River Corridor. On file, PacifiCorp, Portland, Oregon.

Sloan, Kate
2003 Ethnographic Riverscape: Klamath River Yurok Tribe Ethnographic Inventory. Draft report prepared for PacifiCorp by Yurok Tribe Culture Department under contract #P13342 in conjunction with FERC Project No. 2082. On file, PacifiCorp, Portland, Oregon.

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Meeting Minutes

Subject	Klamath River Renewal Project Cultural Resources Working Group (CRWG) Proposed Area of Potential Effects (APE) Meeting
Date	December 14, 2017
Time	1:00-2:30 pm PST
Location	WebEx
Attendees	AECOM: Elena Nilsson, Kirk Ranzetta, Burr Neely, Shannon Leonard, Stephanie Butler CDM Smith: Kate Stenberg PacifiCorp: Russ Howison Bureau of Land Management (BLM): Eric Ritter, Alden Neel, Laird Naylor California Office of Historic Preservation (CA OHP): Kathleen Forrest, Anmarie Medin, Brendon Greenaway Oregon State Historic Preservation Office (OR SHPO): Dennis Griffin, Jessica Gabriel
Distribution	CRWG

PURPOSE

To provide an overview and initial definition of the proposed Klamath River Renewal Project (Project) area of potential effects (APE).

REGULATORY CONTEXT AND PROJECT DEFINITIONS

Burr Neely (AECOM) provided a general overview of the regulatory context for establishing the Project APE. The APE is influenced by the nature of the undertaking, and the APE may be different for different kinds of effects. Ultimately, the Federal Energy Regulatory Commission (FERC) will determine the APE with input provided by the cultural resources working group (CRWG) consultation meetings.

Three project-defined areas were discussed. The *Study Area* is a broader geographic area that is typically larger than the APE and is used to help frame the literature review and cultural/ethnographic context. The Klamath River Renewal Corporation (KRCC) has initiated an updated records search for the Study Area, which includes a 0.5-mile wide zone extending on either side of the reservoir shorelines, beginning at the southern end of Upper Klamath Lake, Oregon and extending to Humbug Creek, California. Once the APE is formally defined, the Study Area will be expanded, as needed, to cover the APE in more detail, and the background research will be updated.

The *Project Area* refers to the Project Limits of Work and Access (LOW), as currently defined in the KRCC California Environmental Quality Act (CEQA), California, and Oregon 410 Water Quality Certifications Technical Support Document.

The *FERC Project Boundary* refers to the jurisdictional boundary of the Klamath Hydroelectric Project (FERC Project No. 2082).

DAM REMOVAL COMPARATIVE CONTEXT

The Elwha River Restoration Project and the Condit Dam Removal Project, both in the State of Washington, were reviewed to provide contextual information regarding APEs defined for previous dam removal. On the Elwha River in the Olympic Peninsula, mitigation measures were included for both downstream and upstream effects to cultural resources from the facility removal. The project also took into account access to archaeological sites that were currently inundated post-dam removal.

For the Condit Hydroelectric Project, located along the White Salmon River, a historic properties management plan (HPMP) was developed that outlined stipulations for managing impacts on archaeological and built environment resources. The project's APE included the reservoirs above the dam and downstream from the Condit dam to its mouth at the confluence of the Columbia River.

PREVIOUS APEs FOR KLAMATH RIVER EIS/EIRS

The APEs developed in support of the EIS/EIRs prepared for the FERC Klamath Hydroelectric Project Relicensing (2007) and Klamath Dam Removal (2012) studies were reviewed to provide background information and a summary.

In 2004, PacifiCorp developed an APE through a relicensing application that included the FERC project boundary under the existing license (FERC #2082) and all lands within the proposed boundary for the new license, including the proposed hydropower facilities, recreation sites, wildlife enhancement lands, and river reaches between project developments.

The Cultural Resources Working Group (CRWG) formed for the PacifiCorp relicensing effort developed a broader APE that included the FERC project boundary, as well as the culturally sensitive lands within the Klamath River Canyon (ridgetop to ridgetop).

The PacifiCorp APE and the CRWG APE evolved into a compromise that was referred to as the Field Inventory Corridor (FIC). The FIC was studied rather than an APE, and it covered the area between the outlet of the Upper Klamath Lake downstream to 1 mile southwest of the Iron Gate dam (RM 189.2). Cultural resources surveys and evaluations were conducted within the FIC.

Downriver tribes, such as the Karuk and Yurok, felt the APE should be more broadly defined to include the area extending downstream from Iron Gate Dam to the mouth of the Klamath River at the Pacific Ocean due to project effects on salmon fisheries and other cultural resources along the Klamath River corridor.

In 2006, PacifiCorp revised the APE based on the proposal to decommission East and West Side developments and to remove the Keno development from the project. The revised 2006 APE excluded the Keno reservoir, the Klamath River from the reservoir to the J.C. Boyle reservoir, and the river reach from below J.C. Boyle powerhouse to the Oregon-California state line.

In 2007, during the FERC EIS/EIR relicensing process, FERC established the APE as the area delineated by PacifiCorp in 2004, as well as the river reach from Iron Gate to the river's mouth at the Pacific Ocean.

In 2012, the Bureau of Reclamation's (BOR) Area of Analysis for the Klamath Dam Removal EIS/EIR established an APE that extended from the outlet at Keno Dam to the Pacific Ocean. The APE extended outward for 0.5 miles from each bank of the Klamath River, plus a 0.5-mile-wide corridor from the high water mark surrounding the four reservoirs (J.C. Boyle, Copco 1, Copco 2, and Iron Gate) and all four dams and associated facilities. This APE represented the broadest area studied.

Comments/Questions:

- Eric Ritter (BLM-Redding Field Office) indicated that previous FERC projects (e.g., Oroville) considered more than one APE, such as an APE for the Tribes. Is this being considered for the current Project?
  Response: There may be different APEs for different types of effects that may be encountered during the course of the Project.
- Elena Nilsson (AECOM) requested confirmation that none of the previous APEs were concurred upon by Oregon or Californian SHPO.
  Response: Dennis Griffin (OR SHPO) responded that the CRWG did approve two APEs; one APE was for Traditional Cultural Properties (TCPs) and one was for the river. All the BLM lands were not surveyed. Dennis will review previous project notes to confirm that the APEs received concurrence.

PROPOSED PROJECT APE

The proposed APE for the Project begins at RM 233, at the upper reach of the J.C. Boyle Reservoir, encompassing a 0.5-mile area on either side of the Klamath River downstream to its mouth at the Pacific Ocean (RM 0). This proposed APE is consistent with previous agency APE definitions (e.g., FERC, BOR). Within the proposed APE, a Subarea 1 has been developed, reflecting Project's LOW where direct impacts may likely occur.

The proposed APE incorporates the concept of the Klamath Cultural Riverscape (Gates 2003; King 2004) and the "rim-to-rim" APE developed by the 2004 PacifiCorp CRWG. The Riverscape was also recorded a specific historic property, which allowed consideration of potential effects on cultural practices, TCPs, Indian Sacred Sites, and Archaeological and Historical Sites/Districts that extended beyond the river and facility boundaries. In general, there is a distinct difference between the NRHP-eligible Riverscape and the proposed APE.

By defining a proposed Project APE, a sense for the level of effort needed for cultural resources compliance can be determined. The entire APE would be subject to a literature review and identification of known cultural resources (e.g., sites, TCPs, sacred sites). However, it is not intended that fieldwork would be required throughout the entire APE for identification purposes. Subarea 1 would be the focus of fieldwork, identification/evaluation reports, and mitigation measures, as direct impacts on sites may occur in this area.

Comments/Questions:

- Dennis Griffin (OR SHPO). How would indirect effects be addressed?
  Response: Indirect effects (e.g., setting, noise, atmospheric) would be assessed within the broader APE. However, a 100% field survey from rim-to-rim to the mouth of the river would not be recommended.
  Dennis Griffin commented that other indirect effects could potentially damage archaeological sites. Changes to recreational areas, such as campgrounds and access areas, along the Klamath River could impact archaeological sites.
- Eric Ritter (BLM-Redding Field Office) commented that the rim-to-rim concept does not seem applicable in California and inquired how the rim-to-rim will be defined within this landscape.
  Response: The proposed APE would include an arbitrary 0.5-mile buffer zone and would not just be based on topography.
- Anmarie Medin (CA OHP). Would it be appropriate for the proposed APE not to extend to Mt. Shasta because the nature of the work would not affect the characteristics that would qualify Mt. Shasta for eligibility?
  Response: The project proponent will review this when considering the likely reach of the Project on indirect effects.

- Russ Howison (PacifiCorp) clarified that when PacifiCorp filed the license application they did not have concurrence from either Oregon or California SHPO at the time the license was filed. However, it is possible that once FERC determined an APE, OR SHPO may have concurred with FERC. If OR SHPO submitted a concurrence letter, it would have been when FERC was processing the license application. Also, on the Riverscape Study, Oregon and California SHPOs did not concur on the eligibility recommendation of the Klamath Cultural Riverscape, and it was unclear if FERC concurred with the eligibility of the Riverscape. PacifiCorp recommends discussing the Riverscape and eligibility recommendation with FERC.
- Dennis Griffin (OR SHPO) indicated that the CRWG did not come to a consensus about the value of the Riverscape study. Dr. King has been working with other Tribes on a similar type of Riverscape for other rivers since the 2004 study (e.g., Alaska); consequently, additional data regarding a Riverscape concept may be available for review.

SUBAREA 1 COMPONENTS

The existing dam facilities and other types of components associated with proposed Subarea 1 were reviewed. Within Subarea 1, existing facilities within the J.C. Boyle Area, Copco No. 1 Area, Copco No. 2 Area, and the Iron Gate Area will be subject to demolition. In addition, the alteration to the 100-year floodplain and associated impacts to existing buildings and structures downstream of the dam facilities were discussed. Some roads will be improved or subject to road surface maintenance throughout the Project.

Comments/Questions:

- Are the access routes included to the main highways?
  Response: Most of the existing highways will not be modified, and there will be smaller connector routes to the Project area. There are a minimal number of new access roads proposed for the Project. Many of the routes are existing roads that will be improved or restored. Existing gravel roads that are not proposed for improvements are not included in Subarea 1 but may be part of the broader APE.
- Eric Ritter (BLM-Redding Field Office) inquired if there is a consideration for leaving some of the historic components rather than demolition.
  Response: The intent of the Project is to remove the facilities and associated built features; however, based on resource evaluations and costs, the Project may allow certain structures, such as the powerhouses, to remain in place (referred to as a “partial removal option”).

OVERVIEW OF PROPOSED APE MAPS

An overview figure depicting the proposed APE extending from the upper reach of the J.C. Boyle Reservoir to the Pacific Ocean was reviewed (on-screen) with the CRWG. The figure also illustrated Subarea 1 components and the FERC Project Boundary (which in some areas may be wider than the 0.5-mile buffer). Additional maps showing areas within the APE, such as the J.C. Boyle Reservoir Area, Copco Lake Area, Iron Gate Reservoir/100-Year Floodplain, were also reviewed and discussed.

Comments/Questions:

- Eric Ritter (BLM-Redding Field Office). How will the cultural resources study coordinate with the environmental justice and socioeconomic assessments of the Project, specifically in regards to the private properties over 50 years in age on the 100-year floodplain?
  Response: This portion of the Project is still in the developmental stages; however, the studies will coordinate on the 53 structures that have been identified downriver of Iron Gate Dam. Age and eligibility of these structures have not been assessed.
- Anmarie Medin (CA OHP) requested that a narrative be included with the submittal of the final APE that discusses why or why not certain elements were included within the APE.

- Anmarie Medin (CA OHP). Is there a plan for consulting with the tribes on the APE?
  Response: There have been a number of parallel tribal outreach processes that have occurred with state agencies and FERC requesting tribal input on the license amendment. Prior to initiating non-formal consultation with the tribes, KRRC has been waiting on the FERC process to determine which tribes have expressed interest in the project. Currently, four federally-recognized tribes, consisting of the Karuk, Yurok, Hoopa, and Klamath, have requested consultation with FERC. KRRC is sending out letters to five tribes (Karuk, Yurok, Hoopa, Shasta, and Klamath) who have expressed interest in participating in the process. There will also be an invitation to participate in the CRWG and a request to initiate informal consultation in February 2018.
- Kathleen Forrest (CA OHP). Is there any overlap between the current Project and the Klamath Irrigation District?
  Response: There is not an overlap, but there is some coordination on the Section 7 consultation for Endangered Species.
- Eric Ritter (BLM-Redding Field Office). Are you considering potential subsurface archaeological sites that were under terraces (sub-lakes)?
  Response: AECOM is compiling mapsets that include current sediment depths within the reservoirs (new bathymetric surveys will be conducted in January), as well as historic landscape features and ethnographic village information. The goal is to have a reservoir-specific historic landscape document that can be reviewed by the CRWG.

CONCLUSION

Historic District vs. Multiple Property Approach for Dam Facilities: The approach to the evaluation of the dam facilities was briefly discussed, particularly if the approach should be as an integrated historic district (either as one district with four complexes or individual districts for each of the four dams) or as a multiple property nomination. Kathleen Forrest (CA OHP) and Jessica Gabriel (OR SHPO) suggested that the historic district approach would be appropriate, and the facilities should be considered as one historic district. Some of the built resources may also be individually eligible.

Tribal Participation in the CRWG: As discussed, invitations letters will be sent to the Klamath, Shasta, Karuk, Hoopa, and Yurok Tribes and THPOs for a February 2018 meeting to initiate non-formal consultation and invite participation in the CRWG.

Next CRWG Meeting: A meeting in March 2018 may occur with the CRWG, tribes, and THPOs. In addition, another CRWG may be proposed for late January/early February 2018. The goal is to have monthly meetings with the CRWG.

Technical Reports: The KRRC has prepared CEQA and California and Oregon 401 Water Quality Certifications Technical Support Document. The document contains the latest technical and field information:

- https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/lower_klamath_ferc14803.shtml
- https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/lower_klamath_ferc14803/20170929_krrc_tech_report.pdf

Written comments and feedback regarding the APE should be provided to Elena (elena.nilsson@aecom.com) by January 19, 2018.

The meeting ended at 2:30 pm.

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Meeting Minutes

Subject	Lower Klamath Project Cultural Resources Working Group (CRWG) Meeting
Date	March 15, 2018
Time	11:00-12:00 pm PST
Location	WebEx
Attendees	KRRC: Araxi Polony AECOM: Elena Nilsson, Kirk Ranzetta, Burr Neely, Mike Kelly, Shannon Leonard, Stephanie Butler CDM Smith: Kate Stenberg PacifiCorp: Russ Howison Bureau of Land Management (BLM): Eric Ritter, Alden Neel, Laird Naylor California Office of Historic Preservation (CA OHP): Kathleen Forrest, Anmarie Medin Oregon State Historic Preservation Office (OR SHPO): Dennis Griffin, Jessica Gabriel
Distribution	CRWG

TRIBAL CONSULTATION UPDATE

In January 2018, 25 tribes (Chairperson and THPOs) received letters from KRRC requesting participation in the consultation process and a Project Introduction Meeting. The Native American Heritage Commission (NAHC) and the Oregon Commission on Indian Services (CIS) provided lists of appropriate tribes to consult. Mailing lists for the FERC scoping meeting and the State of California Natural Resources Agency list were also consulted.

As of March 2018, 8 Tribes have accepted to participate in consultation. Those tribes include: Karuk Tribe, Klamath Tribes, Modoc Tribe of Oklahoma, Quartz Valley Rancheria, Shasta Indian Nation, Shasta Nation, Cher'Ae Heights of the Trinidad Rancheria, and the Yurok Tribe.

A project introduction meeting has been scheduled in Yreka, California for April 6, 2018. The meeting will review previous studies conducted; describe the FERC informal consultation process and current project goals; provide an overview of the Cultural Resources Working Group (CRWG) and invite the tribes to participate in the group; and ask the tribes how they would like to participate on tribe-specific informal consultation.

Comments/Questions:

- Eric Ritter (BLM-Redding Field Office): Did AECOM follow-up with phone calls to the Tribes after mailing the letter?
  Response: There were several rounds of tribal outreach. AECOM called the 25 Tribes, including both the Chairperson and the THPOs/Cultural Director, and sent an email to all tribal participants.

FERC SCOPING MEETINGS WITH THE TRIBES

In October 2017, FERC invited participation of federally-recognized Tribes in the proceedings for the license amendment to remove the four dams from the Klamath Hydroelectric Project, and then also on the application to transfer the four dams from PacifiCorp to KRRC, creating the Lower Klamath Project.

In January and February 2018, FERC held public scoping meeting with six federally-recognized tribes, consisting of the Hoopa Valley Tribe, Karuk Tribe, Klamath Tribes, Modoc Tribe of Oklahoma, Quartz Valley Rancheria, and Yurok Tribe. FERC's main objective was to identify any concerns with the amendment and transfer application proceedings; it was not to initiate Section 106 consultation. Transcripts are available in the FERC docket for the project or upon request.

Comments/Questions:

- Kathleen Forrest (CA OHP): Did the Modoc Tribe of Oklahoma participate previously?
  Response: The Modoc Tribe did not participate in the 2004 CRWG effort.
  Was there also a working group for the 2012 study?
  Response: There was not a 2012 CRWG because it was just an update to documents.
- Anmarie Medin (CA OHP): Does that also apply to the Quartz Valley Rancheria?
  Russ Howison (PacifiCorp): The Quartz Valley was involved in the relicensing work in 2004, as well as the Resighini Rancheria, which is at the mouth of the Klamath. The Resighini Rancheria may have opted to have the Yurok Tribe represent their interests since they are closely affiliated.
- Kathleen Forrest (CA OHP): Can you provide an update on other, non-tribal consulting parties that have been contacted regarding the project?
  Response: The team has reached out to the tribes and the current participants in the CRWG. Recommendations from the CRWG as to other groups to include in the outreach at this point are encouraged.
  Were there other parties involved in the relicensing?
  Response: They were primarily federal and state agencies and tribes.
  Kathleen recommends that outreach be extended to local historical societies and any other local jurisdictions or groups that might be interested. Jessica Gabriel (OR SHPO) also recommends contacting Restore Oregon.

PROJECT SCHEDULE

The Project is currently in the FERC License Transfer and Surrender process, the California and Oregon 401 Water Quality Certification process, and other environmental permitting (e.g., Section 106; biological assessments), as well as the FERC NEPA process. Construction will likely begin in 2020, with the dam drawdowns occurring in January 2021 and dam removal in summer 2021.

2018 CULTURAL RESOURCES WORK PLAN

The work plan includes an ongoing consultation process with tribes and agencies. A data gap analysis is also being prepared to determine if there are areas that have not been previously surveyed or archaeological sites that need to be assessed. The precontact and historic contexts are being updated, and field planning has been initiated. The field investigations will include a site records update and archaeological inventory; hydro facilities update and built environment survey; and archaeological testing and evaluation, in consultation with the CRWG. HABS/HAER mitigation will also be conducted in advance of dam decommissioning.

MOA FAST TRACK CONCEPT

Impacts to the hydroelectric facilities may begin in 2019; and as a result, the team would like to develop a plan that would allow initiation of some of the HABS/HAER mitigation documentation. This would not be the only mitigation.

As part of the fast track process, a hydro facilities specific report with eligibility recommendations would be prepared and provided to the CRWG for review and concurrence. Once concurrence was received, a Memorandum of Agreement (MOA) would be developed, and the HABS/HAER mitigation fieldwork would be initiated. If the project schedule is delayed, the MOA fast track plan may not be necessary.

Other 2018 submittals will include consultation requests with descriptions of the APE and associated maps; technical reports for the hydro facilities, non-hydro, and archaeology with eligibility recommendations; Phase II research design and evaluation report; MOA or Programmatic Agreement (PA) with a Historic Properties Management Plan (HPMP).

Comments/Questions:

- Dennis Griffin (OR SHPO): Discussions on the APE occurred in December 2017; however, the OR SHPO office has not received a formal APE to concur with. Prior to any field investigations, APE concurrence needs to be received.
  Kathleen Forrest (CA OHP): Because formal consultation has not been initiated with the CA OHP, mitigation cannot be discussed at this point.
  Response: The team will provide formal submittal of the APE; however, the submittal has been delayed to incorporate tribal input on the APE. Based on these discussions, the APE description and maps, along with an initiation of consultation, will be submitted to the CRWG now. If the APE needs to be adjusted based on tribal input, the APE would be revised and resubmitted to the CRWG.
- Dennis Griffin (OR SHPO): The 2004 negotiations were for relicensing and the entire river shed was being considered for investigations, and a smaller APE for dam removal was not approved. As such, SHPO would like to see where the current decommissioning activities will take place.
- Kathleen Forrest (CA OHP): The MOA fast track schedule may be feasible. The MOA will be important to consider adverse effects. The full scope of effects will need to be understood in order to develop the MOA. In addition, NPS standards should be implemented during HABS/HAER documentation.
- Kirk Ranzetta (AECOM): NPS will provide a letter of stipulation when HABS/HAER is proposed for mitigation, and they typically prefer to have a MOA in hand. The letter of stipulation usually provides the level of effort that is required with input from the consulting parties. A PA will take longer, and the team does not want to miss the opportunity to document the resources.

COMMUNICATIONS PROTOCOL

A draft communications protocol has been developed; the protocol will be circulated for review and input once the tribes and FERC are involved in the CRWG.

NEXT STEPS

The next CRWG meeting may occur in late April or early May. A monthly meeting may be conducted during the field season to provide regular updates.

AECOM ACTION ITEMS

1. Letter of request initiating consultation with the Oregon and California SHPOs, along with an APE description and maps, will be submitted.
2. Tribal Introduction Meeting will occur on April 6.
3. A CRWG will be scheduled for the end of April/early May.

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Meeting Minutes

Subject	Klamath River Renewal Project KRRC Informal Consultation Cultural Resources Working Group (CRWG) Meeting
Date	August 14, 2018
Time	1:00-4:00 pm PST (Tribal Caucus 9:00am – 12:00pm)
Location	Best Western Miners Inn, Yreka, CA
Attendees	*In person*: Klamath River Renewal Corporation (KRRC): Mark Bransom AECOM: Elena Nilsson, Shannon Leonard, Mike Kelly, Burr Neely, Kirk Ranzetta, Sarah McDaniel CDM Smith: Kate Stenberg Karuk Tribe: Josh Saxon, Alex Watts-Tobin, Craig Tucker Klamath Tribes: Perry Chocktoot, Clay Dumont, Betty Blackwolfe, Janice Miller Modoc Tribe of Oklahoma: Blake Follis Quartz Valley Indian Reservation: Crystal Robinson Shasta Indian Nation: Janice Crowe Shasta Nation: Roy Hall, Jr., Betty Hall, Dean McBroom, Jim Prevatt Yurok Tribe: Frankie Joe Myers, Rosie Clayburn BLM-Redding: Eric Ritter USFS-Klamath NF: Jeanne Goetz, Jason Coats Congressman Doug LaMalfa's Office: Erin Ryan *Via telephone*: CA SHPO: Kathleen Forrest, Brendan Greenaway OR SHPO: Dennis Griffin Shasta Indian Nation: Sami Jo Difuntorum, James Sarmento
Prepared	August 23, 2018
Prepared by	AECOM
Distribution	KRRC Informal Tribal Consultation Group

MEETING OBJECTIVE

To introduce and discuss cultural resources issues associated with the Klamath River Renewal Project (Project) with the Cultural Resources Working Group (CRWG), through informal consultation with Klamath River Renewal Corporation (KRRC) and its technical team, AECOM.

INTRODUCTIONS

Mark Bransom, KRRC CEO, Elena Nilsson, AECOM Principal Archaeologist, and Kirk Ranzetta, AECOM Senior Architectural Historian, welcomed the group. The CRWG provided brief introductions.

PROJECT OVERVIEW

Shannon Leonard, AECOM Project Manager, provided a general overview of PacifiCorp's Klamath Hydroelectric Project (KHP) and the current Project. In 2006, PacifiCorp's operating license for the hydropower project expired; and in 2010; parties agreed to the Klamath Basin Restoration Agreement (KBRA) and Klamath Hydroelectric Settlement Agreement (KHSA). Federal funding was not initially provided; and as a result, renegotiations occurred and an amended KHSA was signed in 2016. Currently, the KRCC is implementing the amended KHSA and pursing dam decommissioning.

KRRC has initiated the process for transferring the license from PacifiCorp to KRRC. In September 2016, KRRC submitted a license amendment and a surrender application to the FERC to remove the four facilities. In March 2018, FERC issued its first decision on those applications, which was an agreement to split the license into two. They are both owned by PacifiCorp. The surrender order and the transfer order to KRRC are both pending.
A draft Environmental Impact Report (EIR), as well as the California and Oregon water quality certifications, will be submitted by the State Water Resources Control Board (SWRCB). In addition, KRRC submitted a Definite Plan to FERC on June 28, 2018. FERC has not initiated the NEPA process on the surrender.

The goals of the Project are to remove the four dams (Copco No. 1, Copco No. 2, J.C. Boyle, and Iron Gate) and associated works to achieve a free flowing river, volitional fish passage, and restored reservoir areas. There are a number of project components that must be completed prior to dam removal and reservoir drawdown, consisting of the City of Yreka intake and pipeline replacement; temporary construction access improvements; permanent road, bridge, and culvert improvements; downstream flood control improvements; hatchery (Iron Gate and Fall Creek) and dam modifications; dam and hydropower facility removal; reservoir restoration; and recreation planning to provide additional recreational activities.

TRIBAL CAUCUS UPDATE

The Tribal Caucus met in the morning, prior to the CRWG meeting. Perry Chocktoot (Klamath Tribes) summarized the meeting topics for the CRWG.

Comments/Questions:

- The overall theme of the discussion was "Tribal inclusiveness" and the need to form a Tribal Committee to ensure there is Tribal input from all Tribes, on every issue.
- Participation and training: The consensus is for each Tribe to participate in the various aspects of the Project (monitoring, mitigation, etc.). Training of Tribal staff will be needed.
- Funding: Question was raised about funding for a Tribal Committee and long-term oversight activities.
- Mitigation documentation and monitoring agreements: The Tribes intend to address each archaeological site on a case-by-case basis, and will determine whether rehabilitation is appropriate in conjunction with elders.
- Tribal Resolution: There was discussion of the Klamath Tribe bringing a resolution to the Tribal Council regarding the Shasta groups and their contribution to this Project.
- Law Enforcement: There is a need for a strong law enforcement presence in this area due to looting by the general public. The group is discussing ideas on how to implement an effective law enforcement presence and to keep it on-going for a number of years. There is also a need to prevent the general public from obtaining knowledge about cultural sites, and to implement a "zero-tolerance" policy for construction workers if found within designated avoidance areas, for example.

- Human Remains: The CRWG needs to begin discussions about the hundreds of documented submerged graves. No removal will be allowed.
- Inadvertent Discovery Plan (IDP): The Tribes are in the process of drafting a Tribal-only IDP for Human Remains. This will focus on spiritual and ceremonial elements and therefore excludes non-tribal persons, and will be in addition to the typical "boilerplate" IDP/Monitoring Plan.

PROJECT STATUS UPDATE

After presenting the Project Overview, Shannon Leonard, AECOM Project Manager, continued to discuss details about recent Project activities and plans.

Submittal of Definite Plan and FERC Engagement
The Definite Plan for the Lower Klamath Project, which includes Appendix L for Cultural Resources, was submitted to FERC on June 28, 2018, and is available online: http://www.klamathrenewal.org/definite-plan/. Hardcopies were distributed at the meeting. The FERC Surrender Order is still pending, and the FERC NEPA process has not started. Therefore, consultation with the CRWG is still "informal" at this time.

Comments/Questions:

- Blake Follis (Modoc Tribe of Oklahoma): When are comments on the Definite Plan due? Response: The FERC docket is currently open for comments (see website at ferconline.ferc.gov/quickcomment.aspx; enter P-2082-062 to specify the project) or cultural resources comments can be emailed directly to Elena.Nilsson@aecom.com . Comments should be provided ideally within 30 days although an end date for receipt of comments is not known.

Hatchery Modifications
Modifications at Fall Creek and Iron Gate Hatcheries will include ground disturbance. A new settling pond is needed near Fall Creek Hatchery; three potential areas are being looked at, but there are cultural resources concerns at each. The team briefly reviewed options for types of pond construction.

Comments/Questions:

- General discussion: What is the extent of current wildfires near hatcheries? What are the effects? What will happen to the hatcheries after the dams are removed?
- Craig Tucker (Karuk Tribe): Iron Gate Hatchery was built as mitigation for the Iron Gate Reservoir, so won't be needed after the dam is removed.
- Perry Chocktoot (Klamath Tribes): Hatchery fish are genetically inferior to native fish.
- General discussion: Recommend monitoring at hatcheries during ground-disturbing construction. Use modeling to define High Probability Areas.
- Dean McBroom (Shasta Nation): Confirm no archaeological sites are depicted on this presentation and that discussions do not disclose where sites are when describing potential impacts to sites.

City of Yreka Intake and Pipeline Replacement,
The cultural team is working with engineering team to re-route the pipeline away from cultural sites to avoid impacts. Relocation of the 24-inch water supply pipeline at upper end of Iron Gate Reservoir must be completed prior to reservoir drawdown and dam removal.

Comments/Questions:

- James Sarmento (Shasta Indian Nation): Even with site avoidance, we recommend pre-construction assessment of HDD bore entrance and exit pits for water lines, and monitoring.

Recreation Plan and Restoration

Restoration of the reservoir, removal of campgrounds, and development of new recreation facilities is being assessed in conjunction with recreation and tourism groups and Federal, Local, Tribal stakeholders. Plans will restore former recreation sites to native habitat. The cultural team is working with the restoration team to try and avoid/minimize impacts to cultural sites, and KRRC will continue to integrate restoration and recreation discussions with the CRWG.

Comments/Questions:

- General discussion: Define what is “native habitat” proposed for restoration and who will be deciding this? How will Tribal input be integrated into the restoration and recreation plans? What are the impacts to village sites? The plans must consider restoration of villages. Is there a way to get rid of the sulphur smell, for example? Tribes want to provide input and have a stake in these plans, from the development process through implementation.

Seed Collection Program

Seeds are being collected from the Project area for revelation of reservoir areas. KRRC (through a subcontractor) has conducted surveys to identify specific areas for target native species. No ground disturbance is occurring. A Native plant seed list was included on the PowerPoint slide.

Comments/Questions:

- General discussion: Who decides what plants are appropriate for reseeding? It is very important to consult with elders in the restoration and native plant use. The Tribes request distribution of the native plants list for further consideration and input (i.e., it is at first glance missing important plants such as tobacco and bear grass). The CRWG definitely wants to provide input into the seed collection program.
- Frankie Joe Myers (Yurok Tribe): A cultural landscape is present. Many species around village sites were different than today so you need to consult with tribes for appropriate types of vegetation. The natural world of today is different than what was there traditionally, and we don’t want you to create hodgepodge of species. Our people managed the land. KRRC botanists may use a European mindset versus a tribal perspective; randomly throwing seeds out was not a traditional pattern. Consider the harvesting of seeds by those who traditionally collect them now, then those Tribal collectors could replant the seeds, allowing the Tribes to buy into this process collaboratively.

APE DISCUSSION

Burr Neely, AECOM Senior Cultural Resources Specialist, presented an overview of the APE. The APE is currently defined as extending from J.C. Boyle to the mouth of the river at the ocean, extending 0.5 mile along each side of the reservoir or river. Preliminary comments have been received from CA and OR SHPOs, BLM Redding, and Karuk THPO. The comments express concern for inclusion of TCPs, cultural landscapes, sacred sites, and historic districts,and concern that the APE is expansive enough to include flood mitigation measures, restoration activities, and a depth of disturbance (vertical APE).

A geoarchaeology analysis is underway to help address vertical APE (i.e., determining depth of sediments before encountering the archaeological sites). The geoarchaeological analysis is expected to be completed over the next couple of months, and includes reviewing depth of known

cultural deposits; sediment load over time via bathymetry studies; geological studies regarding rim stability; and rate of drawdown to minimize rate of erosion. The bathymetry study is currently being conducted using a boat and sonar equipment, and will produce a map set.

Comments/Questions:

- General Discussion: Will there be a separate APE for Tribal Resources? Will the Tribal Caucus be working on the APE? Tribes need to participate in surveys.
- Roy Hall, Jr. (Shasta Nation): What about the sites Tribes keep confidential, are they included? Tribes do not want to disclose this information because these places are deeply spiritual. Discussion: Tribal Caucus can discuss further and let Project Team know how or what information, if any, is to be provided to adjust the preliminary APE, without needing to disclose specific site locations.
- Perry Chocktoot (Klamath Tribes): Visual impacts need to be addressed to spiritual sites especially. Religious ceremonies are still held today; people watched this river turn into a reservoir, now they are going to be watching the reservoir turn back into a river. This needs to be captured in the data, with points of perspective and a visual analysis; this was a city street of our New York and a major trade route. These are the cities where we lived and died. This is not a disposable area, has great significance to tribal elders who still remember the special sites, and is not ancient history, but very current and close to us. People we know are buried here. The rock feature complex in this area is so vast. Our religion is very private and we won't disclose the details to outsiders.
- General discussion: Who is doing the geoarchaeological and bathymetry work, and how will results be shared with the CRWG? Response: AECOM is doing the geoarchaological work and will share the findings as soon as they are available.

REVIEW OF 2017-2018 FIELD STUDIES

After the APE discussion, Burr Neely (AECOM) summarized the 2017-2018 field studies that have occurred to date. Appendix L of the *Definite Plan* provides an updated records search, a review of ethnographic reports, and extensive historic land use research of land currently inundated. There are currently 485 sites in the Preliminary APE and approximately 70 sites in the ADI (Area of Direct Impact). There are also around 105 "Unrecognized Sites" (that is, sites that are probable based on archival research but that have not yet been formally recorded) around or inundated by the reservoirs.

AECOM has conducted initial site visits to assess current conditions in order to plan for future survey and site evaluation work at previously documented archaeological sites, and is updating recordation of all hydroelectric buildings and structures. Goal is 100% inventory of unsurveyed and new areas such as access roads, borrow and disposal areas, fish-hatchery-related actions (4 new sites identified to date). Current work is focused on 29 sites located on PacifiCorp land; 20 sites have been updated so far. No digging has occurred; these have been site visits only. The team has noticed evidence of erosion and expanded areas of exposed artifacts at some sites. There is no access yet to sites on private land.

Comments/Questions:

- General discussion: Who is conducting this fieldwork? The team needs to reach out to the experts in the room, reach out to tribal individuals to participate in fieldwork. site updates, etc. Ensure people who are experts in NW archaeology. Indigenous people have connection to the land and need to be included in these studies.
- Frankie Joe Myers (Yurok Tribe): When was this site visit (in reference to the slideshow photographs of a site with pin flags)? Response: June 2018.

APPROACH TO SITE EVALUATIONS

Burr Neely (AECOM) introduced the topic of site evaluation methods, but time only allowed for a brief discussion and the following CRWG meeting will need to revisit this topic. There are no clear NRHP eligibility determinations for any of the 70 sites in the ADI. Part of the current site update process is to reconcile different NRHP eligibility recommendations and provide current site conditions. The CRWG will need to discuss methods for site evaluation.

Comments/Questions:

- General discussion: Are you considering digging holes? You don't have to; you can take our word for it that these sites are eligible. ? Response: No digging has occurred and is not planned at this time, further discussion and involvement with CRWG is needed.
- Betty Hall (Shasta Nation): My daughter is an experienced archaeologist and some archaeologists won't acknowledge certain materials—they say it's not an artifact, but we know it is. This is very frustrating and happens frequently.
- Tribal comment: how many sites do we want to walk through eligibility process because some of the sites get registered and then some of worst disturbances occur by "professional archaeologists"—the less you know the better off we are. Response: AECOM recommends keeping two categories: "recognized" and "unrecognized" sites so that the ones that are already known are managed one way, but "unrecognized" are managed separately, pending CRWG discussions.
- Eric Ritter (BLM-Redding): Where is the discussion about landscapes and historic districts? Response: AECOM is aware that the 2003 PacifiCorp study had multiple districts proposed. We are looking through the districts and will discuss more at next meeting.
- Perry Chocktoot (Klamath Tribes): OR SHPO comment letter addresses TCPs and districts. Rock feature phenomenon around here is very eligible for a Multiple Property nomination.
- Dean McBroom (Shasta Nation): What security measures are there to protect what's been found so far during survey? Response: AECOM has internally secure project files. Tribal caucus to discuss protection at next meeting.
- Tribal comment: are artifacts moving down river? AECOM response: Artifact movement is a factor we are attempting to address on site-by-site basis; geoarchaeological work is in progress.
- Eric Ritter (BLM-Redding): How is the study addressing Environmental Justice issues when you don't have access to private property? Response: KRRC is making a reasonable and good faith effort to obtain access, and will continue to do so.

NEXT STEPS

Elena Nilsson (AECOM) brielfly presented the preliminary document preparation schedule.

- The Draft Cultural Resource Survey and Resource Update Report and Historic Built Environment Draft Evaluation Report are anticipated to be completed in November 2018.
- The Programmatic Agreement (PA) and Inadvertent Discovery Plan (IDP) are scheduled for December 2018.
- A Preliminary NRHP Evaluation Report, Looting and Vandalism Protection Plan, Historic Properties Management Plan, and Cultural Resources Monitoring Plan are planned for spring and summer 2019.

Comments/Questions:

- Kathleen Forrest (CA SHPO): What template will you be using for the FERC PA? This is a unique project and the usual templates may not apply; the Project will need more than just a

template ending with an HTMP. We recommend you start engaging with FERC now. Response: We are not at that point in the process yet; should SHPO or KRRC reach out to FERC?

LOGISTICS AND PLANNING

Continuation of Tribal Caucus and CRWG Meetings is proposed monthly. Doodle polls will be sent out for September and October meetings. Alternate meeting locations can be discussed further, but for now the consensus seems to be Yreka.

Comments/Questions:

- General: A preference for in-person meetings (versus telephone) was expressed.
- Blake Follis (Modoc Tribe of Oklahoma): We would like to request that the Team make a Gantt chart and insert due dates for reviews so Tribes can organize meetings and schedule comments to be provided.

The meeting ended at 4:00.

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Meeting Minutes

Subject	Klamath River Renewal Project KRRC Informal Consultation Cultural Resources Working Group (CRWG) Meeting
Date	September 18, 2018
Time	1:00-4:00 pm PST (Tribal Caucus 10:00am – 12:00pm)
Location	Best Western Miners Inn, Yreka, CA
Attendees	*In person*: Klamath River Renewal Corporation (KRRC): Mark Bransom AECOM: Mike Kelly, Burr Neely, Brian Person, Kirk Ranzetta, Sarah McDaniel CDM Smith: Kate Stenberg Karuk Tribe: Josh Saxon, Craig Tucker Klamath Tribes: Perry Chocktoot, Jai Matthew Jackson, Mandy Roberson Quartz Valley Indian Reservation: Crystal Robinson Shasta Indian Nation: Janice Crowe, Sami Jo Difuntorum, James Sarmento Shasta Nation: Donald Boat, Betty Hall, James Prevatt Yurok Tribe: Rosie Clayburn USFS-Klamath NF: Jeanne Goetz, Jason Coats *Via telephone*: AECOM: Elena Nilsson, Shannon Leonard OR SHPO: Dennis Griffin Modoc Tribe of Oklahoma: Blake Follis PacifiCorp: Russ Howison BLM-Redding: Alden Neel
Prepared	October 20, 2018
Prepared by	AECOM
Distribution	KRRC Informal Tribal Consultation Group

MEETING OBJECTIVE

To continue informal consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. Specifically, this month's meeting was focused on project updates, the regulatory process, and further refinement of the Area of Potential Effect (APE).

INTRODUCTIONS

After an opening prayer by James Prevatt (Shasta Nation), Brian Person, AECOM meeting facilitator, and Mark Bransom, KRRC CEO, provided a brief introduction. KRRC put forth and briefly summarized meeting guidelines, as sent with the meeting invite, to clarify how CRWG meetings will be conducted and moderated. Brian reiterated that if sensitive information needs to be disclosed and discussed outside this meeting, it will only be discussed to extent that is

necessary to address concerns or questions raised. Brian asked if there were any comments on the August meeting's minutes.

Comments/Questions:

- Craig Tucker (Karuk Tribe): The meeting guidelines don't outline the meeting purpose. KRRC needs to state the purpose of these meetings and provide clarity. Why are we here? Is it to debate about dam removal? Develop a mitigation plan? You need to make sure everybody is on the same page so time is being used efficiently.
- Sami Jo Difuntorum (Shasta Indian Nation): We request a correction to the August meeting notes, under "Tribal Caucus Update," second bullet ("*Participation and training: The consensus is for each Tribe to participate in the various aspects of the Project (monitoring, mitigation, etc.). Training of Tribal staff will be needed*." The correction should reflect that Tribal consensus has not been reached. The Tribes are still working toward a consensus.

TRIBAL CAUCUS UPDATE

The Tribal Caucus met in the morning, prior to the CRWG meeting. Perry Chocktoot (Klamath Tribes) summarized the meeting topics for the CRWG.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): Tribal caucus discussions were centered around how the group can reach a consensus. The steps to reach a consensus have not been gone through. Why are we here, what is our goal? We didn't get to the meat and bones of mitigation. We are struggling with how to move forward effectively, how to reach consensus. The Tribal Caucus meeting would benefit from a third-party facilitator/dispute mediator.
- Mark Bransom (KRRC): KRRC will provide you with whatever additional needs we can. Give us a list of individuals who you would like to use as a mediator.

PROJECT UPDATE

Mike Kelly, AECOM Principal Archaeologist, provided an update on project design and schedule.

Field Work and Tribal Monitoring

No field work is being scheduled until there is a plan for tribal monitoring in place. KRRC is requesting that the tribes put together a plan that outlines which tribes will send a representative for which locations. The Tribal Monitoring Plan is needed before field work recommences in early spring.

Water Quality Gage Upgrades

Water quality gages will include rock anchors and equipment upgrades. All are proposed at existing sites except for one (Seiad Valley), which will be moved from the left bank to the right bank. A map showing the gage locations was presented in the PowerPoint.

Comments/Questions:

- Sami Jo Difuntorum (Shasta Indian Nation): Is this list comprehensive? These are the only gages being proposed?
- Shannon Leonard (AECOM): We are pretty certain these gages will be part of the monitoring program.

Fall Creek Hatchery Update

The August CRWG meeting discussed the need for hatchery modification at Fall Creek, specifically for a new settling pond, where three potential areas were being looked at, each with

cultural resources concerns. Since the last meeting, the project design has been modified so that the existing footprint can be used, and the new proposed settling pond should not affect any known sites. However, this area is a reported village, and although there have been no archaeological finds to date, an identification investigation is needed.

Comments/Questions:

- Sami Jo Difuntorum (Shasta Indian Nation): This is very good news. We are glad to hear this.

REGULATORY RECAP

Mike Kelly (AECOM) discussed the current state of regulatory consultation. FERC is not currently engaged, and as such the CRWG and KRRC will be advancing Section 106 consultation through these monthly meetings. The CRWG mission is to develop alternatives and recommendations for addressing cultural, historical, and archaeological resources for the relicensing process. The CRWG will address and document consultation requirements for FERC, lay groundwork for adverse effects, and review, advise, and participate on Section 106 steps. Confidentiality will be a priority, but some discussions may need to include site specifics.

AREA of POTENTIAL EFFECT DISCUSSION

Burr Neely, AECOM Senior Cultural Resources Specialist, provided a recap of the general comments that were received from the SHPOs and Tribes regarding consideration of Traditional Cultural Properties (TCPs) and landscapes/riverscapes; visual impacts; the built environment; fish, wildlife, and restoration sites; and effects of a free-flowing river. Mapping the APE is a priority, and a map book has been produced.

There has also been progress toward establishing a vertical APE. Geoarchaeological work is underway and will help delineate areas of subsurface disturbance (e.g., cut-and-fill areas) and maximum depths of disturbance, and attempt to develop a reservoir sediment depth model based on pre-dam historic topographic mapping and geotechnical data. The model will be used to identify those areas where the project may impact the pre-dam historic ground surface. The KRRC team is digitizing geologic maps to show where the project will impact landforms with potential to contain buried archaeological resources. Bathymetric data and reported site locations will also be used in this analysis.

The CRWG discussed how bathymetry data is obtained and used, how much water will be released and what sites are most likely to be affected and how. Looting and vandalism of unprotected sites by recreationalists continues to be a primary concern, and time was spent trying to understand how recreational use is currently managed, and could be managed in the future in a manner that helps prevent looting and vandalism. Several CRWG members requested that a viewshed modeling and high points analysis be considered in the delineation of the APE.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): KRRC needs to address the current protections of cultural resources right now, as well as after the dams are removed. For example, destruction of Big Boulder Village. It would show a good faith effort for KRRC to provide protective elements *now*. Looters are actively digging at these sites. It is hard for the tribes to have confidence in any of this while being robbed of our cultural heritage, our ancestors. At this point, any measure would be better than nothing.

- Donald Boat (Shasta Nation): In reference to limiting the amount of people able to loot and vandalize sites: would it be possible to establish a boat permit process like on the Rogue River?
- Craig Tucker (Karuk Tribe): At the Rogue River there is a lottery process limiting the number of camper and commercial use permits during certain times of the year. After October 15, anyone can use the river. There could be a system like that on the Klamath River. For example, you could have to show that you pack out your waste; you could train people on what is proper care and stewardship in and around cultural sites.
- Russ Howison (PacifiCorp): There is a permit process on the Klamath for commercial permits and for private overnights. I don't know if a day trip permit with a waiting list is used.
- Craig Tucker (Karuk Tribe): It depends on the reach.
- James Prevatt (Shasta Nation): We need to teach commercial outfitters where they can and can't put in and take out. They need to know only the places they *can* pull up—they don't need to know why (to avoid cultural sites).
- Mike Kelly (AECOM): This group will have the ability to comment on the recreation plan.
- Craig Tucker (Karuk Tribe): American Whitewater reached out to me. This group will need to be integrated into discussions on river recreation. An example, there is a Yurok village site at a state park that allows for active ceremonies to take place. This is a benefit to the tribe because they have a nice facility to use for their ceremonies but it is for general public use too. A win-win.
- Jeanne Goetz (USFS-Klamath NF): The Klamath National Forest does issue permits, and we work around ceremonies. Permitting depends on who is managing the land. Most landings are at archaeological sites.
- Craig Tucker (Karuk Tribe): How will the Civil War Tribal Cemetery site be protected? That should be included in the Tribal Monitoring Plan.
- Betty Hall (Shasta Nation): I read through these KRRC reports [*Definite Plan*] and regarding flood mitigation measures, one place says one thing and another says another about the amount that the river will rise once the dams are removed. How do we know which is right?
- Shannon Leonard (AECOM): The project will affect flows, flooding downstream of Iron Gate. Structures affected are mostly in the floodplain, but some are out. Mitigation will depend on what the property owner wants: e.g., elevate the building, build small berms around it. Reclamation modeling studies indicate that during a 100-year event, following dam removal the water surface elevation increases approximately 18 inches immediately below Iron Gate, to less than 6 inches at Humbug Creek (about 18 miles away), then the rise is not much different downstream of that point.
- Betty Hall (Shasta Nation): But you don't know the depth during a flood. Marks on the rocks show tremendous amounts of water, in just in one flood event. It's a lot of water, not just a foot.
- Perry Chocktoot (Klamath Tribes): We're not talking about a cataclysmic event, but a controlled release. KRRC can't base their assumptions on a catastrophic event.
- Burr Neely (AECOM): That reach where the models show flooding is already included in the APE. We are communicating with hydrologists for the archaeological analysis and will continue to pass that information along to the CRWG as it becomes available.
- Sami Jo Difuntorum (Shasta Indian Nation): I would like to request an electronic map book of the APE.
- Craig Tucker (Karuk Tribe): Why is the APE not topographically defined?
- Burr Neely (AECOM): The intent is to capture the viewshed, e.g., rim to rim topography.
- Craig Tucker (Karuk Tribe): Why not 100-year floodplain? What does it mean for mitigation regarding loss of eligibility for a viewshed versus where direct impacts for where access points, new infrastructure, etc. will be?

- Burr Neely (AECOM): Those are included in our defined "Area of Direct Impacts." We are also trying to address the riverscape and the concerns folks have on broader viewpoints.
- Perry Chocktoot (Klamath Tribes): Places where people go to pray, where there were skirmishes, or slaves went, where people drew power from. The flooding after the dams were built impacted traditional practitioners. Now the flooding is being taken away, and there will another set of impacts to traditional practitioners. I'm glad you're considering visual impacts.
- Jeanne Goetz (USFS-Klamath NF): A viewshed modeling and high points analysis was completed for Medicine Lake as an example.
- General: Several people responded in agreement. The CRWG is requesting a viewshed analysis.
- Rosie Clayburn (Yurok Tribe): I would like to request shapefiles.
- A General discussion about the vertical APE and how bathymetry works ensued. How much sediment has accumulated since the dams were built, can the post-dam renewal area be modeled with archaeological sites overlain? Will drainage lead to exposure of sites, how and which ones? In response, AECOM will present the geoarchaeological and bathymetry results to the CRWG in a separate session, as the results of these studies are still being finalized and are expected in October 2018, along with LIDAR.

AGREEMENT DOCUMENT DISCUSSION

Kirk Ranzetta, AECOM Senior Architectural Historian, explained that there is a potential for ACHP involvement (John Eddins), explained the use of Programmatic Agreements (PAs), and how this process differs when FERC is involved because FERC is the final decision maker but not initially involved in the day-to-day activities. Kirk discussed the PA process and the need for a Historic Properties Management Plan (HPMP). FERC has agreement templates that would be used.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): Is there talk of FERC delegating to another agency?
- Kirk Ranzetta (AECOM): No.
- Perry Chocktoot (Klamath Tribes): If we are a concurring party it means we agree, versus consulting party.
- Betty Hall (Shasta Nation): What is "consultation?" It's meaningless, In the Dictionary it means nothing. It's dead.
- Kirk Ranzetta (AECOM): We try to integrate discussions in this CRWG, to make it a two-way street conversation.
- Perry Chocktoot (Klamath Tribes): What about Traditional Cultural Properties in the Klamath Canyon? These were identified in the past but not concurred with or moved forward with the SHPOs.
- Dennis Griffin (OR SHPO): There were 3-4 TCP reports by the tribes; those TCPs were not reviewed by our office because the project/dam relicensing was dropped.
- Perry Chocktoot (Klamath Tribes): TCPs are a heightened consultation piece. Isn't the land manager responsible for following through even if a project is dropped? It is very important to get these eligible TCPs listed.
- Russ Howison (PacifiCorp): For the relicensing, an inventory was done, recommendations were made, and the findings were submitted to FERC, but there were a couple of problems in closing the loop: 1. The APE for relicensing was never settled. Both SHPOs couldn't comment until the APE was resolved. 2. FERC stopped all further processing of the relicensing. Now is the time to reengage.
- Craig Tucker (Karuk Tribe): Is there a map of the proposed TCPs?
- Russ Howison (PacifiCorp): Yes, in the cultural resources report filed with FERC.

- Betty Hall (Shasta Nation): Appendix L of the Definite Plan (June 2018) references ethnographic studies [Section 6.1.5]. I would like to see the ethnographic reports.
- James Prevatt (Shasta Nation): No cultural sites should be shown on maps like happened in the FERC Relicensing process. That was a mistake and those were deleted from the computer right then, when that happened.
- Betty Hall (Shasta Nation): Highlight the confidentiality.
- Craig Tucker (Karuk Tribe): Can you explain the difference between federally-recognized and non-recognized tribes? No disrespect is meant; we just all need to be clear on what this means in the 106 process.
- Kirk Ranzetta (AECOM): Federally recognized tribes have a specific role in 36 CFR Part 800. Non-federally recognized tribes are more like Consulting Parties and can sign documents like the PA as a Consulting Party.
- Betty Hall (Shasta Nation): The Shasta Nation is a sovereign nation. Grass Valley is Shasta. Relatives and history ties us to these areas.
- Jeanne Goetz (USFS-Klamath NF): The USFS tries to include everybody in gathering input. For example we've had the Karuk as signatories on a PA and Shasta Nation as concurring; we try to include everybody.
- Donald Boat (Shasta Nation): The Shasta Nation is treated like a step child. That's how we feel.
- Mike Kelly (AECOM): Our goal is to listen to everyone in this room. That's the purpose of the CRWG, so that you can all provide input.
- James Prevatt : Add "Tribal laws" in addition to "federal, state, and local laws" to slide 25: HPMP Principles"
- General discussion: if pushing for clean energy, why are the dams being removed? Because they have outlived their useful lifespan and are no longer cost efficient to upgrade and maintain.

SCHEDULE

The FERC NEPA process starts once the transfer order is issued for work on the surrender application. Several documents are proposed for the end of 2018 and early 2019.

Agreement Document Schedule

- PA – December 2018
- IDP – December 2018
- Looting and Vandalism Prevention Plan (LVPP) – March 2019
- Cultural Resources Monitoring Plan (CRMP) - June 2019
- Historic Properties Management Plan (HPMP) – June 2019
- Treatment of Human Remains (to be provided by Tribes)

ACTION ITEMS

Sarah McDaniel, AECOM Senior Archaeologist, summarized a list of action items:

- The Tribal Caucus has requested an impartial facilitator. KRRC will assist with providing one. The Tribes will need to communicate if they have a particular person in mind.

- AECOM is to help clarify purpose of each Tribal Caucus/CRWG meeting to help focus the discussion.

- A Tribal Monitoring Plan is needed and will be used for planning next stages of field work. AECOM is requesting identification of who would want to provide a tribal monitor in which areas/sites.

- APE Discussion: AECOM will distribute electronic and/or hardcopy maps and shapefiles to the CRWG with the proposed APE. The CRWG needs to identify high points for a Project viewshed analysis, and any adjustments to APE boundary. AECOM will provide maps within next 2 weeks; request review and comments by the next CRWG meeting. Let us know what format is preferred; otherwise electronic maps will be emailed.

- Recreation Discussion: CDM Smith will determine who manages rivers with multiple land managers. Is it NPS? This is relevant to discussion of recreation plan and site protection e.g., permitting/lottery system for rafters.

- Protection: Tribes would like to see KRRC make a good faith effort in protection of sites that are being looted and vandalized currently, not just after dams are removed.

- Geoarchaeology: AECOM will schedule a geoarchaeologist to speak to the CRWG. This will help with the vertical APE and understanding which sites would be affected and how. Bathymetry modeling and LIDAR is expected to be finalized in Oct.

- Hydrology: Further work on modeling for pre- and post- dam removal is underway and this information will be shared with the group, possibly as part of the geoarchaeology expert discussion.

- TCPs: Evaluation of previously identified TCPs needs to be completed.

The meeting ended at 3:50.

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Meeting Minutes

Klamath River Renewal Project

Subject	KRRC Cultural Resources Working Group (CRWG) Meeting
Date	October 29, 2018
Time	1:00-4:00 pm PST (Tribal Caucus 10:00am – 12:00pm)
Location	Best Western Miners Inn, Yreka, CA
Attendees	*In person*: Klamath River Renewal Corporation (KRRC): Mark Bransom AECOM: Mike Kelly, Burr Neely, Brian Person, Jay Rehor, Sarah McDaniel CDM Smith: Kate Stenberg Karuk Tribe: Craig Tucker, Alex Watts-Tobin Klamath Tribes: Perry Chocktoot, J. Jackson, Mandy Roberson Shasta Indian Nation: Janice Crowe, Frank Crowe, Sami Jo Difuntorum Shasta Nation: Donald Boat, Roy Hall Jr., Betty Hall, James Prevatt USFS-Klamath NF: Jeanne Goetz *Via telephone*: Quartz Valley Indian Reservation: Crystal Robinson AECOM: Shannon Leonard, Kirk Ranzetta CA SHPO: Kathleen Forrest OR SHPO: Dennis Griffin BLM-Klamath Falls: Sarah Boyco Yurok Tribe: Rosie Clayburn, Frankie Myers

Prepared	November 16, 2018
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. Specifically, this month's meeting was focused on project updates, finalization of the Area of Potential Effects (APE) inclusive of a visual impacts analysis, and an indepth discussion of hydrological and geoarchaeological studies to better understand impacts to cultural resources.

INTRODUCTIONS

After an opening prayer by Perry Chocktoot (Klamath Tribes), Brian Person, AECOM meeting facilitator, called for opening statements.

TRIBAL CAUCUS UPDATE

The Tribal Caucus met in the morning, prior to the CRWG meeting. Brian Person (AECOM) facilitated the Tribal Caucus meeting and summarized those discussions for the CRWG. Sarah McDaniel (AECOM) took meeting notes only if requested by an individual as "for the record" and these are to be distributed by AECOM to the Tribal Caucus separate from the CRWG meeting notes.

Overall, the Tribal Caucus concentrated on discussing the merits of the project and on the topic of protecting cultural resources. To help focus the meeting purpose, KRRC recently sent a letter to the Shasta Nation with the objective of acknowledging their position of non-support for the project and soliciting their engagement in cultural resources issues in this meeting forum under the assumption that the dams would be removed, and that a different forum could be used to object to the project. The Shasta Nation voiced their concerns about the letter during the Tribal Caucus.

The Tribal Caucus is working on preparation of an Inadvertent Discovery Plan (IDP) and Monitoring Plan. Some caucus members agreed to share their individual tribal plans used for other projects so that the CRWG can collectively review and edit, and be prepared to discuss in detail at the November 2018 CRWG meeting.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): Emotions run high, especially with issues regarding the federal government. PacifiCorp needs to be clear and we need to work together to get this done. We need to make and IDP and Monitoring Plan that is all-inclusive because we have a shared history. I can't tell you [KRRC] how to move forward if a group isn't willing to move this forward. The Klamath Tribes are willing to move this forward.
- Roy Hall, Jr. (Shasta Nation): The Tribal Caucus developed into a free-for-all. The Klamath say it's their territory, we say it's ours. We don't need everybody discussing our sacred sites. KRRC has an agenda moving forward no matter how we feel.
- Sami Jo Difuntorum (Shasta Indian Nation): We are planning to distribute the example IDP/Monitoring Plan documents electronically so it's more productive and everyone can offer comments back and forth.

PROJECT UPDATES

Mike Kelly, AECOM Principal Archaeologist, reviewed the September action items and asked if there were any corrections to last month's meeting notes. No corrections were requested.

September Action Item Review

A slide was presented showing the current status of action items. In summary, as requested by the Tribes, a facilitator was provided for the Tribal Caucus; the APE was refined based in part on a viewshed analysis and circulated for review; no KRRC jurisdiction for law enforcement was identified, although Oregon State Parks rangers have agreed to increase patrols on State Park lands; the Monitoring Plan is still pending Tribal input; the requested hydrology/geoarchaeology reviews are complete and are being presented as part of the current CRWG meeting; and recreation planning is still underway and will be on the November meeting agenda.

Recreation Plan Update

American Whitewater recreationalists and outfitters recently set up a recreation field visit; Mike Kelly (AECOM) was one of the attendees. The whitewater group is soliciting ideas for how to work with the Tribes and for stewardship of cultural resources, especially if there are any at proposed new landings. KRRC is planning to schedule a recreation presentation for the November 2018 CRWG meeting.

In clarification of last month's meeting question about who regulates rafting permits and regulations, KRRC determined that on federal lands, BLM, USFS, and NPS require permits for commercial recreation activities. NPS does not regulate permits for rafters outside of National Parks, and an agreement that designates a river as Wild and Scenic gives the state authority to manage recreation.

Comments/Questions:

Perry Chocktoot (Klamath Tribes): Those rafters stop at some of the most sensitive areas, where they shouldn't be at. The general public shouldn't be there.
Craig Tucker (Karuk Tribe): We're expanding areas for their opportunities.

FINALIZATION OF THE AREA OF POTENTIAL EFFECTS

Burr Neely, AECOM Senior Cultural Resources Specialist, provided an overview of the newly completed visual analysis requested by the CRWG in September 2018. The visual analysis focuses on the Klamath River Watershed, is a bare earth analysis (no vegetation), and is shown as a "heat index" gradient of high versus low visibility. Examples were presented on PowerPoint slides. Several mountain peaks outside of the APE are shown as having viewshed visibility; however, many high places along the river corridor are included within the APE.

Comments/Questions:

- Kathleen Forrest (CA SHPO): CA SHPO needs a hard copy in order to provide formal comments; we can't accept electronic submissions.
- Betty Hall (Shasta Nation): The prior SHPO letter recommends adding topographic maps—has this been addressed?
- Burr Neely (AECOM): Yes, copies of the revised maps were distributed via email to the CRWG last week. AECOM will provide a hardcopy of these maps to the Shasta Nation.

Reservoir and Rim Stability

Shannon Leonard, AECOM Assistant Project Manager, provided an overview of rim stability (i.e., for larger landslides) based on studies that were made during a reservoir drawdown. The study steps included a geologic desktop study, a geologic reconnaissance, field investigations and laboratory testing, slope stability analyses, and mapping of areas of potential impacts. Appendix E of the Definite Plan has more detail.

In summary, for Iron Gate Reservoir, no large landslides are anticipated but shallower landslides are likely to occur in the shallow surficial deposits that characterize the reservoir area and along its rim. For JC Boyle Reservoir, large landslides are less likely and no stability problems were identified. For Copco Reservoir, minor slides beneath the reservoir surface are possible during drawdown and larger, deeper slides are possible along submerged higher bluffs along the original Klamath River channel but these would not affect the reservoir rim. PowerPoint slide 18, Copco Dam Slope Failure Analysis Overview Map, provided the locations of potentially unstable slopes. Additional field data collection is underway.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): Will high water post-dam removal cause a problem for bank stability, for example, after a large storm event?
- Shannon Leonard (AECOM): That has not yet been analyzed. There are a lot of rocks and bedrock along these channels, so I would guess conditions would be similar conditions to what they were prior to the dam going in.

- Perry Chocktoot (Klamath Tribes): How soon will there be stability after dam removal?
- Shannon Leonard (AECOM): Vegetation would help stabilize remaining sediment and the vegetation plan calls for early pioneer seeding as quickly as possible.
- Roy Hall Jr. (Shasta Nation): The weather is difficult to predict around here (i.e., need to consider this in terms of the reseeding plan).

Reservoir and Rim Stability
Shannon Leonard, AECOM Assistant Project Manager, provided an overview of flood hydrology. The Bureau of Reclamation estimated the flood control benefits of the reservoirs. PowerPoint slide 21 provided a hydrograph charting a 100-year flood event with the dams in, compared to an estimated 100-year flood event with the dams out. There was a general discussion around this hydrograph, which is based on the 1964 flood that had 29,400 cubic feet per second (cfs) when the dams were in place. The analysis shows that there may be an approximate 7% increase in water volume (33,800 cfs) with the dams out.

Slide 22 provided a map of the Klamath River Watershed illustrating the projected flow magnitude, using 100-year statistics (Slide 23) for gage river flows. Slide 23 showed a graph of the "100-year Flood Water Surface Elevation Downstream of Iron Gate," with current data for "dams in" and projected date for "dams out." The "dams in" line and "dams out" lines overlap each other such that both appear as a single red line in this graph. (This means that below Humbug Creek there isn't much of a difference.)

Comments/Questions:

- Craig Tucker (Karuk Tribe): Great slides! So, if there is a 100-year flood at Upper Klamath Lake, whether it floods or not isn't relevant because at Iron Gate it's only 31,000 cfs (5%) but once you get to the mouth it's at 570,000 cfs.
- Alex Watts-Tobin (Karuk Tribe): Is it safe to say that the leveling out at lower end of Humbug is at 0.4 ft. and it's negligible after that?
- Shannon Leonard (AECOM): The model isn't accurate enough to get any more detail.
- Craig Tucker (Karuk Tribe): Was sediment modeling taken into account?
- Shannon Leonard (AECOM): Yes, part of the 18-inch increase at the upper end is related to sediment.
- Burr Neely (AECOM): That's why the APE for direct impacts is above Humbug Creek and below Humbug Creek is considered for indirect impacts.

GEOARCHAEOLOGY REVIEW

Jay Rehor, AECOM Senior Geoarchaeologist, provided an overview of georachaeology as a landscape evolutionary approach to understand where archaeological sites are likely to be located both horizontally across the landscape and vertically (i.e., how deeply they may be buried). Buried and submerged resources were considered by looking at the pre-dam ground surface through bathymetry data, historic maps, and a sediment depth model. Project-related ground disturbances were added to this model, and samples of resource site types overlain to give an idea of where the project has the potential to impact known and suspected cultural resources, and to what potential depth they might be encountered. There is an inherent error of +-5-10 feet in the historic ground surface model. Next steps include completing the geomorphic sensitivity model to the Area of Direct Impacts, working with the design team to minimize impacts in areas of high sensitivity, and developing identification protocol for high sensitivity areas with potential impacts.

Comments/Questions:

- Craig Tucker (Karuk Tribe): How many acres of High Probability Areas are within the direct APE?
- Jay Rehor (AECOM): The analysis is still in progress.
- Roy Hall Jr. (Shasta Nation): Once you add sites to this model, you can't share it with this group. Those sites are confidential.
- Craig Tucker (Karuk Tribe): As discussed in a previous meeting, please address impacts to the Civil War Cemetery. According to the Water Board there is concern that tribes said two graves would need to be removed. We need to address this and advocate if needed.
- Perry Chocktoot (Klamath Tribes): I am very concerned that previous site forms and maps are being circulated. These are only to be used on a need-to-know basis. I want to bring this to both SHPOs' attention because the general public has these. These are for professional archaeologists and tribal representatives only.

DOCUMENT PREPARATION AND SCHEDULE

Mike Kelly (AECOM) presented the proposed Section 106 timeline and a table with dates that deliverables will be due (Slides 49 to 51). Suggested monthly meeting topics were also presented. November's meeting will include review of the Recreation and Restoration Plans, and introduction of the Phase II Study Plan.

Document Schedule (the following dates are when the first Draft is due to KRRC)

- Phase II Study Plan – January 2019
- PA – January 2019
- IDP – January 2019
- Looting and Vandalism Prevention Plan (LVPP) – March 2019
- Cultural Resources Monitoring Plan (CRMP) - March 2019
- Historic Properties Management Plan (HPMP) – May 2019
- Treatment of Human Remains (to be provided by Tribes) – June 2019

Comments/Questions:

- Alex Watts-Tobin (Karuk Tribe): I assume the Tribes will draft the PA so we can have input, rather than receive this from an agency?
- Mike Kelly (AECOM): The idea is to write is as a collaborative effort as opposed to a redline review. We hope to get agreement, and this is why we need input on the Tribal Monitoring Plan and IDP. But the intention is to circulate the Draft PA amongst this group.
- Kathleen Forrest (CA SHPO): FERC's typical procedure of deferring to the HPMP isn't going to work. We won't accept their template for this project.
- Mike Kelly (AECOM): We're taking that into account; thank you for providing the example documents.
- Perry Chocktoot (Klamath Tribes): Has KRRC settled on a construction firm yet?
- Mark Bransom (KRRC): Not yet. The prime contractor will determine work performance, and then bid out 5% for other teams including tribal teams, and another 5% for local preference. The contractor assumes risk and delivery of work. KRRC will have other direct contracts with other opportunities for tribal contracts. In evaluating the RFP, we will ask bidders for additional details on how they will outreach procurement opportunities to tribal entities, and about past successes, etc.
- Perry Chocktoot (Klamath Tribes): The monitoring will have 100% tribal involvement.
- Mike Kelly (AECOM): The Phase II work needs to be scheduled as early as possible next spring. We need to focus on the IDP and Monitoring Plans.

ACTION ITEMS

- *Recreation Planning*: AECOM and KRRC will try to schedule American Whitewater representatives attending an upcoming CRWG meeting. The purpose would be to collaborate with proposed recreation planning so that cultural resources concerns can be taken into account.

- *Tribal IDPs/Monitoring Plan*: The Tribal Caucus will distribute examples of Inadvertent Discovery Plans and Monitoring Plans amongst the tribes and be prepared to discuss at the next Tribal Caucus.

- *Finalization of APE*:
  - Consulting Parties/CRWG will review and comment on revised October 2018 APE draft.
  - KRRC will send a formal consultation letter and hardcopies of the revised APE to CA SHPO.
  - AECOM will send a hardcopy of the revised APE to the Shasta Nation.
  - AECOM will provide maps within next 2 weeks; request review and comments by the next CRWG meeting.

- *Distribute PowerPoint:* AECOM will distribute the October PowerPoint presentation to the CRWG via email. AECOM will also send a hardcopy to the Shasta Nation.

- *Impacts Analysis*: The Civil War Cemetery is of concern and the CRWG needs to understand potential impacts.

The meeting ended at 4:00 pm.

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Meeting Minutes

Klamath River Renewal Project

Subject	KRRC Cultural Resources Working Group (CRWG) Meeting
Date	November 29, 2018
Time	1:00-4:00 pm PST (Tribal Caucus 10:00am – 12:00pm)
Location	Best Western Miners Inn, Yreka, CA
Attendees	*In person*: AECOM: Mike Kelly, Burr Neely, Elena Nilsson, Brian Person, Sarah McDaniel BLM-Redding: Eric Ritter Karuk Tribe: Craig Tucker, Alex Watts-Tobin Klamath River Renewal Corporation (KRRC): Mark Bransom Quartz Valley Indian Reservation: Crystal Robinson Shasta Nation: Roy Hall Jr., Betty Hall Siletz Tribe: Robert Kentta USFS-Klamath NF: Jeanne Goetz, Jason Coats Yurok Tribe: Rosie Clayburn *Guest Speakers:* American Whitewater: Bill Cross CDM Smith: Chris Park, Terichael Office *Via telephone*: AECOM: Shannon Leonard BLM-Klamath Falls: Sarah Boyco, Heidi Anderson BLM-Redding: Bill Kuntz CA SHPO: Kathleen Forrest, Brendan Greenaway Klamath Tribes: Jan Jackson, Mandy Roberson OR SHPO: Jason Allen, Dennis Griffin PacifiCorp: Russ Howison Shasta Indian Nation: Janice Crowe, Sami Jo Difuntorum, James Sarmento

Prepared	February 14, 2019
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. Specifically, this month's meeting was focused on discussion of the Recreation Plan and the Phase II Study Plan strategy.

SCHEDULE AND MEETINGS

After introductions, Brian Person, AECOM meeting facilitator, began by going over the proposed Section 106 timeline. In order to meet the compressed schedule, KRRC solicited CRWG opinions regarding continuing Tribal Caucus meetings and CRWG meetings in person. A CRWG meeting has not been set up for December due to inclement weather considerations and the holidays.

Document Schedule (the following dates are when the first Draft is due to KRRC)

- Phase II Study Plan – January 2019
- IDP – January 2019
- PA – February 2019
- Looting and Vandalism Prevention Plan (LVPP) – March 2019
- Cultural Resources Monitoring Plan (CRMP) - March 2019
- Historic Properties Management Plan (HPMP) – May 2019
- Treatment of Human Remains (to be provided by Tribes) – June 2019

Comments/Questions:

- Alex Watts-Tobin (Karuk Tribe): I'm in favor of continuing the Tribal Caucus groups given the schedule. We need to discuss these things in person.

TRIBAL CAUCUS UPDATE

The Tribal Caucus met in the morning, prior to the CRWG meeting. Brian Person (AECOM) facilitated the Tribal Caucus meeting and summarized those discussions for the CRWG.

The Tribal Caucus discussed the Proposed Meeting Guidelines and specific items regarding the Inadvertent Discovery Plan (IDP) and Monitoring Plan. Ideas were presented on how to move these documents forward. The Tribal Caucus is requesting assistance from KRRC to help the CRWG share these documents amongst themselves.

OCTOBER MEETING MINUTES AND ACTION ITEM REVIEW

Mike Kelly, AECOM Principal Archaeologist, reviewed the October action items and asked if there were any corrections to last month's meeting notes. No corrections were requested.

A slide was presented showing the current status of action items. The items included:

- October presentation distribution – distributed November 1, 2018
- APE distribution – submitted November 15, 20108
- Recreation planning – included on current agenda
- Finalization of APE – no additional comments received
- Civil War Cemetery consideration – research is ongoing but indicates this far from the ADI and therefore not likely to be affected
- IDP and Monitoring Plans – plans are in preparation

Comments/Questions:

- Craig Tucker (Karuk Tribe): How far is the Civil War Cemetery from the APE?
- Elena Nilsson (AECOM): The Civil War Cemetery is in Parcel A lands (to be kept by PacifiCorp), and is 5 miles outside the ADI, below J.C. Boyle.
- Alex Watts-Tobin (Karuk Tribe): This is well above the 100-year floodpain, about 5 miles upstream, and I don't see impacts being an issue.

RECREATION PLAN UPDATE

Representatives from CDM Smith (Chris Park and Terichael Office) and American Whitewater (Bill Cross) joined the meeting to discuss the status of recreation planning and to solicit input from the CRWG regarding stewardship of cultural resources, especially if there are any at proposed new launches. Chris Park led the discussion and presented slides summarizing the current status of the Draft Recreation Plan (submitted to FERC in the *Definite Plan* as Appendix Q, June 2018). The loss of late summer boating on the Hell's Corner Reach and loss of recreation facilities at the three reservoirs are considered impacts. Maps were presented showing the proposed locations of eight proposed rafting access points: Keno, Highway 66 Crossing; Below J.C. Boyle; Across from Frain Ranch; Copco Valley; Fall Creek Boat Launch; Camp Creek; and Iron Gate Hatchery.

Comments/Questions:

- General comment: When will the Recreation Plan be completed, and will it be mailed out?
- Chris Park (CDM Smith): The Final Recreation Plan is planned for submission to FERC in early 2019.
- Craig Tucker (Karuk Tribe): Which access points are new?
- Betty Hall (Shasta Nation): Are these new maps? I request that they be mailed to me.
- Mandy Roberson (Klamath Tribes): Are the whitewater landings in or out of archaeological sites? Have you been working with the archaeologists in siting these?
- Mike Kelly (AECOM): Yes, these locations do avoid all known sites within the ADI. As the geoarchaeology analysis moves forward these locations will be further considered. The team is looking at larger areas to allow for flexibility.

Keno Launch

- Craig Tucker (Karuk Tribe): Is Keno outside the APE?
- Burr Neely (AECOM): Yes.
- Craig Tucker (Karuk Tribe): There is a kayak surf wave at Keno in the project area; shouldn't the recreation group be weighing in with the biological resources team?
- Robert Kennta (Siletz Tribe): Will there be a closure during winter?
- Chris Park (CDM Smith): Yes, but we want to move the gate close to the campground or keep it open year-round.
- Dennis Griffin (OR SHPO): Has this area ever been surveyed?
- Elena Nilsson (AECOM): My recollection is yes, in 2003-2004 by PacifiCorp, but we'll double check.
- Craig Tucker (Karuk Tribe): This is also an important bass fishing site.

Highway 66 Launch

No comments.

Below J.C. Boyle Launch

- Alex Watts-Tobin (Karuk Tribe): Are there plans to improve Topsy Grade? That is not a good road.
- Chris Park (CDM Smith): Road improvements are not currently part of the Recreation Plan. Some stakeholders don't want upgrades and some do.
- Eric Ritter (BLM – Redding): Topsy Grade is a historic road and there are archaeological values that would need to be considered if road improvements are planned.

Frain Ranch Launch

- Chris Park (CDM Smith): Hell's Corner begins at Frain Ranch. J.C. Boyle boat Ramp to Dam is extremely steep and challenging, with Class 4 whitewater.

- Alex Watts-Tobin (Karuk Tribe): Frain Ranch has been singled out as subject to cultural resources damage and looting and is a potential candidate for law enforcement so damage doesn't accrue. This needs to be considered if this site is developed.
- Chris Park (CDM Smith): What's being proposed has a limited footprint and includes access to the river, parking pads, and grading a new boat ramp and parking area. Oregon says vault toilets are needed. California has no interest in vault toilets, just the ramp.
- Alex Watts-Tobin (Karuk Tribe): That needs to be discussed with relevant Tribes with knowledge of the sacred sites in this area. A port-a-potty is preferred over a vault toilet.

Copco Valley Launch

- Eric Ritter (BLM – Redding): Whoever is going to own that land, aren't they going to want a say-so in how it's being used?
- Craig Tucker (Karuk Tribe): I think having a recreational facility will be enticement for whoever takes over as land manager.
- Robert Kennta (Siletz Tribe): Do you have an idea of how much sediment has accumulated here?
- Elena Nilsson (AECOM): We do have the data, and that analysis will be done. We know that deeper sediments (10-12 ft.) are closer to the original channel, with less sediment (2-3 ft.) at the shoreline/Copco Road.
- Robert Kennta (Siletz Tribe): It will be really silty, too. Makes me think it will require hauling a lot of rock to make the parking pads stable enough. How will feasibility factor into site selection? Unless the silt is going to be removed?
- Eric Ritter (BLM – Redding): Have you done historic research to see if these deep alluvial terraces would have been ranch land?
- Elena Nilsson (AECOM): Yes, we have looked at historic maps to determine locations of ranches and other features. At the meeting last month we went over how we will be doing additional screening for cultural resources with this data in the future.
- Chris Park (CDM Smith): Given uncertainties in the reservoir drawdown, we may need alternate sites as described in the Recreation Plan.
- Betty Hall (Shasta Nation): Wave action is going to be swift in some places. They tell me we don't have to worry about graves being washed away, but I don't know that they are considering our sacred burial sites.
- Brian Person (AECOM): How long until we know about feasibility and engineering for roads?
- Shannon Leonard (AECOM): When the contractor is on board, we will get the first design packages and preliminary engineering at the site.

Fall Creek Launch

- Crystal Robinson (Quartz Valley Indian Reservation): Could this launch be in an area of thermal refuge? I have biological concerns about habitat for salmon at Fall Creek.
- Alex Watts-Tobin (Karuk Tribe): This is close to the proposed Yreka Pipeline crossing.
- Eric Ritter (BLM – Redding): Is Fall Creek a potentially anadromous stream after dam removal? What would the effect be if so?
- Sami Jo Difuntorum (Shasta Indian Nation): There is a really high density of cultural resources in that entire stretch of river. Our preference is to stay away from these areas. Where we have a village, there is a high probability for burials.
- Crystal Robinson (Quartz Valley Indian Reservation): Creek mouths in general are a bad location for biological as well as cultural resource issues.
- Bill Cross (American Whitewater): We have some latitude to move if there is a problem with a specific spot.

Camp Creek Launch

- Craig Tucker (Karuk Tribe): This is a popular area for drift boats, too. Have you had a conversation with fishermen?
- Chris Park (CDM Smith): We've attempted to engage the angling community, but they are not as active as the whitewater community so far.
- Craig Tucker (Karuk Tribe): Does PacifiCorp have a contractual agreement to ensure access?
- Russ Howison (PacifiCorp): We're open to it but we're not committing at this time.
- Eric Ritter (BLM – Redding): Didn't PacifiCorp move the Stateline take-out?
- Russ Howison (PacifiCorp): Camping was moved, not the take-out. Currently this area gets little use since Access 6 is in use.

Iron Gate Hatchery

- Eric Ritter (BLM – Redding): Brush Creek has anadromous fish – is there tribal concern regarding fisheries?
- Crystal Robinson (Quartz Valley Indian Reservation): Upstream is better than downstream. Big springs should be avoided too (e.g., below J.C. Boyle).
- Craig Tucker (Karuk Tribe): Fishermen can stack up here. Has there been an evaluation of the biology of coldwater areas?
- Alex Watts-Tobin (Karuk Tribe): I suggest moving this upstream to the footprint of the dam.
- Janice Crowe (Shasta Indian Nation): We don't want any of these near our cultural sites. We recommend cultural sensitivity training as part of the permitting process.
- Craig Tucker (Karuk Tribe): Isn't there already ground disturbance at the dam or hatchery? Why not use the already paved parking lots for boats to minimize impact, versus creating a new impact somewhere else.
- Robert Kennta (Siletz Tribe): And avoid the coldwater refuge areas. If the houses here are going to be demolished, could that already-disturbed area be used for this development?
- Craig Tucker (Karuk Tribe): I get frustrated when we have to talk about "mitigation" in the Recreation Plan – we've created a gold mine. The Plan needs to point out the improved water quality and increased opportunities for guided fishing trips. This is great for recreation and commercial operations.
- Unidentified Telephone Participant (Bill Kuntz?): What about hiking trails?
- Chris Park (CDM Smith): We looked at some but ruled them out in the Draft Plan because of land ownership challenges.
- Unidentified Telephone Participant (Bill Kuntz?): Will the land at Jenny Creek connect to Siskiyou National Monument?
- Eric Ritter (BLM – Redding): It depends on who gets the land. There are lots of unknowns. BLM California might consider trails.

PHASE II STUDY PLAN

Burr Neely (AECOM) presented the outline for the upcoming Phase II Plan. The purpose of the research design is to guide summer 2019 archaeological field investigations and establish criteria for determinations of site eligibility. There are about 40 sites in the ADI.

Comments/Questions:

- Eric Ritter (BLM – Redding): There are about 40 sites in Parcel B lands, but hundreds on Parcel A that we can't get to—how are you going to take this into account?
- Elena Nilsson (AECOM): To explain: Parcel A lands include "ranch lands", some scattered at J.C. Boyle and upper Copco Lake, and these are not for transfer. Parcel B lands are the majority of the ADI; there is a potential for effect and these lands are subject to transfer to

KRRC and State agencies—it's the land under the reservoirs and dams. We have completed the record search and have a database for all sites in the reach to use when focusing down on the 40 within the ADI.

- Roy Hall, Jr. (Shasta Nation): What about current submerged sites?
- Burr Neely (AECOM): There will be a separate Plan to deal with the inundated sites. The Phase II Study Plan is for all the sites we can get to first. We know at this time it may not be feasible to look at all of a site, in some cases it might just be a sliver.
- Roy Hall, Jr. (Shasta Nation): Is this excavation?
- Burr Neely (AECOM): Yes, with tribal participation.
- Eric Ritter (BLM – Redding): I assume from past talks, that tribes assume prehistoric sites are eligible? What does SHPO think about that approach?
- Brendan Greenaway (CA SHPO): It depends on if the sites can be avoided. If so, it can be assumed that the site is eligible; otherwise we will want to see an evaluation.
- Dennis Griffin (OR SHPO): I concur. Avoidance is preferred, but we have to know how the site is being affected and what the direct impacts will be.
- Roy Hall, Jr. (Shasta Nation): Even if there is not a direct impact, there is increased risk for pot hunting.
- Robert Kennta (Siletz Tribe): We need to know an adequate boundary, too.
- Alex Watts-Tobin (Karuk Tribe): The Karuk Advisory Board does not support subsurface testing just to detect site boundaries and buffers.
- Rosie Clayburn (Yurok Tribe): The Yurok does not do subsurface testing either on our lands, and that has worked well for us.
- Robert Kennta (Siletz Tribe): What about place names and translations of those? E.g., plant gathering areas and other environmental considerations. Have these been considered?
- Burr Neely (AECOM): That is part of the context update that is needed. There are the 2004 PacifiCorp Ethnographic Reports. Should we use a redacted version to respect confidentiality? We are looking for your feedback for an appropriate approach given the sensitivity.
- Mike Kelly (AECOM): We plan to have details on sites in relation to the shoreline, with general descriptions in the report.
- Rosie Clayburn (Yurok Tribe): We're okay with that, but other Tribes may need chapters in different areas; maybe redact others for different Tribes. We will need to have a discussion using territorial maps.
- Mike Kelly (AECOM): We can meet with individual tribes to get your input.
- Elena Nilsson (AECOM): Maybe we can break it up into reservoir areas.
- Robert Kennta (Siletz Tribe): I have museum photos from back east- showing18 feet below surface from the Klamath River area. I will try to find the references and get those to you.
- Eric Ritter (BLM – Redding): Do the SHPOs want informal review of some of these methods in the Phase II Study Plan?
- Brendan Greenaway (CA SHPO): We will wait to do a formal review.
- Alex Watts-Tobin (Karuk Tribe): I took the APE and ADI to the Karuk Advisory Board. They are happy with the ADI, and noted that the APE is an indirect impact. I asked if we could consider impacts a "net positive", i.e., it is just as good as a river versus a reservoir? The answer was no, not always. They want that noted.
- Rosie Clayburn (Yurok Tribe): There are many benefits: access to fishing goes up, we can go swimming, have ceremonial uses with less toxicity. We want it noted that we consider the project to have positive indirect impacts.

CLOSING REMARKS

- Craig Tucker (Karuk Tribe): I want to make sure we're getting fisherman access. I'm offering to help. Duck hunting maybe should be considered too as part of the Recreation Plan, not just commercial rafters. Can I get a list of people you talked to?
- Crystal Robinson (Quartz Valley Indian Reservation): I would like to see a biological overlay with the Recreation Plan. The plan needs to address flexibility until dams are removed. We won't know all areas until we can see it as a river.
- Craig Tucker (Karuk Tribe): I'm troubled by the informal letter-based agreements. There is no permanency, no legal obligations. The Recreation Plan should commit PacifiCorp to ensure public access.
- Eric Ritter (BLM – Redding): What about new rapids? Will there be tribal fishing areas?
- Craig Tucker (Karuk Tribe): Tribal fishing rights won't be discussed here.
- Janice Crowe (Shasta Indian Nation): We would like to go on the record stating that any Recreation Plan decisions will adversely affect cultural resources.

ACTION ITEMS

- *Tribal Caucus notes*: Brian to correct October notes and distribute to Tribal Caucus by December 3rd.

- *Facilitate document sharing.* KRRC to assist with establishing a method of document sharing amongst the Tribal Caucus.

- *Set up in-person Tribal Caucus meetings for January and February*. AECOM to send out Doodle poll for location and day preferences.

- *Schedule individual discussions*. AECOM to contact Tribes for individual meetings to discuss the Phase II Plan and other deliverables.

- *Circulate Phase II Study Plan.* AECOM to send out first draft of the plan to the CRWG in January.

- *Recreation Planning*:
  - Provide biological overlay (e.g., thermal refugia, spawning areas, big springs). Consider upstream as better than downstream at stream crossings. Consider stream crossings and springs as generally bad locations due to cultural resources.
  - Provide list of what whitewater commercial outfitters were contacted. Ensure sample includes a variety of outfitters and anglers (and possibly duck hunters?).
  - Craig Tucker (Karuk Tribe) may like to collaborate with gathering angler input to ensure access for them and understand drift boat use.
  - Address comment on whether the plan can commit PacifiCorp legally to ensure public access.
  - Address feasibility of having cultural sensitivity training as part of the permitting process.
  - AECOM to verify survey coverage at Keno Dam.
  - Focus recreation developments on locations that have existing disturbances from dam/fisheries/residences.
  - Use of vault toilets should be approached with the Tribes. Port-a-potty may be better option.

    - Any road improvements will also need to consider cultural resources.

- *Distribute PowerPoint:* AECOM will distribute the November PowerPoint presentation to the CRWG via email. AECOM will also send a hardcopy to the Shasta Nation.

The meeting ended at 4:00 pm.

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Meeting Minutes

Klamath River Renewal Project

Subject	KRRC Cultural Resources Working Group (CRWG) Meeting
Date	February 19, 2019
Time	1:00-3:00 pm PST
Location	Teleconference
Attendees	AECOM: Mike Kelly, Burr Neely, Elena Nilsson, Brian Person, Sarah McDaniel CA SHPO: Kathleen Forrest CDM Smith: Kate Stenberg OR SHPO: Tracy Schwartz PacifiCorp: Russ Howison Karuk Tribe: Craig Tucker Quartz Valley Indian Reservation: Crystal Robinson Shasta Nation: Roy Hall Jr., Betty Hall Shasta Indian Nation: Janice Crowe, Sami Jo Difuntorum, James Sarmento
Prepared	April 8, 2019
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. Specifically, the telephone meeting was focused on providing an overview of the Draft Phase II Study Plan being distributed to the CRWG this month.

SCHEDULE AND MEETINGS

After introductions, Mike Kelly (AECOM Principal Archaeologist) reviewed the proposed Section 106 timeline.

Document Schedule (the following dates are when the first Draft is due to KRRC)

- Phase II Study Plan – February 28, 2019 to CRWG; request comments from CRWG March 22, 2019; Final due in April
- IDP – to CRWG March 2019
- PA – to CRWG March 2019
- Cultural Resources Monitoring Plan (CRMP) – to CRWG March 2019
- Looting and Vandalism Prevention Plan (LVPP) – to CRWG May 2019
- Historic Properties Management Plan (HPMP) – to CRWG July 2019
- Treatment of Human Remains (to be provided by Tribes) – August 2019

NOVEMBER MEETING MINUTES AND ACTION ITEM REVIEW

Brian Person (AECOM meeting facilitator), reviewed the November action items and asked if there were any corrections to the Tribal Caucus or CRWG meeting notes. For project updates: the SWRCB's Lower Klamath Project Draft EIR was published on December 27, 2018, inclusive of AB-52 Mitigation measures. Comments on the Draft EIR are due by February 26, 2019.

The Draft EIR is available at:
https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/lower_klamath_ferc14803_deir.html

The current status of action items include:

- November presentation distribution – distributed December 6, 2018
- Distribution of Tribal Caucus notes –distributed December 3, 2018
- Facilitate document sharing – under investigation
- Set up January and February 2019 Tribal Caucus meetings – polls were circulated with no appropriate dates identified; set the current conference call
- IDP and Monitoring Plans – plan preparation is underway

Comments/Questions:

- Sami Jo Difuntorum (Shasta Indian Nation): I'd like to note there was no Tribal Caucus meeting today. Are the notes from the Tribal Caucus that AECOM sent out on December 3, 2018 and January 30, 2019 the same?
- Brian Person (AECOM): Yes.
- No corrections were requested.

PHASE II STUDY PLAN: GENERAL RESEARCH METHODS

Elena Nilsson (AECOM Principal Archaeologist) summarized the Phase II Study Plan that has been drafted and will be circulated to the CRWG by February 29. The General Research Methods were the focus of the conversation, specifically, how they were developed on a site-by-site basis for 49 archaeological sites on the PacifiCorp Parcel B lands. These sites are unevaluated and potentially eligible for the National Register of Historic Places. Two of the 49 sites lack data potential and are not included in the Phase II Study. Of the 47 sites with data potential, 8 are historic-period rock features or linear resources to be evaluated through research and 39 are precontact, historic-period and/or multiple component resources that are proposed for subsurface testing.

Comments/Questions:

- Kathleen Forrest (CA SHPO): There are two sites you are not testing; are you submitting them for concurrence?
- Elena Nilsson (AECOM): Yes.
- Roy Hall, Jr. (Shasta Nation): Did you do any comparison of burial sites in the drawdown area, and how they might be affected?
- Elena Nilsson (AECOM): We did not call out burials in the Phase II plan.
- Roy Hall, Jr. (Shasta Nation): So that's unknown.
- Elena Nilsson (AECOM): Yes, each site has a different "life"— different reservoirs will have different amounts of silt accumulation and deflation. Background studies give us some information, but you're right in that there will be different scenarios during the drawdown at different sites.
- Betty Hall (Shasta Nation): Sami Jo's write up mentions there could be cremations. Our people did not do that. Also, you mention determining eligibility for the NRHP. Often we say sites are eligible, but they never get listed. Why is that? There are lots of good sites up there that are eligible.
- Elena Nilsson (AECOM): To get a site listed, there is a nomination process, but often that nomination form never gets filled out. There are a few sites in the Stateline that have been listed by BLM.
- Mike Kelly (AECOM): Whether a site is listed or eligible, the protection status is the same.

- Craig Tucker (Karuk Tribe): The Karuk got a site listed in 2015--a ceremonial area outside Orleans.
- Betty Hall (Shasta Nation): The Karuk used our Treaty. At the Quartz Valley Reservation, Shasta and Karuk were both on the Reservation. My father had an assignment there, and I grew up there since I was 4 years old until I got married. My father would care for Karuk children. There was no comparison between our people and the Karuk that were there. There were protocols between the tribes that were understood.
- Craig Tucker (Karuk Tribe): I was just trying to be helpful and give an example, Ms. Hall.
- Mike Kelly (AECOM): Thank you for sharing your stories. We would like to hear more when we visit for individual tribal consultation.
- Betty Hall (Shasta Nation): Page 1,008 of the State Water Board Draft EIR. What's happening? This doesn't provide for investigation under Section 106?
- Elena Nilsson (AECOM): Their program didn't call for Section 106 compliance for sites. Ours is different.
- Mike Kelly (AECOM): The Shasta Nation would need to send comments on the EIR to the State Water Board.
- Betty Hall (Shasta Nation): You make it sound easy. We met with the State Water Board and discussed how sediment is going to flow down the river. But they didn't know how much. I'm apprehensive about wave action.
- Elena Nilsson (AECOM): This is a very unusual project because of the unknown reservoir actions. We will all be learning together and adjusting as we're out there. We can change and more forward with the CRWG, because this is not going to be a "standard" Phase II investigation.

GENERAL FIELD METHODS

Elena Nilsson (AECOM) discussed proposed archival research proposed for 17 archaeological sites as well as general field methods that will be used on the currently exposed (not inundated) portions of sites on Parcel B lands that will have direct impacts from project activities. Hand excavation will occur at 39 sites. Water screening is proposed where there is heavy sedimentation because it gives better recovery. Excavations will be conducted following state guidelines. Surface reconnaissance and collection, subsurface excavation, treatment of human remains identified during testing, and field documentation were discussed.

- Surface reconnaissance (survey at 3-meter intervals) will occur at all 39 sites.
- Surface Reconnaissance Units (SRUs) (2-meter long segments; GPS and collect artifacts) will be placed in the reservoir drawdown zone at 6 sites.
- Surface Collection Units (SCUs) (2x2 meter blocks; GPS and collect artifacts) will be used in site areas less prone to erosion /water fluctuation at 19 sites.
- Subsurface Excavation will occur at 39 sites, including:
    - Shovel Probes (SPs) (30 cm diameter): 4 to 55 per site at 36 sites
    - Shovel Test Units (STUs) (50 x 50 cm): 8 to 55 per site at 36 sites
    - Excavation Units (EUs) (1x1 and 1x2 meters): 2 to 6 per site at 37 sites
    - Auger Bores (ABs) (15 cm diameter bucket) will be used at the base level of select STUs and EUs
- Total excavation volumes will be 5-6 cubic meters per site on average. Many sites are very large because of erosion.

If any human remains are encountered, work will stop near the location and the Inadvertent Discovery Plan (IDP) steps will be followed. Field documentation will include photographs and written records and notes. Artifacts will be placed in plastic bags and transported for processing to the AECOM laboratory in Chico, California. Curation protocols are to be determined in consultation with the CRWG. Specialized studies including radiocarbon dating, tephra (ash)

analysis, obsidian studies, geomorphology and sedimentology, and paleoethnobotanical analyses may be undertaken.

Comments/Questions:

- Roy Hall (Shasta Nation): You overlooked an important item. You need to identify which Tribe is going to respond to inadvertent discoveries. This is our area, not any splinter groups. You need to make a decision. All laws must be followed.
- Mike Kelly (AECOM): We recognize this is something that still needs to be worked out among the CRWG and procedures will be included in the IDP.
- Roy Hall (Shasta Nation): You're inviting as many parties as possible and that is not going to work. Don't invite any Tribes—being of Shasta blood but being recognized with Siletz for example—is borderline criminal. Think about what you're doing in relation to the Tribes and our relationships. We don't appreciate other Tribes making decisions for us.
- Elena Nilsson (AECOM): All of that will be important for the IDP.
- Roy Hall (Shasta Nation): Under CEQA?
- Elena Nilsson (AECOM): No, under the NHPA federal nexus. The State Water Board is CEQA.
- Sami Jo Difuntorum (Shasta Indian Nation): When you recover artifacts, will monitors be present? What is the decision for ultimate disposition; where will they go? I agree with Roy that not everybody should have input to what are Shasta artifacts.
- Elena Nilsson (AECOM): Yes to the tribal monitors. Regarding artifacts, that's where we need direction from the CRWG.
- Sami Jo Difuntorum (Shasta Indian Nation): You'll be having conversations with individual Tribes?
- Elena Nilsson (AECOM): Yes.

INADVERTENT DISCOVERY PLAN

Burr Neely (AECOM Cultural Resources Specialist) presented a few slides introducing the IDP, which provides basic protocols to follow in the event cultural resources or human remains are unexpectedly encountered. Protocol discussion topics include: the need for different protocols depending on the location and type of discovery; the designation of a Project Cultural Resource Specialist to ensure the IDP is appropriately implemented; protocols during drawdown activities where work stoppage may not be immediately possible; CRWG representative contact information to be included; and feedback regarding the notification process.

Comments/Questions:

Kathleen Forrest (CA SHPO): Have you engaged with the Native American Heritage Commission? Have you considered designating Most Likely Descendants (MLDs) in advance of the project?
Burr Neely (AECOM): No, we haven't engaged them yet.
Kathleen Forrest (CA SHPO): I recommend you engage them sooner rather than later.
Burr Neely (AECOM): Our intent is to do that well in advance of an inadvertent discovery.
James Sarmento (Shasta Indian Nation): NAHP doesn't normally predesignate MLDs. You have to go through the process when there is an inadvertent discovery. You need to contact them to learn what the process is.

SHPO MEETINGS

The previous week, AECOM met with CA and OR SHPOs for a discussion on project status and planning for steps moving forward. No questions or comments were raised.

ACTION ITEMS

The meeting's follow-up action items are provided in the following table:

Action Items Table for February 2019

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
February 2019 presentation distribution	Circulate presentation (including hardcopy to Shasta Nation)	-
Facilitate document sharing	Look into ftp site or similar mechanism	-
April in-person Tribal Caucus/CRWG meeting and tour	Send out Doodlepoll and emails to CRWG	Respond to AECOM Doodlepoll re: location and day preferences
Phase II Study Plan	Distribute to CRWG by Feb. 28, 2019	Comments due back to KRRC/AECOM by March 22, 2019
Individual Tribal Consultation	Schedule meetings for March	Provide dates/times to AECOM
IDP and Monitoring Plans	Incorporate CRWG protocol into draft plans	Provide draft plans to AECOM

The call ended at 3:00 pm.

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Meeting Minutes

	Klamath River Renewal Project KRRC Cultural Resources Working Group (CRWG) Meeting
Date	April 25, 2019
Time	1:00-4:00 pm PST (Tribal Caucus 10:00am – 12:00pm)
Location	Best Western Miners Inn, Yreka, CA
Attendees	*In person*: AECOM: Mike Kelly, Burr Neely, Elena Nilsson, Brian Person, Sarah McDaniel BLM-Redding: Eric Ritter CA SHPO: Kathleen Forrest, Brendan Greenaway, Juli Polanco Karuk Tribe: Alex Watts-Tobin Klamath Tribes: Perry Chocktoot OR SHPO: Tracy Schwartz PacifiCorp: Russ Howison Quartz Valley Indian Reservation: Crystal Robinson Shasta Nation: Roy Hall Jr., Betty Hall, Carl Hall, Dean McBroom, James Prevatt Shasta Indian Nation: Janice Crowe, Frank Crowe Siletz Tribe: Robert Kentta USFS-Klamath NF: Jeanne Goetz, Jason Coats Yurok Tribe: Rosie Clayburn *Via telephone*: AECOM: Shannon Leonard, Kirk Ranzetta 2 unidentified
Prepared	June 4, 2019
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. This month's meeting was focused on discussion of the Monitoring and Inadvertent Discovery Plan.

SITE VISIT SUMMARY

After introductions, Brian Person, AECOM meeting facilitator, began by going over the site tour that occurred the day before (April 24, 2019). The tour was well attended. Besides those present

for this CRWG meeting, attendees for the site tour included additional representatives from PacifiCorp, AECOM, KRRC, CDM Smith, River Design Group, Oregon SHPO, and the BLM Lakeview District. The site tour itinerary included stops at J.C. Boyle Dam; Iron Gate Dam, Hatchery, and Powerhouse; and Copco 1 and Copco 2 Dams and Powerhouses.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): Yesterday brought back memories of seeing the removal of the Chiloquin Dam as it was falling apart. What came to my mind was the life expectancy of these dams. Looking at those antiquated dams yesterday—their time is done. These need to come down. There's rebar sticking out and these are just dinosaurs. This is my personal view.
- Roy Hall (Shasta Nation): I hauled in a new generator not long ago. These dams are in good shape, and we wouldn't be hauling in new equipment if they were in a state of decay. Let's leave that discussion to the engineers. That's my view.
- Alex Watts-Tobin (Karuk Tribe): The numbers are in from PacifiCorp: it will cost more money to relicense them for 50 years than to take them out now.
- Crystal Robinson (Quartz Valley Indian Reservation): I'm amazed at how deep the canyon is. The Dam at Copco 2 looks solid, like it could be there for 500 years…it was great to see it in person. It's going to be beautiful once it's a free-flowing river again.

TRIBAL CAUCUS UPDATE

The Tribal Caucus met in the morning, prior to the CRWG meeting. Brian Person (AECOM) facilitated the meeting. The Tribal Caucus primarily discussed the Looting and Vandalism Prevention Plan (LVPP). The group decided that the role of the Tribal Caucus should continue, in addition to individual tribal consultation between KRRC and the Tribes.

PROJECT UPDATE

Mike Kelly (AECOM) provided a project update. KRRC just signed a contract with Kiewit Corporation as the selected contractor for dam removal. In his opinion, of the three bidders, Kiewit had the best approach for consideration of cultural resources. In the contract there is an opportunity for public outreach regarding dam deconstruction. Kiewit will be offering opportunities for local involvement. Kiewit was also the company that worked on the Oroville Dam most recently.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): I hope they will be responsible for working with the CRWG. We don't want them to trump our capabilities.
- Mike Kelly (AECOM): No, they will have to implement the plans we put together here.
- Roy Hall (Shasta Nation): Shouldn't our CRWG plans be done before Kiewit makes their plans? I'm concerned because our concerns aren't met yet. We have had no feedback on anything concrete, and I don't want them to get ahead.
- Mike Kelly (AECOM): We forwarded your concerns to the legal team. We will follow up with them andask that they provide a response.
- Brian Person (AECOM): I'd like to point out that the design stage is a lengthy process and hasn't begun yet. If the decommissioning is approved, it would begin January 2021.
- Roy Hall (Shasta Nation): We have no assurance that you're taking our considerations seriously.
- Mike Kelly (AECOM): The permitting is still ongoing, and concerns regarding the removal process should be directed toward the California Water Board under the EIR process. In these meetings, we need to stay focused on cultural resources planning.

- Elena Nilsson (AECOM): Authorization of the project is contingent upon FERC approval.
- Roy Hall (Shasta Nation): Protection measures need to be in place prior to any removal.
- Mike Kelly (AECOM): The Programmatic Agreement (PA) will include protective measures decided upon by this group. This process will continue up to and through decommissioning.
- Roy Hall (Shasta Nation): I'm just concerned about the timeline and don't want to be put off. We're still waiting for a response from the KRRC attorneys regarding our concerns.
- Mike Kelly (AECOM): I know a letter is being prepared. We will follow up on the status of the response with the KRRC legal team.

SCHEDULE UPDATE

Document Schedule (the following dates are when the draft is due to the CRWG)

- Phase II Study Plan – April 2019
- IDP – May 2019
- PA – May 2019
- Monitoring Plan - May 2019
- Looting and Vandalism Prevention Plan (LVPP) – June 2019
- Historic Properties Management Plan (HPMP) – November 2019
- Treatment of Human Remains (to be provided by Tribes) – November 2019

PHASE II STUDY PLAN

Mike Kelly (AECOM) provided an update on the Phase II Study Plan, which is going to be distributed next week to the CRWG. Ethnographic sections were redacted from the version to be circulated. Site location information was also redacted. The unredacted version will go the agencies. The expectation is that FERC will be engaged by the time the final draft is ready.

Comments/Questions:

- Tracy Schwartz (OR SHPO): The ACHP has been contacted; will they be engaged when FERC is? So, will there be more drafts after that?
- Mike Kelly (AECOM): Yes, once FERC is engaged we'll see more drafts.
- Juli Polanco (CA SHPO): This schedule is aggressive. We will need to see meaningful consultation--that's very important for the Tribes and the public. If that happens when FERC is involved, that's fine, but meaningful consultation is something our office takes very seriously. That's a general comment. If FERC engages in October 2019, what's the timeline you have in mind?
- Mike Kelly (AECOM): January 2021, or about 1 year for additional consultation.
- Julianne Polanco (CA SHPO): Because the client has such an aggressive schedule, it's very important that these documents you're preparing are advanced. That's critical to our timely review. Is there an overall schedule of CEQA/NEPA and this? That might be a question for KRRC—but to have a schedule showing input opportunities for the public would be helpful.
- Mike Kelly (AECOM): We weren't heavily with the California Water Board DEIR process.
- Eric Ritter (BLM): At the end of January, the Hoopa Valley Tribe won a lawsuit…is that being brought into this discussion?
- Mike Kelly (AECOM): KRRC is taking that into account.
- Perry Chocktoot (Klamath Tribes): At some point we want government-to-government consultation.

MONITORING AND INADVERTENT DISCOVERY PLAN

Burr Neely (AECOM) presented an overview of the draft Monitoring and Inadvertent Discovery Plan (MIDP), which has two main sections: a comprehensive discussion for monitoring protocols, and a section with steps to take in the event of a cultural resources or human remains discovery situation. For now, these documents are combined into one plan. The MIDP acknowledges the need for Tribal Representatives to be present throughout the decommissioning process. The first half of the MIDP has a draft language for roles and responsibilities, qualifications and training (including Tribal training programs for which CRWG input is needed), monitoring locations and how these will be delineated, and types of activities to be monitored. The second half of the MIDP is focused on discovery protocols (stop, secure, notify, support, document, proceed). Exceptions must be made for certain situations; for example, once started, the drawdown cannot be interrupted; safety concerns may also present a challenge. The MIDP needs feedback from CRWG members.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): This needs to be a very comprehensive plan.
- Burr Neely (AECOM): The plan will be part of the Programmatic Agreement (PA) and Historic Properties Management Plan (HPMP). These are mitigation measures in the CEQA DEIR and will be part of the FERC process.
- Perry Chocktoot (Klamath Tribes): What about the Looting and Vandalism Prevention Plan (LVPP)? Will looters be prosecuted under state or federal law if this is a federal project?
- Juli Polanco (CA SHPO): It will depend on the landowner. Is most of the project on state land?
- Perry Chocktoot (Klamath Tribes): The state penalties are just a slap on the hand. If you keep this under the state, there's essentially no penalties for violators.
- James Prevatt (Shasta Nation): This is our aboriginal homeland. That takes precedence over anything else.
- Juli Polanco (CA SHPO): It would be good to have the attorneys review these documents. You don't want to have agreement documents with measures that don't align with the laws and regulations.
- Eric Ritter (BLM): What about including penalties for transporting cultural items across federal lands?
- Perry Chocktoot (Klamath Tribes): It would be better to get them for trespassing. There are greater penalties for that.
- James Prevatt (Shasta Nation): One case, where babies were taken from their graves, the people got some time because it was a federal case. But the state doesn't care. They think we're just dumb old Indians. We're not dumb--and just some of us are old!
- Perry Chocktoot (Klamath Tribes): We need an airtight law enforcement presence for a long, long period of time.
- Elena Nilsson (AECOM): Parcel B lands will be transferred to California or other entities during decommissioning, and then there may be a flip in ownership. This will have implications for any long-term provisions.
- Crystal Robinson (Quartz Valley Indian Reservation): Let's push for federal land ownership--like BIA, BLM—to ensure protections.
- Roy Hall (Shasta Nation): This is Indian Land. It always has been and always will be. No one else has the right to say how it should be. It's up to us. The original ownership is Tribal.
- Kathleen Forrest (CA SHPO): When will land ownership be determined?

- Elena Nilsson (AECOM): It's my understanding that the California Resources Agency is doing outreach for the California side. But it's contingent on the FERC license surrender decisions. There may be some flexibility.
- Eric Ritter (BLM): Any future federal land ownership would involve Congress and would be a very complicated process.
- Russ Howison (PacifiCorp): The land transfer will be active when the surrender order is active. That's when PacifiCorp hands over the keys, the land is transferred and KRRC begins deconstruction.
- Tracy Schwartz (OR SHPO): What about in Oregon?
- Elena Nilsson (AECOM): That would be the Department of State Lands.
- Crystal Robinson (Quartz Valley Indian Reservation): How can we advocate regarding the transfer of lands?
- Elena Nilsson (AECOM): The California Natural Resources Agency —we have the name of the person doing the outreach, Brady Moss. We'll get that contact information out to the group.
- Perry Chocktoot (Klamath Tribes): Your PowerPoint slide 11 says KRRC is the "project proponent and FERC Section 106 delegate." FERC cannot delegate their Section 106 responsibility.
- Mike Kelly (AECOM): That is meant to refer to a temporary situation between PacifiCorp/KRRC until FERC gets involved.
- Juli Polanco (CA SHPO): Perhaps clarifying the slide would be helpful.
- Roy Hall (Shasta Nation): Regarding Tribal monitoring, would the Tribes be paid the prevailing wage? Under a contract?
- Burr Neely (AECOM): There would be a payment mechanism in place.
- Eric Ritter (BLM): There is a need for monitors for historic resources as well.
- Perry Chocktoot (Klamath Tribes): The Klamath Tribes provides monitors to work on both pre-contact and historic sites, as well as SOI-qualified anthropologists. Regarding the Cultural Resources Monitoring Plan, the on-site monitors will need to keep daily, weekly/monthly logs, have daily tailgate meetings, and wear PPE. These are just some of the provisions that need to be in the MIDP.
- Crystal Robinson (Quartz Valley Indian Reservation): Are you going to have training in order to take someone who doesn't know how to monitor, to being able to monitor? Quartz Valley doesn't have many people already qualified to do this.
- Perry Chocktoot (Klamath Tribes): We give 40-hour training and a test before issuing a certification for someone to be a cultural resources monitor. We do that with our own Tribes, but it's open to everyone.
- Rosie Clayburn (Yurok Tribe): We do training for our monitors too. To be a Yurok monitor, a person must be certified by the Yurok Tribe. Maybe we could do a collective training. This would be a good topic for the next Tribal Caucus.
- Alex Watts-Tobin (Karuk Tribe): We also do our own training, and we have some members who identify as Shasta.
- James Prevatt (Shasta Nation): The duration of long-term monitoring has to be forever. With constant ongoing training. Not just for a few years. Any bodies that are found need to be kept right there and not moved. There will be no desecration of graves. If they find one, leave it alone! This is our tradition, our religion, our life—past and future.
- Eric Ritter (BLM): It would be helpful to include scenarios in the IDP—for example, if I'm working in area x, what's the plan?
- Perry Chocktoot (Klamath Tribes): We'll need to do contractor awareness training for Kiewit. A "zero tolerance policy" is needed. If they're found outside their construction zone, that's

grounds for termination. Their workers must be sensitive—no negativity towards the monitors, no racial harassment like calling us "chief" or making "war cries" or calling us "Indian givers."

- Eric Ritter (BLM): The MIDP needs to consider items of cultural patrimony too. Need to draw out NAGPRA with some detail.
- Tracy Schwartz (OR SHPO): In Oregon, we have strict guidelines on who can and can't do surveys. Also, our permitting process needs to be built into the MIDP.
- Burr Neely (AECOM): We are also considering some scenarios where "stop work" can be done. Dewatering is the most challenging scenario. As we learned on our field trip yesterday, there will be a 4 to 6-week period where we won't be able to get down because of safety concerns when the "pudding-like" sediment is released and settles as the water recedes. But, this could also protect any sites that might be submerged.
- Elena Nilsson (AECOM): We are beginning a submerged resource report through a GIS exercise. Monitors would have access to this information during the drawdown—it will show what resource is where, and potentially how deep, based on historic maps and geoarchaeological information.
- Perry Chocktoot (Klamath Tribes): This is going to be the largest dam removal in US history! We're going to have to learn as we go. Don't rule out any type of monitoring--air, ground. But safety should always be first! We don't want anyone to slip on the slime and slide 30 feet into a deep hole for example. Maybe look to the Everglades region as an example of how to treat safety in this sort of environment?

SHASTA NATION PRESENTATION

Betty Hall gave a presentation on the history and lineage of the Shasta Nation, including use areas and villages. Ms. Hall shared her family history that includes Chief Ike, some genealogy of the Shasta Nation, and historical research she has conducted. She stated that her father started the Quartz Valley Indian Reservation, and that there were Indian allotments at Hamburg, California. She shared posters she has assembled that illustrate ancestors, treaties including Treaty Q, a schedule of Indian Land Cessations, and a map of ceded areas. She spoke of the genocide that happened after the treaty.

ACTION ITEMS

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
April 2019 presentation distribution	Circulate presentation (including hardcopy to Shasta Nation)	April 29, 2019
KRRC Attorney Response to Shasta Nation	Check in to see when KRRC attorneys intend to respond to Shasta Nation letter	Letter in progress; to be delivered prior to June CRWG meeting
Schedule June meeting	Send out Doodle poll and emails to CRWG	Respond to AECOM Doodle poll re: location and day preferences
Monitoring/Inadvertent Discovery Plan	Distribute to CRWG by May 17, 2019	Comments due back to KRRC/AECOM by June 3, 2019
Individual Tribal Consultation (Phase II Plan, IDP)	Schedule meetings for June	Provide dates/times to AECOM
Provide acronym list	Provide list with terms commonly used in the documents and meetings	To be prepared for June CRWG meeting

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
KRRC Attorney consultation	Ask KRRC legal dept. what LVPP jurisdiction can be. Agreement documents must align with cultural resource laws	June 12, 2019
Land transfer plan	Brady Moss is the appropriate CA contact regarding land transfer process and how CRWG members can provide input	
Provide timeline	Need to obtain timelines and overall schedule for public input opportunities (CEQA/NEPA, etc.)	
Define Tribal training certifications		Provide draft language regarding individual Tribal training/approval requirements for a monitor to AECOM

The meeting ended at 4:00 pm.

Lower Klamath Project Area Tour Attendees – April 24, 2019

Name	Organization	Contact No.	Email
Russ Howison	Pacificorp	503-913-3634	russ.howison@pacificorp.com
Mike Kelly	AECOM	503-475-2426	mike.s.kelly@aecom.com
Elena Nilsson	AECOM	530-521-9935	elena.nilsson@aecom.com
Burr Neely	AECOM	907-978-9684	burr.neely@aecom.com
Kirk Ranzetta	AECOM	503-853-6354	kirk.ranzetta@aecom.com
Shoshana Jones	AECOM	503-243-3107	shoshana.jones@aecom.com
Sarah McDaniel	AECOM	360-624-4285	sarah.mcdaniel@aecom.com
Brian Person	AECOM/Facilitation	208-386-5000	brian.person@aecom.com
Dave Meurer	KRRC	530-941-3155	dave@klamathrenewal.org
Wendy George	KRRC Board		wendy@klamathrenewal.org
Scott Wright	River Design Group	541-738-2920	swright@riverdesigngroup.net
Kate Stenberg	CDM Smith	425-495-5095	stenbergkj@cdmsmith.com
Julianne Polanco	CA SHPO	916-445-7000	julianne.polanco@parks.ca.gov
Kathleen Forrest	CA SHPO	916 445-7022	kathleen.forrest@parks.ca.gov
Brendan Greenaway	CA SHPO	916-445-7036	brendon.greenaway@parks.ca.gov
Christine Curran	OR SHPO	503-986-0684	christine.curran@oregon.gov
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Jason Coats	USFS	530-905-3717	jacoats@fs.fed.us
Don Holstrom	BLM	541-974-5851	dholmstr@blm.gov
Perry Chocktoot	Klamath Tribe	541-783-2764 x 107	perry.chocktoot@klamathtribes.com
Sami Jo Difuntorum	Shasta Indian Nation	530-643-2463	samijodif@yahoo.com
Janice Crow	Shasta Indian Nation	530-244-2742	twocrowes63@att.net
Frank Crowe	Shasta Indian Nation	530-244-2742	twocrowes63@att.net
James Sarmento	Shasta Indian Nation		jd.sarmento@gmail.com
Betty Hall	Shasta Nation	530-468-2314	shastanation@hotmail.com
Roy Hall	Shasta Nation	530-468-2314	shastanation@hotmail.com
Jim Prevatt	Shasta Nation	530-468-2314	shastanation@hotmail.com
Alex Watts-Tobin	Karuk Tribe	530-627-3446 x 3015	atobin@karuk.us
Vikki Preston	Karuk Tribe	530-627-3446	
Craig Tucker	Karuk Tribe	916-207-8294	craig@suitsandsigns.com
Rosie Clayburn	Yurok Tribe	707-482-1350 x 1309	rclayburn@yuroktribe.nsn.us
Crystal Robinson	Quartz Valley	530-468-5907 x 318	crystal.robinson@qvir-nsn.gov
Rachel Sundberg	Trinidad Rancheria	707-677-0211	rsundberg@trinidadrancheria.com

Tour Itinerary

Start	End	Elapsed	Location/Activity
6:00	6:15	0:15	Meet at Yreka Holiday Inn Express; depart for Ashland
7:00	7:15	0:15	Alternate Meet at Ashland Hills Hotel parking lot, Ashland
7:15	8:15	1:00	Drive to J.C. Boyle Dam via Ashland, St. Hwy 66
8:15	9:00	0:45	Tour J.C. Boyle Dam
9:00	9:15	0:15	Drive to J.C. Boyle Powerhouse
9:15	10:00	0:45	Tour J.C. Boyle Powerhouse
10:00	11:15	1:15	Return to Ashland
11:15	12:15	1:00	Drive Ashland-Iron Gate Dam/Hatchery
12:15	1:00	0:45	Meet CA participants/Lunch at Iron Gate Hatchery
1:00	1:30	0:30	Drive Iron Gate-Copco 1
1:30	2:15	0:45	Tour Copco 1 dam, powerhouse and Copco 2 dam
2:15	2:30	0:15	Drive to Copco 2 Village
2:30	3:00	0:30	Tour Copco 2 Powerhouse
3:00	3:20	0:20	Drive Copco 2 Village to Iron Gate
3:20	4:00	0:40	Tour Iron Gate Powerhouse
4:00	5:30	1:30	Return to Yreka/Ashland

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Meeting Minutes

	Klamath River Renewal Project KRRC Cultural Resources Working Group (CRWG) Meeting
Date	June 12, 2019
Time	1:00-3:30 pm PST (Tribal Caucus 10:00am – 12:00pm)
Location	Best Western Miners Inn, Yreka, CA
Attendees	*In person*: AECOM: Mike Kelly, Elena Nilsson, Brian Person, Stephanie Butler BLM-Redding: Eric Ritter Quartz Valley Indian Reservation: Crystal Robinson Shasta Nation: Roy Hall Jr., Betty Hall, Don Boat Shasta Indian Nation: Janice Crowe Yurok Tribe: Rosie Clayburn CDM Smith: Kate Stenberg, Chris Park, Terichael Office *Via telephone*: AECOM: Burr Neely, Shannon Leonard Klamath Tribes: Perry Chocktoot OR SHPO: Dennis Griffin PacifiCorp: Russ Howison
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. This month's meeting was focused on discussion of the Recreation Plan. The status of the Phase II Study Plan and the Monitoring and Inadvertent Discovery Plan were also briefly discussed.

TRIBAL CAUCUS SUMMARY

The Tribal Caucus met in the morning, prior to the CRWG meeting. Brian Person (AECOM) facilitated the meeting, and five tribal members attended. The Tribal Caucus discussed the Recreation Plan and areas of common concern among the Tribes. It was strongly suggested that there should be a permitting process for whitewater rafting that would limit the whitewater traffic and provide less disruption of tribal resources on the river. An education component should also be part of the permitting process. The group also discussed the Phase II monitoring and how the Tribes and KRRC are going to fulfill their requirements. Individual discussions with the Tribes will continue in regards to the monitoring.

PROJECT UPDATE

Shannon Leonard and Mike Kelly (AECOM) provided a project update. Ongoing biological and cultural surveys will hopefully occur later this summer. For regulatory processes, the draft CEQA document has been released, and the State Board is in the process of revising the document. A final CEQA document will likely be released by the end of this year or early next year. A submittal to FERC is due at the end of July that will provide additional project costs and risks. A USACE 404 permit application has been submitted, and KRRC will provide additional information to the Corps about the field surveys this summer, as well as the project design. A draft Biological Assessment has been shared with USFWS and NMFS. A MOU has been executed with Klamath County, and a similar document will be prepared with Siskiyou County.

KRRC has hired Kiewit, and they are working with Knight Piesold as the prime engineer and with RES as the restoration designer. They are moving towards a 60 percent design by the end of the year.

Prior to drawdown, they are several project components that need to be completed, such as road improvement and bridge upgrades; pipeline replacement in the City of Yreka; hatchery modifications; and downstream flood control improvements. After drawdown, the dams can be removed, and habitat and recreation can be restored.

The Phase II Study Plan was submitted to the CRWG on May 3, and comments have been received from OR SHPO and CA SHPO. The final draft will be finalized by the end of July. The Monitoring and Inadvertent Discovery Plan is being reviewed by KRRC and AECOM, and will likely be submitted by the end of June for review. The Programmatic Agreement and the Looting and Vandalism Plan will be submitted to the CRWG in August. Draft HPMP and Human Remains Treatment Plans will be circulated in November.

Comments/Questions:

- Eric Ritter (BLM): How does Kiewit's design relate to the removal process that is in the definite plan and how does it fit into the FERC license relinquishment?
- Shannon Leonard (AECOM): KRRC hired Kiewit as the design-build contractor, and Kiewit will take the information from the definite plan and prepare the engineering and construction designs in order to execute the project. FERC would likely not require final design in order to assess impacts of the project; the 60 percent design will likely be used to support their approvals. FERC is also interested in the cost of the project because KRRC has a limited amount of funding.
- Eric Ritter (BLM): Has Siskiyou County approved the project where they are willing to go forward with a MOU? And, what happens if the County does not agree to the project?
- Shannon Leonard (AECOM): No, the County has not entered into a MOU yet. FERC has the authority to supersede local authority. This route is not preferred, which is why the project proponent is trying to execute a MOU.
- Eric Ritter (BLM): Is the Phase II Study Plan specifically for PacifiCorp sites?
- Mike Kelly (AECOM): Yes, those are the only sites that KRRC has access to.
- Elena Nilsson (AECOM): The Plan covers the sites in the area of direct impact (ADI) where there may be ground disturbance and affects to those sites. The other sites are outside the ADI. Direct impacts will occur to sites within the reservoir pool, with the exception of Fall Creek Hatchery.

- Eric Ritter (BLM): Historic homes may be affected that no longer have a lakeshore.
- Elena Nilsson (AECOM): If it is an archaeological site that has been recorded, touches the ADI, and is on PacifiCorp land, it is covered in the Phase II Plan. Access has not been granted outside of PacifiCorp parcels. Phase II work on private lands is not permitted at this time.
- Mike Kelly (AECOM): The Built Environment Team will be assessing structures for visual or indirect impacts where access is not required (reconnaissance level inventory of historic structures).
- Eric Ritter (BLM): There will be impacts to sites other than those on PacifiCorp lands.
- Betty Hall (Shasta Nation): What about the sites below the dams?
- Mike Kelly (AECOM): Those sites will be part of a subsequent analysis and part of the mitigation phase of the project. Currently, sites associated with the reservoirs will be evaluated for impacts. KRRC is starting to contact landowners to gain access to private lands downstream.
- Eric Ritter (BLM): Is the Klamath River considered navigable?
- Kate Stenberg (CDM Smith): They are a lot of agencies with different areas of jurisdiction. The CA FWS regulates up to the riparian zone, and they have jurisdiction. The CA State Lands Commission is not involved (not occupying the riverbed and not sovereign waters). The Corps is involved because they are looking where fill will be placed in the mainstem river and tributaries. Up to RM 38, the Klamath River is traditionally Navigable.

RECREATION PLAN UPDATE

Chris Park (CDM Smith) provided an update on the recreation plan. A draft recreational plan was released with broad conceptual plans of where potential recreation sites might be located. Since the draft recreation plan was completed, a larger amount of detail has been included in the plan to better inform decision makers and the public about what KRRC is proposing to do and how the recreation sites will affect scenic quality. The revised draft also includes information on the existing scenic quality along the river, as well as details about where the recreation sites will be located and their preliminary conceptual designs.

Whitewater users are concerned about their commercial access to the river. As a result, KRRC is implementing a flow study to evaluate what stretches will be useful during expected average flows after dam removal. KRRC is trying to design the recreational sites for rafters, the fishing community, and passive recreationalists. Both commercial rafters and Tribes are concerned about what sections of the river will be useable and what times of the year.

Eight river access sites are proposed. They have already been refined and shifted based on feedback that has been received from the stakeholders, as well as known cultural and biological sensitivity. The sites are a work in progress, and some of the sites already need to be shifted slightly due to cultural concerns.

Site1 Keno Dam: It is the furthest upstream site, and following dam removal, will be owned and managed by the Bureau of Reclamation. Due to interest of this site by recreational users, KRRC has developed conceptual designs for the site but KRRC will not implement as part of the Recreation Plan. Due to biological and cultural concerns, Alternative A is most feasible.

Site 2 Highway 66 Bridge Crossing in OR: Recreational users at Keno could get out at this location, and this section of the river is expected to transition to a gradual gradient for the next mile or so. Recreational use may include canoeing, flatwater boaters, and fishing users.

Site 3 Moonshine Falls: This site is immediately downstream of the existing JC Boyle site. It is a put in location for water users that would like to access the bypassed reach of the Klamath River. It will be advanced whitewater (Class IV and V rapids). The site is on a fairly steep slope, and a trail is proposed down to the river, as well as a slide and lynch system to lower the boats into the river.

Site 4 Turtle Camp: This site has already shifted based on feedback from the last recreation webinar. It has shifted upstream to an existing BLM dispersed camping site. Due to cultural concerns, the conceptual design will need to be revised to avoid a resource of concern.

Site 5 Copco Valley: Within a proposed restoration area, so there is not a lot of flexibility in the layout until that reservoir restoration is underway. There will be a new parking and an access trail down to the river.

Site 6 Copco No. 2 Powerhouse: There are two alternatives or layouts for the proposed site, and part of the decision on the layout will be dependent on what happens to the Copco No. 2 Powerhouse (The building itself may not be demolished.). The two alternatives are currently upstream of the existing Fall Creek Day Use Area in highly disturbed areas. Revegetation would occur to better control the number of people on site, and a ramp would be developed down to the river's edge.

Site 7 Camp Creek: Access is from Copco Road, and it is proposed within the existing reservoir footprint, so there is some uncertainty to the exact layout of the site. It is not being proposed for commercial use and will be used for fishing access and passive recreation use with access down to river.

Site 8 Iron Gate Hatchery: The site is downstream of the existing hatchery. The site has been shifted upstream since the last meeting due to a request to move it from the bridge crossing and a spawning area at the confluence.

Next Steps of the Recreation Plan:
The final recreation plan is underdevelopment, and the sites are being refined. Comments on the plan are requested by June 28. Another webinar is planned for late August in regards to the revised conceptual designs.

Comments/Questions:

- Betty Hall (Shasta Nation) expressed concern in regards to the flow of the river and the usability of the river.
- Perry Chocktoot (Klamath Tribes): There is more to recreation than rafting the canyon, and part of the problem will be due to hiking, camping, and fishing and potential looting of cultural sites. Once the dams are removed and the recreational areas are identified, it will be really important to "police" the canyon. Looting is currently still going on today, and the new camping sites and access roads post-dam removal will cater to the looters.
- Mike Kelly (AECOM): The Looting and Vandalism Protection Plan is one of the near future deliverables that KRRC will work on to prepare, in collaboration with CRWG.
- Chris Park (CDM Smith) would like to reference the Looting and Vandalism Plan in the Recreation Plan. Because of the looting concern, KRRC is proposing that the 8 proposed

recreational sites are day-use areas. No new camping sites are being proposed. Although, it is recognized that this does not fully resolve concern in regards to looting and vandalism.

- Eric Ritter (BLM): Has BLM agreed to the Turtle Camp Recreation Site as it will increase maintenance costs?
- Chris Park (CDM Smith): No, BLM has not agreed to this site yet.
- Roy Hall (Shasta Nation): Are there any identified cultural areas within the proposed Copco Valley recreation site?
- Elena Nilsson (AECOM): It is anticipated that remnants of the Ward Bridge across the historic river corridor. There are also some ranch lands encompassed in this area, but there are no structures or buildings depicted on the historic maps. When the reservoir waters come down, there may be cultural features that are exposed. Currently, there is no known site in the area.
- Crystal Robinson (Quartz Valley Indian Reservation): The development of the proposed recreational sites is to mitigate for the loss of recreation through the removal of the reservoirs. How did you choose the number of sites? I think fewer sites are better, but what is needed to fully mitigate the loss of the reservoir recreation sites?
- Chris Park (CDM Smith): The mitigation was identified in the 2012 EIS/EIR. The goal is to identify a recreation site both upstream and downstream ends of each of the four reservoirs. During meetings, the whitewater groups requested 20 sites. Since the request, KRRC has worked with these groups to identify which sites are the most important to them, as KRRC does not have the funding to develop their initial request and there are significant concerns with many of their sites.
- Perry Chocktoot (Klamath Tribes): Regarding Site 6 Copco No. 2 Powerhouse, hopefully the fish passage will not be disturbed.
- Chris Park (CDM Smith): That is our understanding of the requirements. The only uncertainty is to the powerhouse structure upslope from the river.
- Eric Ritter (BLM): How would the hydrology change in terms of the eddy at the Iron Gate Hatchery site?
- Chris Park (CDM Smith): There is some question about how sediment might accumulate in the upper portion of the eddy following dam removal, but there are steps that the project can take in its configuration, such as rock barriers, to protect the eddy. It will still be an eddy, but the footprint may be reduced to some extent.
- Eric Ritter (BLM): The plan does not discuss recreational trails or interpretative signage. Who is doing this analysis?
- Chris Park (CDM Smith): We are not proposing any new trail systems along the river due to the number of landowners that control different sections of the river, and the KRRC was not equipped to implement in terms of a trail system. The final plan does discuss the amenities at each of the eight site, as well as the interpretative signage.
- Eric Ritter (BLM): Are any of these interpretative signs going to include input from the Tribes and other community groups?
- Chris Park (CDM Smith): The interpretative signs are not being developed now so interest from the Tribes and other groups would be excellent for the final Recreation Plan.
- Crystal Robinson (Quartz Valley Indian Reservation): Are any of the eight sites not a threat to cultural or biological resources, already have ground disturbance, and are ideal for the boaters? Those are the sites that could be supported, and do any of these three factors line up at any of the eight sites?
- Chris Park (CDM Smith): We have tried to identify sites that serve the recreation stakeholders interests while addressing any biological and cultural concerns. The biological concerns are easier to avoid than the cultural concerns.
- Perry Chocktoot (Klamath Tribes): As the outreach continues, we will want to make sure the Recreation Plan mentions another plan that will protect cultural sites.

CULTURAL RESOURCES PLAN UPDATE AND SECTION 106 OUTREACH

Mike Kelly (AECOM) provided an update on the Phase II Study Plan and Inadvertent Discovery Plan (IDP). The Phase II Study Plan was provided to the CRWG on May 3, 2109. Comments have been received by the Oregon and California SHPOs. The comment period has been extended to June 19, 2019, and the comments will be distributed after June 19. Fieldwork is anticipated Fall 2019.

The Monitoring and Inadvertent Discovery Plan is currently under review by KRRC and AECOM Project Management. The CRWG should receive a draft by June 28, 2019.

KRRC is currently preparing letters for distribution to local jurisdictions, historical societies, counties, and other potentially interested parties under the Section 106 outreach. Information on historic roads and trails may be collected from the historical societies to enhance the data collection effort.

Comments/Questions:

- Roy Hall (Shasta Nation): The project is putting issues out to all the Tribes, but it is not necessary.
- Mike Kelly (AECOM): It is a requirement of Section 106 to consult with all of the Tribes who are federally recognized up and down the river. Lists of the Tribes that should be consulted have been provided by FERC, the Native American Heritage Commission, and LCIS to KRRC/AECOM.
- Elena Nilsson (AECOM): When we initially sent out letters about the project, we sent letters to the Native American Heritage Commission and the Oregon Legislative Commission of Indian Services asking them if they could provide a list of Tribes that was appropriate for the area. A list was provided by these agencies of the appropriate Tribes to contact. The Tribes that responded back with interest in the Project are part of the CRWG. FERC separately contacted Tribes to discuss their thoughts on the process, but not the cultural component yet. They have had meetings with the federally recognized Tribes about a year and half ago. These meeting were not under Section 106; FERC has not initiated Section 106 consultation yet. KRRC and PacifiCorp have been asked by FERC to be the federal representative for Section 106. The project proponent cannot be in direct communication with FERC in regards to the CRWG.
- Mike Kelly (AECOM): KRRC/PacifiCorp is not in the position to decide which Tribes to consult with. The list of Tribes is provided to the project proponent, and we are asked to reach out to those specific Tribes.
- Crystal Robinson (Quartz Valley Indian Reservation): How different are the monitoring plans from the different Tribes?
- Mike Kelly (AECOM): Not very different. The documents are pretty standard.
- Crystal Robinson (Quartz Valley Indian Reservation): Then it becomes of a question of which Tribes to contact?
- Mike Kelly (AECOM): Yes, that will be in part resolved when we come to a consensus as to who will be monitoring where. Protocols still need to be determined for inadvertent discoveries. We do not intend to exclude any Tribes from the monitoring.
- Crystal Robinson (Quartz Valley Indian Reservation): Does the State have a map that shows who to contact in the event of an inadvertent discovery?
- Mike Kelly (AECOM): They primarily use the map in the Handbook of North American Indians (vol. 8).

- Brian Person (AECOM): During the tribal caucus, monitoring of the Phase II investigations was discussed. The Klamath Tribes position is that their ancestors were indigenous to entire river corridor. And, it is understood that the Shasta disputes that. The Shasta Nation and the Shasta Indian Nation have asserted that Copco and below is the area of their ancestry and where their rights need to be protected. More than one Tribe will likely be represented during the monitoring. Specifics of the monitoring will need to be resolved.
- Crystal Robinson (Quartz Valley Indian Reservation): Is there a framework that can be used for the monitoring and inadvertent discoveries (i.e., State process, map)?
- Mike Kelly (AECOM): During a meeting with the Heritage Commission, guidance was specifically requested on inadvertent discovery protocols; however, none was provided.
- Betty Hall (Shasta Nation): Each Tribe should provide monitors and conduct monitoring on their own territory.
- Roy Hall (Shasta Nation): This may take a few years to clear up in court.
- Eric Ritter (BLM): In this process, who is the ultimate decision maker?
- Mike Kelly (AECOM): At this point, the ultimate decision maker in this process is KRRC and PacifiCorp, until FERC engages.
- Roy Hall (Shasta Nation): All inclusive monitoring will not be an acceptable alternative. Documents and tribal elders provide evidence that Shasta can document the river.
- Mike Kelly (AECOM): The Heritage Commission noted that they typically defer to established tribal territories in human remains discovery situations. The Handbook includes Shasta Nation and Shasta Indian Nation territory, including the project area.
- Roy Hall (Shasta Nation): The Shasta Nation can submit another packet of documents that establishes the Shastas on the Klamath River up to Lake Ewauna.
- Brian Person (AECOM): At this stage in the process, there are two Tribes that the project has obligations to. The best solution is to accommodate both Tribes by not excluding the other.
- Eric Ritter (BLM): The anthropology is pretty clear that this is Shasta territory, and there was interaction between different groups, including Klamath Tribes, up and down the river.
- Roy Hall (Shasta Nation): According to the constitution, Native American lands can only be taken by treaty. Our land was never taken by treaty; we never signed a treaty and have unextinguished land title to our lands. We are sovereign.
- Mike Kelly (AECOM): We intend to continue to not differentiate between federally recognized and non-federally recognized tribes.
- Crystal Robinson (Quartz Valley Indian Reservation): Quartz Valley recognizes Shasta territory along the river, and being that there are three separate sovereign nations for Shasta, all three share similar ideas on ancestral lands.
- Eric Ritter (BLM): For the Recreation Plan, will comments be taken into consideration and incorporated in the final Plan?
- Mike Kelly (AECOM): We will share any concerns so that they can be incorporated into the Plan.
- Eric Ritter (BLM): In terms of territories and language groups, *California Indian Languages* by Victor Golla is recommended. The book describes changes in territory from a linguist prospective.

ACTION ITEMS

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
June 2019 presentation distribution	Circulate presentation and maps (including hardcopy to Shasta Nation)	June 17, 2019

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
Distribute Section 106 Deliverable Schedule	Circulate deliverable schedule table to CRWG	July 2019
Monitoring/Inadvertent Discovery Plan	Distribute Plan to CRWG by June 28, 2019	Comments due back TBD
Phase II Study Plan	Comments will be distributed after June 19, 2019.	Comments due back on June 19, 2019.
Recreation Plan	Maps of the site locations will be distributed to the CRWG by KRRC/AECOM.	Comments on the Recreation Plan and site locations are due on June 28, 2019.
Prepare Local Jurisdiction Letters	Prepare and distribute letters to local jurisdictions and historical society	July 5, 2019

The meeting ended at 3:30 pm.

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Meeting Minutes

	Klamath River Renewal Project KRRC Cultural Resources Working Group (CRWG) Meeting
Date	July 30, 2019
Time	1:00-4:00 pm PST (Tribal Caucus 10:00am – 12:00pm)
Location	Best Western Miners Inn, Yreka, CA
Attendees	*In person*: AECOM: Mike Kelly, Elena Nilsson, Brian Person, Shoshana Jones, Sarah McDaniel, Kirk Ranzetta, Andrew York BLM-Redding: Eric Ritter Karuk Tribe: Scott Quinn, Alex Watts-Tobin KRRC: Mark Bransom OR SHPO: Tracy Schwartz Shasta Nation: Carl Hall, James Prevatt Shasta Indian Nation: Janice Crowe, Frank Crowe USFS-Klamath NF: Jeanne Goetz Yurok Tribe: Rosie Clayburn *Via telephone*: BLM: Sara Boyko, Heidi Anderson CA SHPO: Amanda Blosser PacifiCorp: Russ Howison
Prepared	August 28, 2019
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. This month's meeting was focused on continuing discussion of the Phase II Study Plan and on providing an overview of the Monitoring and Inadvertent Discovery Plan (MIDP).

UPDATES

After introductions, Brian Person, AECOM meeting facilitator, began by going over the Action Items Review from the June meeting and upcoming deliverable dates.

SCHEDULE UPDATE

Document Schedule (the following dates are when the draft is due to the CRWG)

- Phase II Study Plan – Final Draft due July 31, 2019
- Monitoring and Inadvertent Discovery Plan (MIDP) – 1st Draft due July 31, 2019
- Programmatic Agreement (PA) – 1st Draft due August 5, 2019
- Looting and Vandalism Prevention Plan (LVPP) – 1st Draft due September 6, 2019
- Historic Properties Management Plan (HPMP) – November 2019
- Treatment of Human Remains (to be provided by Tribes) – November 2019

TRIBAL CAUCUS UPDATE

The Tribal Caucus met in the morning, prior to the CRWG meeting. Brian Person (AECOM) facilitated. The Tribal Caucus discussed monitoring; the effectiveness of drone technology and use during the drawdown, with a focus on sites of tribal interest; and what to do if damage is observed during the drawdown. The Civil War Cemetery was discussed, and a warning against disturbing tribal artifacts. The group discussed recreation plan development and how the drawdown might elevate site visibility, and the positives and negatives of a Wild and Scenic River designation in terms of protecting cultural resources.

The Looting and Vandalism Prevention Plan (LVPP) is next in line for distribution. Members expressed the need for provisions for limiting access, preventing damage to sites, patrols, consequences, use of drone technology, and fencing.

One of the main topics was the review of the draft Phase II Plan. Several tribes voiced opposition to excavation proposed under the Phase II Plan.

The group discussed proposed Historic American Engineering Record (HAER) documentation for the dams and how such documentation needs to account for the negatives of the dams, for example decimating fish species and other impacts, as well as the benefits.

Comments/Questions:

- Alex Watts-Tobin (Karuk): I would like to emphasize the Phase II disconnect. Also, the ethnographic study section for the Karuk will need to be rewritten.
- Mike Kelly (AECOM): Regarding the Phase II Plan, this has been in place for some time and this group reviewed the SHPO comments previously, so I'm not sure where the disconnect came from. We need additional discussion.
- Alex Watts-Tobin (Karuk): There is consensus in the Tribal Caucus—none of the Tribes represented here support excavation testing, especially on the scale per the Oregon SHPO. There are other ways to address eligibility.
- Carl Hall (Shasta Nation): How it is written now isn't going to work for anybody. We're willing to talk. Recall the discussions we had about this last time in our one-on-one consultation meeting?
- Elena Nilsson (AECOM): Yes, and we followed up with the SHPOs. Their view is that we need to do some level of Phase II excavations to meet Section 106 requirements.
- Mike Kelly (AECOM): Oregon SHPO has treatment and guideline procedures, and after their review they requested we expand what we had originally proposed to excavate. It is difficult to determine site boundaries without excavation.
- Carl Hall (Shasta Nation): What about previous archaeological investigations that have already been done?
- Mike Kelly (AECOM): Those consisted of surface survey only, which is not enough information for full characterization of most of the sites.

- Alex Watts-Tobin (Karuk): When other archaeologists have come into Karuk territory to shovel test, we have said no to them too. There has been high quality and extensive archaeological work upriver as compared to downriver. I expect you have a pretty good handle on many of these 38 sites already.
- Elena Nilsson (AECOM): There are still some aspects we don't know about, like depth, or whether there are intact deposits.
- James Prevatt (Shasta Nation): We need to see how deep and where the holes are proposed.
- Mike Kelly (AECOM): Typically, we would go in cardinal directions working our way from the outside toward the site. Half of the units would be outside boundaries to help establish the boundaries, with some units inside the site to determine depth.
- James Prevatt (Shasta Nation): Would ground penetrating radar (GPR) or other types of x-ray equipment work?
- Mike Kelly (AECOM): That is more useful for burials and features, but not for general site characterization.
- James Prevatt (Shasta Nation): I'm concerned you're going to encounter a body.
- Mike Kelly (AECOM): If we did, we would immediately stop. There is no intent to excavate human remains.
- James Prevatt (Shasta Nation): Some Shasta sites are within the ADI, and no one besides us can know where or what sites are—we can't divulge that information. Sacred and ceremonial sites.
- Mike Kelly (AECOM): There are some TCP studies from 15 years ago, and OR SHPO asked us to see if these are still good and to move forward. If we know approximately where these are, we can avoid them.
- Alex Watts-Tobin (Karuk): We have a cultural monitoring program, for example, for infrastructure work. Finds are documented, but it is important that the artifact goes back in the dirt where it was found. By our protocols, things found go back in the ground.
- Mike Kelly (AECOM): We could try and propose that approach.
- Eric Ritter (BLM): Could you assume that a site is significant, and add a buffer based on GPR/soil chemistry or another non-invasive method?
- Mike Kelly (AECOM): If we assume eligibility, later in the process we have lots of adverse effects that we otherwise would be able to avoid. So that approach leads to additional concerns.
- Eric Ritter (BLM): Maybe you can do it for some sites, though, even if not for all. Maybe that's a compromise.
- Elena Nilsson (AECOM): We will need CA and OR SHPO input to see if that will work. And FERC, although they're still not on board yet.
- Eric Ritter (BLM): Who does the decision lie with?
- Elena Nilsson (AECOM): PacifiCorp and KRRC until FERC engages.
- Mark Bransom (KRRC): We are hopeful that FERC will engage by the end of the year. This is all good input and suggestions, but we are constrained. Let's get this group and the SHPOs talking about this issue now--I'm hopeful this will lead to resolution. Let's get a meeting arranged ASAP.
- Rosie Clayburn (Yurok): The meeting will need Tribes, SHPOs, AECOM, and KRRC. I want to clarify this is a BIG disconnect. These are tribal resources that are completely connected to people today. The project has damaged sites, and it's hard to balance tribal focus of dam removal and on cultural resources. We're willing to roll up our sleeves and bring everyone to the table. The Yurok are the first THPO in California; we're experienced, and we know we need to get this done by working together.

BUILT ENVIRONMENT UPDATE

Shoshana Jones and Kirk Ranzetta (AECOM) provided an update on the historic built resources within the ADI. These include hydroelectric facilities: dams, powerhouses, water conveyances, employee housing, a school, other operations buildings, fish management, and transportation. In 2003, previous field surveys and evaluations of the Klamath River Hydroelectric Project District were completed. Survey updates are now required to account for such things as: demolished, overlooked, and miscounted resources; resources that have since reached the age of 50; and a lack of data for non-hydroelectric resources. Historic themes include early exploration and settlement, mining, agriculture/ranchin, logging, transportation, hydropower, fish management, and recreation. Upcoming fieldwork is planned for the Fall Creek Hatchery, hydro transmission lines, and non-hydro bridges and culverts within the ADI. Mitigation ideas are being sought; some include: HABS/HAER; potential for adaptive re-use of the buildings; relocation for residential/commercial re-use; grants to benefit local repositories; scholarship programs for regional students.

Comments/Questions:

- Alex Watts-Tobin (Karuk): It is interesting there was a school at Fall Creek. Regarding the slide of Klamath Hot Springs, I don't believe that was in the ADI; but maybe was in the larger APE? For the record, it is very interesting to read stories of the hotel and hot springs. About 4 miles upstream from Copco Lake, it was popular in the 1880s-1900s until Copco was constructed. It was popular because there were SO many fish.
- Eric Ritter (BLM): For historic context, consider adding "Euromerican" to your "Settlement" and add "Tribal" and other peoples to this discussion. You could add "Surveys/Engineering" and later "Post-Dam Settlement" related to recreation, development of the dams and residences as themes.
- Tracy Schwartz (OR SHPO): What type of form will you be using?
- Shoshana Jones (AECOM): We are planning to record Oregon resources on OR SHPO database forms, and California resources on CA SHPO forms, then attach each to the other state's resources.
- Amanda Blosser (CA SHPO): Regarding your request to learn more context about hatcheries, there are examples of hatcheries with early design in California--for example at the Oroville Dam.
- Kirk Ranzetta (AECOM): Is there historic context at the state level for hatcheries?
- Amanda Blosser (CA SHPO): There are water resources in California. I've seen some come in, for example Fish and Game had some come in, but nothing standardized. I could try to find and email some documents.
- Scott Quinn (Karuk): Klamath Dam had fish racks, and remnants are still there.
- Tracy Schwartz (OR SHPO): A University of Oregon student wrote a thesis on a fish hatchery, and we have a copy.
- Eric Ritter (BLM): Other examples of hatcheries: 1870s at Bear Lake, Battle Creek and mouth of the Sacramento River. Have you considered making mitigation recommendations for buildings to remain preserved for use as clubs, recreation, fishing, etc.?
- Alex Watts-Tobin (Karuk): The potentials for re-use are good ideas. You could also consider doing mega Digi-pixel photography to piece together very detailed photographs. If museum displays are created, there should be a language included regarding what the effects of the dams were; how abundant fish were in that area.
- Kirk Ranzetta (AECOM): That could definitely be folded into larger interpretive displays.
- Eric Ritter (BLM): There is also some good 3D modeling technology to consider. Check out the Getty Museum for examples.

- Alex Watts-Tobin (Karuk): It would be good to have a 3D model of the river, before and after decommissioning.
- Tracy Schwartz (OR SHPO): I appreciated the thought you've put into this so far. The public benefit for the local community is important. We haven't concurred on adverse effects yet. What is the timeline for the report?
- Kirk Ranzetta (AECOM): ETA is soon. We would like to get in additional fieldwork first for identification and evaluation but could separate them into two reports depending on if you want more or less.
- Tracy Schwartz (OR SHPO): We would prefer it all at one time if possible but can be flexible.
- Amanda Blosser (CA SHPO): Same with us. We can talk about phasing if we need to.
- Kirk Ranzetta (AECOM): We have fieldwork scheduled for next month, so will plan to get SHPOs the full report.
- Eric Ritter (BLM): Have you considered disposal of historic debris? And integrating construction camps and dumps?
- Kirk Ranzetta (AECOM): Yes, and if there are areas of crossover between built environment and archaeology, we will coordinate on documentation. We're already coordinating the historic contexts.
- Tracy Schwartz (OR SHPO): What about other consulting parties? Who else wants to participate?
- Kirk Ranzetta (AECOM): We sent letters to about 10 parties. Not much response so far, but we'll follow up with an email with the presentation.
- Shoshana Jones (AECOM): The president of the Siskiyou County Historical Society is definitely interested.
- Kirk Ranzetta (AECOM): We're also reaching out to a Landscape Architect from the USFS in Yreka to include in these discussions.
- James Prevatt (Shasta Nation): Have you reached out to Josephine and Jackson County Historical Societies? There is Shasta land up there too.
- Scott Quinn (Karuk): Your last slide [slide 38], "scholarships to encourage study in history, engineering, cultural resources, geography, fish biology, etc." as potential mitigation; you should also add "anthropology." Also, for any interpretive displays, there should be an effort to include the effect of the dams as well as dam decommissioning on Tribes and NGOs; this would be important to include.

CLOSING REMARKS

The group reiterated the need to have a collective meeting between the CA and OR SHPO archaeological representatives (who were not in attendance for the current meeting), KRRC, and Tribes as soon as possible to resolve disagreement over Phase II excavation requirements. There was also a brief discussion regarding land ownership. Mark Bransom (KRRC) confirmed that Parcel B lands in the 2016 Settlement Agreement will go to the State of California, or a possible third party as designated by the State.

ACTION ITEMS

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
July 2019 presentation distribution	Circulate presentation (including hardcopy to Shasta Nation)	
Resolve Phase II eligibility—need for testing	Set up meeting with SHPOs and Tribes	Respond to doodle poll and attend meeting

The meeting ended at 4:00 pm.

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Meeting Minutes

	Klamath River Renewal Project KRRC Cultural Resources Working Group (CRWG) Meeting
Date	September 5, 2019
Time	1:00-4:00 pm PST (Tribal Caucus 10:00am – 12:00pm)
Location	Best Western Miners Inn, Yreka, CA
Attendees	*In person*: AECOM: Mike Kelly, Elena Nilsson, Brian Person, Sarah McDaniel, Kirk Ranzetta BLM-Redding: Eric Ritter Karuk Tribe: Scott Quinn, Anna Powell, Alex Watts-Tobin Klamath Tribes: Les Anderson, Perry Chocktoot KRRC: Mark Bransom Shasta Nation: Betty Hall, James Prevatt USFS-Klamath NF: Jeanne Goetz Yurok Tribe: Rosie Clayburn *Via telephone*: BLM: Sara Boyko CDM Smith: Ben Swann CA SHPO: Brendan Greenaway OR SHPO: Dennis Griffin, Tracy Schwartz Shasta Indian Nation: Janice Crowe Karuk Tribe: Craig Tucker

Prepared	October 4, 2019
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. This month's meeting was focused on review of: the Monitoring and Inadvertent Discovery Plan (MIDP), the Phase II Evaluation Program, the Fall Creek Hatchery improvements plan, and language included in the upcoming draft Programmatic Agreement (PA).

UPDATES

After introductions, Brian Person, AECOM meeting facilitator, began by going over the Action Items Review from the July meeting and upcoming deliverable dates.

SCHEDULE UPDATE

Document Schedule

- Phase II Study Plan – Final Draft is in process of revision based on CRWG input
- Monitoring and Inadvertent Discovery Plan (MIDP) – comments on draft needed from CRWG by September 30, 2019
- Programmatic Agreement (PA) – comments on draft needed from CRWG by September 30, 2019
- Looting and Vandalism Prevention Plan (LVPP) – 1st Draft due to CRWG September 30, 2019
- Historic Properties Management Plan (HPMP) – 1st Draft due to CRWG January 2019
- Treatment of Human Remains (to be provided by Tribes) – November 2019

TRIBAL CAUCUS UPDATE

The Tribal Caucus met in the morning, prior to the CRWG meeting. Brian Person (AECOM) facilitated. The Tribal Caucus discussed the Phase II Study Plan which is in the process of being revised to reduce the amount of proposed excavation based on CRWG input. The Tribal Caucus members are in collective agreement that no excavation should occur. Past projects were cited where eligibility and impacts could be discussed without the need for additional testing. The Klamath Tribes has an inadvertent discovery plan they will share to assist with the draft MIDP. The Tribal Caucus also discussed the Recreation Plan.

Comments/Questions:

- Scott Quinn (Karuk Tribe): I think it would be more effective if tribes wrote individually to the SHPOs regarding no excavation for Phase II evaluation.
- Craig Tucker (Karuk Tribe): Regarding the Recreation Plan, it would be a good idea to have a pamphlet to educate recreators, like we discussed in the Tribal Caucus.
- Perry Chocktoot (Klamath Tribes): And they need to note protocols, like using public facilities for calls of nature, because that's normally how they come across these sites. They need to stay out of the shell middens.
- Craig Tucker (Karuk Tribe): They could require a "pack it in, pack it out" policy for recreation access; that means everything, including human waste.
- Eric Ritter (BLM): The BLM issues permits out of Oregon. There are all sorts of complications with permitting and who would run it.

PHASE II EVALUATION PLAN UPDATE

There was general discussion regarding tribal opposition to any excavation work within the archaeological sites to evaluate them for NRHP eligibility, and the need for KRRC and the Project to comply with Section 106 of the NHPA in evaluating sites and determining impacts. KRRC, AECOM, OR and CA SHPO representatives, and John Eddins of the ACHP (responsible for FERC projects) had an initial call on August 15, 2019. The ACHP intends to have a conversation with FERC, who is not yet engaged in this process.

Comments/Questions:

- Mike Kelly (AECOM): We need to get guidance from the ACHP and FERC to help navigate this issue. KRRC is required to implement Section 106, including assessments for eligibility.

- Mark Bransom (AECOM): KRRC appreciates all of the hard work this group has done, and I have a deep respect for the tribal members working through these different issues. For now, we are a non-federal designee of FERC. You may not care about Section 106, but I have to. We need to find a way to navigate this process. We all want to provide for the protection of these sensitive sites, and I'm confident we can get there. I have to balance regulatory requirements with concerns brought up here. We are planning for dam removal, and I think it will take place. Be thinking about how we can do things today to prepare for when we see dam removal underway. For example, if we can avoid an inadvertent discovery situation that's what we want. We're open to using such methods as dogs and alternate approaches. I welcome your input: 1) what technologies or approaches are feasible and appropriate; 2) what other prior experiences do you have that can help inform our approach? This impasse needs to be resolved. Thank you for sharing your experience; it's meaningful and helpful.
- Rosie Clayburn (Yurok Tribe): Regarding the revised in-preparation Phase II Plan, how close did you incorporate SHPO comments for additional excavation?
- Elena Nilsson (AECOM): We made changes and are preparing a revised draft, but there are a lot of comments and it is not ready to be distributed, pending additional discussions.
- Mike Kelly (AECOM): I think from our previous discussions with Dennis Griffin, he understands the need for a reduced level of effort.
- Dennis Griffin (OR SHPO): Many of the sites proposed for testing need additional data for possible mitigation, not necessarily for eligibility.
- Perry Chocktoot (Klamath Tribes): Ruby Pipeline is a good example of where we did not excavate sites, we just called them all eligible.
- Dennis Griffin (OR SHPO): I have no problem with the eligibility discussion, but how do you address the adverse effect? You can cap sites. But if there are remaining portions of sites, that's another thing.
- Mike Kelly (AECOM): We currently don't have a good handle on depth or boundaries for sites that are just visible from the surface.
- Perry Chocktoot (Klamath Tribes): They're overdue for maintenance and monitoring. Just do some Phase I work.
- Elena Nilsson (AECOM): We did visit them.
- Perry Chocktoot (Klamath Tribes): Were the tribes involved?
- Elena Nilsson (AECOM): No.
- Perry Chocktoot (Klamath Tribes): That's a big problem.
- Elena Nilsson (AECOM): We saw most boundaries expand, which is a change in the 15 years since they were last visited or recorded. That's why we're unsure of site boundaries, maybe they're expanding through erosion.
- Perry Chocktoot (Klamath Tribes): Erosion happens all the time, to all sites.
- Mike Kelly (AECOM): But we need to be prepared to plan for impacts and mitigation.
- Dennis Griffin (OR SHPO): Sometimes it's easier to assume sites are eligible. With minimal testing to make sure a new site isn't being exposed.

RESTORATION PLAN

Mike Kelly explained that the restoration plan needs input for the types of native plants that would be appropriate for planting, and where; i.e., are there any tribally important areas for particular plant species that should be considered. Feedback is needed as soon as possible.

Comments/Questions:

- Scott Quinn (Karuk): In easy-access areas, basket materials like willow would be good.
- Perry Chocktoot (Klamath Tribes): Bear grass, tule, cat tail—there's a whole list.

- Scott Quinn (Karuk): Just riparian, or upslope too?
- Elena Nilsson (AECOM): The current reservoir footprint.
- Eric Ritter (BLM): Also, roads and construction zones, too.
- Jeanne Goetz (USFS): I know KRRC's botanist has contacted the USFS.
- Elena Nilsson (AECOM): The KRRC Definite Plan appendix also has information on species.
- Alex Watts-Tobin (Karuk): Is the Definite Plan susceptible to input by the Tribes at this point?
- Mark Bransom (KRRC): Yes, definitely.
- Les Anderson: Is the plan adoptable based on mortality?
- Mark Bransom (KRRC): Yes.

INTRODUCTION TO LOOTING AND VANDALISM (LVPP) PLAN OUTLINE

Mike Kelly provided an overview of the LVPP which is still in draft form and needs to be reviewed by KRRC before distribution to the CRWG. Some of the draft possible protection measures were briefly discussed, and would be expected to vary on a site-by-site basis. One difficulty is that AECOM has not found an example of an LVPP for guidance. The CRWG was asked to provide any examples they may have seen or used in the past.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): Patrolling should be mandatory, not "possible." Consider establishing a phone number that anyone could call in an area with cell coverage. Like a "see something, say something" campaign or that old image of a criminal-looking looter that you used to see on those anti-looting posters. Come up with a number that goes to law enforcement in this canyon. Don't make known the set schedule for patrols; that has to fluctuate based on maybe holidays or high-use periods. Have something that bites. This canyon is going to need managed for a long while.
- Sarah McDaniel (AECOM): The LVPP is currently written to span the period that KRRC is responsible for managing. Once KRRC ceases to exist, we can't project how that will work with unknown future landowners.
- Perry Chocktoot (Klamath Tribes): That's a big problem. This needs to be long-term.
- Sarah McDaniel (AECOM): I think there may be some mechanism on how to ensure that happens after KRRC's involvement, but we need this group to brainstorm that and get attorney input on how that can happen. For now, it's being written for while KRRC is the responsible party.
- Scott Quinn (Karuk Tribe): As far as creating longevity, maybe something like if a future landowner wants the Parcel B lands, they have to accept the LVPP conditions.
- Jeanne Goetz (USFS): What about a tribal site stewardship program?
- Perry Chocktoot (Klamath Tribes): we have to be careful on who to involve. Some BLM and USFS employees have some of the largest artifact collections! Be very careful on who we involve.
- Eric Ritter (BLM): We attempt to educate people, including our own employees, in training.
- Les Anderson (Klamath Tribes): From a tribal perspective, the tribes here should have that stewardship.
- Eric Ritter (BLM): KRRC also needs to deal with how to deal with indirect effects: trampling, garbage dumping, ORV trails, etc.

PARCEL B LANDS

There was a brief discussion on where Parcel B lands, which will be handed over by KRRC. Elena Nilsson (AECOM) pointed out the KHSA 7.6.1 defines Parcel B lands. Basically, these are the lands that are around the reservoirs and inundated lands. Parcel A lands include 11,000 acres

owned by PacifiCorp that are not directly associated with the Klamath Hydroelectric Project, like the ranchlands between J.C. Boyle and Copco. PacifiCorp will be retaining the Parcel A lands.

MONITORING AND INADVERTENT DISCOVERY PLAN (MIDP)

The MIDP had been distributed to the CRWG but few comments had been received to date. A brief discussion followed.

Comments/Questions:

- Alex Watts-Tobin (Karuk): I would like to reiterate that humans can't safely access the drawdown area. We have partnered with a group at U.C. Davis that has high definition drone technology well suited for monitoring the sites during drawdown.
- Perry Chocktoot (Klamath Tribes): A lot of tribes have this technology.
- Alex Watts-Tobin (Karuk): Yes, but it needs to be very detailed and high scale. Their battery technology allows for 2,500 acres per day.
- Eric Ritter (BLM): Page 56 of the MIDP states that impacts involved with moving several structures from Iron Gate to Humbug Creek. Do previous plans cover this?
- Mike Kelly (AECOM): No, we don't have access yet and that's not part of Parcel B lands as those lands are private. We did a windshield reconnaissance and recognize the need; we're not ignoring it and will make sure this is covered in future documentation.
- Elena Nilsson (AECOM): We have conducted record searches for this areas.

FALL CREEK HATCHERY UPDATE

Ben Swann (CDM Smith) provided an update regarding the proposed Fall Creek Site Modifications. He discussed hatchery production and presented photographs of the locations of modifications, and of the current Upper Raceway, Lower Raceway, and Diversion Points.

Comments/Questions:

- Mike Kelly (AECOM): We did not find any surface evidence of prehistoric sites at the Fall Creek area during the 2018 field visit.
- Perry Chocktoot (Klamath Tribes): What about consulting with Tribes?
- Mike Kelly (AECOM): We have talked about it and know it's an extremely sensitive location. We're working with Ben and team to limit improvements at the hatchery. The first step is to confirm a lack of subsurface deposits, and we know there will be a need for monitoring.
- Jim Prevatt (Shasta Nation): Coho were brought in from Japan in the late 1800s or early 1900s. They're not from here. I keep hearing they're going to resurrect the Coho. The only place they've ever known is the hatchery!
- Perry Chocktoot (Klamath Tribes): Fish studies at PSU show differently.
- Ben Swann (CDM): Coho is a controversial subject but is beyond KRRC's work objective to get into that. Our objective is the disturbed footprint of the old facilities.
- Perry Chocktoot (Klamath Tribes): Will you set on septic/sewage system? That could run sludge on the fish areas, whereas another line would have more protective measures?
- Ben Swann (CDM): Given the 8-year lifespan of the project, high water still wouldn't allow sludge into the creek.
- Perry Chocktoot (Klamath Tribes): Are you treating it before it goes into the settling pond?
- Ben Swann (CDM): An unlined pond would discharge into the creek. The California State Water Board has requirements the pond must meet. There is a plan to put in a cascade. Not adding enough to change oxygen or temperature, but we will be monitoring it nonetheless.

- Mark Bransom (KRRC): The hatchery has 8 years of funding from PacifiCorp. Beyond that is the responsibility of Fish and Wildlife.
- Eric Ritter (BLM): Fall Creek has private lands—what are their water rights?
- Ben Swann (CDM): PacifiCorp is the primary water right holder along Fall Creek. There are three primary holders: City of Yreka, PacifiCorp, and the California Department of Fish and Wildlife.
- Kirk Ranzetta (AECOM): There also could be an adverse effect to the hatchery as a historic property that may need to be mitigated.

PROGRAMMATIC AGREEMENT (PA)

Kirk Ranzetta, AECOM Architectural Historian, provided an introductory overview of the PA, including the purpose, overall structure, FERC's expectations, standard language, and typical sections. FERC uses a Historic Property Management Plan (HPMP) template following the 2002 Guidelines.

Comments/Questions:

- Perry Chocktoot (Klamath Tribes): Tribes are considered "Consulting Parties" instead of "Concurring Parties" to keep us from objecting.
- Alex Watts-Tobin (Karuk): Invited signatories have certain rights.
- Perry Chocktoot (Klamath Tribes): FERC can't delegate consultation.
- Kirk Ranzetta (AECOM): FERC's PAs for hydro projects are very minimal. The priority of this effort is to come to agreement where we can so FERC can focus on the bigger issues. The reason we need a PA is because it is regional in scope, the effects are not fully determined, and KRRC as a non-federal party has been delegated major responsibilities.
- Perry Chocktoot (Klamath Tribes): Was this enacted under the Clean Energy Act—George Bush in 1997?
- Alex Watts-Tobin (Karuk): I think it was under Clinton?
- Kirk Ranzetta (AECOM): In 2002 they published Guidelines for HPMPs. These documents include what other agencies would typically put as stipulations in their PAs.
  - "Signatories" include SHPOs, ACHP, and FERC.
  - "Invited Signatories" are not included. Why? Because when FERC is dealing with the Federal Power Act they won't allow inclusion of the licensee because they could back out.
  - "Concurrence by Others" is used and includes BLM, USFS, USACE, Tribes, local governments, etc.
- Tracy Schwartz (OR SHPO): ACHP involvement is "pending", correct? When will letters go out?
- Kirk Ranzetta (AECOM): They are involved and will likely have a letter announcing engagement soon.
- Tracy Schwartz (OR SHPO): Has the USFS delegated FERC as the lead agency?
- Kirk Ranzetta (AECOM): No, they manage the lands. We'll need to double check if they are considering this an undertaking versus as a land manager. They're still working out if they will participate in the PA or not.
- Brendan Greenaway (CA SHPO): Are you planning to use the FERC template PA?
- Kirk Ranzetta (AECOM): Yes, with appropriate revisions to account for a number of projects in Oregon where the template has been modified. We're trying to anticipate changes.
- Brendan Greenaway (CA SHPO): This is not a standard undertaking like relicensing. And because the USFS and BLM have land in the APE, they also have 106 responsibilities.
- Perry Chocktoot (Klamath Tribes): This is rough for the Tribes: we're always Consulting Parties. What if we don't agree, and what if we don't sign?

- Kirk Ranzetta (AECOM): FERC will continue to consult.
- Les Anderson (Klamath Tribes): Are the BLM and USFS going to start holding other meetings for consultation?
- Jeanne Goetz (USFS): I don't foresee that.
- Eric Ritter (BLM): I'm not sure about Oregon.
- Jeanne Goetz (USFS): The PA refers to the APE, but what about the ADI (which has less USFS land)?
- Kirk Ranzetta (AECOM): The PA will apply to the entire APE.
- Perry Chocktoot (Klamath Tribes): You need to take into account visual impacts.
- Alex Watts-Tobin (Karuk Tribe): The APE includes Karuk Tribal Trust lands, and we should be a main signatory.
- Rosie Clayburn (Yurok Tribe): The Karuk and Yurok would have to be signatories because we're both in the APE.
- Scott Quinn (Karuk): Would the PA commit CDFW to operating fisheries/hatcheries?
- Kirk Ranzetta (AECOM): No, it only pertains to cultural resources.
- Scott Quinn (Karuk): Fish ARE cultural resources. CDFW and Oregon Fish and Wildlife could be signatories too?
- Jeanne Goetz (USFS): We had an example of a PA where the Karuk were a concurring party and other tribes were invited signatories.
- Perry Chocktoot (Klamath Tribes): Hasn't there already been one surrender at JC Boyle that's been in the headlines lately?
- Mark Ransom (KRRC): ODEQ issuance of water quality certification, but that is not part of FERC. In CA, for water quality certification the EIR is currently underway.
- Perry Chocktoot (Klamath Tribes): Your slide about Swan Lake lifted my hackles [note: this refers to PowerPoint Slide 25, which cites Swan Lake as a recent FERC PA example]. I don't agree in any way, shape, or form. This area is filled with religious alters, burials, and they're protecting NOTHING. This is heartache for the Klamath Tribes.
- Kirk Ranzetta (AECOM): We will make sure we're not adopting anything from that agreement that could be troublesome.
- Tracy Schwartz (OR SHPO): Be sure to add a "Whereas" clause for other consulting parties like CLGs and historical societies.
- Eric Ritter (BLM): Is there EIS interplay? Who is writing that?
- Kirk Ranzetta (AECOM): FERC. As soon as "notice" is given for the surrender proceeding, they will initiate NEPA. We expect they will initiate that sooner rather than later. But the PA needs to be signed before that.
- Perry Chocktoot (Klamath Tribes): Will there be public hearings?
- Mark Bransom (KRRC): Yes, but we don't know the dates or process yet.
- Eric Ritter (BLM): Given the current administration and the hurrying up these days, I'm not sure of the review process.
- Alex Watts-Tobin (Karuk Tribe): We'll be getting an ethnographic statement to you. That EIS public document should NOT contain sensitive information about any resources or locations.
- Scott Quinn (Karuk Tribe): You will need to look at grazing impacts, too.
- Eric Ritter (BLM): There are a lot of cattle along the river. Look at open range along the river.

CLOSING REMARKS

Next steps include review of the draft "Whereas" statements within 30 days. The next CRWG meeting will present PA Stipulations.

Rosie Clayburn requested that the next meeting be moved to Medford in order to accommodate those who drive long distances to attend the Yreka meetings.

ACTION ITEMS

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
Sept 2019 presentation distribution	Circulate presentation (including hardcopy to Shasta Nation)	-
List of cultural plants needed for Restoration Plan	-	- Provide list of culturally important plants as soon as possible. - Describe which areas they were in traditionally and/or where they should be considered for replanting
Schedule Oct and Nov meetings	Send out Doodlepoll and emails to CRWG	Respond to AECOM Doodlepoll re: day preferences
Monitoring/Inadvertent Discovery Plan Comments	Draft MIDP was distributed to CRWG in late August	Comments due back to KRRC/AECOM by October 5, 2019
Provide IDP examples to AECOM	-	Provide any examples of Tribal IDPs to AECOM as soon as possible
Provide LVPP examples to AECOM	-	Provide any examples of LVPPs to AECOM as soon as possible
Parcel B maps and description needed	Circulate electronic version of maps/description (hardcopy to Betty)	-
Programmatic Agreement Comments	Edit draft PA "Whereas" clauses per meeting discussion	Comments due back to KRRC/AECOM by October 5, 2019
APE versus ADI per FERC signatory process	Investigate how FERC treats signatory parties (all tribes in APE are signatories, versus only ADI?)	-
USFS and BLM and FERC process	-	Confer on how the 106 process for the BLM and USFS will proceed in conjunction with FERC

The meeting ended at 4:00 pm.

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Meeting Minutes

	Klamath River Renewal Project KRRC Cultural Resources Working Group (CRWG) Meeting
Date	October 29, 2019
Time	1:00-4:00 pm PST (Tribal Caucus 10:00am – 12:00pm)
Location	Holiday Inn Express, Yreka, CA
Attendees	*In person*: AECOM: Mike Kelly, Kirk Ranzetta, Brian Person, Stephanie Butler BLM-Redding: Eric Ritter CDM Smith: Kate Stenberg Karuk Tribe: Scott Quinn, Alex Watts-Tobin Klamath Tribes: Les Anderson Quartz Valley Indian Reservation: Crystal Robinson Shasta Nation: Betty Hall, Jim Prevatt USFS Klamath NF: Jeanne Goetz *Via telephone*: AECOM: Sarah McDaniel BLM-Klamath Falls: Sarah Boyco Klamath Tribes: Perry Chocktoot OR SHPO: Dennis Griffin, Tracy Schwartz PacifiCorp: Russ Howison Yurok Tribe: Rosie Clayburn
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. This month's meeting was focused on discussion of the Programmatic Agreement and the Looting and Vandalism Protection Plan. The status of the Phase II evaluation program and the Monitoring and Inadvertent Discovery Plan were also briefly discussed.

REVIEW OF ACTION ITEMS FROM THE SEPTEMBER 2019 TRIBAL CAUCUS AND CRWG MEETING

Individual meetings with the Tribes are ongoing to discuss the review of the Phase II Evaluation Plan, as well as any other project concerns. To date, three meetings have occurred, and additional meetings will be scheduled with the Klamath, Shasta Indian Nation, and Karuk Tribes.

No information has been received on culturally important plant species that should be included in the Recreation Plan, with the exception of those discussed during the CRWG meeting.

No written comments have been received on the Monitoring and Inadvertent Discovery Plan from any of the tribes. The comment period will be extended to November 15. A final draft of the Plan is on hold pending receipt of tribal comments.

Comments have been received from BLM and Oregon SHPO on the PA. Additional information on FERC and other federal agency responsibilities for the PA has not been obtained.

Comments/Questions:

- Eric Ritter (BLM): Are culturally important plants (cultivars, orchard crops) associated with historic homesteads and ranches in the Klamath River valley being considered? Studies have been conducted on the cultivars.
  Mike Kelly (AECOM): Those resources have likely not been taken into consideration, but prior studies can be reviewed.

TRIBAL CAUCUS SUMMARY

The Tribal Caucus met in the morning, prior to the CRWG meeting. During the Tribal Caucus, Rosy Clayburn (Yurok Tribe) emphasized that tribal ordnances should be included in both the Monitoring and Inadvertent Discovery Plan and the Looting and Vandalism Protection Plan. There was general concern about long-term funding and law enforcement, particularly after transfer of Parcel B lands. There will be potential for greater exposure and access to cultural resources post-project, so how will they be protected over the long term. Federal funding (e.g., USFS, BLM) and other funding sources will need to provide for necessary law enforcement. The Looting and Vandalism Plan discusses the See and Say program, which will need to be followed up on post-project.

A recommendation was provided that as a condition of the transfer of Parcel B lands, there could be restrictions on any subsequent transfers on the nature of land use that would help protect tribal and cultural assets.

Signage was also discussed, specifically the concern that signs warning against tampering and looting may label cultural resources within the vicinity. Instead, signs should be placed at defined entrance points with general warnings.

Modifications to the Phase II Plan were discussed. The Phase II effort has been scaled back in terms of the level of ground surface disturbance. Artifact analysis and curation will still need to be resolved. There was some discussion if artifacts can be analyzed without removal from the site; and if removal is necessary, can the artifacts be put back in the exact location as originally discovered.

The overlay of Kiewit's design was discussed and how it does not necessarily consider the avoidance of known sites. AECOM will meet with Kiewit to discuss this concern.

PROJECT UPDATE

Mike Kelly (AECOM) provided a project update. The comment period for the Monitoring and Inadvertent Discovery Plan has been extended to November 15, and any comments, such as the inclusion of tribal ordnances, should be submitted.

The Phase II Evaluation Plan is currently being revised to minimize impacts to sites, and individual meetings with tribes are being conducted to reach a consensus on the level of effort. Fieldwork will occur in Spring 2020.

Ethnographic summaries have been submitted to each tribe, and feedback has been requested.

A revised draft of the Recreation Plan was sent out to the consulting parties, and comments are requested on this plan.

Comments on the Looting and Vandalism Protection Plan are requested at the end of the month. The Human Remains Treatment Plan and the Historic Properties Management Plan (HPMP) will be the next documents to be prepared. The HPMP will not be finalized until the evaluations have been completed. Input from the tribes will be required for the Human Remains Treatment Plan.

Comments/Questions:

- Dennis Griffin (OR SHPO): Are the documents that require review submitted to SHPO via Go Digital?
  Mike Kelly (AECOM): The Monitoring and Inadvertent Discovery Plan has been submitted electronically (August 2019) to SHPO, however, the Looting and Vandalism Protection Plan will be submitted within the next few days.

LOOTING AND VANDALISM PROTECTON PLAN

Mike Kelly (AECOM) provided a general summary of the Looting and Vandalism Protection Plan (LVPP). The Plan is a working draft that was designed to generate discussion and new ideas. The Plan includes: 1) law and regulations that pertain to the protection of cultural/tribal/historic resources; 2) a training program for construction personnel and monitors; 3) summary of known resources within the project area; 4) site protection measures; 5) procedures for responding to looting and vandalism; 6) post-decommissioning; and 7) contact information.

Examples of site protection measures include periodic monitoring during decommissioning and law enforcement and security both during and after decommissioning. Visits to specific sites would occur to monitor changes in site conditions, which would include evidence of erosion and looting/vandalism. Surveillance cameras may be used, which are already in place for fire protection. Access restrictions are being reviewed, both temporary during construction and long term for protection.

Post-decommissioning options include land transfer considerations, continuation of the LVPP procedures, endowments and site stewardship programs, and education programs.

Comments/Questions:

- Eric Ritter (BLM): Is the LVPP for the APE or ADI? There may be potential indirect effects that should be covered in the Plan.
  Mike Kelly (AECOM): The Plan is for the ADI. Indirect effects are not covered in detail in the Plan due to access and other issues, but it will be taken into consideration in the revised LVPP.
- Les Anderson (Klamath Tribe): What is your tribal stewardship program? Will drones be used? Will there be a maintenance and monitoring form?
  Mike Kelly (AECOM): Stewardship is part of the Plan and we are looking for additional suggestions and ideas. Drones are also described in the Plan, especially during

decommission activities, as well as an observation form (as well as another form for project-related impacts).
Les Anderson (Klamath Tribe): Will there be funding available for restoration of a site that is impacted by erosion?
Kirk Ranzetta (AECOM): If a site is actively impacted by the new river course, then it would be subject to the HPMP, and it would be determined if maintenance or restoration would be used to arrest whatever erosion may be occurring at the site. A number of mitigation measures could be proposed in the HPMP, and KRRC would have to implement the measures once the license order is received. And, KRRC would have to demonstrate sufficient funds.

- Eric Ritter (BLM): Funding for local sheriff's department needs to be taken into consideration.
- Betty Hall (Shasta Nation): Lands should be transferred back to the Shasta.
  Alex Watts-Tobin (Karuk Tribe): Tribal entities are eligible to receive rights to land transfers.
- Brian Person (AECOM): Can lands be transferred to a private interest and not one of the two states?
  Kate Stenberg (CDM Smith): There must be a public interest to it, so a non-profit group might be able to make that case.
- Crystal Robinson (Quartz Valley Indian Reservation): The site protection measures may interplay with the Restoration Plan because there may be some ways that restoration can protect further erosion of a site.
  Brian Person (AECOM): The Plan addresses erosion resistance measures.

PROGRAMMATIC AGREEMENT

Review of Comments on the Whereas Statements

Kirk Ranzetta (AECOM) provided an update on the review of the Whereas Statements in the Programmatic Agreement (PA), as well as a review of comments received from BLM and SHPO. Specific comments on the Whereas Statements of the PA are discussed below.

Sarah Boyco (BLM) commented that the districts should be referred to by their formal names. Revisions were made and the PA now refers to the Redding District, the Klamath Falls Resource Area, and the Lakeview District, as opposed to calling them all districts.

Tracy Schwartz (OR SHPO) asked if BLM, USFS, and the Corps delegated FERC as the lead federal agency for the project. No changes have been proposed because these agencies have not provided in writing that they concede to FERC. It is also uncertain if the USFS and BLM have a Section 106 undertaking related to this project or if purview is strictly within existing resource management plans and the granting of archaeological permits. It needs to be determined if the agency's role in the project needs to be more specific or if the current Whereas Statements sufficiently define it.

Tracy Schwartz (OR SHPO) makes a statement about rewording a Whereas Statement that the Commission is consulted with the Oregon and California SHPOs. Tracy suggests just stating that the Commission is consulted with the Oregon and California SHPOs pursuant to 36 CFR 800 and are signatories to the PA (and cut out some of the references).

Tracy Schwartz (OR SHPO) asked since the BLM, USFS, and Corps are going to participate in the PA and have responsibilities under the agreement, why wouldn't they be an invited signatory. In the past, FERC has expressed the desire to keep the signatories as narrow as possible, particularly because of the Federal Power Act. They don't want to provide other federal agencies terminating authority over an agreement. They also don't want the applicant to have terminating

authority over an agreement. When FERC enters the process, it is suggested to inquire about the invited signatories to the agreement. Also, because the APE extends through tribal lands, shouldn't the THPOs of the respective tribal governments also be signatories to the agreement, particularly when the SHPOs are signatories.

The Confederated Tribes of Siletz Indians and the Resighini Rancheria were inadvertently omitted from the consulting party list in the Whereas Statement. Those tribes have been added to the statement.

A Whereas Statement will also be added that outlines what other consulting parties have been contacted to part of the consultation process. This includes: City of Yreka, Siskiyou County, Klamath County, California Preservation Foundation, Siskiyou County Museum, Klamath County Museum, Southern Oregon Historical Society, and Restore Oregon.

Another Whereas Statement has been added in regards to FERCs public outreach under NEPA/Section 106 process.

Tracy Schwartz (OR SHPO) inquired about the involvement of the Advisory Council on Historic Preservation (ACHP). The ACHP has not submitted a letter indicating that they are officially participating in consultation, but they have participated in calls for the CRWG. AECOM will ask the ACHP when that letter might be forthcoming.

Dennis Griffin (OR SHPO) inquired about the completion of the HPMP within six months of the order issuance. AECOM indicated the HPMP schedule is just a goal, and components of the HPMP will be reviewed during CRWG meetings.

Dennis Griffin (OR SHPO) commented about the IDP and the curation and collection of artifacts, particularly the distinction of different land owners (federal, non-federal public, private) when developing a collection and curation plan.

Comments/Questions:

- Eric Ritter (BLM): There isn't a Redding District Office; it is a Field Office. There is also an entire new structure for BLM for Region 10.
- Kate Stenberg (CDM Smith): BLM does have an undertaking. There will be some work near JC Boyle and there are some FERC activities that go a little outside of the FERC boundary (BLM ROW) and other direct actions that BLM needs to consider. No changes to a RMP.
- Tracy Schwartz (OR SHPO): When are we planning to engage FERC?
  Kirk Ranzetta (AECOM)/Kate Stenberg (CDM Smith): FERC is technically involved, and they are reviewing the transfer application, which transfers the ownership of the dams from PacifiCorp to KRRC. Once the FERC has reviewed the transfer application and are comfortable with KRRC's funds for dam removal, they will then review the surrender application. When FERC does that, they will begin the NEPA and Section 106 process, including formal consultation. It is anticipated that FERC will decide on the transfer order in early spring.

Review of Standard Provisions of the PA

Within a FERC PA, the HPMP is the most important document, as it describes the consultation process for identification and evaluation of historic properties and for the resolution of adverse effects.

The interim treatment of historic properties is the 6-month period between when the PA is initiated and when the HPMP will be accepted by the consulting parties. FERC will write in the PA that the Commission will follow Section 106 during those 6 months, under 36 CFR 800.4-7.

Coordination with other federal reviews: This provision may/may not be in the PA after FERC is involved. The provision is in the PA to provide flexibility in case another federal agency comes into the process and decides to use the PA for Section 106 compliance (e.g., the Corps).

FERC's dispute resolution process: Anyone involved in the project can file a complaint about Section 106 compliance to FERC (the Commission). FERC will take that complaint and distribute it to the other consulting parties and signatories, and then they will consult on it to see if they can gain resolution on it. If there isn't a resolution, the issue is forwarded to the ACHP, and the ACHP will respond within 30 days and will provide FERC with their perspective on the matter. FERC will take the ACHP's position into account and then the process moves forward. Change may or may not happen through the dispute resolution process.

Amendment of the Programmatic Agreement: Any consulting party or signatory can propose an amendment to the PA; however, all the signatories (FERC, ACHP, OR SHPO, CA SHPO, and any other signatory) must agree on the amendment. The amendment is filed with the ACHP.

Termination of the Programmatic Agreement: Only a signatory of the PA may elect to terminate the agreement.

Duration of the PA: FERC will make the time period consistent with however long they are involved with the project. When signs off that KRRC has no further responsibilities under the Federal Power Act for the decommissioning process, the PA would likely end. At minimum, the duration would be 10 years.

Effective Date: The effective date of the PA will be when all the signatories sign the agreement and when the license surrender order is filed by FERC.

Execution of this Programmatic Agreement in Counterparts: An agency can sign one page and it can be added to the agreement.

Review of HPMP Outline

The purpose of the HPMP is to ensure the identification and evaluation of historic properties, and if there is a potential for adverse effects, to ensure that those adverse effects are resolved. A HPMP may include measures to avoid resources, minimize impacts, or provide treatment measures if an adverse effect can't be avoided. In addition, the HPMP is the conduit for consultation.

The current "signatories" of the PA include FERC, OR SHPO, CA SHPO, and the ACHP. The consulting parties and the other federal agencies involved in the project can also sign the agreement as a "concurring party". By signing as a concurring party, the party is agreeing to the contents of the PA, but it doesn't commit those organizations or governments to do anything within the confines of the PA.

FERC has published guidelines on what a HPMP is required to contain, including the project location and description; regulatory context; cultural context (precontact, ethnographic, and historic periods); previous cultural resources studies, known cultural resources, and data gaps;

delineation of the APE and the ADI (area of direct impacts); identification of historic properties, including NRHP, state, and local significance.

The HPMP will describe the different project effects, including erosion; looting and vandalism; access; and demolition of the structures. Any pre-construction activities may be identified in this section of the HPMP, as well as the decommissioning process (i.e., demolition of the dams and construction of access road) and the post-decommissioning and restoration activities. Recreational use and the potential for looting and vandalism would be identified within the HPMP and the potential for effects.

Once project effects have been identified, measures to avoid, minimize, or mitigate any adverse impacts would be described in the HPMP. The consulting parties would be able to provide input on the types of mitigation at both the site-specific level and more broad creative mitigation. Types of resources that may have avoidance, minimization, or mitigation measures may include archaeological resources, traditional cultural properties, tribal cultural resources, and historic structures.

Management measures for historic properties: FERC will be interested in how KRRC will manage the coordination and protection of cultural resources once pre-construction and decommissioning activities occur. Construction personnel and cultural awareness training, as well as confidentiality provisions to protect known cultural resources under Section 304, would be outlined in this section. Archaeological site protection measures, a plan for collection and curation, and protocols for inadvertent discoveries would be outlined. There will also be opportunities for interpretation and public education.

Consultation will be a critical part of the agreement. There will be a consultation period for identification and evaluation of historic properties, and consultation will occur during the development of mitigation measures to resolve adverse effects.

Implementation Procedures: KRRC would prepare annual reports to show progress over the 10-year period. There is typically an annual meeting to touch base on the PA and the HPMP.

Comments/Questions:

- Eric Ritter (BLM): Are the tribes a concurring party?
  Kirk Ranzetta (AECOM): Correct. However, if FERC determines that the APE is extending through tribal lands, then several tribes could potentially be signatories.
- Scott Quinn (Karuk Tribe): Is there any risk when signing the PA?
  Kirk Ranzetta (AECOM): Litigation is usually with the lead federal agency. The federal agency is ultimately responsible for all decisions.
- Crystal Robinson (Quartz Valley Indian Reservation): Who decides the consulting parties?
  Kirk Ranzetta (AECOM): Any organization or agency who has been approached by the KRRC with an interest in cultural resources is being considered a consulting party.
- Jim Prevatt (Shasta Nation): Why wouldn't the major tribes in the area be a signatory?
  Kirk Ranzetta (AECOM): It has to do with the definition of Native American tribes in Section 106, as well as having a THPO. When the HPMP is negotiated, there will be many opportunities for the consulting parties, including the tribes, SHPOs, and ACHP, to provide their opinions to FERC. FERC will have to consider any comments.
- Jeanne Goetz (USFS)/Mike Kelly (AECOM): The level of protection is the same for a cultural resource that has been determined eligible for listing in the NRHP and one that has been listed on the National Register.

- Eric Ritter (BLM): Is the previous HPMP prepared by PacifiCorp being considered?
  AECOM: Yes.
- Eric Ritter (BLM): Will the HPMP be good until the lands are transferred to the state?
  Kirk Ranzetta (AECOM): The HPMP will be applicable for the duration of FERC's involvement and/or if another agency decides to use the PA for their own compliance.
- Kate Stenberg (CDM Smith): Is there a way for the Corps to adopt a portion of the agreement?
  Kirk Ranzetta (AECOM): The Corps could join in to the PA and state the limits of their jurisdiction and authority (i.e., the permit area for the Corps could be the limits). The Corps could also choose to be independently responsible for Section 106.
- Eric Ritter (BLM): Because PacifiCorp will still own land, will they also have some oversight?
  Mike Kelly (AECOM)/Russ Howison (PacifiCorp): PacifiCorp will be retaining the Parcel A lands, but those are outside of the FERC boundary. There will be cultural resources within the indirect APE that may be on Parcel A lands, and PacifiCorp would have a role in that process.
- Tracy Schwartz (OR SHPO): FERC may be releasing a new PA template.

GOALS FOR NEXT MEETING

- Content and Implementation of the HPMP
- Interim Treatment of Historic Properties
- Phase II Decisions and Scheduling

ACTION ITEMS

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
Looting and Vandalism Protection Plan	AECOM to submit to Oregon SHPO via Go Digital	Review Plan by end of the month
Monitoring/Inadvertent Discovery Plan	Comments will be distributed after November 15, 2019	Comments due back November 15, 2109
Recreation Plan	Comments will be distributed after XXXXXX.	Comments on the Recreation Plan are due on XXXXXX.
Historic Property Historic Management Plan	HPMP stipulations will be distributed XXXXX.	Review stipulation within 30 days of submittal to CRWG.

The meeting ended at 4:00 pm.

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Meeting Minutes

	Klamath River Renewal Project KRRC Cultural Resources Working Group (CRWG) Meeting
Date	December 12, 2019
Time	10:00-11:30 am PST
Location	Teleconference
Attendees	AECOM: Mike Kelly, Kirk Ranzetta, Elena Nilsson, Sarah McDaniel, Stephanie Butler BLM-Klamath Falls: Sara Boyco BLM-Redding: Eric Ritter CA SHPO: Brendan Greenaway CDM Smith: Kate Stenberg Karuk Tribe: Alex Watts-Tobin KRRC: Mark Bransom OR SHPO: Tracy Schwartz PacifiCorp: Russ Howison USFS Klamath NF: Jeanne Goetz Yurok Tribe: Rosie Clayburn
Prepared by	AECOM
Distribution	KRRC Cultural Resources Working Group (CRWG)

MEETING OBJECTIVE

To continue consultation between cultural resources stakeholders with the Klamath River Renewal Corporation (KRRC) and its technical team, AECOM. This month's meeting was focused on continued review of the Programmatic Agreement.

REVIEW OF OCTOBER 2019 MEETING AND ACTION ITEMS

KRRC requested comments as soon as possible on the Recreation Plan. No comments have been received from the CRWG.

KRRC requested comments on the Monitoring and Inadvertent Discovery Plan. The comment period was extended to November 15. A final draft of the Plan is on hold pending receipt of comments.

Comments have been received from BLM and Oregon SHPO on the PA. Additional information on FERC and other federal agency responsibilities for the PA has not been obtained.

PROJECT UPDATES

Mike Kelly (AECOM) provided a project update:

- The comment period for the Monitoring and Inadvertent Discovery Plan was extended to November 15; no input has been received from Tribes.
- Ethnographic summaries have been submitted to each Tribe; no input has been received from Tribes.
- The Phase II Evaluation Plan is currently being revised to minimize impacts to sites. KRRC is meeting with Tribes individually to reach a consensus on the level of effort. Fieldwork will occur in Spring 2020. The Phase II Plan has been revised to minimize impacts to sites.
- Comments on the Looting and Vandalism Protection Plan were requested by November 23. Comments have been received by OR SHPO.
- FERC Status Report. In early 2020, KRRC plans to submit a report to advise FERC on the current status of consultation.
- CRWG Meetings and Tribal Caucus: Starting in January 2020, KRRC will transition from hosting monthly Tribal Caucus and CRWG meetings to individual tribal and agency meetings. Several tribes have requested this.

Comments/Questions:

- Mark Bransom (KRRC): The Status Report will be submitted to FERC in early 2020. Although the report will be broad and include other matters leading toward FERC's consideration in addition to cultural resources, it will include cultural resources topics.
- Rosie Clayburn (Yurok): Is there anything you need from us for the status report?
- Mark Bransom (KRRC): Comments on these outstanding reports would be helpful to help with FERC's engagement.
- Rosie Clayburn (Yurok): I'm okay with moving away from Tribal Caucus, but the CRWG meetings include agencies and I feel those are helpful because we can hear SHPO comments and don't' want to be isolated into our little bubbles. Can we still do that?
- Mark Bransom (KRRC): We can consider a variety of approaches—like as needed CRWG meetings, or written correspondence-- to give folks opportunity to stay connected.

PROGRAMMATIC AGREEMENT

Review of Standard Provisions

Kirk Ranzetta (AECOM) provided an update on the review of the Standard Provisions in the Programmatic Agreement (PA). Accomplishments to date include:

- Completed Review of Whereas Statements
- Review of BLM and OR SHPO Comments
- Review of Standard Provisions of the PA
- Review of HPMP Structure and Content

Kirk noted that the number of provisions have been modified by FERC in consultation with Oregon and California SHPOs for recent projects. Some examples include Prospect No. 3 Hydroelectric Relicensing - Oregon (2019), Lassen Lodge Hydroelectric Project - California (2019) and Swan Lake North Pumped Storage Hydroelectric Project - Oregon (2019). These projects serve as recent examples and help inform how to approach the standard provisions to this surrender license process. KRRC is modifying the standard FERC agreement documents given OR and CA SHPO concerns by using similar language presented in these recent approved FERC PAs.

Stipulation III. Interim Treatment of Historic Properties. This outlines the process for complying with Section 106 for the gap between the Surrender Order issuance and HPMP approval. The interim treatment of historic properties is the 6-month period between when the PA is initiated and

when the HPMP will be accepted by the consulting parties. FERC will write in the PA that the Commission will follow Section 106 during those 6 months, under 36 CFR 800.4-7.

Stipulation IV. Coordination with Other Federal Reviews. This provision would allow a federal agency to accept the PA and integrate it into its Section 106 decisional process. This provision may/may not be in the PA after FERC is involved. The provision is in the PA to provide flexibility in case another federal agency comes into the process and decides to use the PA for Section 106 compliance (e.g., the Corps).

Stipulation V. Dispute Resolution. Objections can be filed by any federal agency, ACHP, Tribes, SHPO, or License Applicant to FERC. FERC will take that complaint and distribute it to the other consulting parties and signatories, and then they will consult on it to see if they can gain resolution on it. If there isn't a resolution, the issue is forwarded to the ACHP, and the ACHP will respond within 30 days and will provide FERC with their perspective on the matter. FERC will take the ACHP's position into account and then the process moves forward. Change may or may not happen through the dispute resolution process.

Stipulation VI. Amendment to the PA. Any consulting party or signatory can propose an amendment to the PA; however, all the signatories (FERC, ACHP, OR SHPO, CA SHPO, and any other signatory) must agree on the amendment. The amendment is filed with the ACHP.

Stipulation VII. Termination of the PA. If any signatory determines that the PA terms can't be carried out, continue consultation and attempt amendment. If no resolution is reached, the agreement is terminated and FERC can either execute a new PA or consult with the ACHP. Only a signatory of the PA may elect to terminate the agreement.

Stipulation VIII. Duration of the Agreement. Addresses the duration of the surrender order and the temporal limits of FERC's oversight responsibilities. FERC will make the time period consistent with however long they are involved with the project. When signs off that KRRC has no further responsibilities under the Federal Power Act for the decommissioning process, the PA would likely end. At minimum, the duration would be 10 years.

Stipulation IX. Effective Date. The effective date of the PA will be when all the signatories sign the agreement and when the license surrender order is filed by FERC.

Stipulation X: Execution of this PA in Counterparts. Allows for signatures to be collected individually on different pages.

The current "signatories" of the PA include FERC, OR SHPO, CA SHPO, and the ACHP. The consulting parties and the other federal agencies involved in the project can also sign the agreement as a "concurring party". By signing as a concurring party, the party is agreeing to the contents of the PA, but it doesn't commit those organizations or governments to do anything within the confines of the PA.

Comments/Questions

- Brendan Greenaway (CA SHPO): We haven't seen the draft of the PA yet.
- Kirk Ranzetta (AECOM): We haven't formally submitted it but circulated an earlier draft. Just to clarify, we are not asking for formal comments yet.
- Eric Ritter (BLM): Under Stipulation VI (Amendment to the PA), are non-federally recognized tribes able to amend the PA?

- Kirk Ranzetta (AECOM): Yes, there is language for “any party.”
- Brendan Greenaway (CA SHPO): Typically parties that can amend are not Consulting Parties but are Invited Signatories and Signatories have amendment termination rights per the regulations.
- Kirk Ranzetta (AECOM): I don’t think FERC because of the Federal Power Act doesn’t like to have “Invited Signatories”, including the Applicant. The problem is it may allow the Applicant to terminate the PA—basically, allow a back-door for the Applicant to get out of the relicense or surrender, so that ‘s why FERC maintains that role for Invited Signatories.
- Brendan Greenaway (CA SHPO): The problem is that FERC has a large role. It’s something to be mindful of and we’ll comment on it.
- Tracy Schwartz (OR SHPO): Has the ACHP reviewed the first draft?
- Kirk Ranzetta (AECOM): They will look at this draft version. Jon Eddins didn’t provide comments on the earlier version.
- Eric Ritter (BLM) and Rosie Clayburn (Yurok): Does Kiewit have anyone on board with a cultural resources background? And if so, when will we start engaging with them?
- Mike Kelly (AECOM): Yes, we will be in including them in future meetings. We haven’t met yet but will be soon.
- Tracy Schwartz (OR SHPO): Where do built environment resources fall into this timeline?
- Kirk Ranzetta (AECOM): There will be a report, separate from the Phase II archaeological report due to delays with the Phase II evaluation. The report is underway. Also, we’ve reached out other consulting parties as part of the consultation process, including City of Yreka, Siskiyou County, Klamath County, California Preservation Foundation, Siskiyou County Museum, Klamath County Museum, Southern Oregon Historical Society, and Restore Oregon. No response yet, but we’ll follow up again.
- Tracy Schwartz (OR SHPO): I think that’s important, thank you.
- Brendan Greenaway (CA SHPO): When will we see a draft of the PA?
- Kirk Ranzetta (AECOM): KRRC is reviewing the current draft, but we will circulate it in a week or so.
- Alex Watts-Tobin (Karuk): I have extra comments on the LVPP that I would like to share. What is the update on Phase II?
- Mike Kelly (AECOM): We are currently making revisions to the Phase II plan by minimizing impacts to sites. We will prepare a Status Report to FERC and KRRC will be making a decision on how to move forward very soon.
- Eric Ritter (BLM): OR SHPO commented, are there comments from CA SHPO?
- Brendan Greenaway (CA SHPO): Yes, we will be sure to comment when it is available.
- Rosie Clayburn (Yurok): We did provide comments on the ethnographic summary. Do you need me to resend?
- Elena Nilsson (AECOM): Yes, please resend.
- Alex Watts-Tobin (Karuk): I’ll give you comments on the Karuk ethnography in the next few days. The analysis is too prone to quoting anthropologists rather than native peoples.

ACTION ITEMS

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
CA SHPO needs Draft PA	AECOM to submit to CA SHPO	-
Distribute Powerpoint	AECOM to email meeting Powerpoint to CRWG	-
Comment on Draft PA	-	Provide comments
Comment on LVPP	-	Provide comments

Action Item	KRRC/AECOM Action	CRWG/Tribal Action
Comment on Ethnographies	-	Rosie stated she will resend. Alex stated he will send.

The meeting ended at 11:30 am.

NEXT STEPS

- Complete draft documents
- Prepare Status Report for FERC in early 2020
- Schedule individual Tribal meetings in early 2020
- Reach final decision on Phase II evaluation approach
- Implement Phase II evaluation

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