

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Klamath River Renewal Corporation

Project No. 14803-001

**LICENSE SURRENDER ORDER
LOWER KLAMATH PROJECT**

Recreation Facilities Plan

December 2022



Lower Klamath Project

FERC NO. 14803

Recreation Facilities Plan

December 2022



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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
ALSA	Amended License Surrender Application
ATV	all-terrain vehicle
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CDFG	California Department of Fish and Game
cfs	cubic feet per second
DDP	Definite Decommissioning Plan
DOI	United States Department of Interior
FERC	Federal Energy Regulatory Commission
KHSA	Klamath Hydroelectric Settlement Agreement
KRRC	Klamath River Renewal Corporation
NEPA	National Environmental Policy Act
OHV	off-highway vehicle
RV	recreational vehicle
SWRCB	State Water Resources Control Board

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Chapter 1: Introduction

1. INTRODUCTION

The 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 (Figure 1-1). Specifically, the reach between J.C. Boyle dam and Iron Gate dam is known as the Hydroelectric Reach. In September of 2016, the Klamath River Renewal Corporation (Renewal Corporation) filed an *Application for Surrender of License for Major Project and Removal of Project Works*, FERC Project Nos. 2082-063 & 14803-001 (License Surrender). The Renewal Corporation filed the License Surrender Application as the dam removal entity for the purpose of implementing the Klamath River Hydroelectric Settlement (KHSA). In November of 2020, the Renewal Corporation filed its Definite Decommissioning Plan (DDP) as Exhibits A-1 and A-2 to its Amended License Surrender Application (ALSA). The DDP 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 (Proposed Action). In November 2022, the Commission approved the ALSA and issued the License Surrender Order (LSO) approving facility removal and habitat restoration.

The Proposed Action includes the deconstruction of the J.C. Boyle Dam and Powerhouse (Figure 1-2), Copco No. 1 Dam and Powerhouse (Figure 1-3), Copco No. 2 Dam and Powerhouse (Figure 1-4), and Iron Gate Dam and Powerhouse (Figure 1-5), 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 cofferdams, portions of the Iron Gate Fish Hatchery, residential facilities, and warehouses. Facility removal will be completed within an approximately 20-month period.

This Recreation Facilities Plan identifies measures to manage, remove, or modify recreation facilities that the Renewal Corporation will implement as part of the Proposed Action. The Renewal Corporation prepared 16 Management Plans to implement the DDP, and the Commission reviewed and approved these plans as conditions of its License Surrender Order. These Management Plans were developed in consultation with federal, state, and county governments and tribes.

The LSO Ordering Paragraph (KK) approves the Recreation Facilities Plan as filed on December 14, 2021. The Renewal Corporation now submits limited modifications to this approved plan as stated in Table 1-2. These modifications comply with the three requirements in Ordering Paragraph (KK); include refinement in means and methods due to further consultation with the California State Water Resources Control Board pursuant to the requirements in Ordering Paragraph (E); and reflect further consultation with American Whitewater and Upper Klamath Outfitters Association. Table 1-2 herein shows the material modifications to the approved version of this Recreation Facilities Plan. An updated Consultation Record for the Recreation Facilities Plan is included as Appendix C.

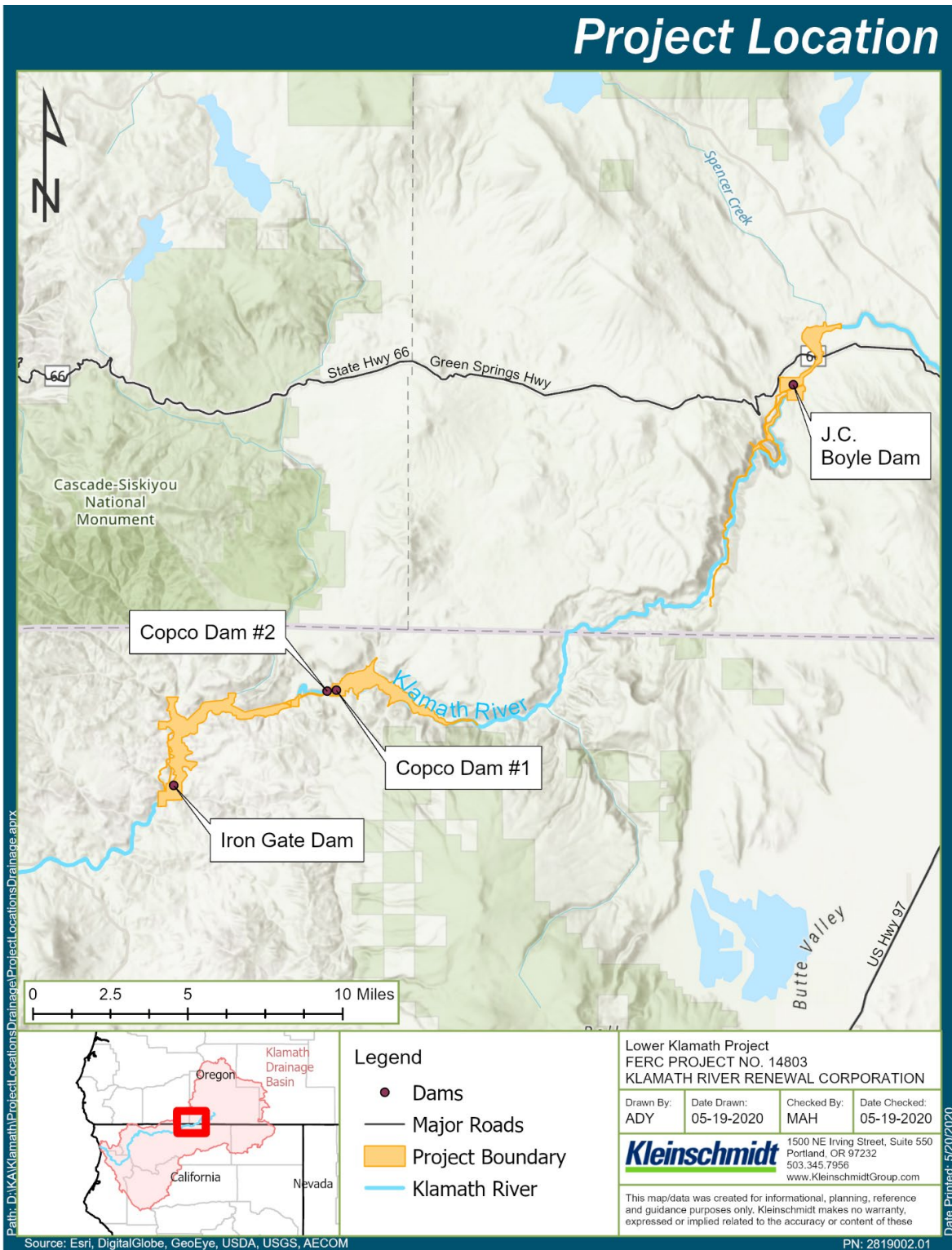


Figure 1-1: Lower Klamath Project Location

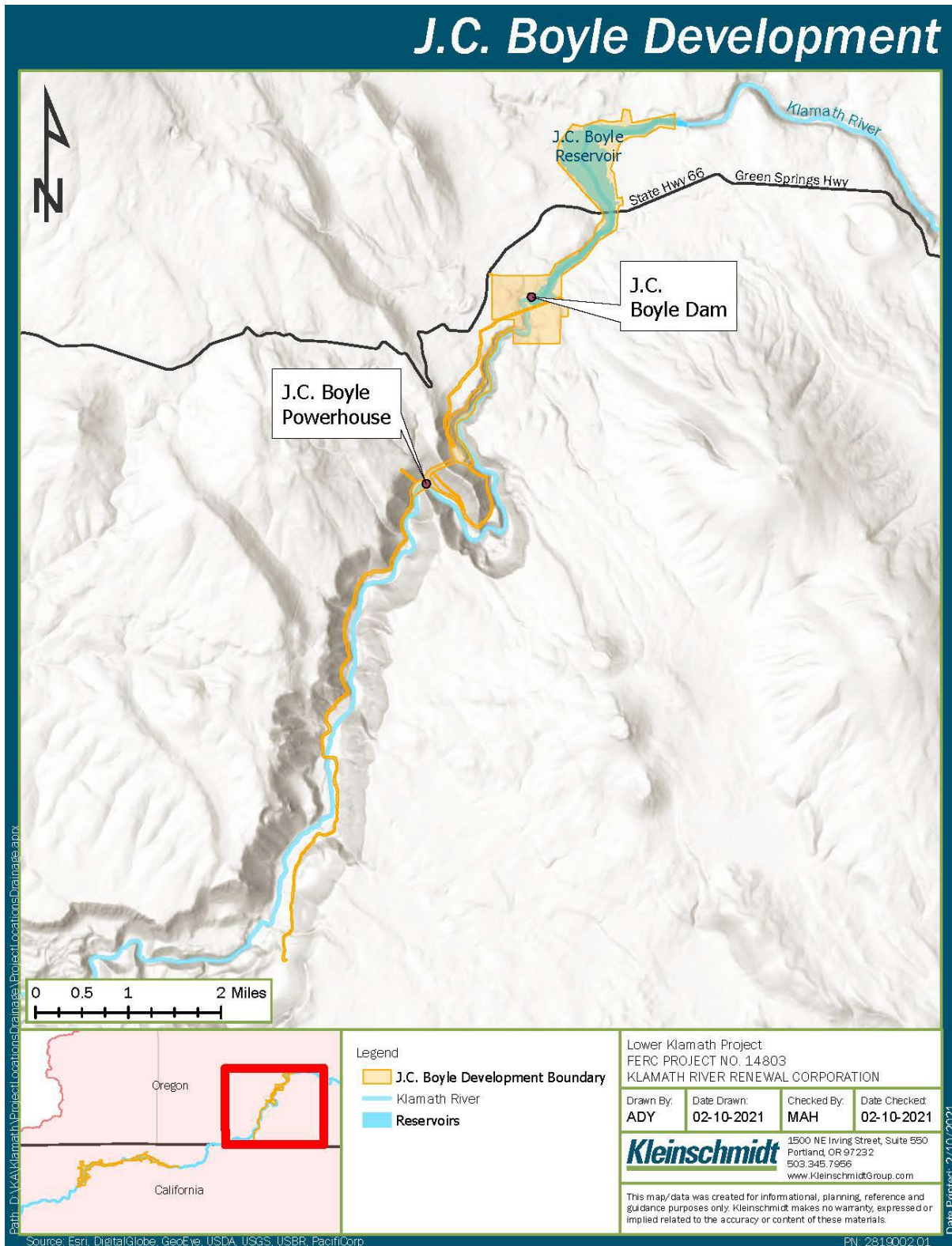


Figure 1-2: J.C. Boyle Development Facility Details

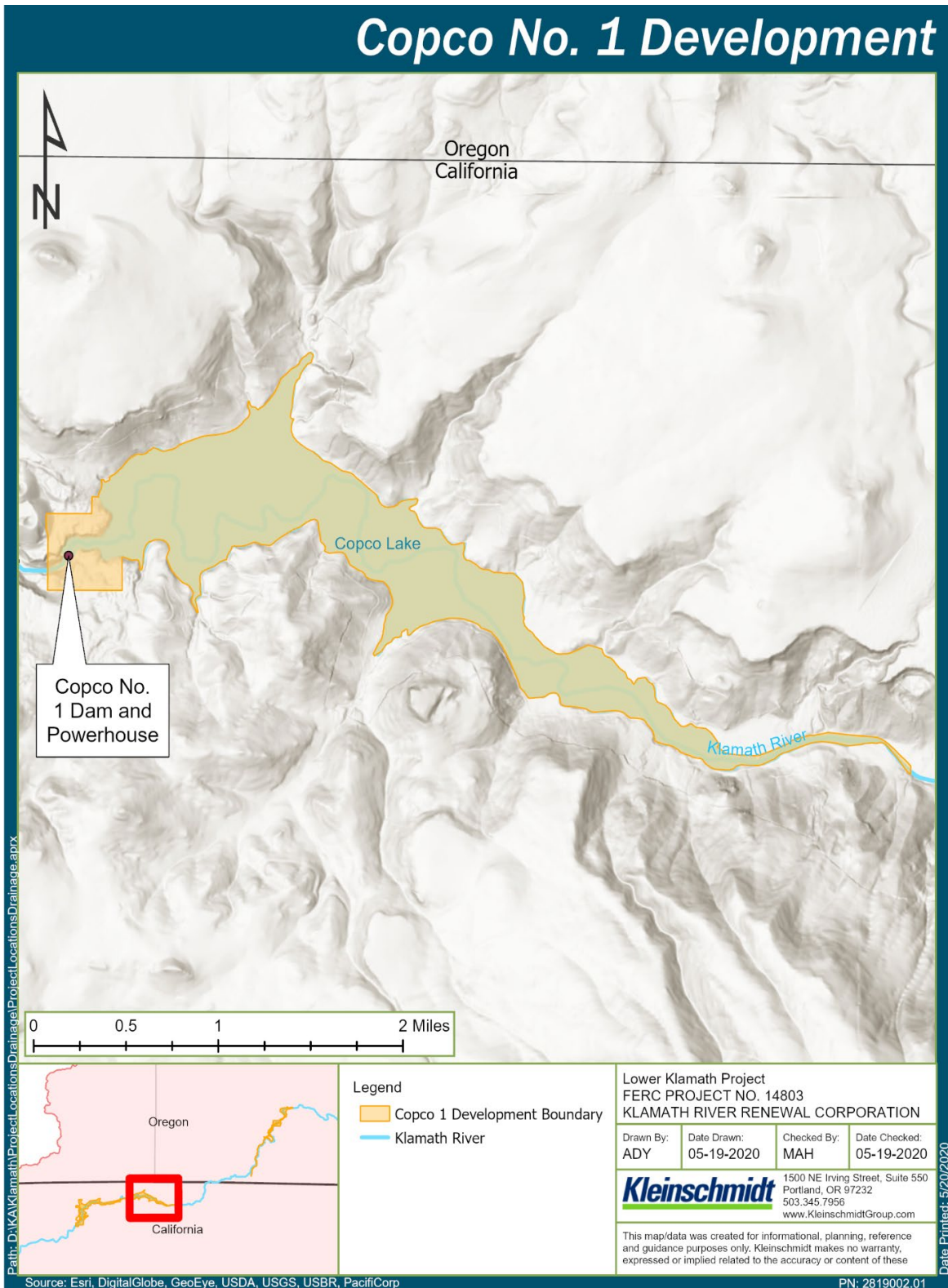


Figure 1-3: Copco No.1 Development Facility Details

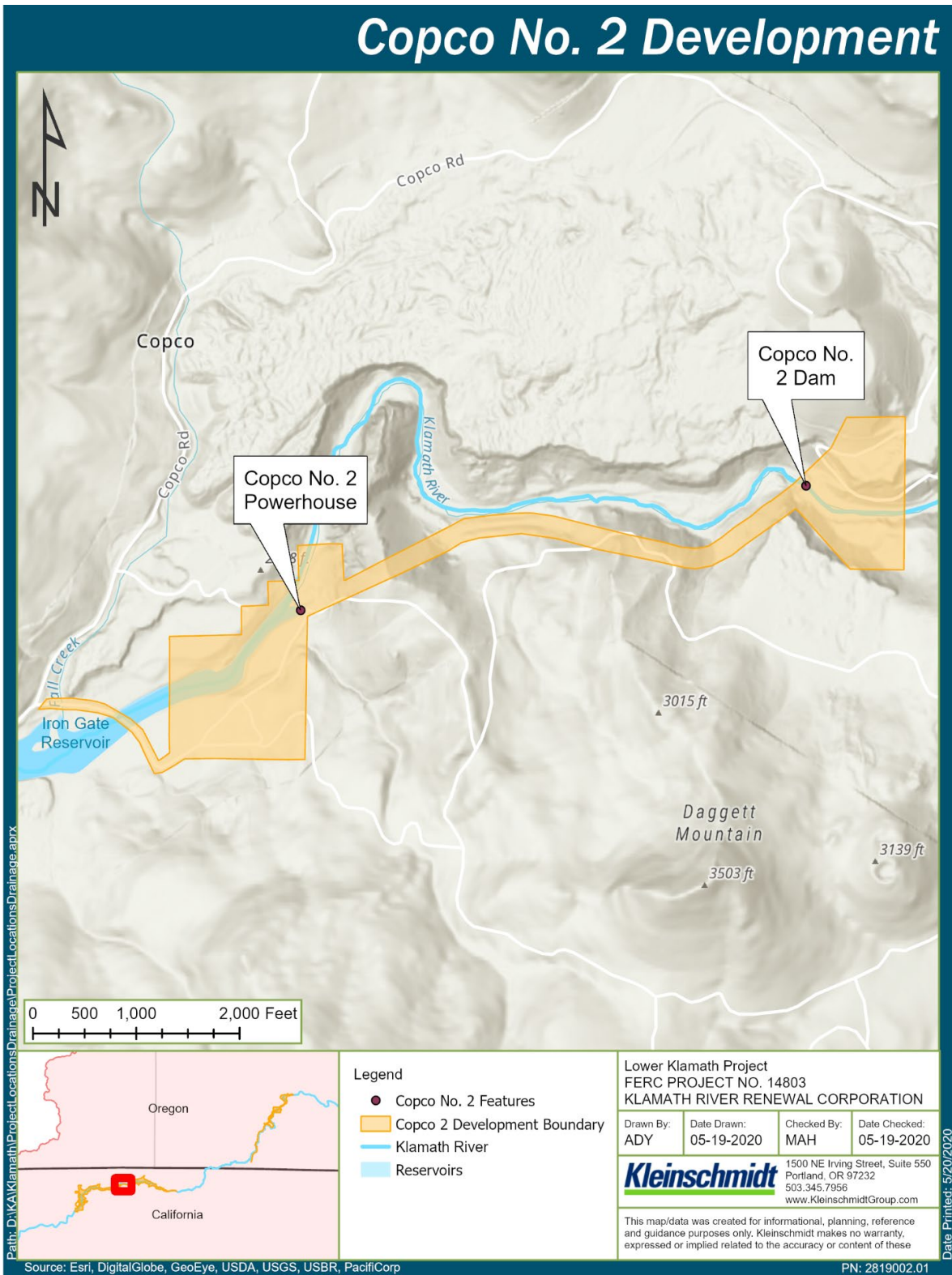


Figure 1-4: Copco No.2 Development Facility Details

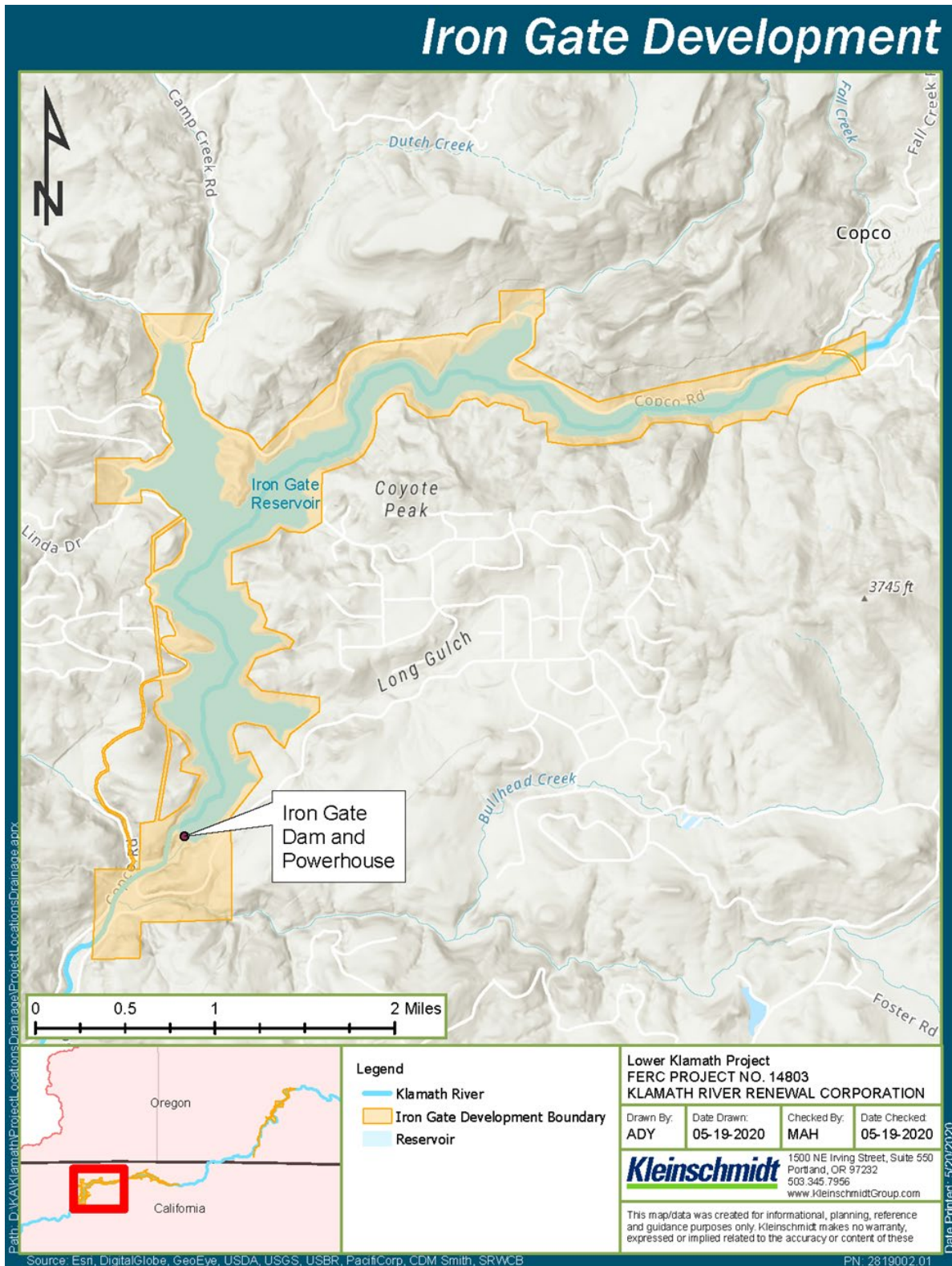


Figure 1-5: Iron Gate Development Facility Details

1.1 Background

The Renewal Corporation developed this Recreation Facilities Plan through a series of stakeholder and regulatory agency meetings since 2017. The Renewal Corporation filed the initial draft plan with the Commission in February 2021 and a revised plan in December 2021. This plan replaces the latter version. The Recreation Facilities Plan reflects the 100% design and Proposed Action. Any previous recreation plan filings (2018) were reflective of a conceptual Proposed Action and should no longer be considered representative for the Commission’s review. The Renewal Corporation has developed this plan to address measures that will be required with respect to existing facilities as conditions of the License Surrender Order, while also describing new recreation enhancement sites that will be undertaken by the Renewal Corporation and the States of California and Oregon.

1.2 Regulatory Context

As described in Table 1-1, the Recreation Facilities Plan is one of 16 Management Plans implementing the DDP.

Table 1-1. Lower Klamath River Management Plans

1. Aquatic Resources Management Plan	9. Remaining Facilities Plan
2. Construction Management Plan	10. Reservoir Area Management Plan
3. Erosion and Sediment Control Plan	11. Reservoir Drawdown and Diversion Plan
4. Hatcheries Management and Operations Plan	12. Sediment Deposit Remediation Plan
5. Health and Safety Plan	13. Terrestrial and Wildlife Management Plan
6. Historic Properties Management Plan	14. Waste Disposal and Hazardous Materials Management Plan
7. Interim Hydropower Operations Plan	15. Water Quality Monitoring and Management Plan
8. Recreation Facilities Plan	16. Water Supply Management Plan

The Reservoir Drawdown and Diversion Plan, Water Quality Monitoring and Management Plan, Construction Management Plan, and Health and Safety Plan also contain actions related to recreation facilities and/or water quality sampling.

1.3 Purpose of the Recreation Facilities Plan

The purpose of the Recreation Facilities Plan is to (a) provide information on the existing recreation sites within the Lower Klamath Project, (b) describe the disposition approach to these recreation sites, and (c)

describe the management measures that the Renewal Corporation will implement as part of the Proposed Action for recreation user safety during dam removal. The Recreation Facilities Plan also identifies new recreation enhancements that will occur when the States of Oregon and California, as the successor owners of “Parcel B” lands post-surrender, determine the appropriate time for such development.

1.4 Organizational Structure

Section 2 (Existing Conditions) describes the general Klamath River region and existing recreation resources between J.C. Boyle Reservoir and Iron Gate Dam. Section 3 (Project Description and Anticipated River Conditions) provides a brief description of the Proposed Action and anticipated river conditions following its implementation. Section 4 (Future Disposition of Recreation Facilities and Sites) describes the proposed disposition of recreation facilities at existing recreation sites within the FERC Project Boundary, as well as anticipated disposition of recreation sites outside of the FERC Project Boundary. Section 5 (Recreation User Safety, Monitoring and Reporting) describes recreation management measures included in the Proposed Action that the Renewal Corporation will implement as enforceable obligations of the License Surrender Order. The Renewal Corporation proposes that the License Surrender Order requires these measures. Section 6 (New Recreation Enhancement Sites) describes new recreation enhancement sites to be developed by the Renewal Corporation and the States of Oregon and California. The Renewal Corporation will provide subsequent notice to the Commission before such development. The Renewal Corporation proposes that a License Surrender Order authorize development of these sites on this condition, as they would be beneficial for future uses of the Klamath River but are not necessary for License Surrender.

1.5 Specific Regulatory Interests

The Renewal Corporation considered the following regulatory interests in the development of the Recreation Facilities Plan:

- California Section 401 Water Quality Certification
- California Department of Fish and Wildlife Memorandum of Understanding
- Oregon Section 401 Water Quality Certificate
- Oregon Memorandum of Understanding
- Federal Energy Regulatory Commission Final Environmental Impact Statement
- Federal Energy Regulatory Commission License Surrender Order

1.6 Modifications to the Approved Plan

The Renewal Corporation has modified the December 2021 version of this plan in the following material respects to comply with the November 17, 2022, License Surrender Order.

Table 1-2: Modifications to the Approved Plan

SECTION	MODIFICATIONS
Section 3.1 and 3.2.2	<ul style="list-style-type: none"> Revised language to address remaining construction-related debris (i.e., certain boulders) in the river at the Sidecast Slide location.
Section 3.2.2 and 5.4	<ul style="list-style-type: none"> Revised language to indicate that the Renewal Corporation will consult with American Whitewater to schedule construction activities and access restrictions during construction.
Section 3.2.3	<ul style="list-style-type: none"> Revised language to address removal of encroaching vegetation growth within the river channel in the Copco No. 2 Bypass Reach. Revised language to clarify that any tree removal work in the Copco No. 2 Bypass Reach will be included in the Recreation Facilities Plan Annual Report.
Section 5.2 and 5.4	<ul style="list-style-type: none"> Revised the Plan to indicate that all signage will be posted in English, Spanish and Hmong.
Section 5.5.1.2	<ul style="list-style-type: none"> Revised language to clarify that existing Project recreation facilities with water contact will be sampled during the pre-drawdown year. Revised language to clarify that the Renewal Corporation will conduct fecal coliform sampling twice per year at each active water contact recreation site until the site is transferred to a new owner, as well as monthly microcystin sampling (May-October) at those sites in the year prior to drawdown.
Section 5.5.3	<ul style="list-style-type: none"> Revised language to clarify that that microcystin exceedances will trigger public notices at recreation facilities and that such exceedances and notices will be reported to the SWRCB.
Section 5.4	<ul style="list-style-type: none"> Revised language to include protocols for consultation with the Upper Klamath Outfitters Associations (UKOA) regarding schedule for construction activities.
Section 6	<ul style="list-style-type: none"> Revised language to indicate that future recreation sites will also be developed in consultation with the Shasta Indian Nation and Klamath Tribes, and that the Renewal Corporation will consult with the Shasta Indian Nation and any other interested Tribes regarding the naming of those sites.
Section 6.1	<ul style="list-style-type: none"> Added language to a) specify an approach to the Renewal Corporation’s plan to secure funding for the construction and maintenance of the additional river access sites; and

SECTION	MODIFICATIONS
	b) clarify that the planned river access points are within the existing reservoir footprint.

1.7 Regulatory Approval

The Renewal Corporation will implement this Recreation Facilities Plan as approved by the Commission in the License Surrender Order. The Renewal Corporation will obtain and report to the Commission any required approvals from other agencies.

1.8 Reporting

By April 15 of each year, the Renewal Corporation will prepare and submit to the Commission an Annual Report which will include information pertaining to implementation of the Recreation Facilities Plan. The Renewal Corporation will also submit this report to the State Water Resources Control Board (SWRCB).



Chapter 2: Existing Conditions

2. EXISTING CONDITIONS

Section 2 describes the general Klamath River region, existing recreation resources between J.C. Boyle Reservoir and Iron Gate Dam that the Project will impact, as well as existing recreation resources between J.C. Boyle Reservoir and Keno Dam. While the recreation resources between J.C. Boyle Reservoir and Keno Dam are not directly affected by the Project, the Renewal Corporation, in consultation with stakeholders, identified potential locations for access sites in this area. The description of recreation resources is organized by hydropower development (J.C. Boyle, Copco No. 1 and No. 2, and Iron Gate) and includes a description of the existing public recreation sites, opportunities, and settings for both reservoir- and river-related recreation. Figure 2-1 presents a map of the existing recreation sites between J.C. Boyle Reservoir and Iron Gate Dam. Detailed maps of existing recreation sites by applicable hydropower development area can be found in the respective sub-sections that follow.

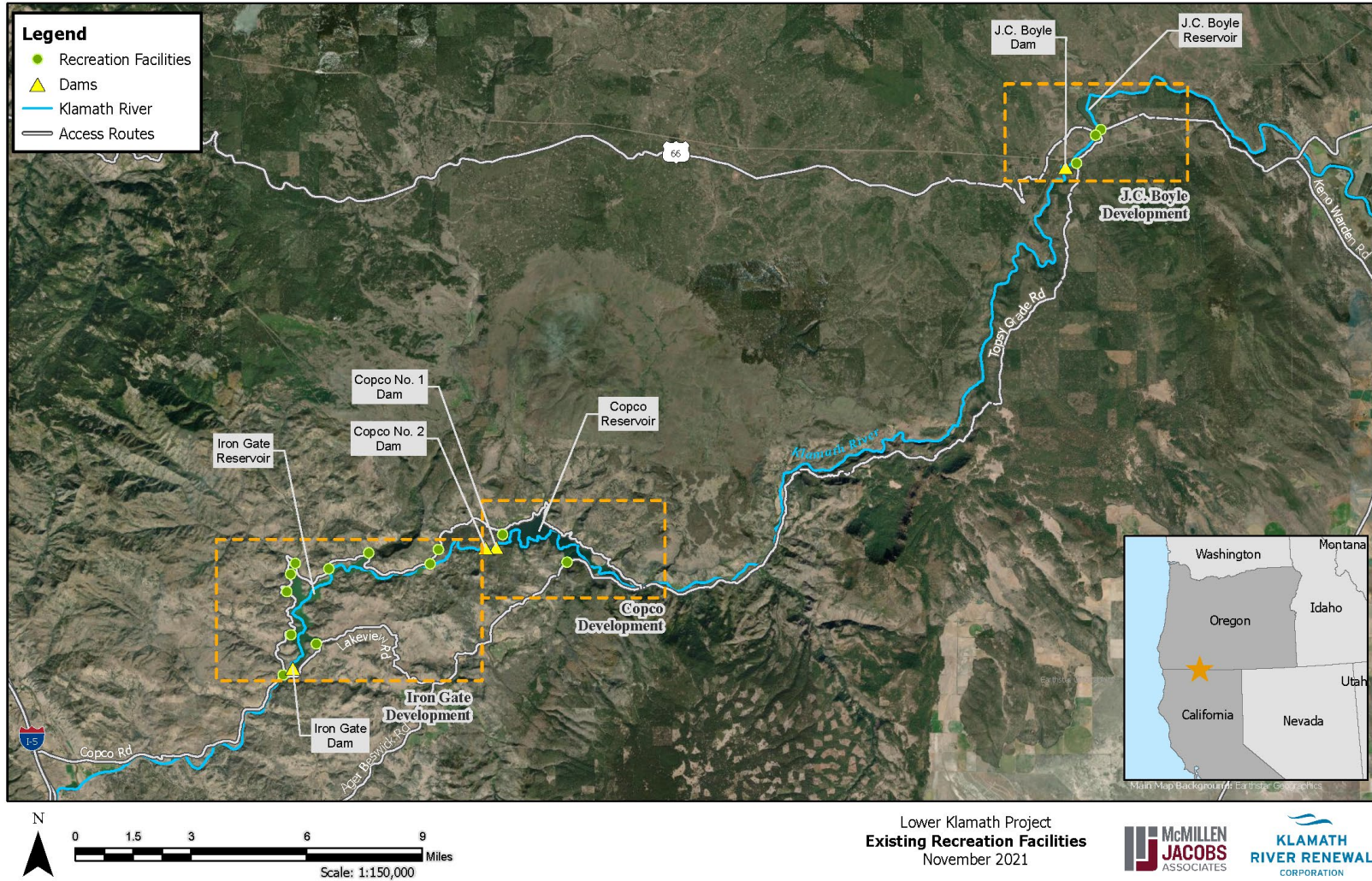


Figure 2-1: Overview of Existing Recreation Sites

2.1 Klamath River Area

The Klamath River runs from southern Oregon through northern California and out to the Pacific Ocean at the town of Klamath. The Project area portion of the Klamath River begins in Oregon near the town of Keno on Oregon State Route 66 (J.C. Boyle Reservoir) and ends in California below Iron Gate dam with the nearest town being Hornbrook.

The setting of the Klamath River draws residents and non-local visitors to the Project area to experience the remote character and valued scenery within the Klamath River Basin. Though there is no immediate large resident population within the Project area, the Project area is readily accessible and near a large population in southern Oregon and about a half-day drive from Sacramento, California. The Klamath River recreation area within the Project area is located about 60 miles from the local population centers of Ashland within the Rogue Valley in Oregon, and Yreka, California off the Interstate 5 corridor. The northern section of the Project area is located within 35 miles of the City of Klamath Falls and within 80 miles of Ashland, Oregon. The middle portion of the Project area is difficult to access by land due to unimproved roads, and remote location within the Hell's Corner reach of the Klamath River.

Currently, the Klamath River within the Project area is a source of water for agriculture users upstream of Keno Dam and is very popular for recreation throughout the watershed. With its rugged setting and difficult rapids, the river within the Project area is used extensively by kayakers, river rafters and outfitters. Fishing is also popular in many forms along the river, including drift boat fishing, fly fishing, bank fishing, etc.

The Klamath River is very important for anadromous fish migration, which is a major food source for Native Americans who have lived in the Klamath River Basin for thousands of years. The Klamath River Canyon was a major center for settlement, salmon procurement, and trade for the Klamath and Modoc Indians. The entire river corridor is identified as a “riverscape”—a type of cultural or ethnographic landscape—because of the relationship between the Klamath Tribes, Shasta, Karuk, Hoopa, and Yurok and the river and its resources. The riverscape includes village, hunting, gathering, fishing, and spiritual locations on terraces and benches along the river, as well as the river itself and its natural resources. Several ceremonies along the river were, and continue to be, conducted to honor earth and creator and to ensure harvest of fish, and are attended by more than one Tribe.

Euro-American settlement in the Klamath River watershed increased in the late 1800s when mining and logging attracted settlers to the area. Hydroelectric development began in 1891 in the Klamath Basin. Hydropower supported the increasing power needs of irrigation and lumber mills and an influx of military personnel stationed at Medford and Klamath Falls. The historic sites within the Project area are generally related to hydropower and agricultural development (DOI and CDFG 2012).

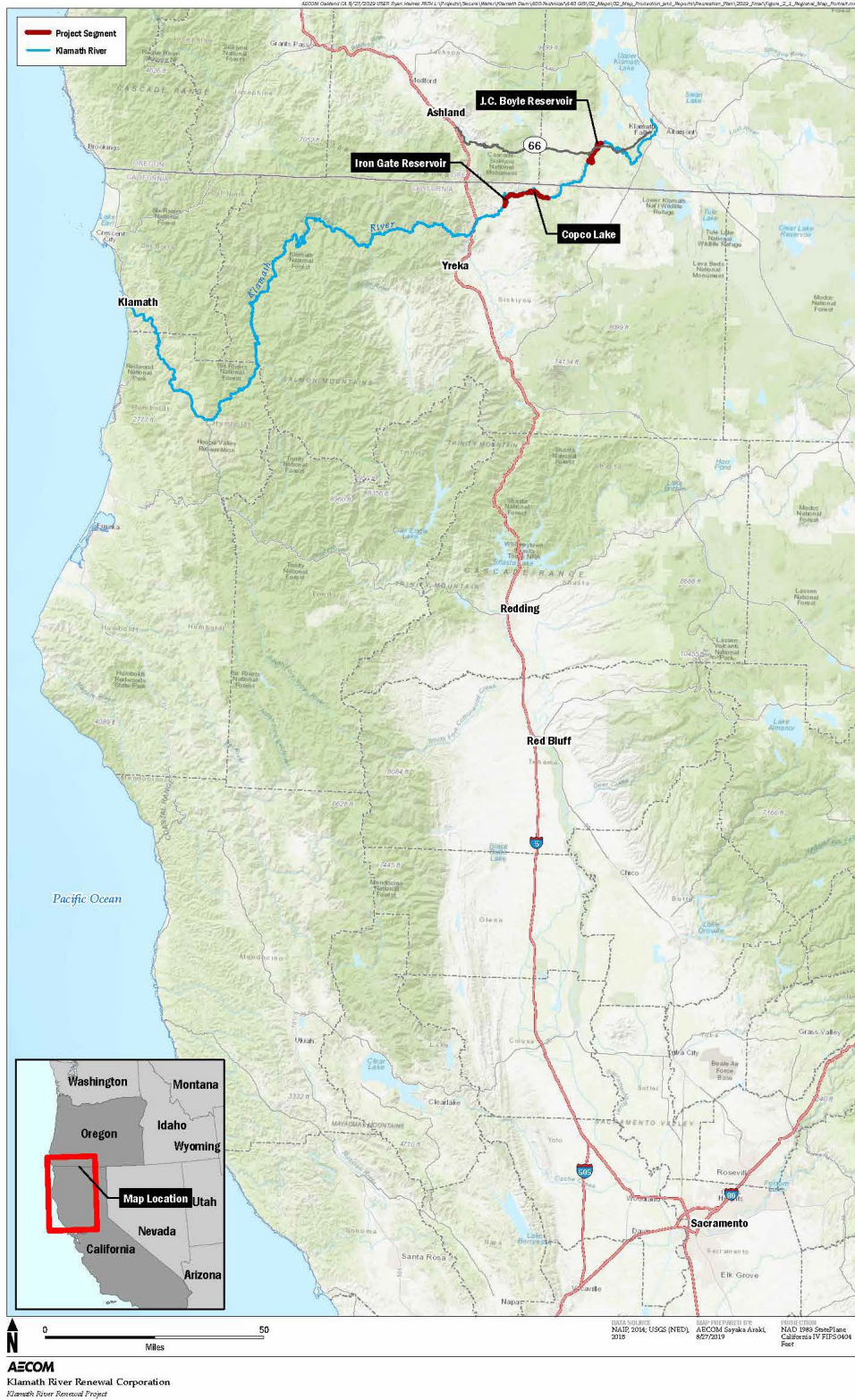


Figure 2-2: Project Area within Greater California and Oregon

2.2 Lower Klamath Project

Under the existing license, PacifiCorp operates recreation facilities in the Lower Klamath Project. The Bureau of Land Management (BLM) also operates facilities in the vicinity, under their own authority. These facilities are described in the following subsections. The 2015 FERC Form 80s for the Klamath Project provide the most recent data by hydropower development on recreation use levels, operations, and maintenance costs, as well as the current utilization of recreation sites as both the number of days of visitor use and a percentage of site capacity utilized by visitors. This information is summarized in the following two tables. FERC Form 80s are submitted by the licensee (PacifiCorp) to the Commission to provide recreation data for the hydroelectric project. The data is from a combination of staff observations, estimates, and visitor counts (PacifiCorp 2015a-e).

Table 2-1: Estimated Recreation Use and Cost¹

Hydro Development	Recreation Days ¹ – Annual Total		Recreation Days - Peak Weekend Average ²		Operations and Maintenance Cost ³
	Daytime	Nighttime	Daytime	Nighttime	
Keno	7,200	1,700	500	200	\$30,000
J.C. Boyle	15,500	1,700	800	90	\$15,000
Copco 1	3,300	0	300	0	\$10,000
Copco 2	450	0	130	0	\$0 ⁴
Iron Gate	8,300	3,600	1,300	600	\$60,000

Notes:

1. A Recreation Day is each visit by a person to a development (i.e., the portion of a project which includes: (a) a reservoir; or (b) a generating station and its specifically related waterways) for recreational purposes during any portion of a 24-hour period.
2. Peak Use Weekends are weekends when recreational use is at its peak for the season (typically Memorial Day, July 4th, and Labor Day). On these weekends, recreational use may exceed the capacity of the area to handle such use. Use for all three days in the holiday weekends is included in calculations for Peak Weekend Average.
3. This is listed as the Licensee’s Construction, Operation and Maintenance Costs in the Form 80; however, since the recreation facilities already exist, this is listed as only operations and maintenance cost in this table.
4. There is no operations and maintenance cost as there are no recreation facilities in this hydro development.

Sources: PacifiCorp 2015a-e

Table 2-2: Estimated Capacity Utilization

Facility	Capacity Utilization by Hydro Development				
	Keno	J.C. Boyle	Copco 1	Copco 2	Iron Gate
Access Points ¹		55%	10%	5%	15%
Boat Launch Areas ²	30%	50%	15%		25%
Campsites ³	17%	40%			20%
Dispersed Camping Areas ⁴					15%
Fishing Platform ⁵					5%

¹ Source 2015 PacifiCorp Form 80s. This represents the most current systemized data collection as the Commission removed the requirement for filing Form 80s in 2018.

Facility	Capacity Utilization by Hydro Development				
	Keno	J.C. Boyle	Copco 1	Copco 2	Iron Gate
Picnic Areas ⁶	17%	65%			15%
Visitor Center ⁷					20%
Whitewater Boating Put-in/ Take-Out ⁸		50%			

Notes

1. Defined on FERC Form 80 as well-used sites (not accounted for elsewhere on the form) for visitors entering project lands or waters, without trespassing, for recreational purposes (may have limited development such as parking, restrooms, signage).
2. Defined on FERC Form 80 as improved areas having one or more boat launch lanes and are usually marked with signs, have hardened surfaces, and typically have adjacent parking.
3. Defined on FERC Form 80 sites as for tents, trailers, recreational vehicles [RVs], yurts, cabins, or a combination of temporary uses.
4. Defined on FERC Form 80 as places visitors can camp outside of a developed campground.
5. Defined on FERC Form 80 as platforms, walkways, or similar structures to facilitate fishing in the reservoir pool or feeder streams.
6. Defined on FERC Form 80 as locations containing one or more picnic sites (each of which may include tables, grills, trash cans, and parking).
7. Defined on FERC Form 80 as buildings where the public can gather information about the development/project, its operation, nearby historic, natural, cultural, recreational resources, and other items of interest.
8. Defined on FERC Form 80 as put-ins/take-outs specifically designated for whitewater access.

Sources: PacifiCorp 2015a-e

2.3 Keno Development

The Keno Development, including Keno Camp, is not part of the Lower Klamath Project. Thus, Section 2.3 is provided for informational and regional context purposes only.

Keno Camp, located adjacent to Keno Dam, is a public recreation site owned and operated by PacifiCorp. The site is open seasonally from mid-May through early-October. Developed amenities at Keno Camp include 26 campsites, picnic areas, a boat ramp and dock, restrooms, showers, a recreational vehicle (RV) dump station, and interpretive kiosk. Activities enjoyed by visitors include camping, RV camping, picnicking, bank and lake fishing, boating (motorized and paddle craft), swimming, and sightseeing.

The Keno Development’s setting consists of scrub pine and grassland plant communities with narrow views of rolling forested hillsides across the reservoir. Views downstream are enclosed within a mostly natural setting along the river corridor. The strong line of Wagon Road exposes the brown disturbed earth above the right bank of the river above and below the dam. Upstream views from below the dam are highlighted by the concrete dam and associated facilities. The area surrounding the dam is located away from rural residential development, including the community of Keno, while the remainder of the reservoir is surrounded by development, particularly near Highway 66.

Keno Wave is a specific “park and play” surf wave feature located less than one-half mile downstream of Keno Dam and Keno Camp. The wave is a river feature used by whitewater kayakers who paddle downriver from the dam to surf the wave during the spring when flows are over 1,100 cubic feet per second (cfs). This feature is accessed by users parking at the entrance to Keno Camp and either carrying or dragging their

boats along informal trails to the river's edge. Keno Camp is closed to visitor use during the spring when the wave is at its peak for whitewater boating use. During this time, visitors must park along Highway 66 and carry their boats into Keno Camp and then walk down the informal trails to the river's edge.

Vehicular access below the dam is also available by four-wheel-drive vehicle via the unpaved Wagon Road on the river right; however, this road is currently in poor condition. Currently, after boaters use the surf wave, they take-out on the right riverbank and walk their boat along the dirt road on this side of the river back up to the dam where they cross the river to the informal trails on the river's edge by Keno Camp to take-out. For additional information see Appendix B, *Whitewater Boating Study Report*.



Figure 2-3: View of Keno Reach Downstream of Keno Dam

2.4 J.C. Boyle Development

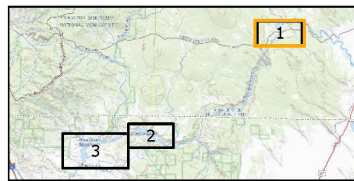
2.4.1 J.C. Boyle Reservoir

J.C. Boyle Reservoir encompasses about 350 surface acres and is about 3.6 miles long. Developed public recreation sites at the reservoir include Pioneer Park (East and West), Sportsman’s Park, and Topsy Campground (see Table 2-3). Visitors to this reservoir enjoy swimming, fishing, boating, day and overnight camping, target shooting, and off-highway vehicle (OHV) use. Table 2-3 summarizes the J.C. Boyle Reservoir recreation sites as well as recreation opportunities in the immediate area, noted as “Non-Project Recreation”. The landowner listed at each site in Table 2-3 is also responsible for management, maintenance, and funding for the site. Figure 2-4 shows existing Project Recreation sites only within J.C. Boyle Development.

Table 2-3: J.C. Boyle Reservoir Developed Public Recreation Sites

Site Name (Landowner)	Project or Non-Project Recreation Site	Site Amenities	Available Recreation Opportunities	Site Setting
Pioneer Park (East and West) (PacifiCorp – Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Picnic areas • Boat launches • Interpretive signs • Restrooms 	<ul style="list-style-type: none"> • Picnicking • Fishing • Boating • Sightseeing • Swimming 	Consists of pine grassland areas, groupings of pine trees and small shrubs with brown hued rock outcroppings next to Highway 66 bridge
Topsy Campground (BLM)	Project Recreation Site	<ul style="list-style-type: none"> • Campsites (14) • RV dump station • Day use areas (2) • Boat launch with dock • Accessible fishing pier • Restrooms 	<ul style="list-style-type: none"> • Camping • RV camping • Boating • Fishing • Picnicking 	Large flat area with pine trees and riparian vegetation interspersed with native grasslands, and brown hue rock outcroppings
Sportsman’s Park (Klamath County)	Non-Project Recreation Site	<ul style="list-style-type: none"> • Shooting ranges • Dirt racetracks • Archery ranges • Model aircraft flying field • OHV area • Restrooms 	<ul style="list-style-type: none"> • Shooting • Racing • OHV use • Archery • Model aircraft flying • RV camping • Camping • Reservoir fishing 	Large open grassland areas, groupings of pine trees and shrub areas, several buildings, large paved area, grassed model aircraft landing fields, and OHV earthen mounds and trails

Source: PacifiCorp 2004b



Notes
 1. Data Sources: Recreational Facilities, Access Roads, Dams; McMillen Jacobs
 2. Background: Maxar, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

- Recreation Facilities
- ▲ Dams
- Access Roads

Lower Klamath Project
Existing Recreation Facilities
J.C. Boyle Development
 November 2021



Figure 2-4: Existing Recreation Sites: J.C. Boyle Development

The J.C. Boyle Reservoir area is largely rural in nature with opportunities for reservoir-based recreation. The setting consists of flat grasslands and scrub pine areas. Existing views of the reservoir are of open expanses of relatively flat water with moderately distinctive landforms in the foreground and middle ground. However, reduced water clarity and discoloration from algae blooms occur seasonally during the late summer to early fall.

The gentle sloping land on the north and west side of J.C. Boyle Reservoir enables vehicular access to the shoreline. Although the area is posted to prohibit overnight use, such unregulated dispersed use exists. PacifiCorp identified 17 dispersed use sites along the reservoir shoreline and immediately below the dam along the river. These sites have documented resource effects from recreation use including shoreline erosion, trash accumulation, human waste sanitation problems, and vegetation removal (FERC 2007).

2.4.2 J.C. Boyle Bypass Reach

The J.C. Boyle Bypass Reach includes about 5 miles of the Klamath River downstream from J.C. Boyle Dam and upstream of the J.C. Boyle Powerhouse. The J.C. Boyle Bypass Reach consists of a de-watered deeply incised canyon. The riverbed is in sharp contrast to the flatter plateau grassland and deep-green stands of conifer forested areas on either side of the riverbed. The canyon sides are predominately vegetated with pines and shrubs with notable brown hued rock outcroppings. Near the end of the bypass reach, the river makes a sharp turn around a predominant landform (a.k.a. Big Bend).

The J.C. Boyle Bypass Reach could provide Class III to IV+ rapids for whitewater boating (FERC 2007). However, due to operations of the hydroelectric project, this reach is typically dewatered and only has a 100 to 300 cfs base flow (acceptable whitewater boating flows range from 1,300 cfs to 1,800 cfs). Therefore, the majority of the year there is almost no boating use on this stretch of the river (DOI and CDFG 2012). Signage at the J.C. Boyle Powerhouse discourages parking and shoreline use in the vicinity of the powerhouse (FERC 2007).

PacifiCorp conducted a visitor use survey in 2002 to obtain information on existing visitor demand, needs, and recreational activities within the area between J.C. Boyle Reservoir and Iron Gate Dam. The results of the survey indicated that 33 percent of visitors to the area participate in bank fishing, both along the river and reservoirs. Survey respondents also indicated that trout fishing on river reaches in this area is considered very good, and the two most popular reaches for fishing opportunities are Keno Reach downstream from Keno Dam and J.C. Boyle Bypass Reach downstream from J.C. Boyle Dam (PacifiCorp 2004b).



Figure 2-5: Looking Downstream at the J.C. Boyle Bypass Reach from Timber Bridge



Figure 2-6: View of J.C. Boyle Bypass Reach, Klamath River Canyon and Power Canal

2.4.3 Hell’s Corner Reach

The Hell’s Corner Reach of the Klamath River is the stretch of river between J.C. Boyle Powerhouse and Copco Lake and has free flowing segments from dam releases and J.C. Boyle Powerhouse releases. This reach extends for about 16.4 river miles and crosses into California at the Stateline Take-out. In this reach, the FERC Project Boundary only includes the J.C. Boyle Powerhouse Road from the powerhouse to the intersection with Topsy Grade Road. The reach is well vegetated with conifer and oak trees, a colorful palette of shrubs, and grasslands. The reach also has some notable brown colored rock outcroppings and dense colorful vegetated riverbanks within the canyon. Table 2-4 summarizes the Hell’s Corner Reach Non-Project Recreation sites, recreation opportunities, and settings. BLM is responsible for management, maintenance, and funding for the sites on their property (see Table 2-4), while PacifiCorp is responsible for management, maintenance, and funding for Fishing Access Sites 1-6. Stateline Take-out is located on both BLM and PacifiCorp lands.

Table 2-4: Hell’s Corner Reach Developed Public Recreation Sites

Site Name (Landowner)	Project or Non-Project Recreation Site	Site Amenities	Available Recreation Opportunities	Site Setting
Spring Island Boater Access (BLM)	Non-Project Recreation Site	<ul style="list-style-type: none"> Boat launch area Shoreline fishing access Vault toilet restrooms Interpretive signs 	<ul style="list-style-type: none"> Boating Fishing Day use 	Setting includes rock outcroppings, relatively fast-moving water along the narrow river channel, and relatively steep canyon walls in foreground
Klamath River Campground (BLM)	Non-Project Recreation Site	<ul style="list-style-type: none"> Campsites (3) Shoreline fishing and boating access Vault toilet restrooms 	<ul style="list-style-type: none"> Camping Fishing Boating 	Small flat area within a conifer/oak forest and colorful palette of riparian vegetation with views of the river
Turtle Camp (BLM)	Non-Project Recreation Site	<ul style="list-style-type: none"> Picnic tables Fire pits 	<ul style="list-style-type: none"> Semi-primitive camping 	Small flat grassy area within pine/oak forest along the shoreline with views of the canyon across the river
Stateline Take-out (BLM and PacifiCorp – Parcel A Lands)	Non-Project Recreation Site	<ul style="list-style-type: none"> Boat launch Boat put-in/take-out Shoreline fishing access Portable restroom 	<ul style="list-style-type: none"> Boating Fishing Dispersed recreation 	Setting is dominated by riparian vegetation and mountain views. Pine/oak forest with grassy understory above the riparian area. Scarred brown open areas affected by dispersed recreation, irrigation ditch parallels the river at the top of the bank.
Fishing Access Sites 1 through 6 (PacifiCorp - Parcel A Lands)	Non-Project Recreation Site	<ul style="list-style-type: none"> Shoreline fishing access Parking Portable restroom Boat take-out at Site 1 	<ul style="list-style-type: none"> Fishing Boating 	Setting contains riparian multi-colored vegetation

Source: PacifiCorp 2004b; FERC 2007, CDM Smith 2018

Vehicular access into the Klamath River Canyon, which includes both the J.C. Boyle Bypass and Hell's Corner Reaches, is possible only from the right bank (north side) of the river below J.C. Boyle Reservoir until Frain Ranch where access from Topsy Grade Road to the left bank (south side) of the river is possible. The north side has better roads and is where most recreation users enter the canyon. The fishing, dispersed camping, day use opportunities and boat launch access below the J.C. Boyle Powerhouse on the north side of the river are all reached by a dirt- and gravel-surfaced access road that connects to Highway 66 near J.C. Boyle Dam; as the road proceeds downstream from the J.C. Boyle Powerhouse, it is best suited for high clearance vehicles.

Access on the south side of the river is by a more difficult travel route—Topsy Grade Road. Most of this road is located upslope from the river, and access to the river does not generally exist except near Frain Ranch and downstream from the Stateline Take-out where there are access roads to the river that connect to Topsy Grade and Ager-Beswick Roads. Roads on the south side of the river are rough and best suited for high-clearance or four-wheel drive vehicles (FERC 2007). BLM issued an Environmental Assessment in 2017 to conduct road closure treatments in the Frain Ranch area on the south/east side of the river due to user-created travel routes that are causing resource damage (opposite side of the river from Klamath River Campground, and Turtle Camp) (BLM 2017).

In 1974, a 6-mile reach of the Klamath River, from the California/Oregon State line to Copco Lake, was designated as Wild Trout water by the State of California and is managed under the Wild Trout Program (CDFW 2005). This section of the Klamath River is very popular for fishing. Based on field observations, PacifiCorp reports that fishing use between J.C. Boyle Powerhouse and the California-Oregon State line, upstream of the Wild Trout water, appears low and may be related to difficult access to the river (FERC 2007).

Daily peaking flows from the J.C. Boyle Powerhouse (between 10 AM and 2 PM) provide whitewater boating opportunities. Such opportunities begin at about 1,000 cfs, reach acceptable levels at about 1,300 to 1,400 cfs, and become mostly Class IV rapids at about 1,500 cfs. During run-off events, big water whitewater boating opportunities exist at flows exceeding 2,000 cfs, offering Class IV and IV+ rapids, during runoff events. Outside of the four-hour window for daily peaking flows, flow rates within this reach do not meet the acceptable range to support whitewater boating opportunities (DOI and CDFG 2012). Whitewater boating use occurs typically during April through October, with about 80 percent of the commercial rafting use occurring during July through September (FERC 2007).

The BLM manages whitewater boating use in the Hell's Corner Reach; commercial boating use is allowed by permit only. There is a set commercial capacity of 10 outfitters or 200 clients per day on this reach. There is no limit for private boating capacity, although the BLM has established 250 persons per day as the overall whitewater boating carrying capacity of the reach. Factors that constrain the carrying capacity of the reach are vehicle congestion at the take-out locations near Copco Lake and the limited size and number of areas that are available to scout rapids (FERC 2007). Summer rafting use in this area, above Copco Lake in particular, depends upon operation of the J.C. Boyle Powerhouse upstream (FERC 2007).

PacifiCorp identified four dispersed use sites in this reach between J.C. Boyle Powerhouse and the Stateline Take-out and documented resource effects at these areas related to recreation use (FERC 2007).



Figure 2-7: Hell's Corner Reach Looking Downstream from Turtle Camp

2.5 Copco No. 1 and No. 2 Development

2.5.1 Copco Lake

Copco Lake, which covers about 972 surface acres and is about 4.5 miles long, has two day use sites – Mallard Cove and Copco Cove— that each contain a picnic area, two restrooms, and a boat launch with dock. These sites provide opportunities for picnicking, boating, fishing, and although they are not official campgrounds, dispersed camping occasionally occurs at both locations (PacifiCorp 2004b). Table 2-5 summarizes the Copco Lake sites, recreation opportunities, and settings. PacifiCorp is responsible for management, maintenance, and funding for all the sites listed in Table 2-5. These existing recreation sites are shown in Figure 2-8.

PacifiCorp identified two dispersed use sites with excessive bare ground potentially related to both recreation use and cattle grazing. The sites are on the north shoreline in the vicinity of Beaver Creek Cove and Raymond Gulch (FERC 2007).

In addition to the public recreation uses of Copco Lake, there are also dozens of private homes with docks that use the reservoir for recreation.

Copco Lake is surrounded by a sparsely vegetated plateau area including several unique landforms, such as Lennox Rock, Blooming camp Peak, and Daggett Mountain. Views include the large open water areas of the reservoir, views of Lennox Rock, Blooming camp Peak, and Daggett Mountain, and several small clusters of private homes around the reservoir. The homes dominate the views in the several areas where they are located contrasting in color, line form, and texture with the natural setting. There are also views of open reservoir water seen from these sites.

Table 2-5: Copco Lake Developed Public Recreation Sites

Site Name (Landowner)	Project or Non-Project Recreation Site	Site Amenities	Available Recreation Opportunities	Site Setting
Mallard Cove (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Picnic area • Restrooms • Boat launch with boarding dock • Interpretive signs • User-created camp sites 	<ul style="list-style-type: none"> • Picnicking • Boating • Fishing • Informal camping 	Sparsely vegetated with expansive open water views of the reservoir
Copco Cove (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Picnic area • Restrooms • Boat launch • Interpretive signs 	<ul style="list-style-type: none"> • Picnicking • Boating • Fishing • Informal camping 	Within oak/conifer woodland with expansive open water views of the reservoir and across the reservoir to the home sites

Sources: PacifiCorp 2004b; FERC 2007

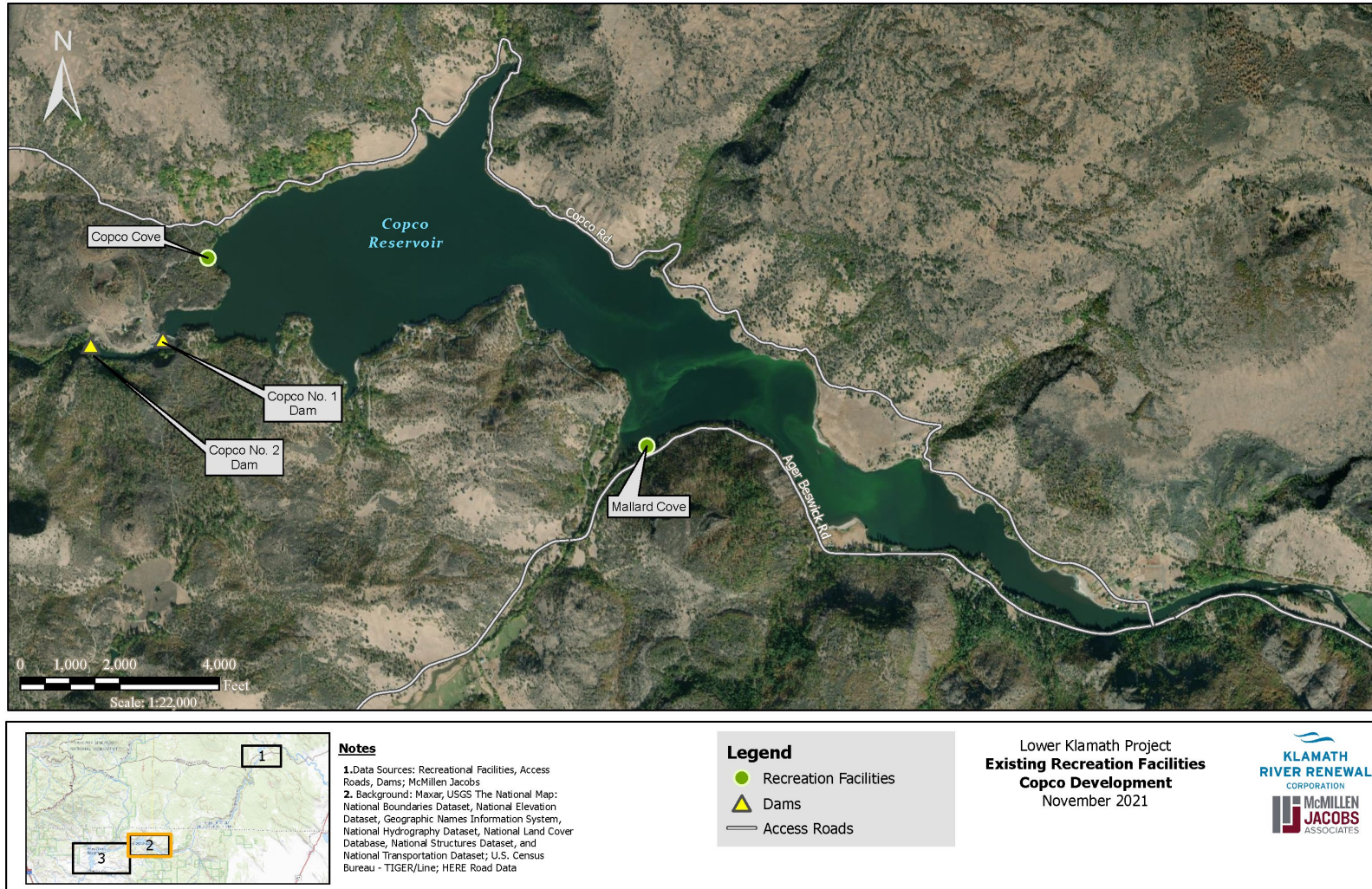


Figure 2-8: Existing Recreation Sites: Copco Development



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Figure 2-9: View of Copco Lake

2.5.2 Copco No. 2 Reservoir

Copco No. 2 Reservoir is relatively small (approximately five surface acres and about 0.3 mile long) and has a narrow configuration with steep shoreline topography, resulting in difficult access to the water. Access to the reservoir is restricted by PacifiCorp due to the adjacent Copco No. 1 and No. 2 dam operations. Therefore, Copco No. 2 Reservoir is not suitable for recreation use (FERC 2007).

2.5.3 Copco No. 2 Bypass Reach

The Klamath River downstream of Copco No. 2 Dam extends 1.5 miles to the Copco No. 2 Powerhouse and the backwater of Iron Gate Reservoir. The Copco No. 2 Bypass Reach is located within a steep-walled canyon with significant basalt rock outcroppings and well-defined riparian vegetation. The canyon is called Ward's Canyon after a ranching family that homesteaded near the canyon entrance. The primary access to this river reach is by a steep gravel road that leads to Copco No. 1 and No. 2 Dams that is closed to public vehicular access. This reach has a minimum flow of 10 cfs per the existing FERC P-2082 License.



Figure 2-10: View of Upstream End of Copco No. 2 Bypass Reach/Ward's Canyon

2.6 Iron Gate Development

2.6.1 Iron Gate Reservoir

Iron Gate Reservoir is approximately 944 surface acres and 6.8 miles long. The developed sites at the Iron Gate Reservoir area include five combination day use and campground areas (Jenny Creek, Camp Creek, Juniper Point, Mirror Cove, and Long Gulch), three day use areas (Fall Creek, Overlook Point, and Wanaka Springs), and a fish hatchery and associated day use area (Iron Gate Hatchery). Recreation opportunities include sightseeing, swimming, fishing, boating, camping, and picnicking. Iron Gate Reservoir is used for waterskiing and powerboating. The only non-project recreation opportunity is the Fall Creek Falls Trail. Table 2-6 summarizes the Iron Gate Reservoir sites, recreation opportunities, and settings. PacifiCorp is responsible for management, maintenance, and funding for all the sites listed in Table 2-6. Figure 2-11 shows existing Project Recreation sites only within Iron Gate Development.

Table 2-6: Iron Gate Reservoir Developed Public Recreation Sites

Site Name (Landowner)	Project or Non-Project Recreation Site	Site Amenities	Available Recreation Opportunities	Site Setting
Fall Creek Day Use Area (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Picnic sites (2) • Boat launch • Portable toilet • Trash receptacles 	<ul style="list-style-type: none"> • Picnicking • Boating 	Sparse vegetation with views of the reservoir’s open water and riparian vegetation on the other side of the reservoir. Existing facilities are informal.
Overlook Point (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Portable toilet • Picnic sites (2) • Trash receptacle 	<ul style="list-style-type: none"> • Picnicking • Sightseeing (of reservoir) 	Moderately steep topography that provides expansive views of the reservoir and surrounding multi-colored landscape
Wanaka Springs Day Use Area (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Picnic areas • Fishing dock • Restrooms • Trail to the site of Wanaka Springs • Trash receptacles 	<ul style="list-style-type: none"> • Picnicking • Fishing • Hiking • Informal camping 	Sparse vegetation with views of the reservoir’s open water
Jenny Creek Day Use Area and Campground (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Campsites • Restrooms • Hiking trails • Boat launch • Interpretive kiosk 	<ul style="list-style-type: none"> • Picnicking • Fishing • Developed camping 	Multi-colored creekside setting
Camp Creek Day Use Area and Campground (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Campsites • Boat launch • Boarding and fishing docks • Swimming area • RV dump station • Restrooms 	<ul style="list-style-type: none"> • Developed camping • RV camping • Boating • Fishing • Education • Swimming 	Semi-arid grasslands located along a narrow arm of the reservoir
Juniper Point Day Use Area and Campground (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Campsites • Fishing dock • Restrooms • Boat launch 	<ul style="list-style-type: none"> • Developed camping • Fishing 	Sparse vegetation with views of the reservoir’s open water and across to the other side of the reservoir

Site Name (Landowner)	Project or Non-Project Recreation Site	Site Amenities	Available Recreation Opportunities	Site Setting
Mirror Cove Day Use Area and Campground (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Campsites • Picnic sites • Boat launch • Restroom • Fishing dock 	<ul style="list-style-type: none"> • Picnicking • Developed camping • Boating • Group camping • Waterskiing • Fishing 	Sparsely vegetated with a commanding view of the open water reservoir and the rolling topography surrounding the reservoir
Long Gulch Day Use Area and Campground (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Picnic sites • Boat launch • Restrooms 	<ul style="list-style-type: none"> • Picnicking • Boating • Informal camping 	Relatively flat and dominated by grasslands, dirt roads and a few dark green conifer clusters with commanding view of the open water reservoir
Iron Gate Hatchery Day Use Area (PacifiCorp - Parcel B Lands)	Project Recreation Site	<ul style="list-style-type: none"> • Picnic area • Visitor center/ interpretive kiosk • Restrooms • Trail to river • Undeveloped boat launch across the river 	<ul style="list-style-type: none"> • Picnicking • Education • Hiking • Touring • Boating 	Setting is dominated by the fish hatchery and associated buildings which contrast sharply with the natural landscape
Fall Creek Falls Trail (PacifiCorp - Excluded Lands)	Non-Project Recreation Site	<ul style="list-style-type: none"> • Waterfall 	<ul style="list-style-type: none"> • Hiking 	Trail currently bisects the former Fall Creek Hatchery facilities. Trail will be relocated around the updated Fall Creek hatchery.

Sources: PacifiCorp 2004b; FERC 2007

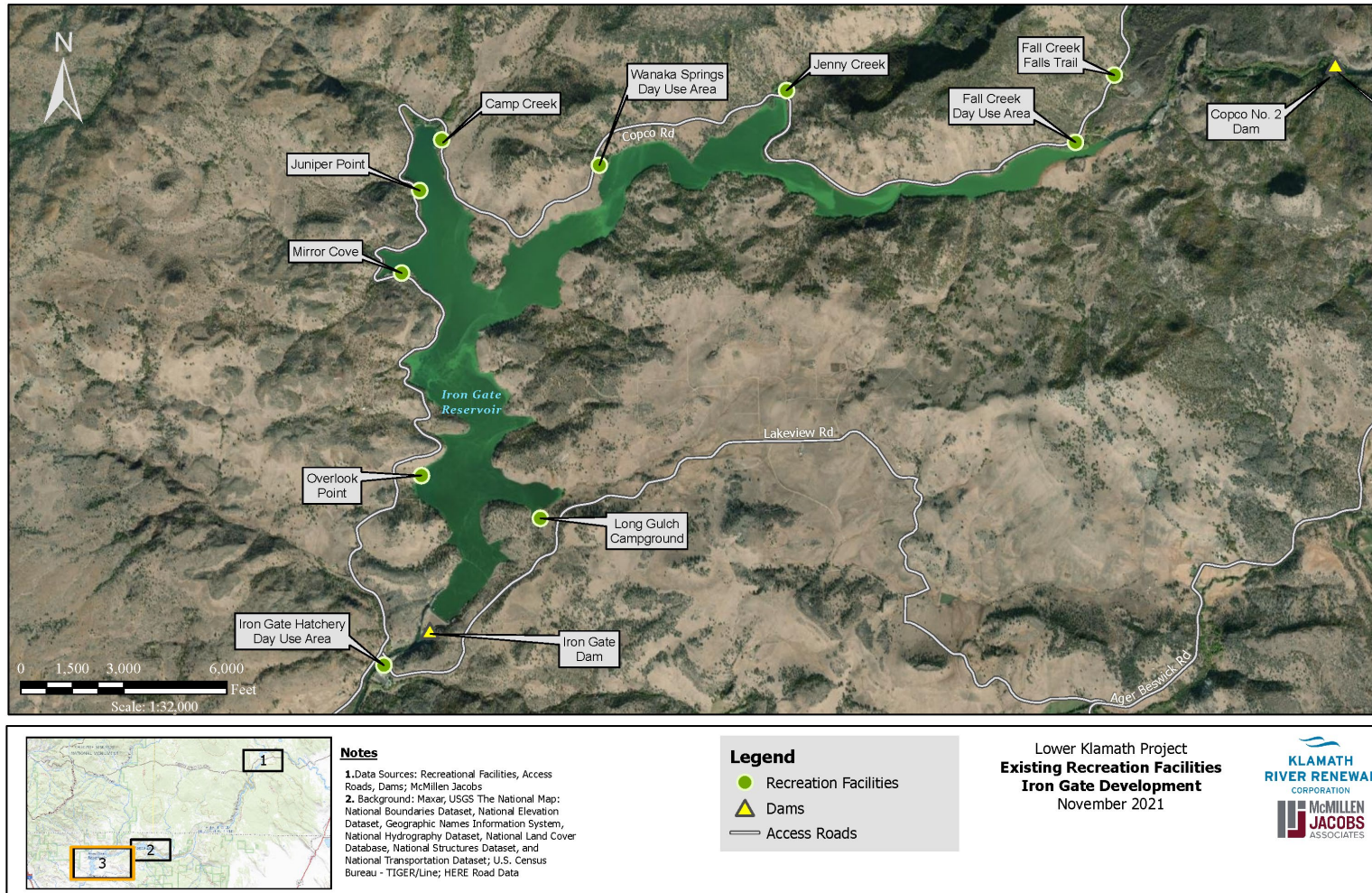


Figure 2-11: Existing Recreation Sites: Iron Gate Development



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The river canyon is characterized by columnar basalt outcrops, cliffs, steep slopes, upland benches, alluvial terraces, and the meandering river channel. The unique landforms, water, and vegetation create an ever-changing landscape from desert to more mountainous terrain, and steep canyons and vertical cliffs with diverse colorful vegetation. The area just downstream of the Iron Gate Reservoir consists mainly of grasslands and well established multi-colored riparian vegetation. The fish hatchery and its associated buildings and paved areas dominate the views, and while still hilly in nature, the area does not have the canyon-like feeling of the upper reaches of the Klamath River.

There are two undeveloped dispersed sites along the shoreline of Iron Gate Reservoir, which are primarily used for fishing access and appear to receive moderate use. Another dispersed recreation site is located across the river from the Iron Gate Fish Hatchery. This site is used primarily to launch smaller watercraft such as tubes, rafts, and drift boats. The launch site does receive some trailered boat use. It is used by recreationists in the summer for fishing access, swimming, and tube floating on the river. It is also a popular boat launch during the late summer and fall for salmon fishing and drift boat use (PacifiCorp 2004a).



Figure 2-12: View of Iron Gate Reservoir



Chapter 3: Project Description and Anticipated River Conditions

3. PROJECT DESCRIPTION AND ANTICIPATED RIVER CONDITIONS

Section 3 provides a brief description of the Proposed Action and anticipated river conditions following implementation.

3.1 Proposed Action

This element of the Proposed Action related to recreation facilities is described in the DDP Section 6.8. The Renewal Corporation will remove existing recreation infrastructure at developed facilities in the fall preceding dam removal. The Renewal Corporation will rehabilitate most reservoir-based recreation sites and associated parking areas, and access trails in accordance with expectations of the receiving landowners (State of Oregon, BLM, and State of California) and regulatory requirements for erosion and sediment control as described in the Oregon 1200-C Permit and California Construction General Permit. Finally, the Renewal Corporation will address selected barriers at the Sidecast Slide location in the J.C. Boyle Bypass Reach, and in the Copco No. 2 Bypass Reach within Ward's Canyon to support whitewater boating.

3.2 Anticipated River Conditions

The Proposed Action will result in different river conditions compared to existing conditions, particularly for dewatered bypass reaches and sections of the river currently inundated by reservoirs. After implementation, future river conditions will play a large part in determining post dam removal recreation opportunities, the recreation sites needed to support these opportunities, and the means of providing safe and appropriate access to the river. River access sites are intended to be located at the new recreation enhancement sites, shown in Figures 6-1 to 6-4.

This section describes the anticipated river conditions separated by hydropower development. The section describes the anticipated whitewater boating runs, major rapids, any potential known safety issues, and changes in flow, use season, and users. Most of the information presented below is based on Bill Cross and Pete Wallstrom's document *Whitewater Recreation on the Upper Klamath River* (2019) and Confluence Research and Consulting's flow study conducted in 2020, *Whitewater Boating Study Report* (2021).

Figure 3-1 provides an overview of the location of whitewater boating runs on the Klamath River once the Project is implemented and the river becomes free flowing within the Project area. The 2020 flow study (Confluence, 2021) resulted in new information for certain sections of the river regarding navigability in the summer, anticipated difficulty class, expected users, potential river features, and boating hazards. The full report is available as Appendix B, *Whitewater Boating Study Report* and specific details have been included in the summary of anticipated river conditions below. Detailed maps of the whitewater boating runs described below can be found in Appendix B.

3.2.1 Keno Development

Because Keno Dam will not be removed, the river below the dam up to the existing J.C. Boyle Reservoir will continue to flow as in the past. The Keno Run extends from Keno Dam downstream to the Highway 66 Bridge over the existing J.C. Boyle Reservoir. This is an existing Class II/III run with an estimated gradient of 40 feet/mile. According to the 2020 flow study (Confluence, 2021), after dam removal, flows will remain boatable in spring and continue to be less boatable in summer when flows decline.

Once J.C. Boyle Reservoir is drawn down, boating use of the Keno Run may increase due to the elimination of the existing two-mile flatwater paddle across J.C. Boyle Reservoir. Increased water quality may also assist with increasing use of the run as water quality currently is poor during the summer downstream of Keno Dam. Another existing deterrent to using this run when the flows are typically best for using the wave feature is that access to the river is from Keno Camp, which is closed in early spring. As stated previously, Keno Camp is not part of the Lower Klamath Project.

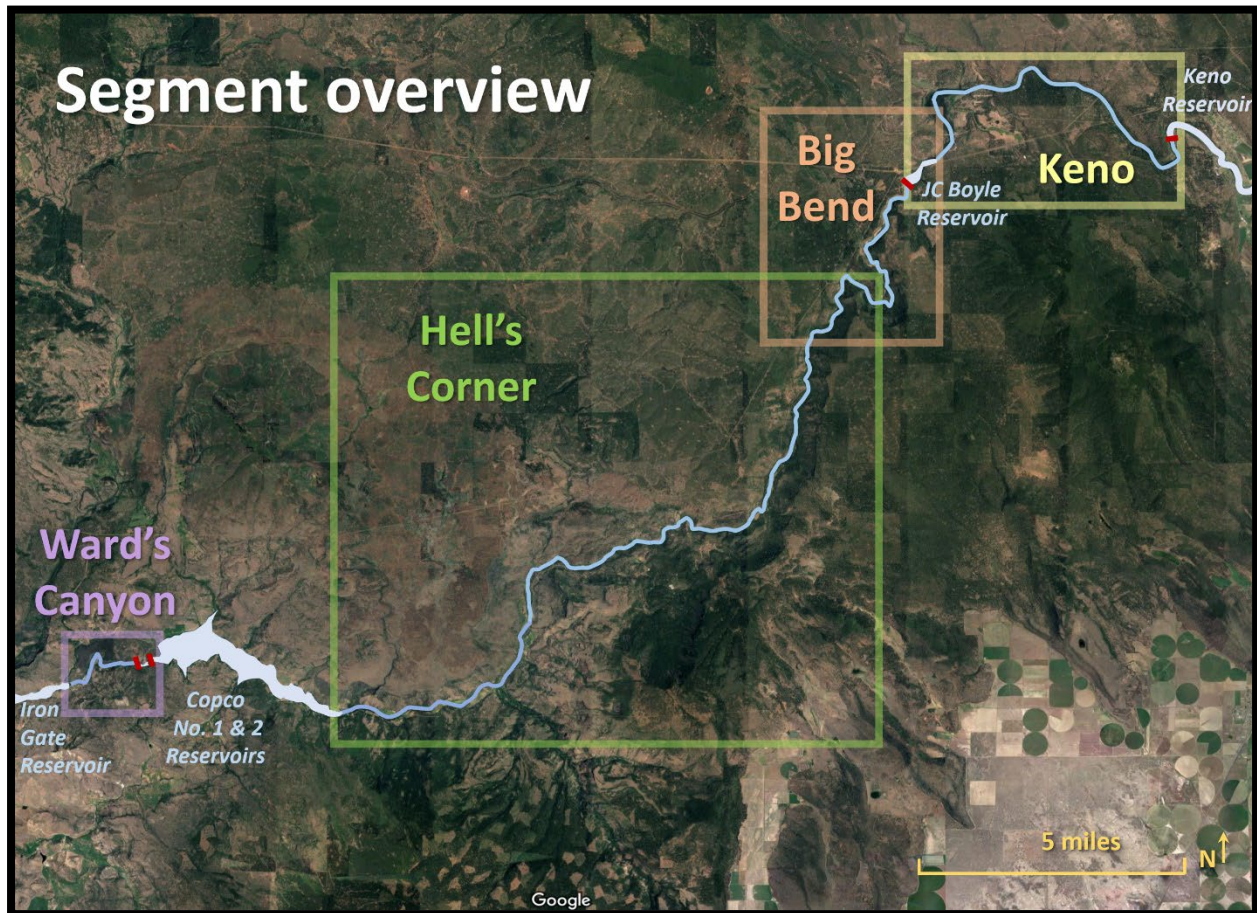


Figure 3-1: Overview of Whitewater Boating Runs between Keno Dam and Iron Gate Reservoir

The Highway 66 Bridge area, an historic ford across the river, is the general location of a significant gradient change in the river from 10 feet/mile (over the last 2 miles of the run that are currently inundated) to an estimated 45 feet/mile. The run downstream of the Keno Run (the Upper Big Bend Run) is projected to have a higher difficulty class due to this steeper gradient.

3.2.2 J.C. Boyle Development

Several whitewater boating runs will be in the river stretch between the Highway 66 Bridge over the existing J.C. Boyle Reservoir and Copco Lake. These are described from north to south in a downstream flow order below.

Upper Big Bend Run

Following the Keno Run is the Upper Big Bend Run from the Highway 66 Bridge to the Moonshine Falls area at the existing J.C. Boyle Dam site. Project implementation will allow whitewater boating use on this run as it is currently inundated by J.C. Boyle Reservoir. The river drops 500 vertical feet in six miles below the Highway 66 Bridge with an estimated gradient of 45 feet/mile. Although rapids currently inundated by J.C. Boyle Reservoir are unknown, based on the river's gradient, the run is expected to have a difficulty of Class III – IV, with the potential for more difficult rapids. Moonshine Falls is a historic rapid located at or near the J.C. Boyle Dam site. Because the dam is located at or near the rapid, it is unclear if the rapid was altered by dam construction or not. Therefore, the difficulty and navigability of this rapid is unknown. The rapid appears to be a significant vertical drop in historical photos.

Big Bend Run

Downstream of Moonshine Falls and the Upper Big Bend Run is the Big Bend Run, encompassing the J.C. Boyle Bypass Reach - the river section between J.C. Boyle Dam and the existing Spring Island Boater Access. The river within the Big Bend Run passes through a narrow canyon around a horseshoe bend at an estimated gradient of 81 feet/mile and contains rapids with difficulty of Class IV/V.

Currently, this run passes through a dewatered section of the river that is generally not boatable. The Proposed Action will provide river flows sufficient to boat on this run. Groundwater enters the river (240 cfs) within the first mile of this run, the infusion of this groundwater into the river's flow (post dam removal) will allow the run to be boated during the summer at least by small rafts and kayaks, even when river flows typically decrease such that upstream runs may not be usable.

The Sidecast Slide is expected to be the most difficult rapid on the run. The slide is a long, shallow washboard resulting from sharp boulders that fell into the river during blasting for construction of the Power Canal, which is located upslope of the river. During the 2002 flow study (Cross, 2002), rafts were unable to run this rapid at moderate flows 800-1,000 cfs. The slide has been modified since 2002 to improve fish passage. The 2020 flow study (Confluence, 2021) aimed to determine if the rapid is now navigable for a variety of craft and if commercial rafts will be able to use the run in the summer. The 2020 study (Confluence 2021) results showed that although kayakers have a boatable line during low summer flows

there are several non-natural hazards that make commercial rafting nonviable without channel modification. Summer flows of 800 to 1,100 cfs will provide challenging technical whitewater for kayaks and small rafts in a Class IV/V condition.

To support whitewater boating post-drawdown, the Renewal Corporation will address selected barriers at the Sidecast Slide location. Through consultation with the Upper Klamath Outfitters Association (UKOA) and American Whitewater, the Renewal Corporation will identify and split up to 10 boulders with significant potential to impair public boating safety. This will occur during the pre-drawdown year. The Renewal Corporation will determine the appropriate means and methods for splitting the boulders based on regulatory requirements and best practices for conducting in-water work.

Upper Hell's Corner Run

Following the Big Bend Run is a significantly less difficult run, the Upper Hell's Corner Run. This is an existing run that starts at the Spring Island Boater Access and ends prior to the Hell's Corner Gorge Run. Due to the more moderate gradient of the river, this section is accessed by rafters, kayakers, and drift boaters. Access continues downstream to the Caldera rapid. The Upper Hell's Corner Run is a Class II/III run with a gradient of 25 feet/mile, with the first 5 miles of the run having a more moderate gradient and difficulty. Although the Proposed Action will remove the peaking flows that provide higher river flows in the summer when normal river flows will decline, it is anticipated that this run will be boatable in the summer even at normal summer river flows due to the lower difficulty and moderate gradient of this run. This run is also currently popular for drift boat fishing. Commercial whitewater boating currently occurs on this run, in conjunction with the more difficult downstream run, the Hell's Corner Gorge Run.

Hell's Corner Gorge Run

From the Caldera rapid downstream to the Stateline Take-out is the Hell's Corner Gorge Run. This existing run is rated as Class IV+ with a gradient of 83 feet/mile. This run includes many difficult rapids and receives extensive commercial whitewater boating use in conjunction with the upstream Upper Hell's Corner Run. The Proposed Action will reduce the number of boatable days on this run due to removal of peaking flows that provide regular, high boatable flows in the summer when normal river flows are reduced. The Hell's Corner will provide acceptable technical whitewater for kayaks and small rafts that will be sub-marginal for standard kayaking and rafting, probably requiring smaller boat/passenger configurations that would affect commercial viability (Confluence, 2021). Flows are expected to be high enough in the spring for whitewater boating; however, flows during the summer are expected to be too low for larger commercial rafts, which require flows between 1,500 and 3,400 cfs, but will provide acceptable technical whitewater for kayaks and small rafts. Although the run may be usable by commercial rafts in the spring, high spring snowmelt flows may not be suitable for less experienced boaters; however, connecting newly restored segments for longer multi-day trips may provide new commercial opportunities.

Stateline Run

The run downstream of the Hell's Corner Gorge Run is the Stateline Run. The Stateline Run is substantially less difficult than the Hell's Corner Gorge Run at Class II with a gradient of 26 feet/mile (compared to

Class IV+ with a gradient of 83 feet/mile on Hell's Corner Gorge). The Stateline Run begins at the Stateline Take-out and continues downstream to Fishing Access Site 1. This is an existing run that is particularly popular with drift boaters. The Proposed Action is not expected to change the difficulty of this run.

3.2.3 Copco No. 1 and No. 2 Development

There will be two runs available within the Copco No. 1 and 2 development post dam removal due to restored river flows and reservoir draw down. These are described from north to south in a downstream flow order below.

Copco Valley Run

The Copco Valley Run continues downstream from the Stateline Run. This run will be exposed once Copco Lake is drawn down and the river recedes to its historic channel alignment. The Copco Valley Run will begin at Fishing Access Site 1 and continue until the Copco Valley/Copco No. 1 Dam area. Like the Stateline Run, the Copco Valley Run is estimated to be a Class II to II+ in difficulty with a relatively low gradient of 18 feet/mile. Due to the low difficulty rapids and riffles expected on this run, it may be suitable for drift boat fishing. However, the Ward's Canyon Run, the next run downstream, will not be suitable for drift boat fishing. Development of the potential Copco Valley River Access Site as a take-out for the Copco Valley Run and put-in for Ward's Canyon Run is detailed in Appendix A, Section 4.4.

Ward's Canyon Run

Downstream of the Copco Valley Run, near the existing Copco No. 1 Dam, is the entrance to Ward's Canyon and the beginning of the Ward's Canyon Run, which continues downstream through the canyon to the existing Copco No. 2 Powerhouse. The Ward's Canyon Run has several approachable Class III/IV rapids with a gradient of 85 feet/mile. The river has carved a gorge through lava flow within the canyon, creating many bedrock rapids. It is believed that the river section from the canyon entrance to the existing Copco No. 2 Dam site may contain very difficult rapids.

This stretch will contain flows that are believed to be optimal for whitewater boating that will likely attract considerable commercial use. Ward's Canyon has several Class III/IV rapids concentrated in the short segment, and they will be boatable at low summer flows of 800 to 1,100 cfs (Confluence, 2021).

Due to the relative closeness of the Ward's Canyon Run to major roads and population centers, short shuttle distance (between take-out and put-in), difficulty of the run, summer flows, and outstanding scenery, stakeholders have communicated that this "new" run is anticipated to be the most used run on the river within the Project area and is expected to be heavily used by both commercial and private boaters. Use of this run may even exceed current use of the Hell's Corner Gorge Run but will not replace it in terms of length and difficulty. In addition, it is anticipated that tribes will continue to use Ward's Canyon for traditional cultural practices, as the canyon is considered a very significant spiritual place with visual and auditory religious and ceremonial affiliation.

Ward's Canyon contains in-channel trees and overhanging riparian vegetation due to years of reduced base flows and infrequent high flows. Post dam removal, submerged trees may create hazards for future whitewater boating and increase the difficulty of this run from Class III/IV to Class IV/V.

Ward's Canyon is the reach of the mainstem Klamath River in which Copco No. 1 and Copco No. 2 Dams were constructed. Ward's Canyon extends from a point approximately 1,000 feet upstream of the Copco No. 1 Dam to the Copco No. 2 Powerhouse. The Copco No. 2 Bypass Reach is within Ward's Canyon and extends from Copco No. 2 Dam to the Copco No. 2 Powerhouse. The Renewal Corporation will remove selected trees located in the Copco No. 2 Bypass Reach river channel in the pre-drawdown year to protect public boating safety.

The Renewal Corporation has conducted field visits with representatives from UKOA, American Whitewater and tribal representatives to identify hazard trees to be removed from the active channel. Renewal Corporation will use information collected in the field to finalize a tree removal plan that will be provided to the Commission promptly following the License Surrender Order. This plan will include maps showing the distribution, size classes, and species of identified hazard trees. Tree selection, as well as the means and methods for removal, will be based on consultation with the BLM, California Department of Fish and Wildlife (CDFW) and California State Water Resources Control Board (SWRCB).

The Renewal Corporation will use such means and methods (such as leaving root wads in place) to avoid disturbing the banks (including tribal cultural resources) or cause any material sediment discharge in the water column. Finally, the Renewal Corporation will post signs and conduct public outreach, in consultation with the State of California, to inform the public of hazardous conditions for boaters in Ward's Canyon. The Renewal Corporation will report any such tree removal work in the Recreation Facilities Plan Annual Report that will be prepared and submitted to the Commission and the SWRCB.

3.2.4 Iron Gate Development

The Proposed Action will draw down Iron Gate Reservoir and remove Iron Gate Dam. This will open the Iron Gate Run to recreational uses. The Iron Gate Run will begin at the existing Copco No. 2 Powerhouse and continue downstream to the Iron Gate Fish Hatchery. This run is estimated to be Class III for the first 4 miles with a gradient of 30 feet/mile and then Class II with a gradient of 15 feet/mile for the last two miles of the run, though it is anticipated that there may be more difficult rapids revealed once the reservoir is drawn down. Due to the relative closeness of the run, particularly the take-out, to major roads (Interstate 5), population centers (Ashland, Rogue Valley), and the moderate gradient of the river, this run has the potential to receive a high level of recreation use. Use of this run may also be combined with the Ward's Canyon Run, particularly for commercial outfitters. Due to the lower difficulty of this run, it may also be suitable for drift boat fishing, though potentially only in the Class II section as drift boating on Class III rapids is subject to operator experience and comfort.



Chapter 4: Future Disposition of Recreation Facilities and Sites

4. FUTURE DISPOSITION OF RECREATION FACILITIES AND SITES

The Proposed Action includes the removal of existing recreation sites and facilities within the FERC Project Boundary, as described in Section 4.1 below. The Renewal Corporation proposes that the License Surrender Order require these measures. The Proposed Action does not include, and the Renewal Corporation is not responsible for, removal, enhancement, or retention of existing recreation sites outside of the FERC Project Boundary, as described in Section 4.2 below.

4.1 Recreation Facilities and Sites Within the FERC Project Boundary

The Renewal Corporation will fully or partially remove 13 recreation sites and re-route a segment of one hiking trail. Site amenities that will be removed by the Renewal Corporation include picnic areas, boat launches, restrooms, fishing docks, campsites, interpretive signs, dump stations, and swimming areas.

A list of the existing recreation sites within the FERC Project Boundary (organized by hydropower development) and their future disposition are provided in Table 4-1. These sites are also shown in Figure 4-1 through Figure 4-4. The recreation sites that will be removed by the Renewal Corporation will be located a substantial distance from the river once the reservoirs are drawn down. The approach taken with regard to these sites is informed by the 2012 Klamath Facilities Removal Final EIS/EIR; the Oregon Clean Water Act Section 401 Water Quality Certification (401 WQC)(Oregon Department of Environmental Quality 2018); the California 401 WQC, as amended (SWRCB 2022); the California SWRCB's Final Environmental Impact Report for the Lower Klamath Project License Surrender (April 2020); the Commission's 2022 FEIS for Hydropower License Surrender and Decommissioning for the Lower Klamath Project, as implemented by the License Surrender Order; and the Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response to the Surrender and Decommissioning of the Lower Klamath Hydroelectric Project (NMFS 2021). The Proposed Action is also informed by the Renewal Corporation's own analysis, as well as the Renewal Corporation's outreach and stakeholder input process.

Table 4-1: Future Disposition of Recreation Sites within the FERC Project Boundary

Site Name (Landowner)	Future Owner	Site Amenities	Available Recreation Opportunities	Proposed Site Disposition	Schedule
J.C. Boyle Development					
Pioneer Park East (PacifiCorp - Parcel B lands)	State of Oregon	<ul style="list-style-type: none"> • Interpretive signs • Car-top boat launch • Picnic area 	<ul style="list-style-type: none"> • Fishing • Boating 	Remove above-ground features; gravel boat launch area and turnaround to remain.	Remove prior to reservoir drawdown
Pioneer Park West (PacifiCorp - Parcel B lands)	State of Oregon	<ul style="list-style-type: none"> • Picnic areas • Car-top boat launch • Informational signs • Restrooms • Unimproved boat launch 	<ul style="list-style-type: none"> • Picnicking • Fishing • Boating 	Remove all features; access road to remain; river access ramp to be improved. A new site with the same name is proposed at an alternate location (see Figure 6-2).	Remove features prior to reservoir drawdown. River access ramp to be improved prior to reservoir drawdown for fire access purposes.
Topsy Campground (BLM)	BLM	<ul style="list-style-type: none"> • Campsites • RV dump station • Day use areas • Boat launch with dock • Accessible fishing pier • Restrooms 	<ul style="list-style-type: none"> • Camping • RV camping • Boating • Fishing • Picnicking 	Remove boat launch, including concrete lanes, floating dock, and concrete footing. Retain camping/day use facilities, including fishing platform, for BLM future management.	Remove boat ramp prior to reservoir drawdown
Copco No. 1 and No. 2 Developments					
Mallard Cove (PacifiCorp - Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Picnic area • Restrooms • Boat launch with boarding dock • Interpretive signs 	<ul style="list-style-type: none"> • Picnicking • Boating • Fishing • Informal camping 	Remove; gravel access road to remain until restoration is complete.	Remove recreation site prior to reservoir drawdown; access road to be removed post-drawdown.

Site Name (Landowner)	Future Owner	Site Amenities	Available Recreation Opportunities	Proposed Site Disposition	Schedule
Copco Cove (PacifiCorp - Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Picnic area • Restrooms • Boat launch with boarding dock • Interpretive signs 	<ul style="list-style-type: none"> • Picnicking • Boating • Fishing • Informal camping 	Remove; project monitoring well and culvert to remain.	Remove prior to reservoir drawdown
Iron Gate Development					
Overlook Point (PacifiCorp - Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Restrooms • Picnic sites 	<ul style="list-style-type: none"> • Picnicking • Sightseeing (of reservoir) 	Remove	Remove prior to reservoir drawdown
Wanaka Springs Day Use Area (PacifiCorp - Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Picnic areas • Fishing dock • Restrooms • Trail to the site of Wanaka Springs • Interpretive signs 	<ul style="list-style-type: none"> • Picnicking • Fishing • Hiking • Informal camping 	Remove	Remove prior to reservoir drawdown
Camp Creek Day Use Area and Campground (PacifiCorp - Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Campsites • Boat launch • Boarding and fishing docks • Swimming area • RV dump station • Interpretive display • Restrooms 	<ul style="list-style-type: none"> • Developed camping • RV camping • Boating • Fishing • Education • Swimming 	Remove; gravel access road to remain.	Remove prior to reservoir drawdown
Juniper Point Day Use Area and Campground (PacifiCorp - Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Campsites • Fishing dock • Restrooms • Interpretive signs 	<ul style="list-style-type: none"> • Developed camping • Fishing 	Remove	Remove prior to reservoir drawdown

Site Name (Landowner)	Future Owner	Site Amenities	Available Recreation Opportunities	Proposed Site Disposition	Schedule
Mirror Cove Day Use Area and Campground (PacifiCorp - Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Campsites • Picnic sites • Boat launch • Restroom • Fishing dock 	<ul style="list-style-type: none"> • Picnicking • Developed camping • Boating • Group camping • Waterskiing • Fishing 	Remove	Remove prior to reservoir drawdown
Fall Creek Day Use Area (PacifiCorp - Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Picnic area • Boat launch access • Portable toilet 	<ul style="list-style-type: none"> • Picnicking • Boating 	Remove informal facilities. River access ramp to be improved; may include additional site enhancements – this will be considered a new site (see Figure 6-4).	Removal of informal facilities and improved river access to occur prior to reservoir drawdown. River access ramp to be improved prior to reservoir drawdown for fire access purposes.
Fall Creek Falls Trail (PacifiCorp – Excluded Lands)	PacifiCorp	<ul style="list-style-type: none"> • Hiking trail • Waterfall 	<ul style="list-style-type: none"> • Hiking 	A portion of the trail will be re-routed due to upgrades at the Fall Creek Fish Hatchery; a dry hydrant will be installed near Fall Creek Bridge; majority of trail to remain, as this will be associated with the PacifiCorp’s FERC License.	Trail to be re-routed based on the final hatchery construction schedule. This may occur either pre or post drawdown.
Jenny Creek Day Use Area and Campground (PacifiCorp – Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Campsites (6) • Restrooms • Hiking trails 	<ul style="list-style-type: none"> • Picnicking • Fishing, • Developed camping 	Remove; a dry hydrant will be installed at Jenny Creek near the former recreation site.	Remove prior to reservoir drawdown
Long Gulch Day Use Area and Campground (PacifiCorp – Parcel B Lands)	State of California	<ul style="list-style-type: none"> • Picnic sites • Boat launch • Restrooms 	<ul style="list-style-type: none"> • Picnicking • Boating • Informal camping 	Remove	Remove prior to reservoir drawdown

Site Name (Landowner)	Future Owner	Site Amenities	Available Recreation Opportunities	Proposed Site Disposition	Schedule
Iron Gate Hatchery Day Use Area, north and south side of river (PacifiCorp – Parcel B Lands.	State of California	<ul style="list-style-type: none"> • Picnic area • Visitor center/ interpretive kiosk • Restrooms 	<ul style="list-style-type: none"> • Trail to river, undeveloped boat launch north side of River, west side of Daggett Bridge. • Picnicking • Education • Hiking • Touring • Boating 	Retain; a new river access ramp will be installed across from existing day use area (north side of river).	River access ramp to be installed prior to reservoir drawdown for fire access purposes

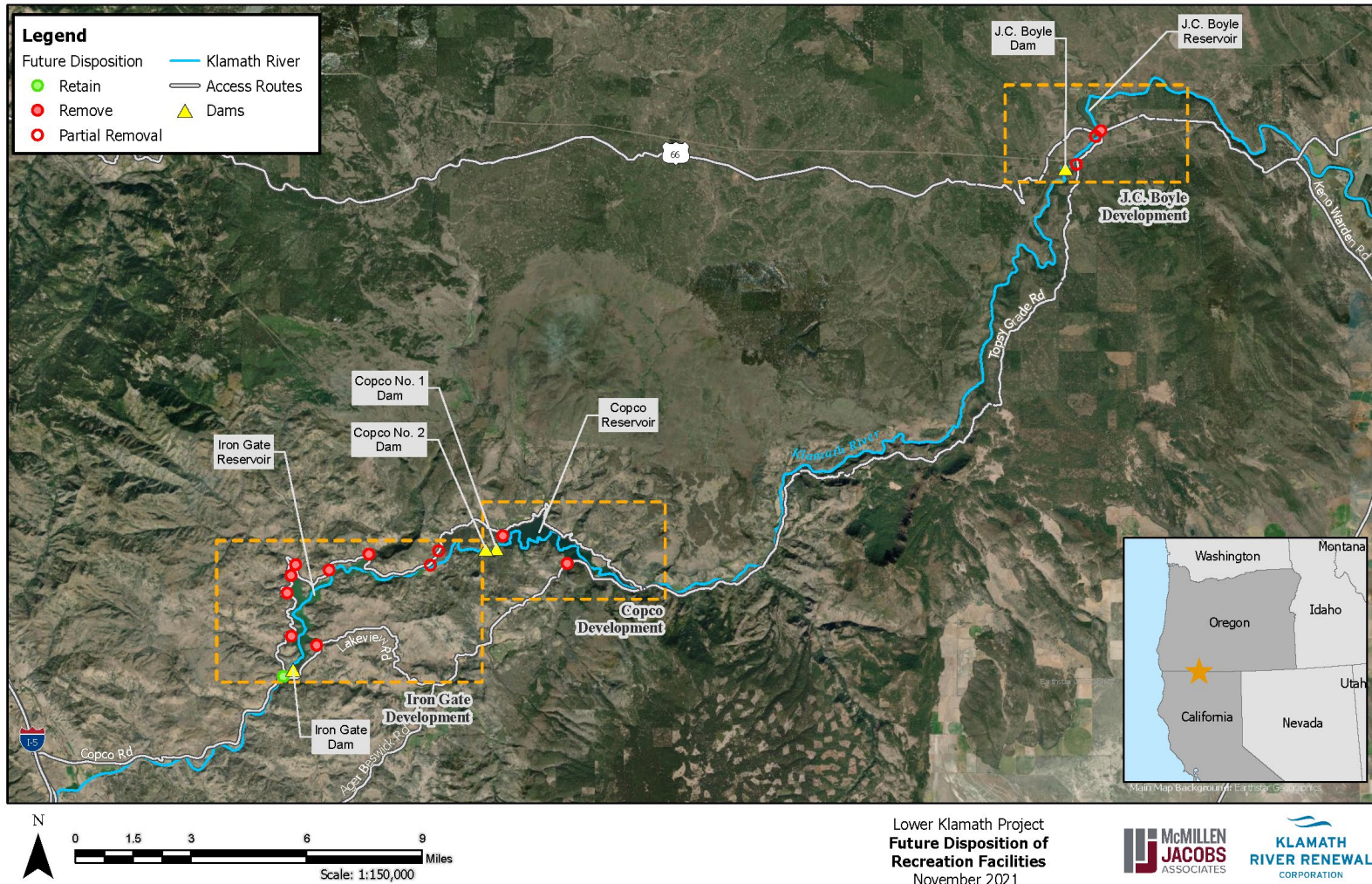
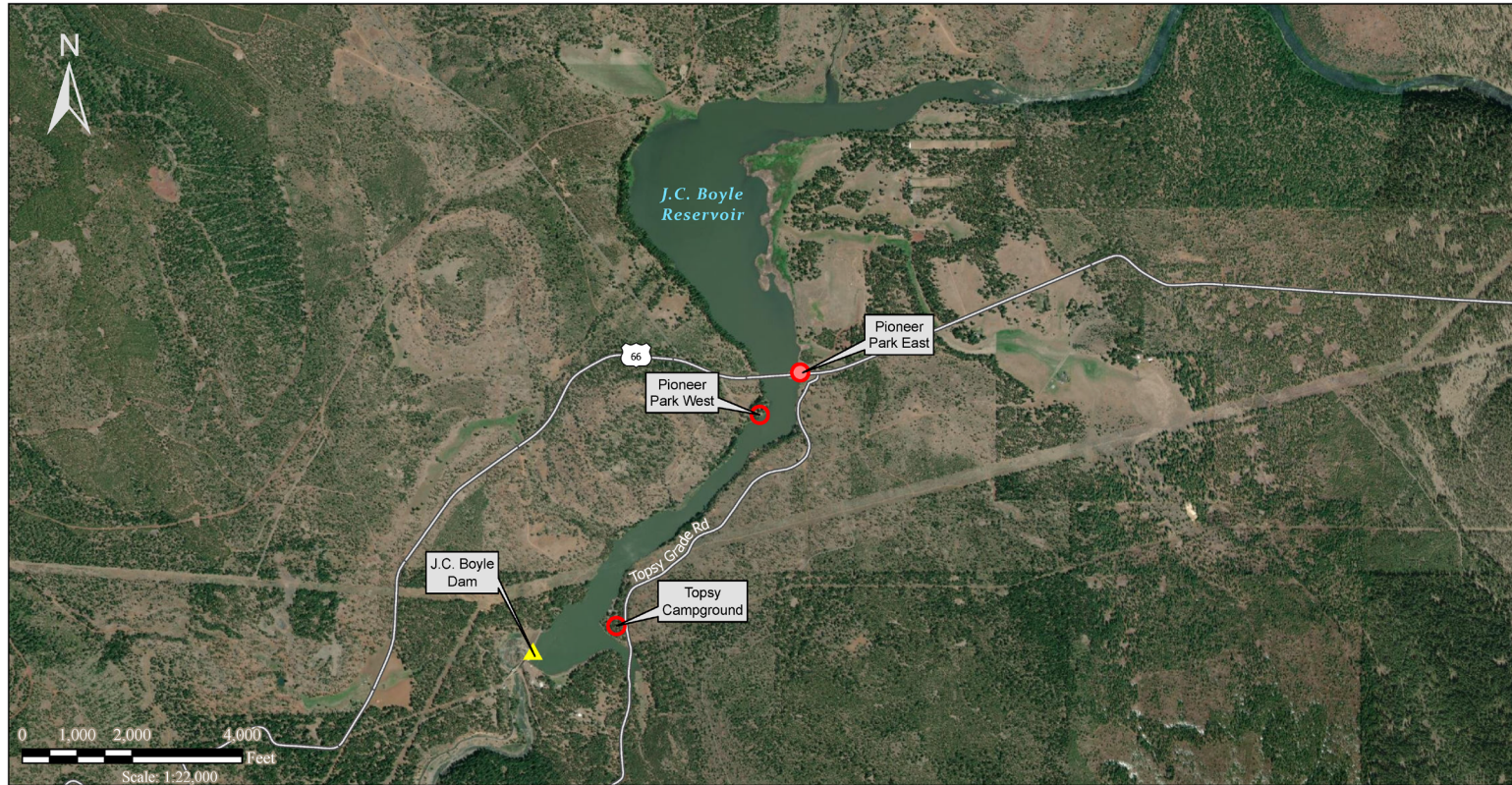
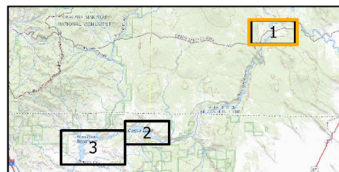


Figure 4-1: Overview of Future Disposition of Recreation Sites






Notes

1. Data Sources: Recreational Facilities, Access Roads, Dams; McMillen Jacobs
2. Background: Maxar, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

<p>Future Disposition</p> <ul style="list-style-type: none"> ● Retain ● Remove ○ Partial Removal 	<ul style="list-style-type: none"> ▲ Dams Access Roads
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Lower Klamath Project
Future Disposition of Recreation Facilities
J.C. Boyle Development
November 2021



1. Pioneer Park West: Above-ground features will be removed. A new recreation enhancement site with the same name is planned for future installation (see Section 6).
2. Topsy Campground: Reservoir recreation features (i.e., boat launch and floating dock) to be removed only; other site features to remain.

Figure 4-2: Future Disposition of Recreation Sites: J.C. Boyle Development

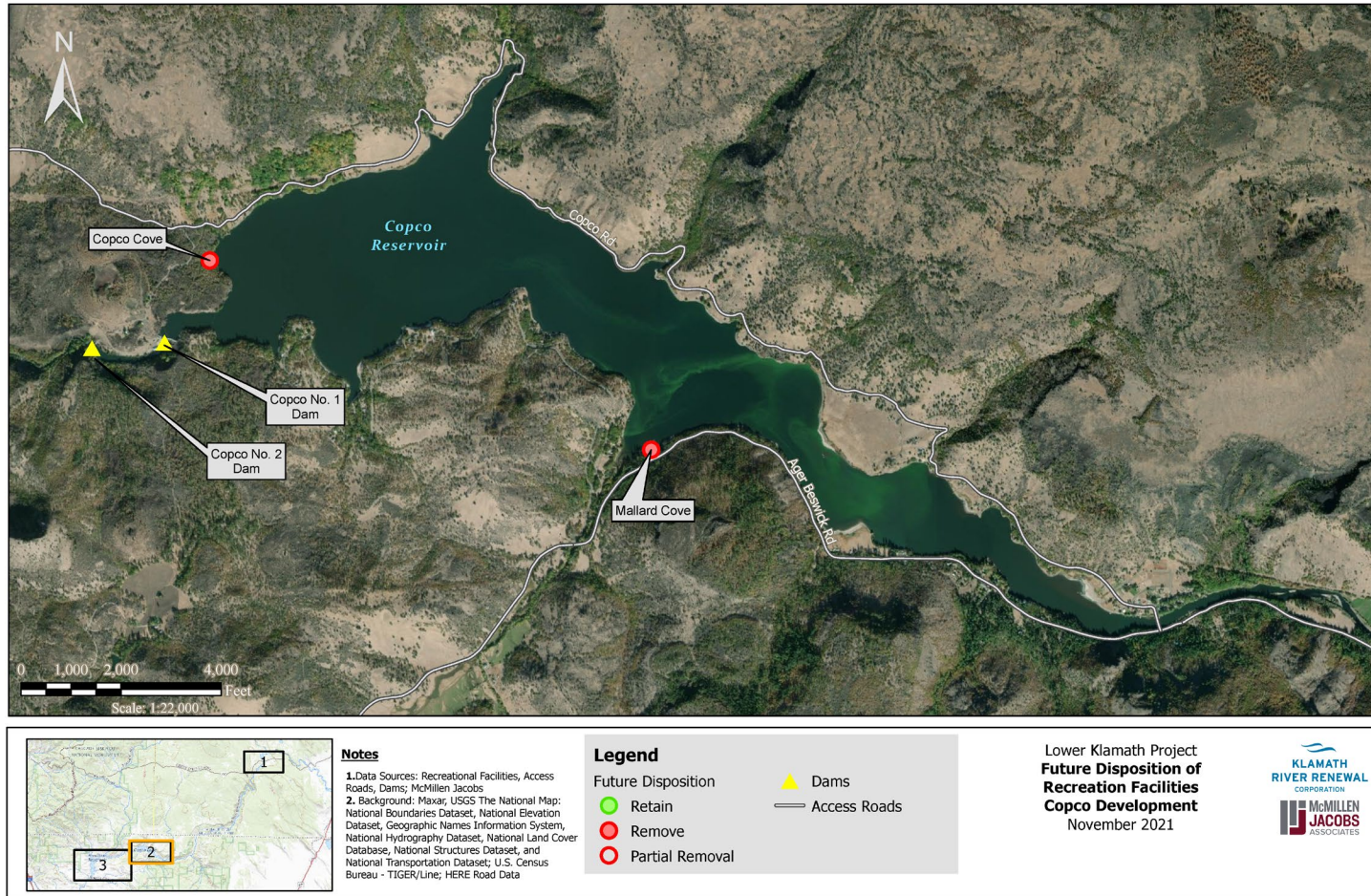
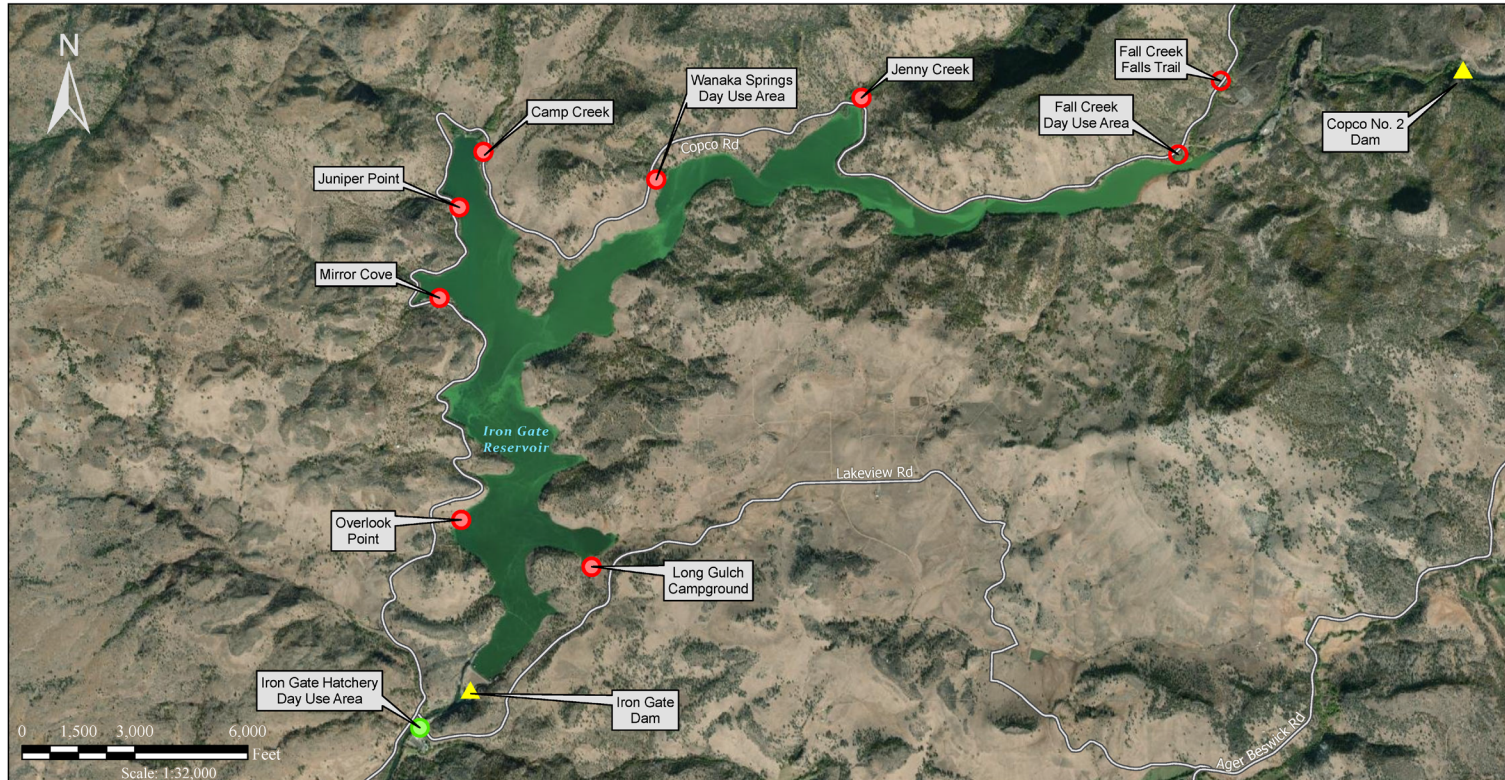
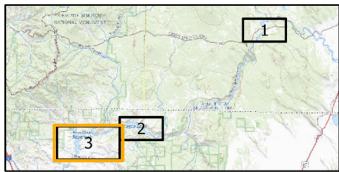



Figure 4-3: Future Disposition of Recreation Sites: Copco Development



	<p>Notes</p> <p>1. Data Sources: Recreational Facilities, Access Roads, Dams; McMillen Jacobs</p> <p>2. Background: Maxar, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data</p>	<p>Legend</p> <p>Future Disposition</p> <ul style="list-style-type: none"> ● Retain ● Remove ● Partial Removal <ul style="list-style-type: none"> ▲ Dams Access Roads 	<p>Lower Klamath Project Future Disposition of Recreation Facilities Iron Gate Development November 2021</p>	
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1. Fall Creek Day Use Area: Informal features to be removed; new river access ramp to be installed with other site improvements (see Section 6).
2. Fall Creek Falls Trail: A portion of the trail will be re-routed as a result of upgrades to the fish hatchery.
3. Iron Gate Hatchery Day Use Area: River access ramp will be improved on north side of river across from existing day use area.

Figure 4-4: Future Disposition of Recreation Sites: Iron Gate Development



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4.2 Recreation Facilities and Sites Outside the FERC Project Boundary

The Renewal Corporation includes this Section 4.2 for information only to provide context for the recreation setting and opportunities. The Renewal Corporation will not remove or modify these facilities and sites, which are not part of the Proposed Action.

There are many recreation sites located along the Klamath River between J.C. Boyle Reservoir and Iron Gate Reservoir. Some of these sites are considered non-Project recreation sites that are located outside of the FERC Project Boundary. The recreation sites outside of the FERC Project Boundary are not located on reservoirs and thus will not be directly affected by dam removal and reservoir drawdown. Table 4-2 lists the existing recreation sites located outside the FERC Project Boundary.

Table 4-2: Anticipated Disposition of Existing Recreation Sites Outside the FERC Project Boundary

Site Name (Landowner)	Future Owner	Site Amenities	Available Recreation Opportunities	Proposed Site Disposition
Sportsman’s Park (Klamath County)	Klamath County	<ul style="list-style-type: none"> • Shooting ranges • Dirt racetracks • Archery ranges • Model aircraft flying field • OHV area • Restrooms 	<ul style="list-style-type: none"> • River fishing • Shooting • Racing • OHV use • Archery • Model aircraft flying • RV camping • Camping 	Unchanged
Spring Island Boater Access (BLM)	BLM	<ul style="list-style-type: none"> • Boat launch area • Shoreline fishing access • Restrooms • Interpretive signs 	<ul style="list-style-type: none"> • Boating • Fishing • Day use 	Unchanged
Klamath River Campground (BLM)	BLM	<ul style="list-style-type: none"> • Campsites • Shoreline fishing and boating access • Restrooms 	<ul style="list-style-type: none"> • Camping • Fishing • Boating 	Unchanged
Turtle Camp (BLM)	BLM	<ul style="list-style-type: none"> • Picnic tables • Fire pits 	<ul style="list-style-type: none"> • Semi-primitive camping 	Unchanged

Site Name (Landowner)	Future Owner	Site Amenities	Available Recreation Opportunities	Proposed Site Disposition
Stateline Take-out (BLM and PacifiCorp - Parcel A Lands)	PacifiCorp and BLM	<ul style="list-style-type: none"> • Boat put-in/take-out • Shoreline fishing access • Restrooms 	<ul style="list-style-type: none"> • Boating • Fishing • Dispersed recreation 	Outside of Proposed Action (Parcel A land - PacifiCorp will retain ownership of the land; not transferred to KRRC)
Fishing Access Sites 1 through 6 ¹ (PacifiCorp - Parcel A Lands)	PacifiCorp	<ul style="list-style-type: none"> • Shoreline fishing access • Parking • Restrooms • Boat take-out at Site 1 	<ul style="list-style-type: none"> • Fishing • Boating 	Outside of Proposed action (Parcel A land - PacifiCorp will retain ownership of the land; not transferred to KRRC)

Notes

1. Fishing Access Site 6 serves as the take-out for the majority of boaters starting at Spring Island.



Chapter 5: Recreation User Safety During Deconstruction

5. RECREATION USER SAFETY, MONITORING AND REPORTING

The following sections describe the measures the Renewal Corporation will implement as part of the Proposed Action to protect visitor safety during deconstruction activities and to provide advance signage at existing recreation facilities identified for removal, and a community notification procedure. These measures are to be incorporated as enforceable conditions of the License Surrender Order. For ease of reference, this Section 5 of the Recreation Facilities Plan is referred to herein as the Recreation Safety and Monitoring Plan.

5.1 Relationship to Other Management Plans

This Recreation Safety and Monitoring Plan is supported by elements of the following management plans for effective implementation: the Health and Safety Plan, which includes a Public Safety Plan, and the Construction Management Plan, which addresses traffic management, access, signage and measures that restrict the public from areas that may be dangerous. The Recreation Facilities Plan is also supported by the recreation provisions in the Water Quality Monitoring and Management Plan.

5.2 Communication Protocols

The Renewal Corporation will provide notice of road closures to the Klamath County sheriff, BLM, and Siskiyou County sheriff to coordinate any emergency service routes as necessary. The Renewal Corporation will place warning signs at all existing recreation facilities informing users of the closure, which will be posted in English, Spanish and Hmong. The content of these signs will describe the dangers associated with the altered reservoir landscape after the drawdown, including the potential collapse of unstable slopes, ongoing deconstruction activities, and potentially dangerous debris that could be encountered. In addition, the signs will explain that dam removal and reservoir drawdown will change fish availability as species shift from lake-dwelling panfish to riverine species, changes in gear required to catch riverine fish, and the seasonality of anadromous fish.

Signs will direct visitors to stay out of areas that are fenced off or currently closed. Additional text that briefly describes the efforts, goals, and outcomes of the Proposed Action and a contact number for questions and potential concerns will also be supplied. Details on signage location and content and/or floating barriers pertaining to deconstruction activities will be further described in the Construction Management Plan and Health and Safety Plan.

Public access will be allowed upon completion of dam decommissioning activities. The Renewal Corporation will provide the schedule for this access through outreach to stakeholder group(s), the Renewal Corporation website, and signage in English, Spanish and Hmong. Whitewater boating will not be allowed in the newly created free flowing reaches until the Renewal Corporation has surveyed the reaches post deconstruction and determined that boating access is safe from deconstruction materials or woody debris related to dam breaching activity. The Renewal Corporation will communicate the access status directly with professional outfitters. The Renewal Corporation will complete outreach to local recreation groups via social media,

newspapers, and other forums reasonably necessary to inform the public of safe access conditions. Outreach will also target native Spanish and Hmong speakers through these mechanisms.

5.3 Visitor Safety Measures During Deconstruction Activities

The Renewal Corporation has a Public Safety Plan (Health and Safety Plan, Appendix C) which, subject to Commission approval, will provide a comprehensive approach to protecting the public during deconstruction. It will provide the necessary details on access, signage and methods to ensure that the public is restricted from areas that may be dangerous.

A Traffic Management Plan (part of the Construction Management Plan) outlines interim signage and temporary access controls during deconstruction to provide safe access. The Plan will identify locations where access to existing recreation facilities is eliminated to allow for their decommissioning. The Plan will include appropriate advance signage at existing recreation facilities identified for removal. A community notification procedure will be implemented as part of implementation of this Plan.

Finally, an Emergency Response Plan (part of the Construction Management Plan) has been developed to address road closures during emergencies or evacuation situations.

5.4 Recreational Access During Deconstruction

The Renewal Corporation will monitor and manage public recreation access to J.C. Boyle, Copco and Iron Gate reservoirs addressing changing conditions. Beginning in January preceding the drawdown year, construction activities will begin on upgrades to Fall Creek Fish Hatchery; beginning in March preceding the drawdown year, roads, bridges, and project dam features will be modified to prepare for the dam removal. These actions may temporarily delay vehicular access to existing day use and camping areas. The whitewater boating put-in below J.C. Boyle Powerhouse (Spring Island Boater Access) and the take-out at Fishing Access Site 1 may experience occasional vehicular access delays related to road improvement and/or deconstruction equipment mobilization. From April to July of the pre-drawdown year, access improvements are scheduled at the J.C. Boyle scour hole, which will create potentially longer delays for outfitters reaching the Spring Island Boater Access whitewater boating put-in.

The Renewal Corporation will communicate any scheduled changes to flow releases from J.C. Boyle Reservoir related to pre-drawdown deconstruction. The Renewal Corporation has established a communication protocol to provide outfitters with as much advanced notice as possible. In particular, the Renewal Corporation will engage UKOA and American Whitewater to ensure that all outfitters are aware of when J.C. Boyle high flow releases will cease, and when mandatory out-of-river periods for drawdown will occur. Post-drawdown, the Renewal Corporation will work with UKOA and American Whitewater to determine when the river is safe to access and when outfitters can resume commercial boating. To accomplish this, the Renewal Corporation has laid out the following protocols.

- During the summer of the pre-drawdown year, approximately six months prior to the start of drawdown, the Renewal Corporation will meet with UKOA and American Whitewater to provide any relevant updates to the construction schedule so they can assist with outreach efforts in preparing the outfitters for upcoming closure during the drawdown year.
- Late in the pre-drawdown year, approximately one to two months prior to the start of drawdown, the Renewal Corporation will once again meet with UKOA and American Whitewater to provide further updates on the construction schedule and provide a date for river closure.
- In the fall of the drawdown year, after reservoir drawdown is complete, the Renewal Corporation will meet with UKOA and American Whitewater to assess river conditions and determine the appropriate time for outfitter staff to conduct “trial runs” in certain reaches.
- Once outfitters have determined reaches of the Klamath River suitable for whitewater boating, the Renewal Corporation, BLM, UKOA, and American Whitewater will determine the appropriate date to resume commercial boating and will communicate this more broadly to outfitters in the region.

The Renewal Corporation will place signs posted in English, Spanish and Hmong at all existing recreation sites informing users of the closure. The Public Safety Plan provides additional information on the process of communications and the conditions upon which notifications will be sent.

The Renewal Corporation will close the reservoirs and reservoir recreation sites, and access will not be permitted for public safety in the pre-drawdown year after the end of the primary recreation season (October). This will restrict whitewater boating, camping and day use within the affected areas and river reaches between J.C. Boyle Powerhouse and approximately Iron Gate Dam at Lakeview Bridge. The Renewal Corporation will install barriers restricting the public at all recreation access points. Residential traffic will be allowed over Lakeview Bridge to Irongate Estates. Deconstruction access to the J.C. Boyle Bypass Reach or the Copco No. 2 Bypass Reach for commercial boating will not be allowed due to safety concerns given the deconstruction work occurring near access points and along the river.

All existing boat docks along Copco Lake and Iron Gate Reservoir will need to be removed or securely anchored prior to drawdown. The Renewal Corporation will contact dock owners well in advance of reservoir drawdown informing them to remove or secure docks. The Renewal Corporation will also remove any signage associated with these dock facilities.

As noted above, whitewater boater access to the Hydroelectric Reach will not be allowed in the year of drawdown. The Renewal Corporation will place signage at Topsy Grade Road and J.C. Boyle Powerhouse Road notifying users of the conditions. In general, throughout the Project area, the Renewal Corporation will place signage at locations that will provide exposure for public viewing in proximity to road use restrictions. The Renewal Corporation will also place signs at locations that provide adequate space for vehicle turnaround. All signs will be posted in English, Spanish and Hmong.

The installation of signage and fencing will be implemented in accordance with the Public Safety Plan.

5.5 Recreation Monitoring and Reporting

5.5.1 Water Quality Monitoring

Water contact recreation has the potential to expose the public to water quality impairments such as *E. coli* or fecal coliform and microcystin toxin. This section describes measures to protect the public health interest related to existing recreation sites and future enhancements.

Prior to reservoir drawdown, PacifiCorp will continue to operate and monitor the existing recreation sites with river access on Parcel B lands, as described in the Operations and Maintenance Agreement (2022) between the Renewal Corporation and PacifiCorp. In the fall of the pre-drawdown year, all existing recreation sites identified for complete removal will have all infrastructure removed. Those sites identified as “partial removal” will have their respective water access infrastructure removed. Therefore, during the time of reservoir drawdown there will not be any remaining recreation sites that allow for public water contact. During drawdown, public access into these decommissioned recreation sites will be prohibited as provided in the Public Safety Plan and described in section 5.4.

Following drawdown, no reservoirs will remain. The Renewal Corporation will undertake monitoring at recreation sites as provided in Sections 5.5.1.1 – 5.5.1.2. As described in Section 6, the Renewal Corporation will develop recreation enhancement sites by agreement with the States of California and Oregon. The Renewal Corporation will submit for the Commission’s approval, specifications for design, construction, operation, and monitoring of such enhancement sites as appropriate to protect water quality.

5.5.1.1 Oregon Public Recreation Water Quality Monitoring

The Oregon Department of Environmental Quality’s (ODEQ) water quality certification (2018) does not require recreation-related water contact water quality monitoring. For recreation facilities removal or enhancements that occur within the 24-month compliance time, the Renewal Corporation will monitor turbidity approximately 100 feet upstream and 300 feet downstream during proposed activities at recreation sites being removed.

Turbidity monitoring results will be included in the Annual Compliance Report per Condition 11 of ODEQ’s certification. The report shall include:

- Summarized monitoring results,
- Proposed adaptive management measures to address exceedances.

5.5.1.2 California Public Recreation Water Quality Monitoring

Condition 1 (Water Quality Plan) and Condition 19 (Recreation Facilities) in the SWRCB’s Clean Water Act Section 401 Water Quality Certification (SWRCB 2020) provide for water quality monitoring specific to public recreation. Condition 19 requires such monitoring to be included in the Recreation Facilities Plan. The terms of Condition 19 are addressed below as required. These terms are subject to potential modification

by the SWRCB and the Renewal Corporation. The Renewal Corporation will collect and analyze grab water quality samples during the pre-drawdown at designated recreation sites open to the public (as outlined below) for the protection of the recreational water contact (REC-1) beneficial use as defined in the North Coast Basin Plan (RWQCB 2018) at Project recreation facilities with public water contact.

Sampling Collection Methods

The Renewal Corporation will use sampling methods that comply with protocols developed and published by United States Environmental Protection Agency, United States Geological Survey, California Department of Water Resources, CDFW, or Surface Water Ambient Monitoring Program. For fecal coliform, the Renewal Corporation will, at each site with active water contact recreation, collect five samples in the 30-day period spanning Independence Day (June – July) and five samples in the 30-day period spanning Labor Day (August – September) each year until the site is transferred to a new owner or decommissioned. For microcystin, the Renewal Corporation will collect one sample per site each month during May through October prior to drawdown and for two years following the completion of drawdown.

Laboratory Analytical Methods

Analytical methods will comply with the eCFR Title 40, Part 136, or methods approved by Environmental Laboratory Approval Program (ELAP), where such methods are available. Samples that require laboratory analysis will be analyzed by ELAP-certified laboratories.

Water Quality Analytical Results

Per the North Coast Basin Plan, for waters designated for contact recreation the median concentration of fecal coliform for at least five samples in any 30-day period shall not exceed 50 MPN² per 100 milliliters (mL), nor shall more than 10% of total samples during any 30-day period exceed 400 MPN per 100 mL (RWQCB 2018).

Per California Water Quality Monitoring Council (2020) *Table 3 – CCHAB trigger levels for posting planktonic advisory signs*, the Renewal Corporation will use the following trigger levels to determine advisory posting efforts for microcystin toxins:

- No Advisory – <0.8 µg/L
- Caution (Tier 1) – 0.8 µg/L
- Warning (Tier 2) – 6.0 µg/L
- Danger (Tier 3) – 20.0 µg/L

If results for fecal coliform or microcystin exceed these levels, the Renewal Corporation will post appropriate public notice(s) at the affected recreation site(s).

For microcystin exceedances, signage will be posted in accordance with CA SWRCB voluntary posting guidelines ‘My Water Quality: California Harmful Algal Blooms (HABs)’

² MPN is defined as the Most Probable Number, based on laboratory analysis.

https://mywaterquality.ca.gov/habs/resources/habs_response.html”

5.5.2 Water Quality Protection Measures

5.5.2.1 Existing Facilities

Pre drawdown reservoir recreation water quality will be monitored in accordance with state requirements. The Renewal Corporation will perform any public postings as required. All recreation sites identified for removal will meet the National Pollutant Discharge Elimination System for site stabilization permits from Oregon (1200-C Permit) and California (Construction General Permit). Monitoring and reporting required as part of the 1200-C Permit and Construction General Permit will be conducted to achieve final stabilization.

5.5.2.2 New Facilities

The new facilities to be developed by the States of Oregon and California with river access for boats, will provide public education signage regarding aquatic invasive species and proper boat cleaning at established public boat access locations or visitor information kiosks in the vicinity. The new recreation sites that will include these measures are:

- Pioneer Park West
- Moonshine Falls
- Copco Valley
- Fall Creek Day Use Area
- Iron Gate

For newly constructed or enhanced recreation sites, monitoring of microcystin toxins will occur for a minimum of two years beginning with completion of construction or enhancements.

5.5.3 Reporting

The Renewal Corporation will notify the Commission and the SWRCB when fecal coliform and microcystin advisory levels are exceeded, and public notices are posted. The Renewal Corporation will provide an Annual Report to the States of California and Oregon and the Commission by April 1 and April 15, respectively, on the status of any proposed construction, removal, or enhancements to Project recreation facilities; water quality monitoring results including a summary of results, exceedances of fecal coliform or microcystin, and adaptive management measures to address exceedances; and any proposed enhancements to the Recreation Facilities Plan requested by the Licensee.



Chapter 6: New Recreation Enhancement Sites

6. NEW RECREATION ENHANCEMENT SITES

The Renewal Corporation proposes that the License Surrender Order authorize recreation enhancement sites described in this Section 6. These sites, while not necessary to mitigate the impacts of License Surrender, will enhance recreational access in preparation for long-term use. The Renewal Corporation will develop these sites through agreement with the applicable State. The Renewal Corporation will submit specifications for design, construction, operation, and monitoring, for the Commission’s approval before development of these sites.

6.1 New River Recreation Enhancement Sites

The Renewal Corporation has worked with the States and other stakeholders to identify recreation opportunities that will enhance this beneficial use after License Surrender Order. This Section 6 represents new recreation enhancement sites related to post dam removal conditions. These sites were identified in part through a recreation stakeholder planning process. Appendix A provides a more detailed accounting of the stakeholder planning process as well as the breadth of interests the stakeholders expressed. The new recreation enhancement sites are listed in Table 6-1 below.

The Renewal Corporation will develop these enhancement sites in cooperation with the States, Shasta Indian Nation, and Klamath Tribes. Specifically, the Renewal Corporation and States will enter into implementing agreements for funding, and will finalize specifications for construction, operation, and maintenance. The Renewal Corporation will submit specifications to the Commission for approval, as an update to this plan. Table 6-1 identifies these enhancement sites, which are also shown in Figure 6-1 through Figure 6-4. Each of the sites is within the existing reservoir footprint, as shown in the figures.

Table 6-1: New Recreation Enhancement Sites¹

Site	Expected Recreation Opportunities
Pioneer Park West ²	<ul style="list-style-type: none"> • Informal shoreline recreation • Whitewater boating • Fishing • Boating • Picnicking/Day use • Informal shoreline recreation
Moonshine Falls ³	<ul style="list-style-type: none"> • Whitewater boating • Fishing • Boating • Picnicking/Day use

Site	Expected Recreation Opportunities
Copco Valley ³	<ul style="list-style-type: none"> • Whitewater boating • Fishing • Boating • Picnicking/Day use • Informal shoreline recreation
Fall Creek Day Use Area ^{3,4}	<ul style="list-style-type: none"> • Picnicking • Boating • Fishing
Iron Gate ³	<ul style="list-style-type: none"> • Whitewater boating • Fishing • Boating • Informal shoreline recreation

Notes

1. The names of the new recreation enhancement sites are not final. Names will be decided in consultation with the Shasta Indian Nation and any other interested Tribes.
2. This site will be located in a stretch of the Klamath River currently inundated by J.C. Boyle Reservoir. The existing Pioneer Park West recreation would be removed as the site would no longer provide shoreline access after reservoir drawdown.
3. Additional planning is underway, and this site may be reduced in size and amenities to minimize footprint to avoid cultural resources, minimize potential environmental impacts, and lower maintenance costs.
4. Although improvements would occur at the existing location, Fall Creek Day Use Area is considered a new recreation enhancement site.

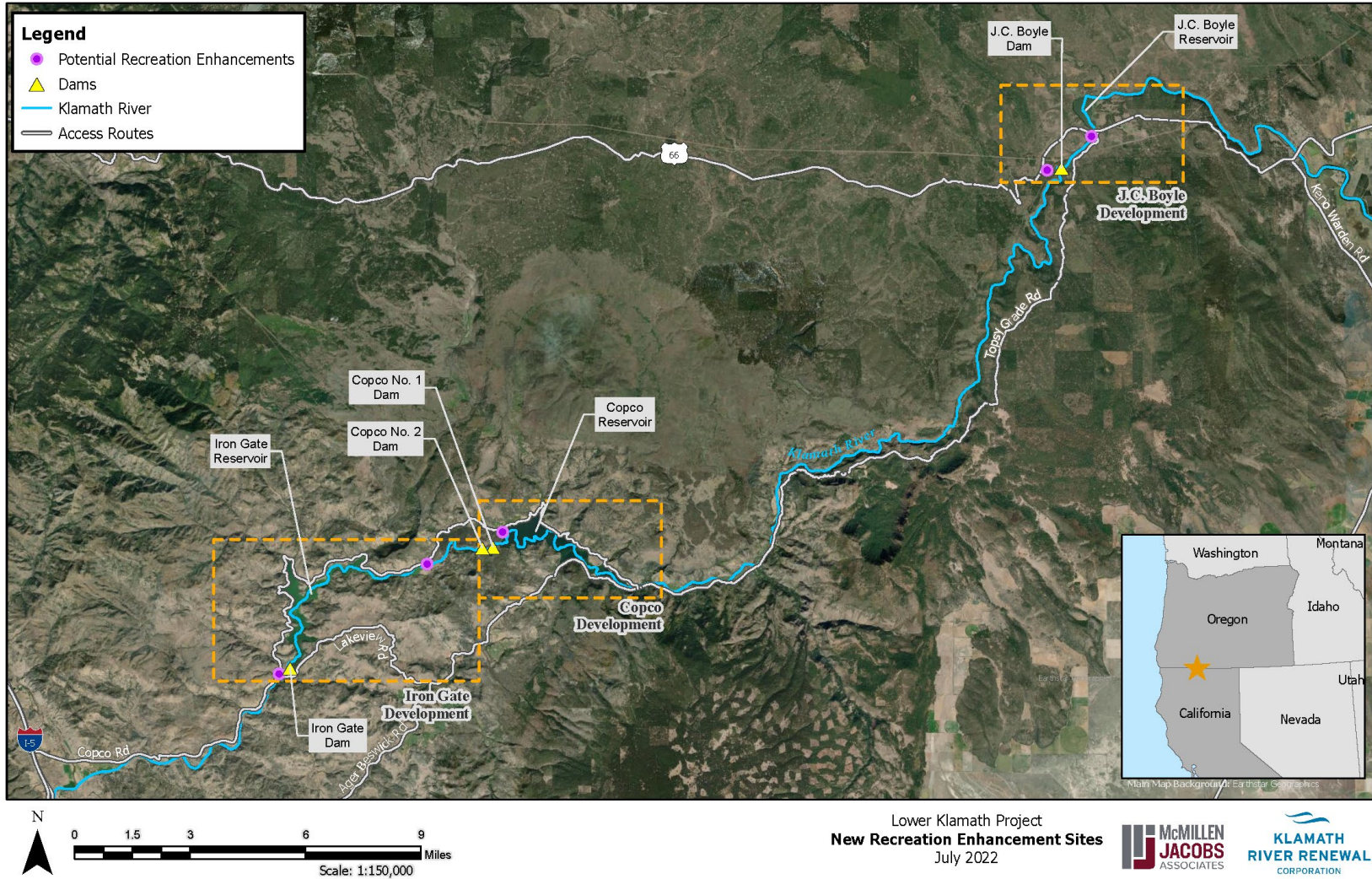


Figure 6-1: Overview of New Recreation Enhancement Sites

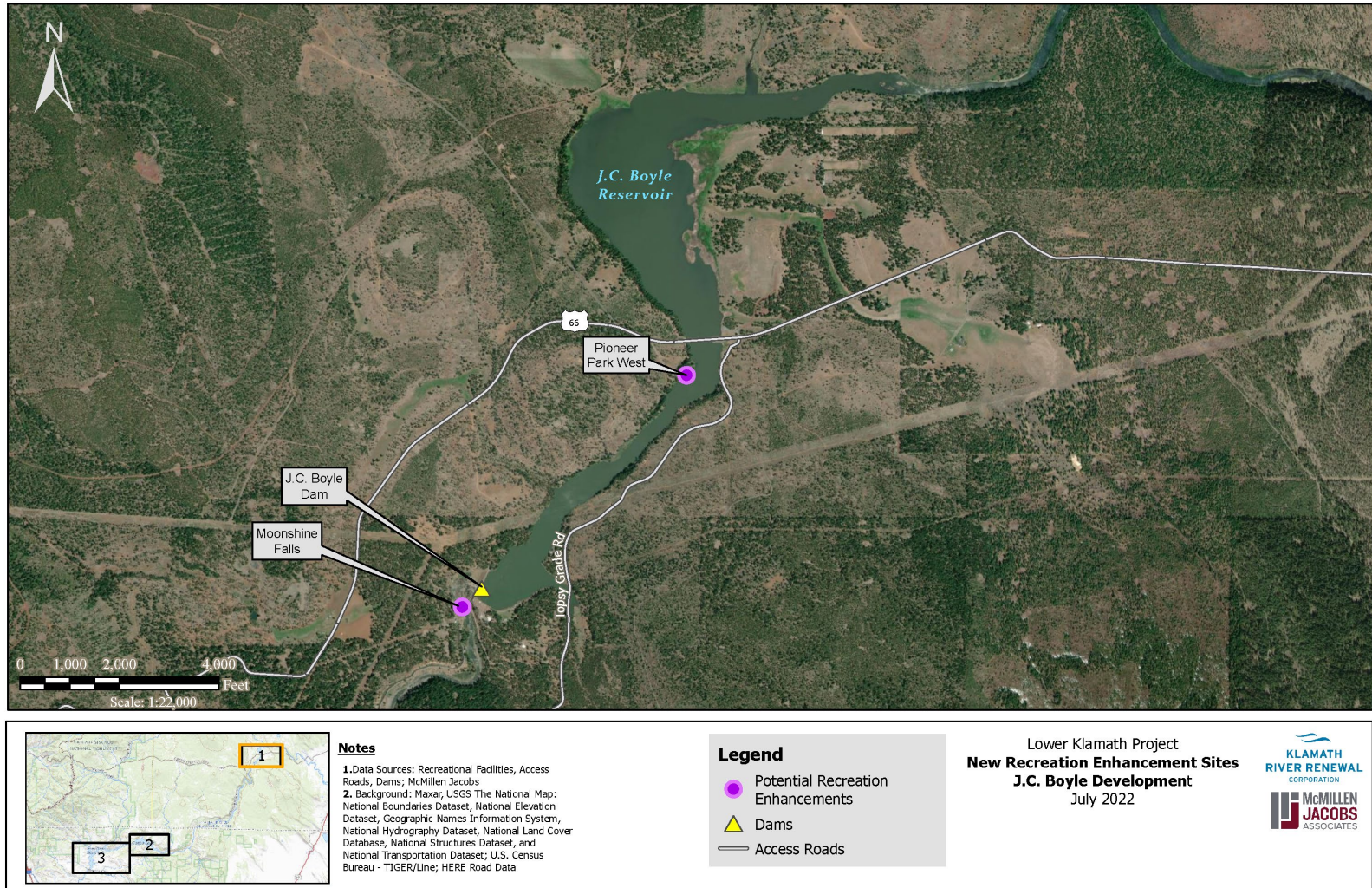
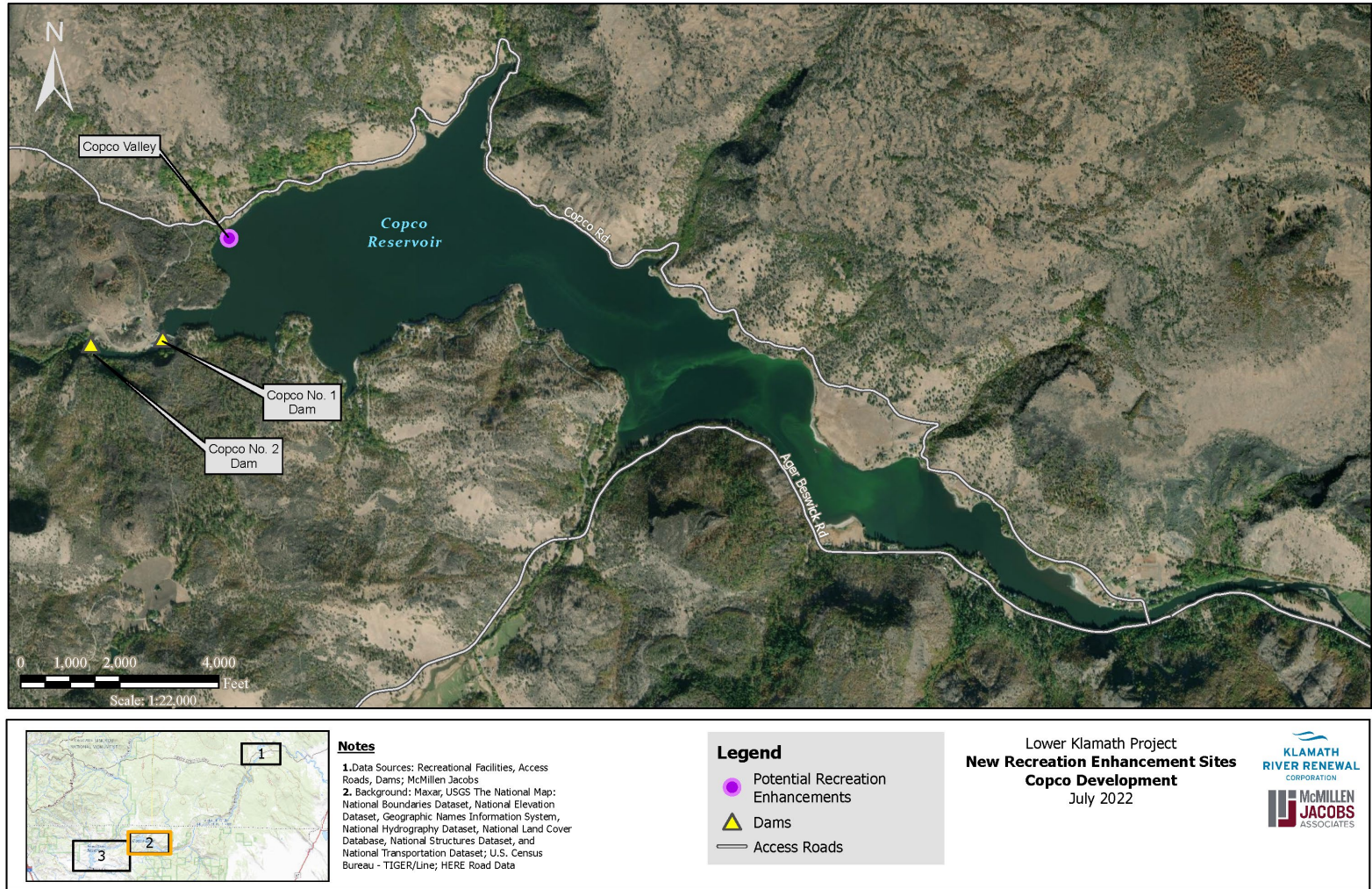
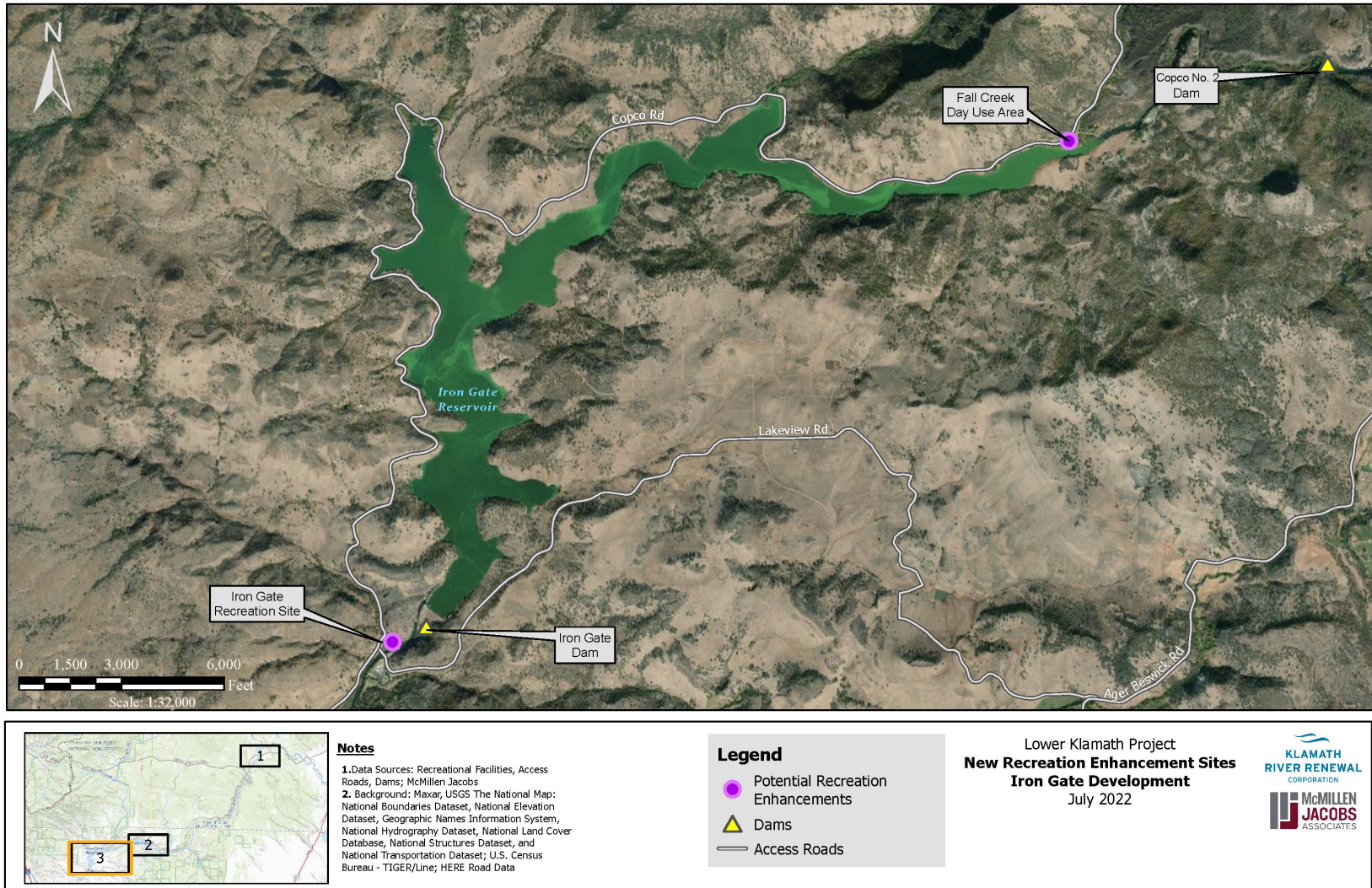


Figure 6-2: New Recreation Enhancement Sites: J.C. Boyle Development



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Figure 6-3: New Recreation Enhancement Sites: Copco Development



Map Document Path: C:\Users\jlmarr\OneDrive\Project_Docs\Klamath_River_Renewal_PFA\GIS_Support_Web\img\arcgis_map\recreation_facilities_gis\recreation_facilities_gis.aprx | November 2022

Figure 6-4: New Recreation Enhancement Sites: Iron Gate Development



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6.2 Planning Direction for New Recreation Sites

The recreation sites discussed in this section of the Recreation Facilities Plan will assist the States (as owners after License Surrender) in supporting new recreation opportunities. After License Surrender is effective, the recreation sites discussed above can be configured by the States to take advantage of new river conditions and the anticipated new recreation opportunities available post dam removal.

The Renewal Corporation used the following guiding principles in evaluating river-related recreation sites and amenities as guidance for use by successor owners of Parcel B lands:

- Provide whitewater boating access to “new” sections of the river (i.e., free flowing, no longer inundated sections). Providing additional whitewater boating access would also provide new whitewater boating opportunities. The new whitewater boating access/opportunities would not be the same or be available at the same time of year as existing whitewater boating opportunities. However, new access points would allow boaters to take advantage of new opportunities on newly exposed portions of the river.
- Provide fishing access to “new” sections of the river. New fishing access locations would also assist in enhancing fishing opportunities.
- Locate new whitewater boating and fishing access sites to take advantage of the new river conditions and provide a variety of recreation experiences and opportunities, such as providing a range of whitewater boating opportunities based on projected river difficulty class.
- Take advantage of existing sites that can be modified to provide river-based, rather than reservoir-based, recreation opportunities to reduce impacts from development of new sites. When considering enhancements to existing sites, the quality of recreation opportunities and experiences should be considered – for instance the relative closeness of the river to the site.
- Take advantage of existing access sites where feasible. These sites have an established recreation setting (i.e., mature vegetation, natural river corridor vegetation, and a similar appearance to surrounding areas), and would maintain continuity for recreation users. Additional improvements to existing access sites may be needed to address anticipated increased recreational visitation and uses.
- Consider sites with existing road access when locating new sites as this would reduce site development impacts and long-term maintenance costs.
- Take into consideration environmentally and culturally sensitive areas when locating new recreation enhancement sites and their amenities, such as wetlands and cultural resource features. Consider how site amenities may be located to avoid impacts to environmental/cultural resources and/or how the design of sites could offer protection or enhancement to, and interpretation of, these resources.
- Locate recreation sites and associated amenities to provide a variety of recreation experiences and opportunities. For example, provide varying levels of development for day use visitation and river access (e.g., commercial, private, half-day, multi-day, boating, fishing). Development at a site should consider the setting, the level of use, and difficulty associated with the recreation activities.

- Consider projected recreation use when sizing new amenities, as well as projected users (e.g., private versus commercial, short-term versus long-term) to ensure sites can accommodate expected use and therefore reduce potential user conflicts and resource damage due to overflow use.
- Consider safety issues when determining the location of new sites to ensure that users of lower skill levels have options to avoid difficult river conditions or in-stream obstacles, and that there are safe areas at sites to provide viewing opportunities of river features.
- Consider restoration activities to be conducted at the location of new recreation enhancement sites and how site design can best be integrated with, and support, restoration goals.
- Design new sites or enhancements of existing sites to be aesthetically beneficial to the local environment and to reduce light and glare.

For further detail on the decision-making process for recreation enhancement sites see Appendix A.

A decorative banner with a wavy, ribbon-like shape. It features a dark blue base color and a lighter blue top section. The text is centered in the dark blue area.

Chapter 7: References

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Appendix A: Stakeholder Consultation for Recreation Enhancement Sites

A.1. Stakeholder Consultation Related to Recreation Enhancement Sites

A.1.1. Introduction

As stated in Section 6 above, the Renewal Corporation has worked with the States and stakeholders to identify recreation enhancement sites. Any new recreation enhancement sites would exceed mitigation of the impacts of the Proposed Action for the purpose of enhancing recreation in the Klamath River Basin. The new recreation enhancement sites are listed in Table 6-1 of this Recreation Facilities Plan and are discussed further below in Section A.2. When site plans are finalized, the Renewal Corporation will submit specifications for design, construction, operation and monitoring for the Commission’s approval, as a revision to this plan.

The purpose of Appendix A to the Recreation Facilities Plan is to describe ideas for recreation enhancements that were considered by the Klamath River Renewal Corporation (Renewal Corporation) for implementation as part of the Lower Klamath Project and the outreach process through which these ideas were developed and screened. Section A.1 outlines the stakeholder process for identifying potential recreation enhancement sites, and Section A.2 identifies the potential recreation enhancement sites that may be constructed if agreement is reached with the State.

A.1.2. Stakeholder Outreach Process

The stakeholder outreach process started in early 2018 and sought input from recreation users, operators, managers, and administrators, including Tribal nations, state and federal agencies, local agencies and chambers of commerce, local residents, recreation businesses, and public interest groups (see Table A-1 below). The Renewal Corporation utilized the Bureau of Reclamation’s 2011 Detailed Plan for Dam Removal – Klamath River Dams³ (2011 Detailed Plan) which identified potential new recreation sites as the starting point for stakeholder meetings. The Renewal Corporation held multiple webinars and in-person meetings as well as conference calls with interested individuals to share and solicit feedback on the Recreation Facilities Plan, existing and future uses of existing recreation sites, potential new recreation enhancement sites, and desired amenities.

Table A-1 Stakeholder Consultation

Stakeholder Name	Stakeholder Name	Stakeholder Name
All-Outdoors	Hornbrook Residents ¹	Oregon Parks and Recreation Department
American Whitewater	Indigo Creek Outfitters ²	PacifiCorp
Bruce Kinseth (R-Ranch)	Jack Trout ³	Quartz Valley Indian Tribe

³ U.S. Department of the Interior (DOI), U.S. Bureau of Reclamation, Technical Services Center. 2011. Detailed Plan for Dam Removal: Klamath River Dams. September 15.

Stakeholder Name	Stakeholder Name	Stakeholder Name
Bureau of Land Management	Jeff Stone	River Dancers
California Department of Fish and Wildlife	John Jacques (Klamathon Lodge)	Rogue Riverkeeper
California Natural Resources Agency	K. Bermel	Shasta Indian Nation
California Trout	Karuk Tribe	Shasta Nation
Carl and Linda Ebert (Copco Village Residents)	Klamath County Chamber of Commerce	Siskiyou Economic Development Council
Copco Village Residents ¹	Klamath County Economic Development	SWCA ⁴
Discover Klamath	Momentum River Expeditions ²	Trout Unlimited
Discover Siskiyou	Noah’s Rafting Adventures ²	
Fly Fishers International - Oregon Council	Oregon Fish and Wildlife	

Notes

1. Participants at public meetings held by Renewal Corporation in Copco Village and Hornbrook in June 2018 to seek input on recreation improvements to be considered in the Recreation Facilities Plan
2. Member of the Upper Klamath Outfitters Association
3. Unaffiliated representatives from local (Klamath River Basin) recreational fishing industry
4. Environmental consulting firm that serves as a consultant for Siskiyou County

In addition to the stakeholder outreach process, the Renewal Corporation solicited input from the whitewater community concerning the 2020 flow study⁴ (Confluence 2021), which is available as Appendix B to the Recreation Facilities Plan, *Whitewater Boating Study Report*.

The Renewal Corporation continued stakeholder outreach after the initial submission of the Recreation Facilities Plan and received more input. Following the initial submission of the Recreation Facilities Plan, the Renewal Corporation held webinars and meetings with stakeholders to discuss the plan and collect feedback, including on the future disposition of existing recreation sites and desired amenities. The Renewal Corporation also participated in a site visit with representatives from several stakeholder groups to gain a better understanding of site conditions, stakeholder requests, and the general feasibility of the requested river access sites. The Renewal Corporation also met with the Cultural Resources Working Group to provide an update on culturally sensitive sites and collect feedback.

Input received during these stakeholder outreach activities included enhancements to existing recreation sites, development of new recreation enhancement sites, and other ideas that would provide recreation benefits. Stakeholders also identified establishing additional river access points, removing in-channel vegetation from bypassed river reaches, funding tourism campaigns, promoting regional recreation, and developing commercial recreation establishments on the river. Using this stakeholder input, the Renewal Corporation conducted a screening and evaluation process to help identify which recreation enhancements

⁴ Confluence Research and Consulting. 2021. Final Whitewater Boating Study Report.

would best achieve recreation planning goals. The following sections describe the ideas proposed during the stakeholder process, screening and evaluation process, and an initial list of potential recreation enhancement sites that were carried forward.

A.1.3. Summary of Recreation Ideas from Stakeholder Consultation

Recreation ideas gathered from the 2011 Detailed Plan, 2018 Definite Plan and Renewal Corporation’s stakeholder consultation (detailed in Appendix C) were catalogued into three broad categories: ideas for 1) enhancements to existing public recreation sites, 2) development of new sites and amenities, and 3) enhancements to privately owned recreation sites from the 2011 Detailed Plan or suggested by stakeholders. These ideas are listed in Table A-2 below and shown in Figure A-1 or A-2 to the extent the location of these sites is known; ideas that are not location-specific or that do not have an identified location at this time are listed in the lower right-hand corner of Figure A-1. Following Table A-2 and Figure A-2 are detailed descriptions the recreation enhancement ideas.

Table A-2. Ideas for Potential Recreation Enhancement Sites

Feature	Proposed Recreation Development	Current Owner/Operator	Source of Idea
Ideas for Enhancements to Existing Public Recreation Sites			
Topsy Campground	Remove and replace or redesign boat ramp and dock for river access and revegetate the reservoir rim in the vicinity of the campground. Develop new camping areas and bathrooms next to the new water’s edge.	Owned and operated by the Bureau of Land Management (BLM) on J.C. Boyle Reservoir	2011 Detailed Plan and BLM
Spring Island Boater Access	Retain/enhance existing Spring Island boater put-in below J.C. Boyle Powerhouse on the Klamath River and provide day use amenities and additional parking as feasible	BLM	American Whitewater and BLM
Campground South of J.C. Boyle Powerhouse	Enhance and develop a new campground near J.C. Boyle Powerhouse; Klamath River Campground (primitive) and Turtle Camp could be modified or improved	BLM operates Klamath River Campground and Turtle Camp	American Whitewater

Feature	Proposed Recreation Development	Current Owner/Operator	Source of Idea
Klamath River Campground and Turtle Camp	Increase the number of campsites and the day use area parking and related infrastructure. Existing road would need to be enhanced.	BLM	BLM
Frain Ranch	Enhance campground and improve Topsy Grade Road to Frain Ranch; Frain Ranch is a dispersed recreation site used by boaters and campers	Operated by BLM on PacifiCorp (Parcel A) land between Copco Lake and J.C. Boyle Powerhouse	American Whitewater
Stateline Take-out	Retain and enhance existing boater take-out to accommodate multiple parties in the take-out area and provide additional campsites	Operated by BLM on PacifiCorp (Parcel A) land	American Whitewater and BLM
Fishing Access Sites 1 through 6	Maintain and enhance fishing access sites on Parcel A land between Copco Lake and Stateline Take-out. Sites include signage, restrooms, and trash receptacles	Owned and operated by PacifiCorp (Parcel A); these sites are not part of the FERC Lower Klamath Project	American Whitewater and fishing interests
Fall Creek Day Use Area	Upgrade amenities	Owned and operated by PacifiCorp (Parcel B lands)	2011 Detailed Plan
Fall Creek Falls Trail	Reconstruct trail leading to Fall Creek waterfall	Owned and operated by PacifiCorp (excluded lands, not Parcel A or B)	2011 Detailed Plan
Jenny Creek Day Use Area and Campground	Expand campground and upgrade amenities to provide Jenny Creek and Klamath River recreation	Owned and operated by PacifiCorp (Parcel B) adjacent to Jenny Creek and upstream of Iron Gate Reservoir	2011 Detailed Plan
Iron Gate Hatchery Day Use Area	Reconstruct day use area to provide additional amenities and a boat ramp	Owned by PacifiCorp (Parcel B) and operated by California Department of Fish and Wildlife	2011 Detailed Plan

Feature	Proposed Recreation Development	Current Owner/Operator	Source of Idea
Ideas for New Recreation Sites and Amenities			
New Campgrounds	Two small to medium campgrounds in an unidentified location	N/A	2011 Detailed Plan
New Routes/Roads	Provide routes on each side of the river that could be permanently retained to provide public recreation access to the river at defined locations	N/A	2011 Detailed Plan
Non-Motorized Trail	Construct trail to provide fishing, biking, and hiking access from J.C. Boyle Dam to Iron Gate Fish Hatchery	New trail would need to cross PacifiCorp (Parcel A and B), BLM, and private lands and potentially U.S. Forest Service land	2011 Detailed Plan
Fishing Access Upstream of J.C. Boyle Powerhouse	Provide fishing access along the river approximately 1 mile upstream of the J.C. Boyle Powerhouse	Owned by BLM	BLM
Day Use and River Access at J.C. Boyle Powerhouse	Provide recreation use/access in the large flat area on the river by the powerhouse and substation	Owned by BLM	BLM
New River Access Locations	Develop river boating access with amenities (restrooms, road access, parking) in areas where the difficulty of river navigation changes	Owned by BLM and PacifiCorp (Parcels A and B)	American Whitewater
Copco No. 2 Bypass Reach	Remove riverine vegetation to provide safe boating through the Copco No. 2 Bypass Reach	Owned and operated by PacifiCorp (Parcel B)	American Whitewater
Road Improvement	Improvements to the existing roads, including, but not limited to, Topsy Grade Road and Copco Big Bend Road	Various	Multiple stakeholders

Feature	Proposed Recreation Development	Current Owner/Operator	Source of Idea
Access during Deconstruction	Provide access to roads that lead to river access points for boaters to use during drawdown and deconstruction periods. Access could be granted by flagger or during established time intervals for public use	N/A	Upper Klamath Outfitters Association and American Whitewater
Frain Ranch Bridge ²	Construct a bridge that crosses the Klamath River at Frain Ranch to provide continuous access to both sides of the river	N/A	BLM
RV Park in Seiad Valley or Happy Camp	Develop an RV park with full hookups that would generate revenue and tourism	N/A	SWCA ¹
Walking Trails/Wildlife Viewing/Interpretive Trails	Retain portions of the Copco dam structures, provide interpretive signage, and develop a walking trail. Trails could also incorporate wildlife viewing. Construct trails around Copco Village residential areas to provide recreational opportunities for residents.	On PacifiCorp-owned land (Parcel B)	SWCA ¹
Flatwater Lake-based Recreation in Siskiyou County	Develop day use and/or camping sites in unidentified locations for public recreation to replace lost flatwater lake-based recreation opportunities. Locations could include Lake Shastina and Medicine Lake	N/A	SWCA ¹
Fishing Access Upstream or Downstream of J.C. Boyle Powerhouse	Develop fishing access sites in the J.C. Boyle Powerhouse footprint and bypass reach	BLM and PacifiCorp-owned land (Parcels A and B)	BLM and Oregon Department of Fish and Wildlife
Whitewater Park	Develop an in-river or off-river whitewater park	N/A	SWCA ¹

Feature	Proposed Recreation Development	Current Owner/Operator	Source of Idea
Recreational Gold Panning	Establish gold panning recreational opportunities in Siskiyou County	N/A	SWCA ¹
New Americans with Disabilities Act (ADA) Facilities	Provide at least one ADA-accessible facility to retain the current ratio of ADA-accessible opportunities in the area	N/A	2011 Detailed Plan, SWCA ¹ , Oregon Council, Copco Village Residents
Fishing Lodges	Provide up to five public fishing lodges that could support fly fishing tourism along the river. These could be developed on Parcel B land under public/private ownership	N/A	John Jacques
River-side Commercial Recreation Development	Develop commercial recreation uses at points along the river	N/A	John Jacques
Siskiyou Tourism Plan	Provide funding to establish a tourism campaign that would point people to other recreation sites in Siskiyou County, including strategically placed signage.	N/A	SWCA ¹ , Siskiyou Economic Development Council/Discover Siskiyou
Transportation Plan	Develop a transportation plan that identifies appropriate roads and trails that could provide access to recreation sites	N/A	BLM
Ideas for Enhancements to Existing Private Recreation Sites			
Upgrade Private Campgrounds	Improve existing private campgrounds in the area	Unidentified private owners	Siskiyou Economic Development Council/Discover Siskiyou
Expand R-Ranch	Expand the recreation opportunities provided at R-Ranch; could include the development of a water park	Bruce Kinseth	Bruce Kinseth

Feature	Proposed Recreation Development	Current Owner/Operator	Source of Idea
Enhance Private Docks	Enhance private docks that are currently on Copco Lake to provide river access	Various private owners	Copco Village Resident
Klamath Hot Springs	Develop structure with restrooms and shelter at the Klamath Hot Springs near the Klamath River's confluence with Shovel Creek	N/A	K. Bermel

Notes

1. SWCA is an environmental consulting firm that serves as a consultant to Siskiyou County
2. Frain Ranch Bridge does not currently exist. Current ownership of the lands where the bridge could be developed is divided between PacifiCorp (Parcel A) and BLM.

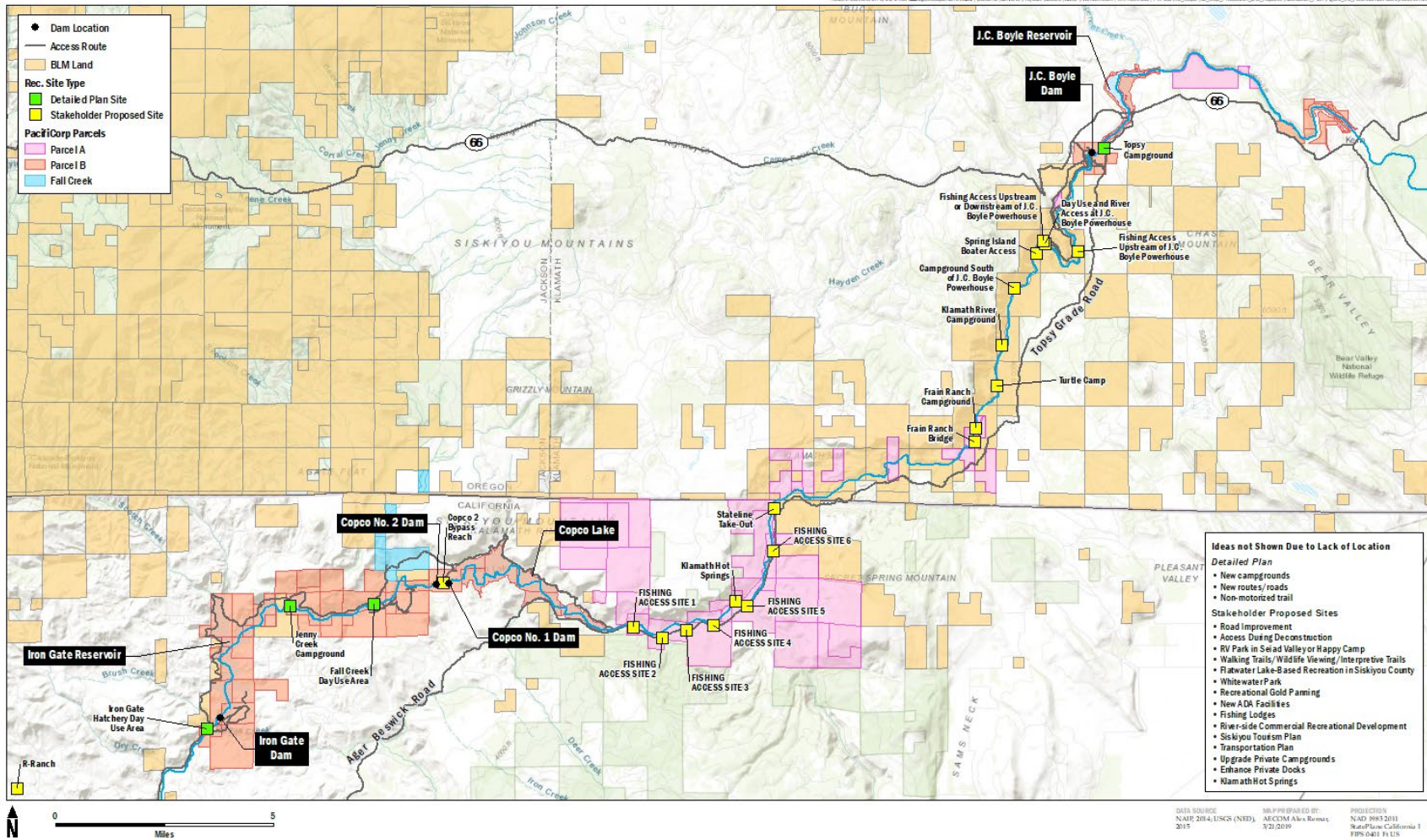


Figure A- 1: Locations of Potential Enhancements to Existing Public Recreation Sites, New Sites and Amenities, and Existing Privately Owned Sites

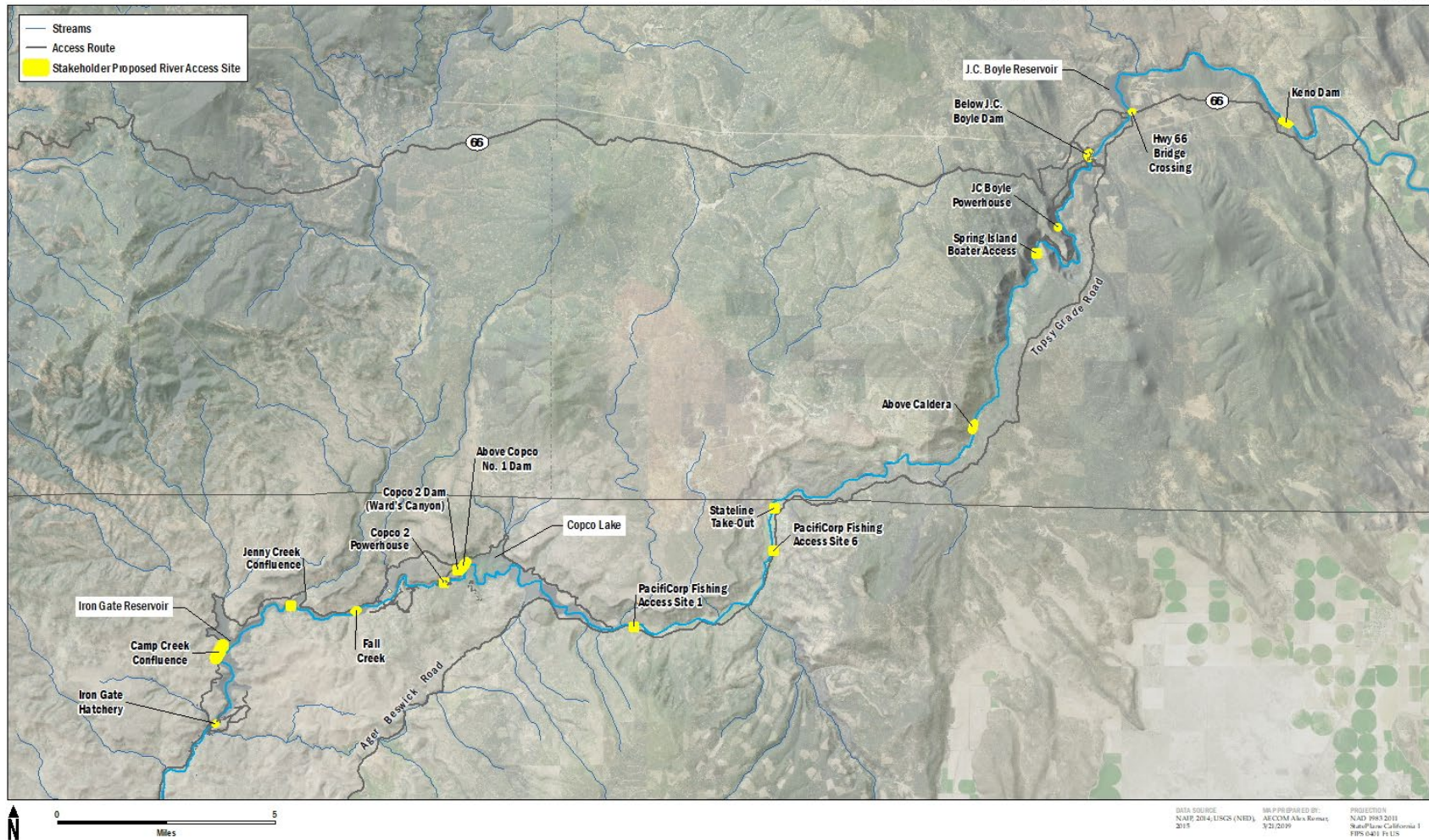


Figure A- 2: River Access Sites Proposed by Stakeholders

A.1.4. Ideas for Enhancements to Existing Public Recreation Sites

A.1.4.1. Topsy Campground

Topsy Campground, located on the southeastern shoreline of the J.C. Boyle Reservoir, is owned and operated by BLM. The 2011 Detailed Plan proposed enhancements to accommodate river-based recreation instead of its current reservoir-based recreation. The enhancements would include removing the current boat ramp and replacing it to support river access. In addition, the 2011 Detailed Plan proposed revegetating the area around the existing campground. These enhancements would provide continued recreational access to the area for camping, hiking, boating, and fishing. BLM would continue to be the owner and operator of the modified site. BLM suggested to stakeholders during development of the Recreation Plan that new camping areas and restrooms would be located next to the edge of the river. Development of additional campsites and parking would provide new opportunities for camping, fishing, and hiking.

A.1.4.2. Spring Island Boater Access

Spring Island Boater Access, located downstream of J.C. Boyle Dam, is owned and operated by BLM. The site currently provides river access for boating. Stakeholders requested that the site be retained and enhanced to improve its conditions, if possible. Suggested enhancements included an improved boat launch, access road, day use area, restrooms, and additional parking as feasible. Stakeholders indicated that the Spring Island Boater Access is important to boaters as a location where a clear shift in difficulty occurs on the whitewater boating run upstream and downstream of the access. BLM would continue to be the owner and operator of this access site.

A.1.4.3. Klamath River Campground

Klamath River Campground, located south of J.C. Boyle Powerhouse, is owned and operated by BLM. The campground provides river access for kayaks and small raft; campfires are allowed at this site. BLM has suggested that additional campsites and day use parking would be used if they are constructed. Improvements to Copco Big Bend Road would be necessary. Development of additional campsites and parking would provide additional opportunities not only for camping but also for fishing, and hiking along this reach. BLM would continue to be the owner and operator of this modified site.

A.1.4.4. Turtle Camp

Turtle Camp, located south of J.C. Boyle Powerhouse, is owned and operated by BLM. This campground provides access for kayaks and small rafts; campfires are allowed at this site. BLM suggested that the Renewal Corporation increase the number of campsites and provide additional day use parking to accommodate additional users. Similar to the Klamath River Campground, located approximately 1 mile away, improvements to Copco Big Bend Road would be necessary. Development of additional campsites and parking would provide additional opportunities not only for camping but also for fishing and hiking along this reach. BLM would continue to be the owner and operator of this modified site.

A.1.4.5. Frain Ranch

Frain Ranch, located between J.C. Boyle Reservoir and Copco Lake in Oregon, is a dispersed recreation area and undeveloped campground operated by BLM. Ownership of the land is divided between PacifiCorp (Parcel A) and BLM. This site is used mainly by boaters, campers, and all-terrain vehicle (ATV) users. Stakeholders requested that the site be enhanced to provide a developed campground on lands owned by BLM with defined campsites, restrooms, picnic tables, and fire rings. Development at this site would require improvements to Topsy Grade Road, the main access road for the site. These enhancements were suggested to provide additional opportunities for camping, boating, and hiking. BLM would continue to be the owner and operator of the modified site. The entity responsible for long-term maintenance of the improved road has not been identified.

A.1.4.6. Stateline Take-out

Stateline Take-out is located between J.C. Boyle Reservoir and Copco Lake, just south of the California-Oregon state line. Ownership of the land at this site is divided between the BLM Redding Field Office and PacifiCorp (Parcel A). BLM's Klamath Falls Field Office maintains the restroom at the site during the summer season. Stakeholders requested that the site be retained and modified to allow future boating access and shoreline fishing. The portion of this access point owned by PacifiCorp is the last 100 yards of the road to the boat launch; Parcel A lands, on which the take-out is partially located, would be retained by PacifiCorp after License Surrender. Presently, camping is not allowed on PacifiCorp land, and BLM does not have an easement for the road to the boat launch. It is anticipated that this site will continue to be owned by PacifiCorp as a public recreation site, but this has not been confirmed by PacifiCorp. To improve river access following dam removal, stakeholders suggested that the portion of the access point on BLM property could be upgraded to support additional use. Retention and enhancements at this site would allow the continued use of a recreation site that offers river access for boating, fishing, and day use. BLM would continue to be the operator of the modified site

A.1.4.7. Fishing Access Sites 1 through 6

Fishing Access Sites 1 through 6 are located just upstream of Copco Lake. These sites are owned and operated by PacifiCorp (on Parcel A), but they are not part of the FERC license for the hydroelectric developments. The sites currently provide river access for fishing and, at sites 1 and 6, whitewater boating along with some amenities for users. Stakeholders requested that access to these sites be maintained and, if possible, improved. PacifiCorp would retain ownership of these sites following License Surrender. It is anticipated that these recreation sites will continue to be managed by PacifiCorp as public recreation sites, but this has not been confirmed by PacifiCorp. If these sites remain accessible, they will continue to provide important river access for recreational fishing and boating uses.

A.1.4.8. Fall Creek Day Use Area and Fall Creek Falls Trail

Fall Creek Day Use Area is located on the far northeast shore of Iron Gate Reservoir near the confluence of Fall Creek and the Klamath River. The site provides informal recreation day use amenities. The

stakeholders suggested that formalizing this site would provide Klamath River access for boating, fishing, and day use. The site is currently owned and operated by PacifiCorp on Parcel B land.

The Fall Creek Falls Trail is a recreational trail that leads up to Fall Creek Falls. The trail is owned and managed by PacifiCorp. It is located on “Fall Creek – Excluded” lands (neither Parcel A or Parcel B lands) adjacent to the Fall Creek hydroelectric facility and is therefore not included in lands that would be transferred to the Renewal Corporation). The 2011 Detailed Plan proposed that the site be retained and modified to support day use activities and hiking. Upgrades identified in the plan included reconstruction of the trail on PacifiCorp-retained (Excluded, non-Parcel B) lands leading to the waterfall and other upgrades to support continued and improved recreational access in the area. These trail upgrades would be a discretionary action by PacifiCorp or other interested party and would not be part of the Lower Klamath Project.

A.1.4.9. Jenny Creek Day Use Area and Campground

The recreation site at Jenny Creek is located on the northern shoreline of Iron Gate Reservoir, between Copco Road and Jenny Creek. This site includes six campsites/day use sites and several user-defined trails. The site is currently owned and operated by PacifiCorp on Parcel B land. The 2011 Detailed Plan proposed that the site be expanded and upgraded to accommodate additional campsites and improved amenities to increase opportunities for camping, hiking, and fishing at this location. The future owner and operator of the Jenny Creek site has not been identified.

A.1.4.10. Iron Gate Hatchery Day Use Area

The Iron Gate Hatchery Day Use Area is located just downstream of Iron Gate Dam, adjacent to the Iron Gate Fish Hatchery. The day use area is owned by PacifiCorp on Parcel B land and is operated by the CDFW. The site currently includes a covered picnic area, a visitor center/interpretive kiosk, and an ADA-accessible trail to the river shoreline. There is also a boat launch on the river shoreline across from the hatchery. The 2011 Detailed Plan proposed that the site be retained and modified to provide additional amenities and a reconstructed boat ramp to support continued and improved recreational access in the area. The KHSA includes funding by PacifiCorp for the continued operation of the Iron Gate Fish Hatchery by CDFW for up to 8 years following facility removal and then the transfer of ownership to CDFW. However, long-term plans for operation of the recreation amenities at the Iron Gate Hatchery Day Use Area following facilities removal and the 8-year period identified in the KHSA are unknown.

A.1.5. Ideas for New Recreation Sites and Amenities

A.1.5.1. New Campgrounds

Two small to medium campgrounds were identified for development in the 2011 Detailed Plan. These campgrounds would accommodate 20 campsites and parking, day use facilities, and a boat launch. If implemented, these newly developed campgrounds would provide river access, parking, and day use amenities that would offset the loss of combination campground/day use area sites at other locations as a

result of Project implementation. The specific locations and the potential future owner and operator of these sites were not identified in the 2011 Detailed Plan.

A.1.5.2. New Routes/Roads

The 2011 Detailed Plan identified the development of two potential routes/roads with a combined length of up to 5 miles, with one route on each side of the river to provide public access to existing and newly developed recreation sites on the river. Because of the need to cross land held by multiple owners, these routes would be developed in coordination with the appropriate federal, state, and local agencies along with any private landowners. In addition to improving access for recreation uses, these would improve the ability of law enforcement personnel to police the area. The specific configuration/layout of these proposed roadways was not provided in the 2011 Detailed Plan, and no proposed owner/operator for the roadways was identified.

A.1.5.3. Non-Motorized Trail

The 2011 Detailed Plan identified the development of a new non-motorized trail to provide fishing, biking, and hiking access along the riverbank from the current J.C. Boyle Dam site to the Iron Gate Fish Hatchery. The trail would be constructed to connect to any existing and developed recreation sites as part of the Recreation Facilities Plan or in coordination with other regional efforts. Because it would cross land held by multiple owners, the new trail would be developed in coordination with the appropriate federal, state, and local agencies and with any private landowners. This new trail was identified in the 2011 Detailed Plan as a permanent feature. The specific configuration/layout of this new trail was not provided in the 2011 Detailed Plan, and no proposed owner/operator for the trail was identified.

A.1.5.4. Fishing Access Upstream of J.C. Boyle Powerhouse

Fishing access could be provided along the river approximately 1 mile upstream of the J.C. Boyle Powerhouse, though the specific location of such a site was not identified by the stakeholders who suggested it. Currently, there is no trail next to river in this area, but there is a power canal access road running parallel to the river that could be connected to this new site. The power canal access road will be closed to vehicles after dam removal, allowing for it to function as a trail and to potentially be used for river access for recreation uses such as fishing and hiking. The future owner and operator would be BLM and the State of Oregon.

A.1.5.5. Campground South of J.C. Boyle Powerhouse

Stakeholders requested that a campground be developed south of J.C. Boyle Powerhouse or that enhancements be made to one of the existing river-side campgrounds operated by BLM (Klamath River Campground and Turtle Camp). Klamath River Campground and Turtle Camp provide access for kayaks and small rafts and currently allow campfires-. These existing sites could be enhanced to include defined campsites and improved boat launches, access roads, day use facilities, and restrooms. Enhancements to these existing campgrounds or the development of a new site that would provide improved river access and

river-side camping would provide additional opportunities for camping, boating, and hiking along this reach of the river. BLM has made no commitments to construct new facilities or provide long-term maintenance at this location.

A.1.5.6. Day Use and River Access at J.C. Boyle Powerhouse

Stakeholders recommended consideration of a day use site to provide river access at the J.C. Boyle Powerhouse. The land directly surrounding the J.C. Boyle Powerhouse and substation was identified by stakeholders as a large, flat area that could serve as a suitable location for a day use facility and/or campground. This land is currently owned by BLM; BLM would continue to own the land following facilities removal and could potentially operate any new recreation site developed on this land. Development of recreation amenities at this site could increase recreation use in this area and provide additional river access for hiking, fishing, and boating.

A.1.5.7. New River Access Locations

Stakeholders suggested multiple whitewater boating access locations between Keno Dam and the Iron Gate Hatchery, as described in Table A-3. These locations were suggested based on known or expected changes in river conditions that would affect boating difficulty levels. Some of the locations identified were recommended for development prior to dam deconstruction to allow the continued use of existing whitewater boating runs and reduce the loss of boating access during dam decommissioning. No boating access would be allowed in the reservoirs themselves during drawdown and dam removal because conditions would constantly be changing and it would be unsafe to allow boating in the former reservoir areas due to the operation of the diversion facilities (e.g., large gates and tunnels at the dams) as well as the potential for mass movements of reservoir sediment into the river. Non-reservoir portions of the Klamath River system will not remain accessible to boating during drawdown and dam removal due to public safety concerns. Development of these pre-construction access sites would need to be located outside of the existing reservoir footprints and scheduled for completion prior to the initiation of reservoir drawdown. The future owner and operator of these sites has not been identified.

Table A-3: Stakeholder-Suggested River Access Points

Location	Stakeholder-Suggested River Access Points	Stakeholder Proposed Timing
Keno Dam	Proposed access on river left. There is no existing access point for the run from Keno to J.C. Boyle so this would provide an additional river access point.	Unknown
Highway 66 Bridge Crossing	Proposed access on the river left. The current reservoir boat ramp could be a good location for a boating access point. This access point could serve after dam removal as a take-out for the Keno run and as a put-in for the reach currently inundated by J.C. Boyle Reservoir.	1 year after dam removal

Location	Stakeholder-Suggested River Access Points	Stakeholder Proposed Timing
Below J.C. Boyle Dam	Proposed on river left. This site would serve as a put-in for the Big Bend run during dam removal and a future take-out for the Upper Big Bend run post dam removal. Depending on river conditions post drawdown, this site might be exchangeable with access at Topsy Campground if Topsy Campground is retained).	1 year after dam removal
At J.C. Boyle Powerhouse	Proposed on flat land directly surrounding J.C. Boyle Powerhouse and substation. This site would serve as a day use facility and/or campground with river access. As noted above, this site could provide additional hiking, fishing, and boating access.	1 year after dam removal
Spring Island Boater Access	Existing boater access site suggested for retention. This site is important to boaters as a location where the difficulty of the river changes.	N/A
Above Caldera Boater Access	Proposed on river right opposite Frain Ranch. This site would serve as an important access point for boaters as the river difficulty changes from Class III to Class IV at this location. The location opposite the existing access site at Frain Ranch would provide boaters the opportunity to use the Big Bend run and have shuttle access on the north side of the river. Currently, boaters can only be shuttled on the south side, which restricts accessibility and reduces potential use. This location would serve as a take-out for the Upper Hell's Corner run or a put-in for the Hell's Corner Gorge run. There is an existing road on the north side of the river that goes from the former Frain Ranch Bridge location down to Caldera that could serve as an access road for this access point.	1 year after dam removal
Stateline Take-out	Existing boater access site suggested for retention.	N/A
PacifiCorp Fishing Access Site 6	Existing boater access site suggested for retention. As noted above, this site is located on PacifiCorp Parcel A lands and the ability to preserve public access to this site in the future is uncertain.	N/A
PacifiCorp Fishing Access Sites 2 to 5	Existing fishing access sites suggested for retention. These sites support fishing access and are not currently suitable for boater access. As noted above, these sites are located on PacifiCorp Parcel A lands and the ability to preserve public access to these sites in the future is uncertain.	N/A
PacifiCorp Fishing Access Site 1	Existing boater access site suggested for retention. As noted above, this site is located on PacifiCorp Parcel A lands and the ability to preserve public access to this site in the future is uncertain.	N/A
Above Copco No. 1 Dam	Proposed on river right. This access point would serve as a take-out for the run currently inundated by Copco Lake (Copco Valley run) and a future put-in for the Ward's Canyon and Iron Gate runs. This area is anticipated to break up a Class II run (inundated by Copco Lake) and a Class IV run (Ward's Canyon).	1 year after dam removal

Location	Stakeholder-Suggested River Access Points	Stakeholder Proposed Timing
Copco No. 2 Dam (Ward's Canyon)	Proposed on river right approximately 1,500 feet downstream of Copco No. 1 Dam. Stakeholders indicated that this point could serve as an important access site for boaters during drawdown and dam decommissioning activities, providing a put-in for the Ward's Canyon run immediately downstream of Copco No. 2 Dam. Given this site's close proximity to both Copco No. 1 Dam and Copco No. 2 Dam, it would be located in an active construction area during dam removal. Stakeholders requested limited access to this site on a schedule coordinated with the Renewal Corporation on site. The intensity of construction activity on site during dam deconstruction has been determined to make this request infeasible. After dam removal is complete, the site would serve as a put-in for the Ward's Canyon and Iron Gate runs. There is an existing dirt road that could provide access to this site. This site has been identified as an alternative to the Copco Valley Access site proposed upstream if resource concerns prevent its development.	Requested to be accessible during dam removal, 1 year after dam removal
Copco No. 2 Powerhouse	Proposed on river left. This site would serve as a take-out for the Ward's Canyon run or a put-in for the future Iron Gate run. This site would be located at a point where there is a shift in the difficulty of the runs from a Class IV run (Ward's Canyon) to a Class III/II run (Iron Gate). This site is interchangeable with the existing site at Fall Creek Day Use Area located on river right downstream of the confluence with Fall Creek.	1 year after dam removal
Fall Creek	Proposed on river right. This access point could serve as a take-out for upstream runs and a put-in for the run currently inundated by Iron Gate Dam. This existing site is interchangeable with the Copco No. 2 Powerhouse location.	1 year after dam removal
Jenny Creek Confluence	Proposed on the river right. Stakeholders indicated that this site could allow boating following drawdown and serve as a take-out for the upper portion of the run currently inundated by Iron Gate Reservoir and a future put-in for runs to Iron Gate and beyond.	1 year after dam removal
Iron Gate Hatchery	Existing boater access site suggested for retention. Improvements to the existing amenities offered at Iron Gate Hatchery could provide needed access for boaters and serve as a take-out for the future Iron Gate run following dam removal.	N/A

A.1.5.8. Copco No. 2 Bypass Reach

Stakeholders identified riparian vegetation that has grown into the historic river channel in the Copco No. 2 Bypass Reach due to low flows as a substantial safety hazard for future water-based recreation in that stretch of the river. The stakeholders indicated that the complete removal of this woody vegetation in the historic river channel before facilities removal would be more effective in avoiding complications generated by removing vegetation after the reach is inundated. Vegetation removal would make the reach navigable for boaters, thus providing an additional whitewater boating run that would increase recreational boating use in the restored river.

A.1.5.9. Road Improvements

Stakeholders suggested that improvements could be made to some of the existing roadways that provide access to the Klamath River. They indicated that many of the existing access roads in the area between Keno Dam and Iron Gate Dam are in need of improvement and long-term maintenance and that some of the roads have become unnavigable or inadequate for use to access recreation sites. Poor road conditions also contribute to difficulties experienced by law enforcement personnel who need to access these areas. Stakeholders proposed that improvements be made to existing roads such as Topsy Grade Road and Copco Big Bend Road to improve accessibility and policing and could result in increased recreation use in the area. Specific stretches of roadways that need improvements were not identified. It is assumed that roadways would continue to be owned and maintained by their current owners following any improvements.

A.1.5.10. Access During Deconstruction

Stakeholders suggested that, where possible, access to roads currently used for river access be retained during the drawdown and deconstruction periods. These roads include, but are not limited to, the access road leading past J.C. Boyle Powerhouse to the Spring Island Boater Access. Road access could involve placing a flagger in established areas to direct traffic or establishing time intervals during which roads could be available to the public. Providing road access would allow continued use of the river for boaters during deconstruction periods, thus reducing the impact of the Project on whitewater boating in the Hell's Corner Reach during this time. Access requests will be evaluated by the Renewal Corporation for public safety considerations. Stakeholders also requested access to the dirt road near Copco No. 2 Dam on river right; however, this road is not currently publicly accessible nor is it currently used for river and boating access.

A.1.5.11. Frain Ranch Bridge

Stakeholders suggested that a new bridge could be constructed to replace an old bridge that used to cross the Klamath River at Frain Ranch. Reconstruction of this bridge would provide a point of access to either side of the river, increasing accessibility and recreation use in the area. The future owner and operator responsible for maintenance of the new bridge has not been identified.

A.1.5.12. RV Park in Seiad Valley or Happy Camp

An RV park with full hookups and amenities in Seiad Valley or Happy Camp was identified as a potential recreation site by stakeholders. The RV park could generate revenue and tourism within the Siskiyou County, potentially offsetting tax revenue lost due to dam removal. The location of this park and its proposed owner and operator were not identified.

A.1.5.13. Walking Trails/Wildlife Viewing/Interpretive Trails

Stakeholders also suggested the development of educational sites and interpretive exhibits in the area. It was suggested that instead of full removal of dam infrastructure, some infrastructure (e.g., fish ladders, powerhouses, etc.) could be retained and signage added to promote educational tourism. Trails could be developed and routed to take recreation users through or by some of these remaining structures, which

would preferably be those with historic backgrounds. Signage promoting wildlife viewing could also be provided along these trails.

Locations for these trails were not suggested but could include areas around Copco residential areas or in the reservoir footprints of J.C. Boyle, Copco, and Iron Gate Reservoirs. Development of recreational opportunities close to residential areas in Copco could offset the loss of reservoir-based recreation opportunities. Interpretive trails could provide additional recreational experiences and opportunities for hiking and tourism and as well contribute to the use of local services. Future owners and operators of the remaining infrastructure were not identified.

A.1.5.14. Flatwater Lake-Based Recreation in Siskiyou County

New or enhanced day use and/or camping sites could be developed in Siskiyou County to replace lost flatwater lake-based recreation opportunities. Locations were not suggested but could include enhancement of existing recreational amenities and/or the development of new amenities at Lake Shastina or Medicine Lake. Specific amenities that would be available at these sites were not specified. The future owner and operator of these amenities was not identified.

A.1.5.15. Fishing Access Upstream or Downstream of J.C. Boyle Powerhouse

Fishing access sites could be developed upstream or downstream of J.C. Boyle Powerhouse in the powerhouse footprint and bypass reach. Stakeholders did not identify specific locations for these new access sites. With the removal of dam facilities, an increase in steelhead is expected in this reach of the river, resulting in additional fishing opportunities. Development of fishing access sites in this area would accommodate increased fishing activity and recreation use in the J.C. Boyle Bypass Reach. The future owner and operator of these sites was not identified.

A.1.5.16. Whitewater Park

Stakeholders identified the development of an in-river or off-river whitewater park along the river that could help offset impacts to whitewater boating in the Hell's Corner Reach from Project implementation. This type of park could be established by diverting water from the river to provide whitewater conditions for recreation users to practice whitewater boating. The site could include day use areas and various amenities. A whitewater park would provide additional recreational opportunities for boating and could be a new tourist attraction, which could provide economic benefits in the area. The location of this park and future owner and operator were not identified.

A.1.5.17. Recreational Gold Panning

Recreational gold panning opportunities could be established in areas on the river in Siskiyou County where users could participate in the County's history and culture. Specific locations where gold panning might be supported were not identified. These locations could provide interpretive related to gold mining, including information on the history of gold mining in the county. Stakeholders indicated that the establishment of

gold panning opportunities along the river could attract tourists and contribute to recreation use and other available activities in the area. The future owners and operators of these opportunities were not identified.

A.1.5.18. New ADA Facilities

The Project would result in the removal of recreation sites at Camp Creek that offer ADA-accessible facilities. It was proposed that at least one of the recreation sites retained or developed along the Klamath River between J.C. Boyle Dam and Iron Gate Dam be upgraded to an ADA-accessible facility to offset this lost facility. Stakeholders noted during the public meetings that shifting demographics for recreation users in the area could warrant the development additional ADA-accessible facilities. These facilities could include, but not be limited to, fishing access sites, boat ramps, and restrooms. The specific location of this replacement facility was not previously determined. The future owner and operator of this facility was not identified.

A.1.5.19. Fishing Lodges

Stakeholders identified the development of two to five public fishing lodges to support fly fishing tourism along the river should be considered. The fishing lodges could provide year-round guided drift boat fishing opportunities, both fly and conventional, for salmon, steelhead, and trout. Locations for the lodges were not identified but could be developed on Parcel B lands. Stakeholders suggested that these fishing lodges could be owned and operated under public/private partnerships, but the specific future owners and operators of these developments were not identified. Fees for facility use may be collected, but exclusive membership would not be permitted and open access to the public would be required. Fishing lodges could provide additional fishing access, increase recreation use in the area, provide jobs, and serve as a revenue generator to help offset lost tax revenue resulting from facilities removal.

A.1.5.20. River-side Commercial Recreational Development

Stakeholders suggested that commercial recreation sites could be developed on the river to support recreational tourism. The types of recreational uses for these developments were not specified. Potential locations were also not identified, but sites could be developed on Parcel B lands adjacent to the river. Similar to the fishing lodges described above, stakeholders suggested that these commercial developments could be owned and operated under public/private partnerships, but the future owners and operators of these developments were not identified. Fees for facility use may be collected, but exclusive membership would not be permitted and open access to the public would be required. River-side commercial recreation development could provide additional recreational opportunities such as fishing, hiking, and boating, as well as serve as a revenue generator to help offset lost tax revenue due to facilities removal.

A.1.5.21. Siskiyou Tourism Plan

Siskiyou County's County-wide Tourism Marketing Plan (Siskiyou Tourism Plan) includes a variety of ideas intended to promote tourism within the County by reaching a broader audience. Stakeholders proposed that some elements in the tourism plan be implemented as part of the Recreation Facilities Plan. The Siskiyou Tourism Plan highlights a lack of available funding to promote tourism, which poses a significant challenge

for the County. Through either direct funding or partnering to develop destination awareness for attractions and outdoor recreation opportunities within the County, existing recreation uses such as hiking, fishing, hunting, biking, and boating could be promoted to help reduce the loss of recreational opportunities due to reservoir removal. If included in the Recreation Facilities Plan, implementation of elements of the tourism plan could be scheduled to coincide with facility removal and continue for an undetermined period following completion of river and reservoir restoration.

A.1.5.22. Transportation Plan

Development of a Transportation Plan that identifies appropriate roads and trails that could provide access to existing and newly developed recreation sites was identified by stakeholders as important for planning potential recreation sites and road improvements. Stakeholders suggested that the Transportation Plan also identify land ownership along roadways and the entity or entities with current and future responsibility for road maintenance. The Transportation Plan would help identify new access routes along with potential existing roadways that could be repurposed for trail use. The timeline for developing a Transportation Plan was not specified. Development of the Transportation Plan could begin prior to reservoir drawdown.

A.1.6. Ideas for Enhancements to Existing Private Recreation Sites

This section describes ideas for potential enhancements to private recreation sites identified by stakeholders.

A.1.6.1. Upgrade Private Campgrounds

Numerous private campgrounds in the region were identified by stakeholders as being important recreational resources. These sites are owned and operated by a variety of private owners and operators. Enhancements and/or upgrades to these sites were suggested by stakeholders as a way to provide continued and improved recreation use in the area. Ownership of these sites would not change.

A.1.6.2. R-Ranch

The R-Ranch is located downstream of Iron Gate Reservoir in Hornbrook, California. The ranch currently provides camping, dirt bike and ATV riding, fishing, hiking, hunting, swimming, and horseback riding opportunities. Stakeholders suggested that the ranch be expanded or enhanced to provide additional recreational opportunities. Expansion could include the development of a waterpark or similar attraction. The R-Ranch is privately owned and operated, and future ownership and operation would remain unchanged. Expansion of the R-Ranch would potentially reduce the impacts of the loss of reservoir recreation.

A.1.6.3. Enhance Private Docks

Several homeowners use private docks to access Copco Lake for fishing. Stakeholders from the Copco Village community suggested these private docks be extended to the newly formed river. The extension of private docks post-dam removal would provide continued river access for residents.

A.1.6.4. Klamath Hot Springs

Stakeholders suggested that a recreation site near the historic Klamath Hot Springs Resort could be developed as a commercial recreation site. Development of a structure with restrooms and shelter for visitors could increase access to the existing hot springs near Shovel Creek. The potential future owner and operator of this site was not identified.

A.1.7. Screening and Evaluation

In a preliminary screening and evaluation process, the Renewal Corporation developed screening criteria and evaluated how well each recreation enhancement idea fulfilled each criterion. The screening criteria were developed to evaluate if the proposed ideas would (1) result in feasible and durable recreation sites, opportunities, and experiences, and 2) enhance river-based public recreation opportunities and experiences after License Surrender. The screening criteria also evaluated whether proposed recreation sites and/or settings are appropriate for the anticipated hydrologic and other natural resource conditions post-dam removal, would fulfill stakeholders' desired recreational opportunities and experiences, and would provide the recreation resources needed for commercial recreation and the economic vitality of the area. For each idea, the screening questions listed below were asked.

Would the idea:

- directly supplement the recreation facilities within the FERC Project Boundary that will remain after License Surrender?
- directly address changes in the landscape character at the localized reservoir recreation sites or affect boating and other water-based recreation opportunities by improving access to or usability of an existing recreation resource?
- provide long-term sustainable recreation improvements by avoiding new or substantially increased operations and maintenance demands?
- result in impacts to sensitive river and riparian habitats including important river spawning areas in and adjacent to any river channel?
- avoid, minimize, and/or mitigate any impacts to culturally sensitive areas?
- integrate into the existing communities and infrastructure with a design that reflects the setting and cultural history of the area?
- contribute to regional recreation objectives for the Klamath River?

- be acceptable to law enforcement?
- stimulate local economies?
- be implemented with available funding?
- take into consideration underlying land ownership and funding and maintenance issues to the extent feasible at this point in the Project?

A.1.8. Evaluation Results

The identified recreation enhancement ideas were screened and categorized as potential, deferred, or not recommended for further analysis:

- An idea was labelled as “potential” if it addressed Recreation Facilities Plan objectives and fulfilled a majority of the criteria.
- Ideas for recreation site enhancements, new sites and amenities, or other ideas that did not directly address Recreation Facilities Plan objectives but fulfilled several of the criteria were categorized as “deferred.” These ideas did not receive commitments in the Recreation Facilities Plan but could be considered for implementation by others as separate actions.
- “Not recommended for further analysis” was applied to ideas that did not address the Recreation Facilities Plan objectives.

Continued stakeholder engagement and coordination with resource specialists and tribal governments occurred during development of the Recreation Facilities Plan and contributed to the ongoing screening and enhancement of recreation ideas. In some cases, this resulted in the shifting of locations for recreation enhancement ideas and in other cases resulted in screening out ideas to avoid known areas of potential aquatic, terrestrial, and cultural resource sensitivity.

The focus of the screening was to identify recreation sites and amenities that would facilitate whitewater boating on the river, while concurrently providing fishing access and river-related day use opportunities to best use new river conditions post-dam removal. To support whitewater boating use, put-in and take-out sites need to be provided at locations adjacent to the start and/or end of each whitewater boating run. Locating these access sites along the river as a coordinated system was done in part to reduce redundancy and ensure the safety of boaters (and anglers) as the river changes in difficulty. Anticipated whitewater boating runs on the Klamath River after Project implementation as well as potential put-in and take-out locations resulting from the screening process are listed in Table A-4 below. The initial list of potential recreation enhancement sites resulting from the screening process is discussed in Section A.2.

Table A-4: Potential Put-in and Take-out Locations for Whitewater Boating Runs on the Klamath River

Name of run	Put-in Location	Take-Out Location
Keno	Keno Camp ¹	Pioneer Park West
Upper Big Bend	Pioneer Park West	Moonshine Falls
Big Bend	Moonshine Falls	Spring Island Boater Access
Upper Hell’s Corner	Spring Island Boater Access	Turtle Camp ¹
Hell’s Corner Gorge	Turtle Camp ¹	Stateline Take-Out ²
Stateline	Stateline Take-Out ²	Fishing Access Site 1 ²
Copco Valley	Fishing Access Site 1 ²	Copco Valley
Ward’s Canyon	Copco Valley	Copco No. 2 Powerhouse
Iron Gate	Copco No. 2 Powerhouse	Iron Gate

Notes

- 1 This site is located outside of the FERC Project Boundary and therefore is not considered for implementation by the Renewal Corporation.
- 2 The disposition of this site is unknown at this time as it is located, or partially located, on PacifiCorp Parcel A lands, outside of the Proposed Action.

A.2. Potential New Recreation Enhancement Opportunities

Section A.2 identifies the results from Section A.1 screening process in consideration of the design principles and objectives. The potential new recreation enhancement opportunities for future development are:

- Pioneer Park West
- Moonshine Falls
- Copco Valley
- Iron Gate
- Fall Creek

The potential recreation sites identified in this Section A.2 resulting from the screening process would be part of a larger system of river access sites that provide key put-in and take-out access for boaters. Each of the recreation enhancement opportunities listed above is described in greater detail beginning in section A.2.3. Conceptual designs have been generated for all opportunities, except for the Fall Creek site. The description of the design principles (A.2.1) and objectives (A.2.2) considered in the conceptual design process are presented below.

While these five recreation enhancement opportunities are considered key access sites for future river use, under the Amended Klamath Hydroelectric Settlement Agreement, the Renewal Corporation will transfer Parcel B lands to their respective states. However, California and Oregon have not yet determined the final disposition of Parcel B lands, after License Surrender is effective. The ultimate Parcel B landowners would be responsible for management, operation, and maintenance of the potential recreation enhancement sites identified in this Appendix and may provide additional input into their design and location in the future, including which amenities they would be able to maintain and/or prefer.

Prior to construction of potential recreation sites Renewal Corporation will evaluate whether additional cultural resource surveys will be conducted, to avoid impacts to these resources.

A.2.1. Design Principles

During the stakeholder consultation process starting in 2018, the Renewal Corporation developed preliminary design principles for potential recreation enhancement sites focused on producing conceptual site designs that maintain a natural, largely undeveloped feel and improve the visitor's experience within the context of the resource setting while protecting sensitive cultural resources and enhancing ecological resources. If implementing agreements are reached with the States and if a source of funding for these recreation enhancement sites is identified, the Renewal Corporation will re-engage with stakeholders and work with the States to further refine these principles, as necessary, to support further design development for the potential recreation enhancement sites.

The following design principles will be applied in progressing from conceptual to final designs.

- System and Location: the location, geomorphology, and physical characteristics of a site within the continuum of the river system.
- Landscape Setting: the site-specific features as well as the site conditions characterized as natural, enhanced, or constructed and the site-specific features that define setting.
- Temporal Dependence: the seasonal nature of on-site activities and how variability of water levels may affect timing and types of uses.
- Frequency: when and how often activities occur at a site and how that site activity integrates or impacts the biological setting and natural resources.
- Density: the number of individuals who will use a site and the site's spatial constraints that define how well desired uses can be accommodated.
- Use Type and Challenge Level: the activity types and challenge levels occurring at the site.
- Management: the needs and challenges available to support resource managers in operations and maintenance activities.
- Scenic Integrity: protection of aesthetic resources through thoughtful design.

A.2.2. Design Program Objectives

In addition to the preliminary design principles described above, the Renewal Corporation developed a set of preliminary program objectives to guide the configuration of each site. The program objectives for the potential recreation sites are:

- Conserve, protect, and enhance habitat;
- Avoid user conflicts between boat ramp, trails crossings, parking and general day use activities;
- Provide designated launching areas;
- Offer group staging areas for commercial operators and private groups;
- Provide adequate waste facilities;
- Support the health, safety and welfare of the visitor;
- Provide opportunities for interpretation and education information;
- Provide additional vegetation enhancements;
- Provide opportunities for day use/picnicking;
- Improve fishing access;
- Provide pedestrian circulation paths that take advantage of scenic viewing areas;
- Provide universal accessibility at all sites; and
- Plan and schedule all work to be consistent with other applicable plans under the Surrender Order and in coordination with other working groups (i.e., Restoration, Cultural Resources, Engineering etc.)

The design principles and objectives will be utilized in progressing the conceptual designs to construction-ready drawings.

A.2.3. Pioneer Park West River Access Site

A.2.3.1. Setting

The potential Pioneer Park West River Access Site is located in a stretch of the Klamath River currently inundated by J.C. Boyle Reservoir. Therefore, existing conditions at this location would change and restoration would occur after drawdown of the reservoir and the river retreats back to its historic alignment. A potential river access site at this location would include modifying the existing Pioneer Park West recreation site to provide river access as the site would no longer provide shoreline access after reservoir draw down.

The setting of the site would continue to provide open views of the river corridor with mature vegetation and trees consistent with surrounding vegetation in the middle ground to background along the green-sided slopes of the surrounding hillsides and mountains. However, the water surface would narrow and the views north and south of the site would be constricted with the increase in riparian vegetation within the formerly inundated portions of the reservoir.

The modified natural river setting would provide boating and fishing recreation experiences anticipated to be similar to the historic naturally functioning river in this region, particularly after restoration goals are achieved. Recreation experience quality may be slightly degraded until restoration and revegetation goals are achieved. Scenic impacts from draw down of the reservoir would leave a contrast in color between the sediment laden side slopes providing different scenery than expected in a natural river corridor. However, with establishment of riparian vegetation, over time naturalization would occur and the contrast would lessen.

A.2.3.2. Description

The Pioneer Park West River Access Site would be located along the right bank of the Klamath River just south of the Highway 66 road crossing at the existing Pioneer Park West recreation site. Figure A-5 shows the general vicinity/location of the potential river access site. This site is accessed via Highway 66 and an existing road connecting the highway to the site. A site at this location would provide river access for whitewater boating, fishing, general boating, and informal shoreline recreation opportunities.

Stakeholders identified this site as a highly valuable take-out location for the Keno run and a put-in for the Upper Big Bend run. This location is important because the site would be located at a significant gradient change in the river, with the Keno run at Class III upstream and the Upper Big Bend run downstream at Class III-IV. Thus, this site would provide a safe exit point for less experienced boaters before continuing downstream on a more difficult run. Removal of J.C. Boyle Dam would remove the flatwater paddle required above the dam, which currently limits boating use of the Keno run, and would also expose the entire Upper Big Ben run, which is currently entirely inundated by J.C. Boyle Reservoir. The location of this site fulfills the guiding principles related to new whitewater boating and fishing opportunities, leveraging new river conditions, leveraging an existing recreation setting, using existing road infrastructure, and consideration of safety issues.

The existing access road would be improved and lead directly to a paved 2-lane boat launch and vehicle turnaround. A boat launch staging area would be located adjacent to the turnaround. The existing

information signs, restrooms and picnic areas at the Pioneer Park West site would be removed in order to provide new facilities. A new formal parking area would be located east of the existing access road. The parking area would include parking spaces for up to 21 vehicles (including 2 spaces for ADA-accessible parking) and four commercial vehicle pull-through parking spaces. Located adjacent to the parking area would be a universally accessible vault toilet, kiosk with angler box, garbage facilities, water spigot, and paved trail connection to the ADA parking spaces.

At the west end of the parking area, a paved trail would lead to two picnic areas and a river viewing area within the existing vegetation, uphill of the former inundation area. An informational kiosk would be located at the beginning of the trail. East of the parking area would be a paved trail connecting to four picnic sites within the former inundation area, as well as a river viewing area along the new river's edge. The paved trail would also continue over to the boat launch.

Use of the existing Pioneer Park West site would reduce the need for a new access road and would reduce grading needs as well. Development of this potential site would also include removal of the concrete piers located within the historic river channel at this site as these piers could become a significant boating hazard if they were to remain within the river channel. Removal of the piers would require consultation with the State Historic Preservation Officer.



Figure A-5: Potential Pioneer Park West River Access Site

A.2.3.3. Conceptual Design

Figure A-6 shows the initial conceptual design for the potential Pioneer Park West River Access Site.

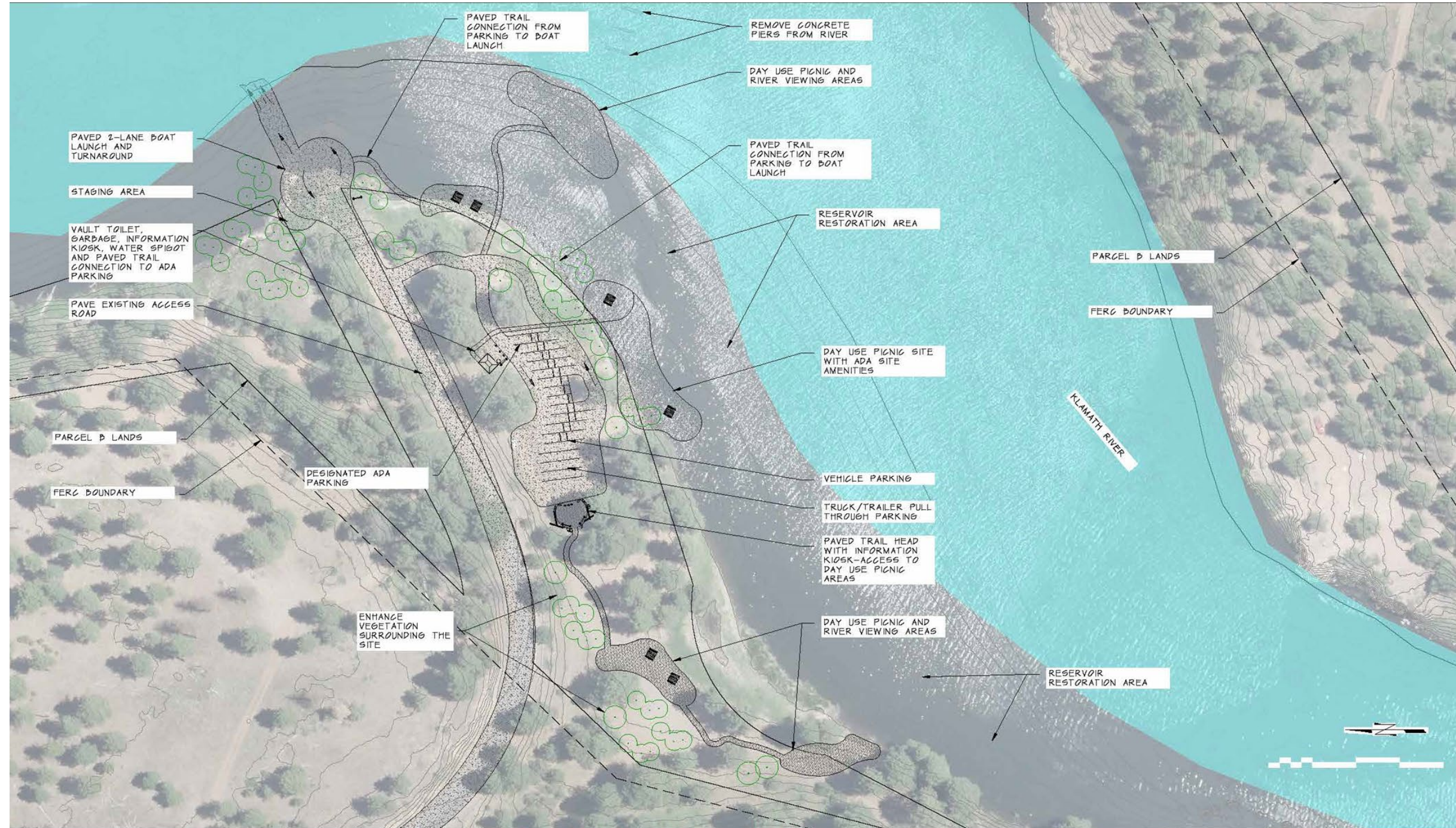


Figure A-6: Pioneer Park West River Access Site Conceptual Design

A.2.4. Moonshine Falls River Access Site

A.2.4.1. Setting

The potential Moonshine Falls River Access Site would be located in a stretch of the Klamath River right below a dam that would be removed, in a bypass reach that is typically dewatered. Therefore, the existing conditions of the site would change, and restoration would occur near this location, in the area surrounding the former dam site; the remainder of the bypass reach would not need restoration.

The setting of the site would continue to provide river views of upland mature vegetation and trees consistent with surrounding vegetation in the foreground to background; however, the removal of the dam and associated hydroelectric facilities may result in impacts to the landscape affecting form, line, texture and color within foreground and middle ground views from the potential recreation river access site. Contrasting lines from exposed brown soils from deconstruction and irregular edges within the river canyon from dam construction would be evident from key viewing areas. The upper portions of the J.C. Boyle Disposal Stockpile, which would be restored with native habitat, may be visible from the potential recreation site. As ecological restoration and revegetation take hold at the former hydropower facility locations, views in the foreground and middle ground of the site would improve, eventually reaching a point of naturalization.

The river itself would also appear different with increased flows. With the addition of increased flows in this section of the river, water quality would increase, improving water clarity and color. A slightly larger, clearer river would be visible from viewpoints along the entire bypass reach and from the potential river access site. The naturalized river setting would provide the boating and fishing recreation experiences anticipated for a naturally functioning river in this region, particularly after restoration goals are achieved at former hydropower facility locations.

A.2.4.2. Description

The potential Moonshine Falls River Access Site would be situated below the dam, at the power canal and south of the timber bridge crossing on the river right. Figure A-7 shows the general vicinity/location of the potential river access site. The site is accessed via Highway 66 and an existing gravel road connecting the highway and the site. A site at this location would provide whitewater boating, fishing, general boating, and picnicking/day use opportunities with upstream views of Moonshine Falls and downstream river views of the riparian corridor.

Stakeholders identified this site as a highly valuable put-in location for the Big Bend run, which would be located in the former J.C. Boyle Bypass Reach, and a take-out location for the upstream Upper Big Bend run following dam removal. Stakeholders would prefer access to this site during dam removal to facilitate use of the Big Bend run. Such access is not allowable due to safety concerns given the deconstruction work occurring near access points and along the river.

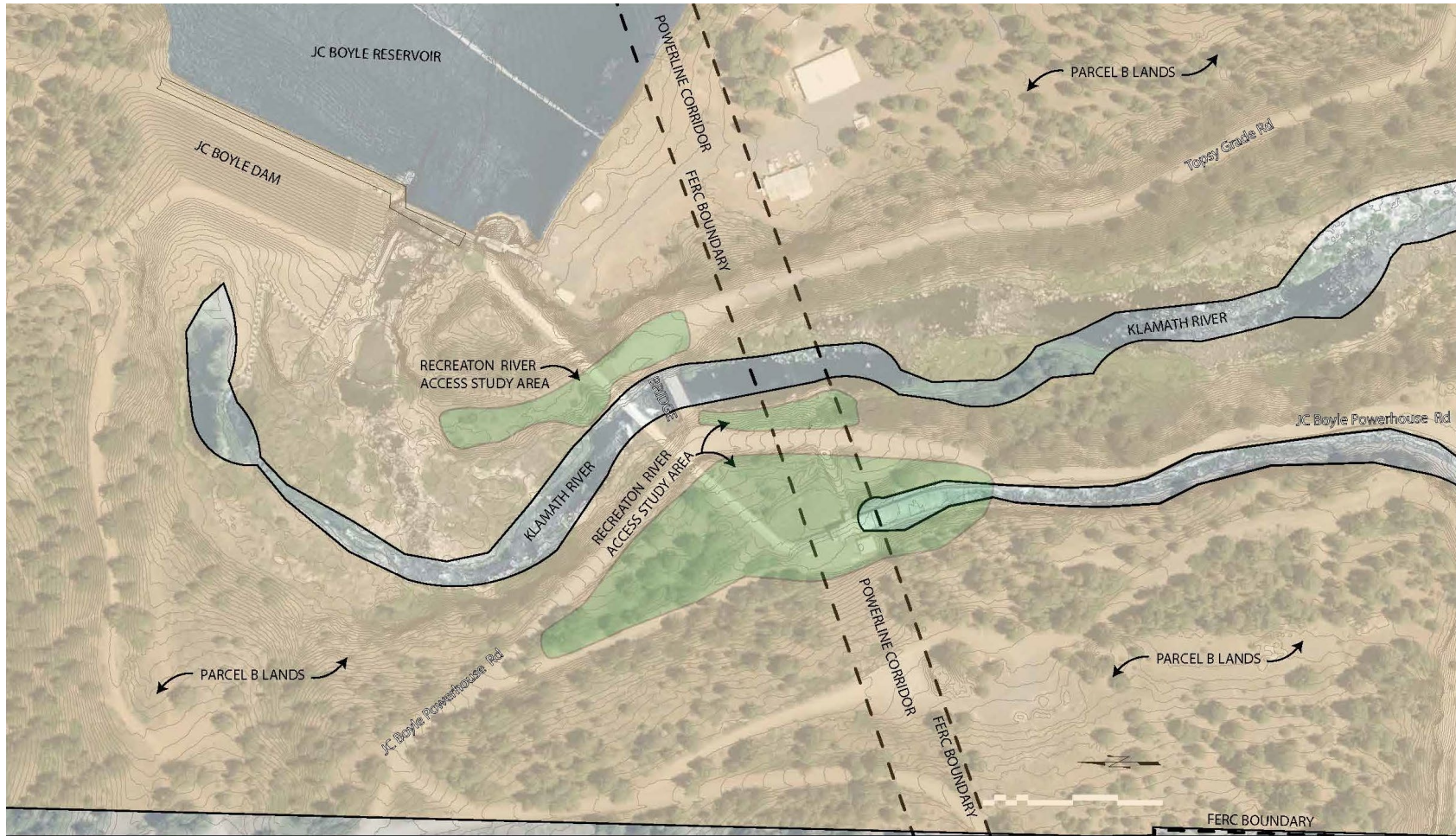


Figure A-7: Potential Moonshine Falls River Access Site

Changes in river flows from Project implementation would result in a substantial increase in the number of days with acceptable flows for whitewater boating in the J.C. Boyle Bypass Reach (Big Bend run). The location of this potential recreation site fulfills the guiding principles related to new whitewater boating and fishing opportunities, leveraging new river conditions, using existing road infrastructure, and consideration of safety issues.

As noted in Section 3.2.2, the historic Moonshine Falls rapid may pose a safety hazard because it is unclear if the rapid was altered by J.C. Boyle Dam construction or not, as it was located at or near the dam site. Therefore, the level of difficulty and potential navigability of this rapid is unknown. Once the dam is removed, revealing of the Moonshine Falls rapid may require the relocation of the Moonshine Falls site, development of a second site as an upstream take-out, and/or a portage route around the falls may be needed, depending on the navigability and safety of that rapid.

With regard to the Sidecast Slide rapid, downstream of the potential Moonshine Falls recreation site, a boatable channel would need to be created around this rapid at summer flows, according to the 2020 flow study (Confluence, 2021). The 2020 flow study aimed to determine if the rapid is now navigable for a variety of craft and if commercial rafts will be able to use the run in the summer. The 2020 flow study results showed that although kayakers have a boatable line during low summer flows there are several non-natural hazards that make commercial boating nonviable without channel enhancement. Summer flows of 800 to 1,100 cfs will provide challenging technical whitewater for kayaks and small rafts in a Class IV/V condition.

There is currently no existing recreation site at this location. The closest recreation site is Topsy Campground, which is located approximately 0.3 mile east of the site on the shoreline of the existing J.C. Boyle Reservoir. Topsy Campground is anticipated to be retained as part of the Project, though modified to remove the boat ramp that would no longer be connected to the reservoir. Figure A-8 shows the existing conditions at the potential river access site.

The potential river access site would be located on the upper terrace on the river right of the corridor due to the steepness at this site. The parking area would be located in an area where former Power Canal facilities would be removed, resulting in less earthwork and disturbance needed. The parking area would include access road improvements, a paved path leading to a picnic site and a river viewpoint with benches, as well as the universally accessible vault toilet and garbage facilities. The parking area would be designed to support 15 vehicles (including 1 space for ADA-accessible parking) and would include three commercial vehicle pull through spaces. An information kiosk with angler box would also be located at the site.

Vehicular circulation would be directed from the upper road through the new parking area to the staging area at the top of the riverbank. From the staging area, boats would be lowered down a boat slide to the edge of the river where there would be a gravel beach for launching. Next to the boat slide would be an ADA-graded path cut into the side slope of the bank leading to the edge of the river/gravel beach. The riverbank would be retained by gabion baskets or concrete blocks. A second staging area and vehicle turnaround would also be available just uphill from the boat slide staging area. After dropping off boats, commercial and private boaters would continue back up to the upper road and parking area to secure their vehicles. A trail would lead from the parking area down to the road to access the boat slide and staging area.

The State of Oregon will be the landowner of these Parcel B lands. The entity responsible for continued maintenance of the gravel access road, however, is unknown.



Figure A-8: Potential Moonshine Falls River Access Site – Existing Conditions at Timber Bridge

A.2.4.3. Conceptual Design

Figure A-9 shows the initial conceptual design for the potential Moonshine Falls River Access Site.

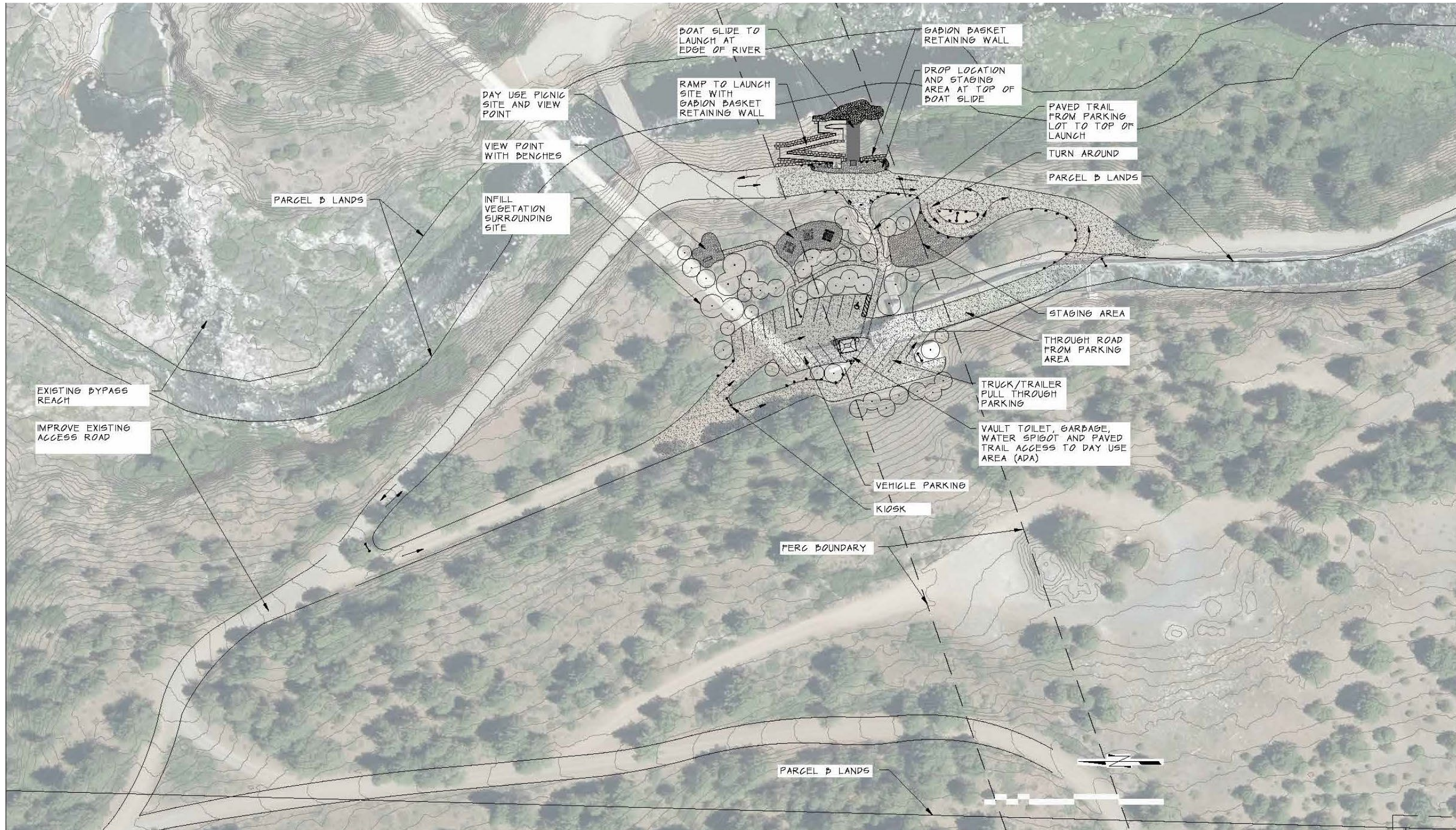


Figure A-9: Moonshine Falls River Access Site Conceptual Design

A.2.5. Copco Valley River Access Site

A.2.5.1. Setting

The potential Copco Valley River Access Site would be located in a stretch of the Klamath River currently inundated by Copco Lake. Therefore, the setting of the site would change from existing conditions and restoration of the former inundation area would occur at this location. The existing background setting provides long sustained views of green to brown pine oak hillsides with tan and yellow understory grasslands. Scattered gray linear basalt outcrops are visible at intervals at the tops of the steep hill from the shoreline.

With restoration of the former reservoir area, the foreground and middle ground views would contrast the natural composition of the background conditions. It is expected that this contrast would be reduced as revegetation is established. Once vegetation is established, naturalization of the setting would start to take place, thus minimizing the contrast in color and texture between the foreground, middle ground and the existing background setting.

The extent of restoration at this site would be significantly more than at the other previously described sites because this site would be located at a wide area of the former Copco Lake. Similar restored river views would occur upstream of the site and slightly downstream of the site until after passing the former Copco No. 1 Dam site. The former Copco No. 2 Reservoir is narrower and is situated within the confines of the historic river channel. Restoration and revegetation are expected only where impacts from removal of dam facilities are required. The restoration and enhancement of the historic river channel would support the river corridor returning to its native course and naturalized river setting downstream of the site. After revegetation, the eventual naturalized river setting would provide the boating and fishing recreation experiences anticipated for a naturally functioning river in this region.

A.2.5.2. Description

The potential Copco Valley River Access Site would be located on the right bank of the Klamath River in an area currently inundated by Copco Lake and near the existing Copco Cove recreation site, which would be removed during Project implementation. Figure A-10 shows the general vicinity in which the potential river access site would be located. The site would be accessed via Copco Road through the existing Copco Cove recreation site. A site at this location would provide river access for whitewater boating, fishing, picnicking/day use, and informal shoreline recreation opportunities.

Stakeholders identified this site as a highly valuable take-out for the Copco Valley run and put-in for the new Ward's Canyon run, which would become available after the removal of Copco No. 1 and No. 2 Dams and increased flows within the Copco No. 2 Bypass Reach. This potential river access site would be located at a point where the whitewater boating difficulty would change from Class II within the former Copco Lake area on the Copco Valley run to Class IV within the Ward's Canyon run (currently inundated by Copco No. 2

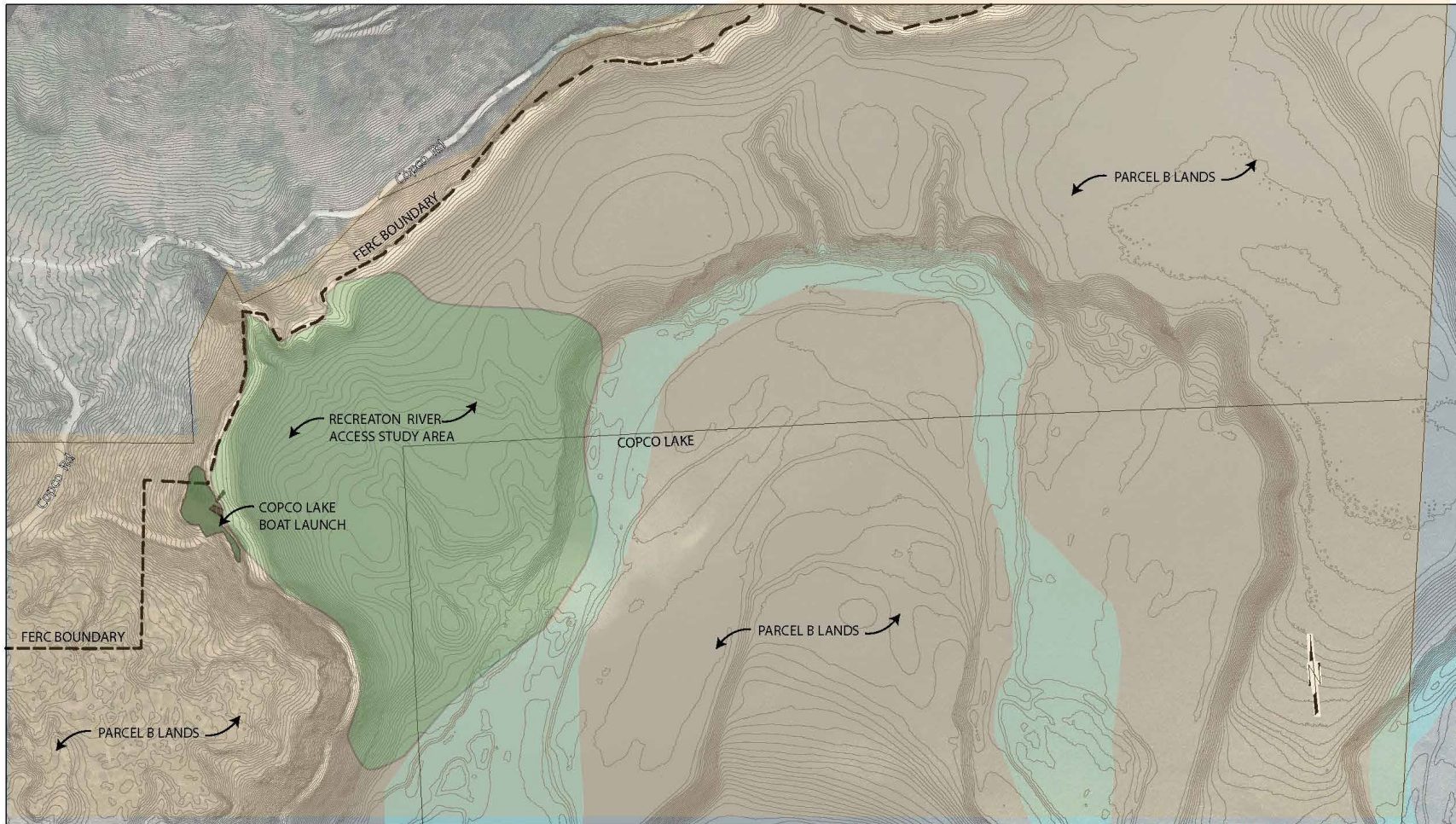


Figure A-10: Potential Copco Valley River Access Site

Reservoir and within the Copco No. 2 Bypass Reach). As described in Section 3.2.3, due to the low difficulty rapids and riffles on the Copco Valley run, it may be suitable for drift boat fishing. However, just downstream of the potential Copco Valley River Access Site at the entrance to Ward's Canyon, the gradient changes significantly and there may be the most difficult rapids on the Ward's Canyon run. Thus, the Copco Valley River Access Site would provide a safe exit point for drift boater anglers and less experienced boaters before continuing downstream where advance skill would be necessary to navigate the challenges presented in the run.

The Copco No. 2 Bypass Reach currently has limited whitewater boating opportunities due to lack of flow and vegetation encroachment, and the changes in river flows with Project implementation would result in a substantial increase in the number of days with acceptable flows for whitewater boating in the Copco No. 2 Bypass Reach. Stakeholders believe the Ward's Canyon run may experience heavy recreation use by both private and commercial boaters warranting a more developed site to support a higher level of visitation. Therefore, providing this potential recreation site would enhance whitewater boating and fishing by providing access to new whitewater boating opportunities and support of fishing opportunities. The location of this site fulfills guiding principles related to new whitewater boating and fishing opportunities, leveraging new river conditions, using existing road infrastructure, and consideration of safety issues.

The Ward's Canyon run would be a newly exposed whitewater boating run that is currently inundated by Copco No. 2 Reservoir and within the Copco No. 2 Bypass Reach. Stakeholders identified riparian vegetation that has grown into the historic river channel in the Copco No. 2 Bypass Reach (due to low flows) as a substantial safety hazard for future water-based recreation in that stretch of the river. Removal of this vegetation prior to drawdown to improve recreation conditions is included as part of this Recreation Facilities Plan. The 2020 flow study determined where vegetation growth within the Ward's Canyon run affects navigability to assist with determining where riparian vegetation needs to be removed. The flow study also aims to determine the usability of the Big Bend run by a variety of boat types at the flows expected to be present during the summer season after Project implementation.

There is no existing recreation site at this location. Copco Cove is the closest existing recreation site, located less than a mile southwest of the potential river access site, and would be removed as part of the Project due to the distance of this site from the future river's edge.

As this site is projected to receive substantial recreation use after Project implementation due to the availability and potential popularity of the Ward's Canyon run, the potential recreation site includes extensive parking areas for private and commercial boaters, as well as day use facilities and a large, paved boat launch. The potential site would be accessible via a new access road off the existing Copco Cove access road (to the existing boat launch that would be removed). This new access road would lead down the site slope and provide counterclockwise access to a paved boat ramp and parking for vehicles and vehicles with trailers within the restoration area (of the former inundation area). Revegetation would occur within, around and through the site to create a naturalized setting. Parking at the site would support up to 54 vehicles (including two spaces for ADA-accessible parking) and include seven trailer spaces. Paved paths would lead from the ADA parking spaces to a universally accessible vault toilet, water spigot, and information kiosk with angler box. Paved paths would also connect the parking area with five picnic sites. Garbage facilities would be located at the universally accessible vault toilet and picnic sites.

Downstream of the picnic sites, the site would include two designated dispersed river access sites and a gravel trail connecting these sites to each other. The boat launching portion of the site would include a four-lane paved boat launch and vehicle turnaround area accessed from the site entrance road. A launch staging area would be located to the side of the boat ramp and a hand-launching area/beach would be located just upstream of the paved boat ramp.

A.2.5.3. Conceptual Design

Figure A-11 shows the initial conceptual design for the potential Copco Valley River Access Site.

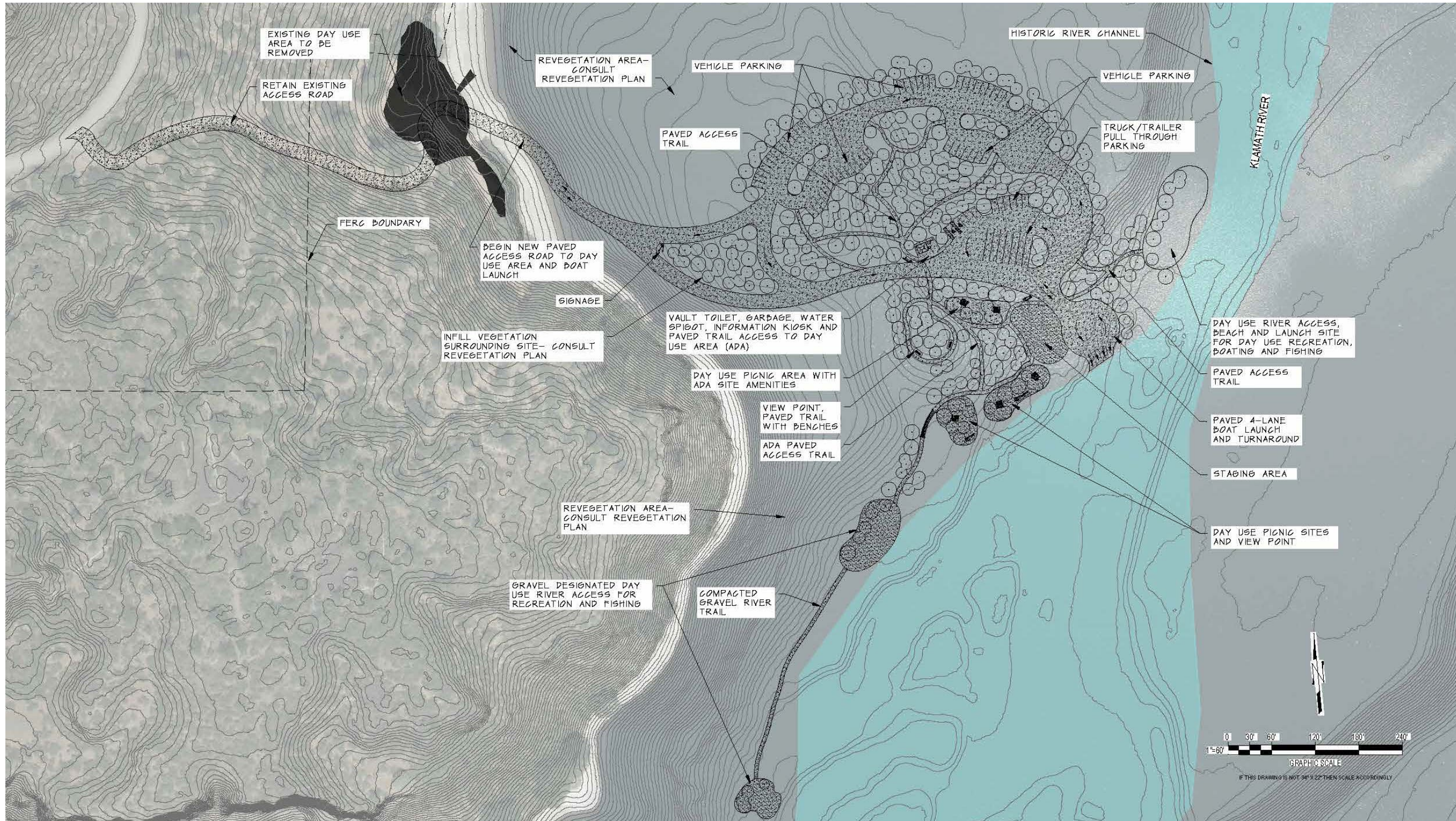


Figure A-11: Copco Valley River Access Site Conceptual Design

A.2.6. Iron Gate River Access Site

A.2.6.1. Setting

The potential Iron Gate River Access Site would be located in a stretch of the Klamath River right below where a dam and two residences would be removed. Therefore, the setting of the site would change from existing conditions and restoration of the facilities locations would occur; the remainder of river downstream of the dam would not need restoration. Restoration of the dam site and other infrastructure associated with the dam would provide a naturalized setting within the background and middle ground views from the site. The location of the former residences would be converted into parking access within the foreground of the site.

It is anticipated that the spillway would not be removed but covered with rock from dam removal. Removal of the dam facility and covering of the spillway would improve the overall naturalness of the view from this site in the long term. The river would appear slightly different as water quality would increase, improving water clarity and color. The slightly modified natural river setting at the site would provide boating and fishing recreation experiences anticipated for a naturally functioning river in this region, particularly after restoration goals are achieved at the former dam site. Recreation experience quality may be slightly degraded in the dam area until restoration goals are achieved due to slightly different scenery than expected in a natural river corridor; however, for many visitors the change in scenery may be expected and therefore have less influence over their recreation experiences.

A.2.6.2. Description

The Iron Gate Hatchery Day Use Area is an existing recreation site located downstream of Iron Gate Dam and includes an undeveloped boat launch. The existing undeveloped boat launch is used to launch smaller watercraft such as tubes, rafts and drift boats primarily, but does receive some trailered use. This boat launch is used by recreationists in the summer for fishing access, swimming, and tube floating on the river and is also popular during the late summer and fall for salmon fishing and drift boat use. Figure A-14 shows the location of the existing Iron Gate Hatchery Day Use Area and the undeveloped boat launch across the river.

Stakeholders indicated that the Iron Gate Hatchery Day Use Area is a highly valuable site that should be retained and could provide a take-out location for whitewater boaters on the new Iron Gate run, which is currently inundated by Iron Gate Reservoir. Due to the closeness of the Iron Gate run to major roads and population centers and the moderate gradient of the run, the Iron Gate run has the potential for a high level of recreation use. In addition, as the last run on the Upper Klamath River, there may be some boaters that use the Iron Gate run take-out as a long-term parking area while they run the entire Upper Klamath River over a few days.

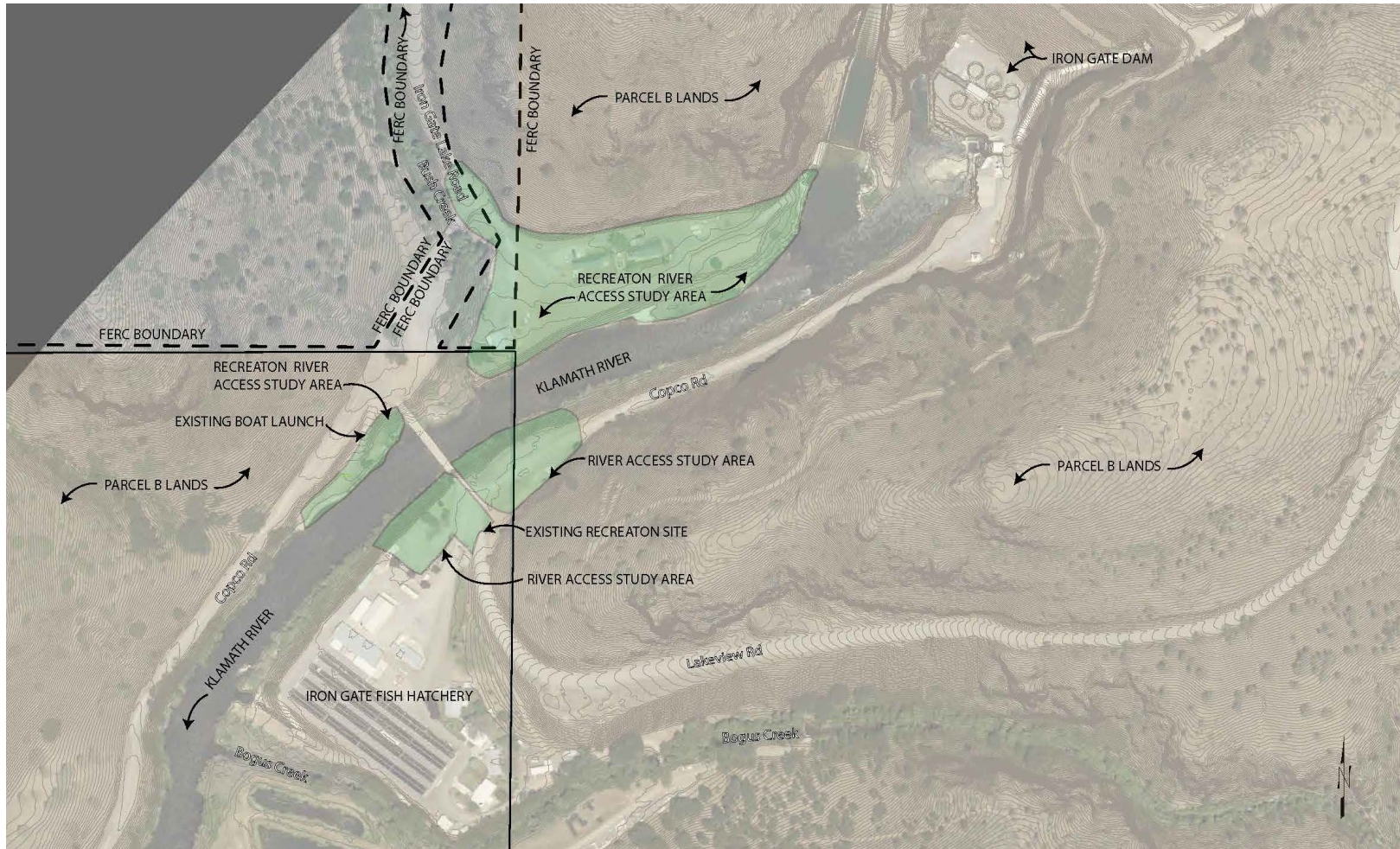


Figure A-14: Existing Iron Gate Hatchery Day Use Area and Boat Ramp, and Potential Iron Gate River Access Site

After further review of the site and additional stakeholder input, it was determined that enhancement of boating facilities at the existing undeveloped boat launch site across from the existing day use area would result in undesirable impacts to other resources. Therefore, as shown in Figure A-15, the potential Iron Gate River Access Site would be located in an area approximately 0.25 mile upstream of the existing day use area on the river right. The potential river access site is accessed via Copco Road and an unnamed road to the existing Iron Gate Dam residences. Providing boating amenities at this site would assist with enhancing whitewater boating as the site would also function as a take-out for the new Iron Gate run. The location of this site fulfills guiding principles related to new whitewater boating and fishing opportunities, leveraging new river conditions, and using existing road infrastructure. A site at this location would provide whitewater boating, fishing, general boating, and informal shoreline recreation opportunities.

Because there are no amenities at the potential site, which is expected to receive substantial recreation use due to its location, the site would include a boat launch and a large parking area for 18 vehicles (including two spaces for ADA-accessible parking) and five vehicles with trailers. The potential site would also include garbage facilities, universally accessible vault toilet, a water spigot, an information kiosk with angler box, five picnic sites, and trails to the picnic sites. The boat launch portion of the potential site would include a paved four-lane boat launch, staging area, and a paved launch access road. The four-lane boat launch would be located behind an eddy. Within the site, vegetation would be retained and the existing beach and river's edge would be regraded to create a more natural riverbank.

The existing site location is already fairly flat and compacted, thus requiring minimal earthwork. The parking area would be located where the two existing residences would be removed as part of Project implementation (at the toe of the slope away from the edge of the river), thus reducing potential disturbance at the site and potential impacts to the river. The existing access road to the residences would be improved and continue to be the primary access road to the potential recreation site, thus reducing the need for constructing a new road. The boat launch area would utilize the existing backwater area in front of the existing spillway as an eddy. Remnants of the deconstructed dam could be utilized to maintain the existing eddy at the launch location.

It is anticipated that the potential river access site would be built after dam removal is complete due to the close proximity of construction activity during facilities removal. To reduce potential impacts to recreation access on this section of the river, the existing boat ramp at the Iron Gate Hatchery Day Use Area would remain open during this time. There may be limited periods when access to this existing launch site and the day use area would be congested or restricted by construction work at Lakeview Bridge, which connects Copco Road and the day use area. Once the potential river access site was operational, the existing boat launch site across from the day use area could be closed.

A.2.6.3. Conceptual Design

Figure A-15 shows the initial conceptual design for the potential Iron Gate River Access Site.

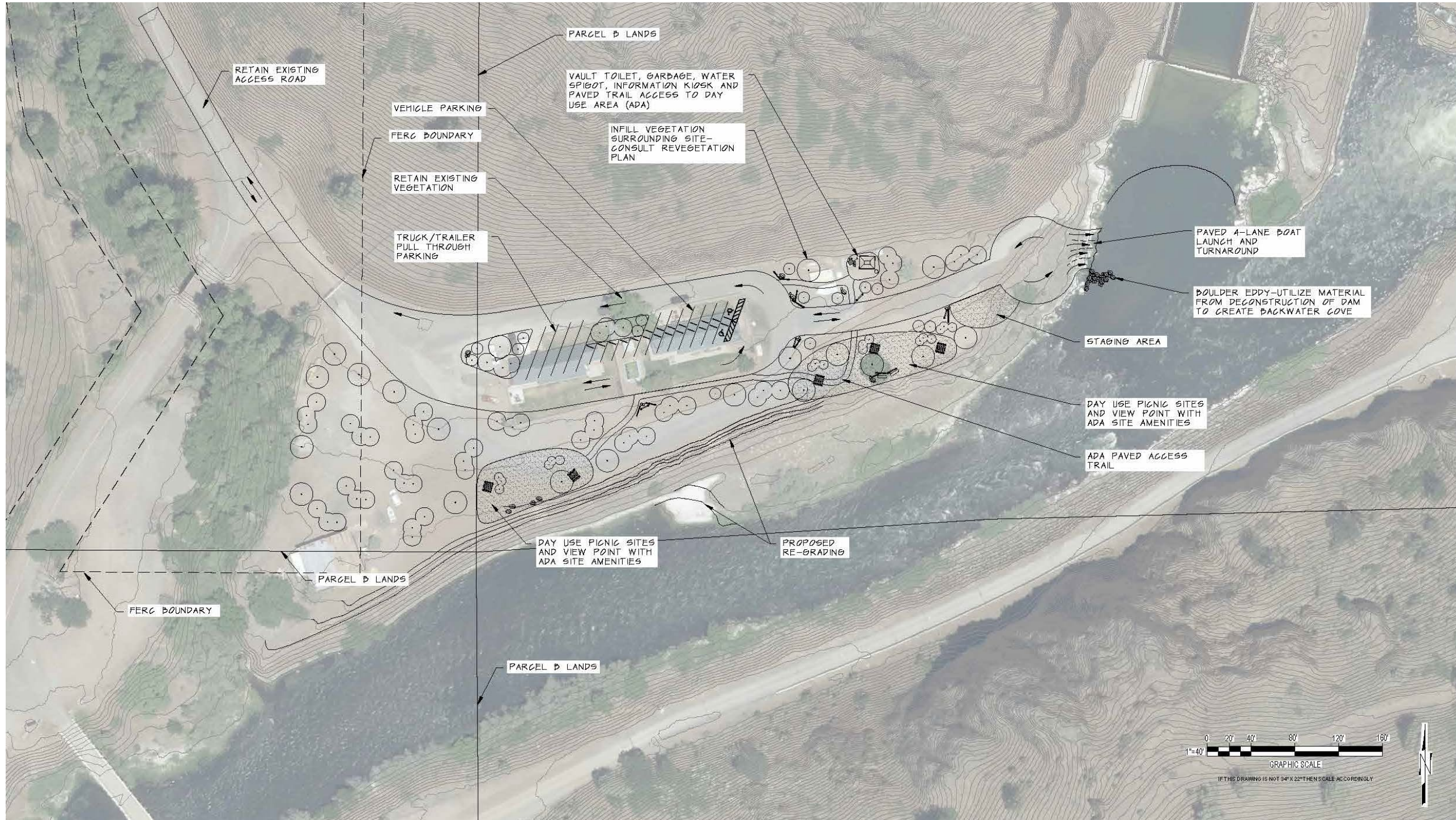


Figure A-15: Iron Gate River Access Site Conceptual Design

A.2.7. Fall Creek River Access

A.2.7.1. Setting

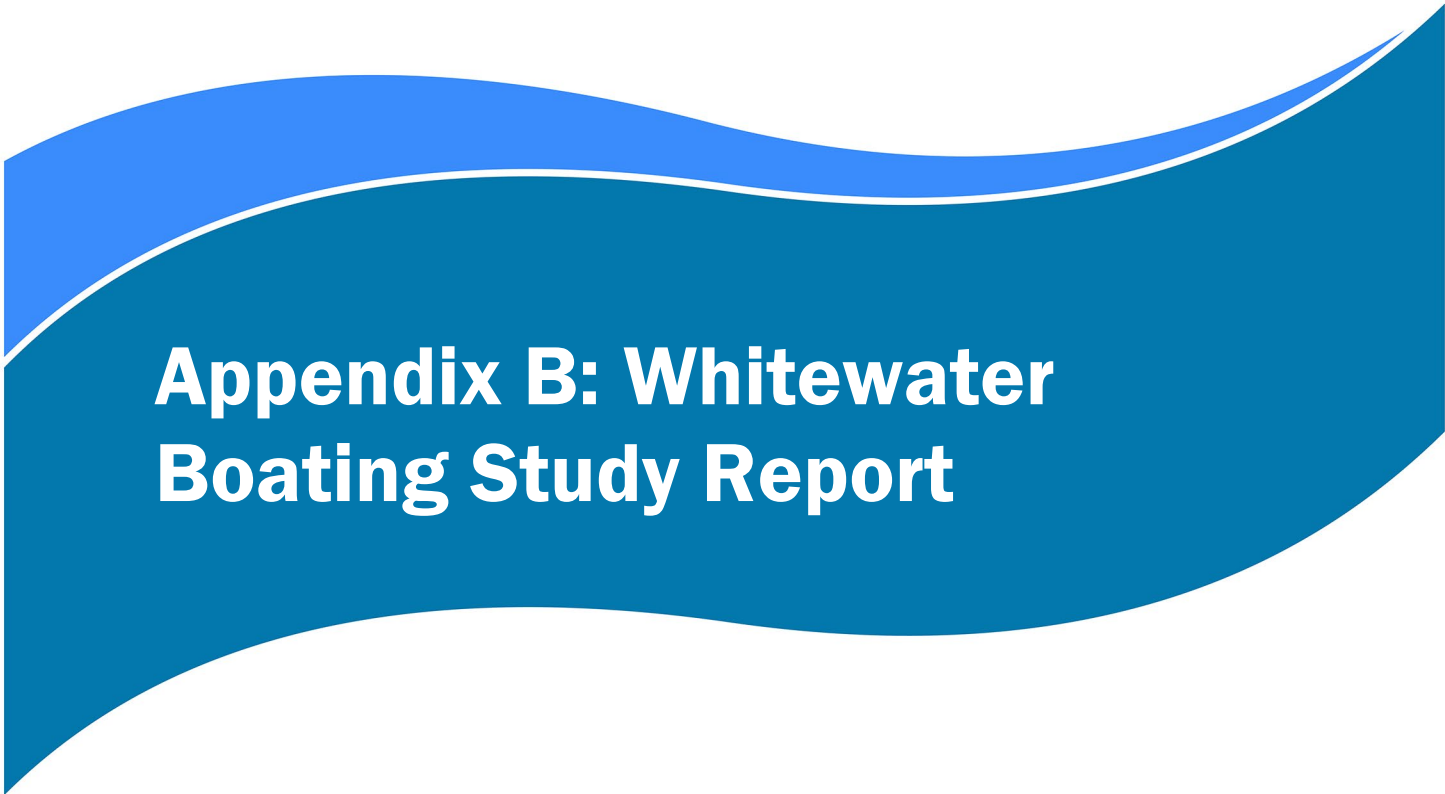
The Fall Creek access site would be in a stretch of the Klamath River just below the confluence of Fall Creek and the Klamath River. The setting of the site would change from its current informal recreation opportunity with minimal improvements, to a site sufficient to manage recreational boating. The stakeholders valued this location as the site would allow boating access to the reach that is currently inundated by Iron Gate Reservoir. The Fall Creek access would allow for river access for both fishing and whitewater boating opportunities.

A.2.7.2. Description

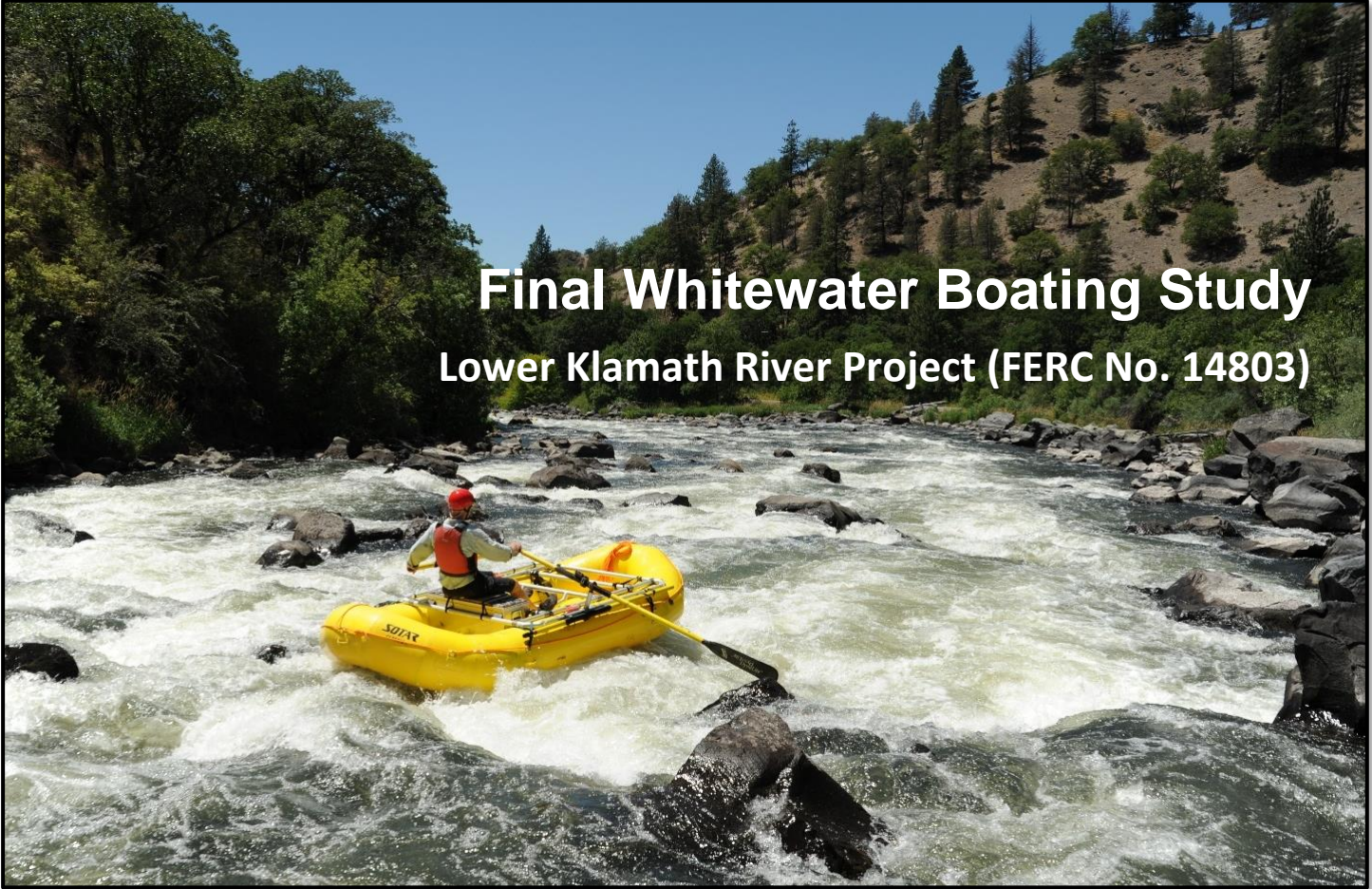
The Fall Creek access site would include a boat put-in and take-out, parking, and day use facilities. The Fall Creek site will also be upgraded with a fire access ramp site as part of the Proposed Action. Any future improvements at this location will allow for the continued fire access use as well. Please see Figure 6-4, for the location. A conceptual design has not been developed for this site at this time. The Renewal Corporation will continue to work with the stakeholders in the conceptual design development.



End of Appendix A.



Appendix B: Whitewater Boating Study Report



Final Whitewater Boating Study

Lower Klamath River Project (FERC No. 14803)



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November 2021



Executive Summary

PacifiCorp's Klamath Hydroelectric Project license expired in 2006. Relicensing studies, a license application, and discussions led to an initial 2010 Klamath Hydroelectric Settlement Agreement (KHSA) to remove four dams (J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate) rather than relicense the renamed Lower Klamath Project (FERC No. 14803). This settlement has been amended twice, most recently in 2016, and the Klamath River Renewal Corporation was created to execute dam removal, hereafter called the Proposed Action. A 2020 Memorandum of Agreement describes how relevant parties will implement the amended KHSA. The dam removal is scheduled to begin in 2023 pending issuance of a FERC Surrender Order.

Whitewater recreation will be substantially affected by the Proposed Action. Inundated segments will be uncovered, bypassed segments will have increased flows, segments with power generation will have fluctuations leveled-out, and there will be new connections among segments. De-construction, restoration, and access changes may further affect the types, amount, or timing of whitewater boating.

The Renewal Corporation contracted a Whitewater Boating Study of four river segments (Keno, Big Bend, Hell's Corner, and Ward's Canyon). The 2020 study includes information about the Proposed Action flow regime; how seasonal flow shifts affect boating opportunities on the four segments or their connections through restored segments; boating-related access issues during deconstruction and over the long-term; and in-channel/riparian vegetation issues resulting from dam removal, particularly in Ward's Canyon. Field work focused on summer low flows that were not well-documented during 2004 relicensing studies, given modern equipment and practices. The study used controlled flow releases in Big Bend, Hell's Corner, and Ward's Canyon, and existing flows in the Keno Segment. Methods are in the report and a more detailed Study Plan.

Hydrology information illustrates the more natural Proposed Action flow regime. An annual hydrograph shows how spring run-off flows will be higher and more varied, often exceeding 1,500 cfs downstream of the springs below J.C. Boyle Dam (in Big Bend, Hell's Corner, and Ward's Canyon). A mid- to late-summer hydrograph shows relatively stable lower flows typically ranging from 800 to 1,100 cfs from July through September. Overall, the Proposed Action shifts higher flows (currently occurring during summer months due to peaking) to spring months (when they will occur less predictably and on fewer days, due to variable inputs and decreased storage).

A summary of 2020 fieldwork is provided in the table below. Results included flow evaluation curves for rafts and kayaks for each segment, and specified flows for different types of whitewater trips. Conclusions and implications include the following.

- **Keno** will continue to provide a scenic Class II/III trip with fishing and bird-watching bigger attractions than whitewater. Proposed Action summer flows of 600 to 800 cfs will be boatable, but the segment is not a substitute for better whitewater downstream. Keno will continue to support limited guided fishing along with local boating and fishing. Improved access could handle problems from existing use or facilitate additional use.
- **Big Bend** will provide a new boating trip in a scenic canyon during higher spring flows. Proposed Action summer flows will be higher than bypassed flows, but too low for standard whitewater boating with guided passenger loads. Big Bend requires few access improvements aside from

parking organization and a boat slide/trail at the put-in. The non-natural constriction at Sidecast Slide also needs work (beyond already-completed fish passage modifications) to provide a boatable channel at summer flows.

- **Hell's Corner** will provide high quality standard whitewater boating during the spring season, available from March through May in most years and into June in wet years. Summer low flows will provide acceptable technical whitewater for kayaks and small rafts, but will be sub-marginal for standard kayaking and rafting, probably requiring smaller boat/passenger configurations that would affect commercial viability. Hell's Corner accesses are well-located and require few improvements.
- Previously unboatable due low bypass flows, **Ward's Canyon** will provide an exciting new whitewater boating opportunity. Summer flows will provide optimal technical boating and acceptable standard boating that will attract guided and unguided use. The segment will need attention to access; it currently lacks an appropriate put-in, and the take-out at Fall Creek is well-located but needs organization and development. Ward's Canyon also has hundreds of trees that have grown in the channel and riparian area during a century of very low bypass flows. Before restoration of Proposed Action flows, vegetation should be cleared.
- A restored Klamath River will provide several options for extending boating trips through **multiple segments**. The most likely combination due to similar whitewater difficulty is a day trip in Big Bend and Hell's Corner, but trips with Keno and/or Ward's Canyon are possible, depending on what rapids emerge after reservoir drawdowns. For most craft and loads, multi-day trips will require higher flows that will occur from March thru May.

Summary of 2020 whitewater boating assessments.

Segment	Flows Assessed	Participants / Craft	Comments about Flows / Findings
Keno	800 cfs	11 boaters in 6 kayaks, 2 catarafts, an inflatable kayak, and a raft.	Low end of boatable range; technical flow for kayaking and rafting; marginal for commercial rafting with six-passengers; challenging inflatable kayaking.
Big Bend	1,100 cfs (dropping to 950 cfs)	9 boaters in 4 kayaks, 4 rafts, and a cataraft.	Technical flow for kayaking and rafting; low end of acceptable range for rafts even with light loads; several pinning and wrapping hazards. Small decrease in flows at end of study flow more technical. Kayaks ran Sidecast Slide, most rafts portaged.
Hell's Corner	830 cfs	7 boaters in 2 kayaks, 4 rafts, and a cataraft.	Technical flow for kayaking and rafting; low end of acceptable range for rafts even with lighter loads. More limited route options and more wrapping/pinning hazards than 1,100 cfs.
	1,100 cfs	9 boaters in 4 kayaks, 4 rafts, and a cataraft.	Technical flow for kayaking and rafting; low end of acceptable range for rafts even with lighter loads. Noticeably stronger hydraulics than 830 cfs, increased challenge and risks.
Ward's Canyon	800 cfs	10 boaters in 3 kayaks, 3 rafts, and a cataraft.	Acceptable standard boating for kayaks and rafts, even with moderate commercial passenger loads (four pack). In-channel vegetation hazards.
	700 cfs	9 boaters in 3 kayaks, 2 rafts, and a cataraft.	Transition flow between technical and standard trips for kayaks and rafts. Shallower rapids, constrained route options compared to 800 cfs, vegetation hazards remain.

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1 Introduction

PacifiCorp's Klamath Hydroelectric Project (KHP, FERC No. 2082) was constructed between 1911 and 1962. The KHP includes eight developments (East Side, West Side, Keno (non-generating), J.C. Boyle, Copco No. 1, Copco No. 2, Fall Creek, and Iron Gate), and it has been operating on annual FERC licenses since the 50-year license expired in 2006.

Relicensing studies and a license application occurred from 2000 to 2004, followed by a trial-type hearing (2006-2007) and subsequent settlement discussions (2006-2016) among the utility, Tribes, federal and state agencies, and several non-governmental stakeholders. The Klamath Hydroelectric Settlement Agreement (KHSA, originally 2010 but amended twice and finalized in 2016) plans to remove four dams (J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate; labeled the Lower Klamath Project) rather than relicense the entire KHP. This complex decision process considered tradeoffs among multiple resource values, concluding that a restored river will provide the greatest benefits in the long run.

Pursuant to the amended KHSA, Klamath River Renewal Corporation (Renewal Corporation) is an independent nonprofit organization created to execute decommissioning and removal of the Lower Klamath River Project (FERC No. 14803), hereafter called the Proposed Action. A November 2020 Memorandum of Agreement including the states of California and Oregon, the Yurok and Karuk Tribes, PacifiCorp, and Renewal Corporation describes how the parties will implement the amended KHSA with regard to the requested FERC License Transfer Order. On November 17, 2020, the Renewal Corporation filed the Amended Surrender Application with FERC, including Exhibit A-1 (Definite Decommissioning Plan) and Exhibit E (Environmental Conditions report). The Whitewater Boating Study is intended to further supplement the Amended Surrender Application, with results incorporated into the Recreation Facilities Plan initially submitted to FERC in February 2021. This final study report and photo summary will be filed with other finalized recreation facilities and access documents in fall-winter 2021-22. The dam removal is scheduled to begin in 2023 pending issuance of the Surrender Order.

1.1 Whitewater Boating on the Klamath River (from Keno to Iron Gate)

The Klamath River from Keno Dam to Iron Gate Dam drops nearly 2,000 feet in 44 miles. Current operation of the existing Klamath River Hydroelectric Project creates two bypassed segments with diminished flows (Big Bend and Ward's Canyon), a segment with low base flows and higher peaking flows (Hell's Corner), and a segment with close to run-of-the-river flows (Keno Segment). Other segments are inundated by the Project's four reservoirs.

Whitewater recreation will be substantially affected by the Proposed Action. Inundated segments will be uncovered, bypassed segments will have increased flows, the segments with flows affected by power generation will have fluctuations leveled-out and there will be new connections among segments. Deconstruction, restoration, and access changes may further affect the types, amount, or timing of whitewater boating. Studies will anticipate changes, but surprises are inevitable.

Overall, the Proposed Action is expected to improve whitewater boating, fishing, and other river-based recreation that support the region's tourism economy, including commercial rafting (Cross and Wallstrom, 2019). But this will require careful planning for the short term (e.g., disruptions during the deconstruction process) and the long term (e.g., when development choices will affect location of and amenities at access sites). A Recreation Facilities Plan will address management issues and facility needs; however, stakeholders have requested a study of flow needs and access options (Cross and Wallstrom, 2019) to better identify effects of the new flow regime on whitewater boating.

Recreation studies during relicensing (PacifiCorp, 2004) assessed flow needs for boating, fishing, and general recreation opportunities. However, these studies assumed the four dams would remain in operation and regulate flows (e.g., with peaking flows in one segment, and possibly boating releases in other segments). The Proposed Action will remove four hydroelectric dams, producing a more natural flow regime, with no peaking or bypass segments.

The full range of flows are important for whitewater because they produce a diversity of boating opportunities throughout the year. Lower flows are of particular interest for the 2020 study because they were not as well documented during 2004 relicensing studies, they are likely to constrain boating opportunities, and they occur during the summer season. There is a need to:

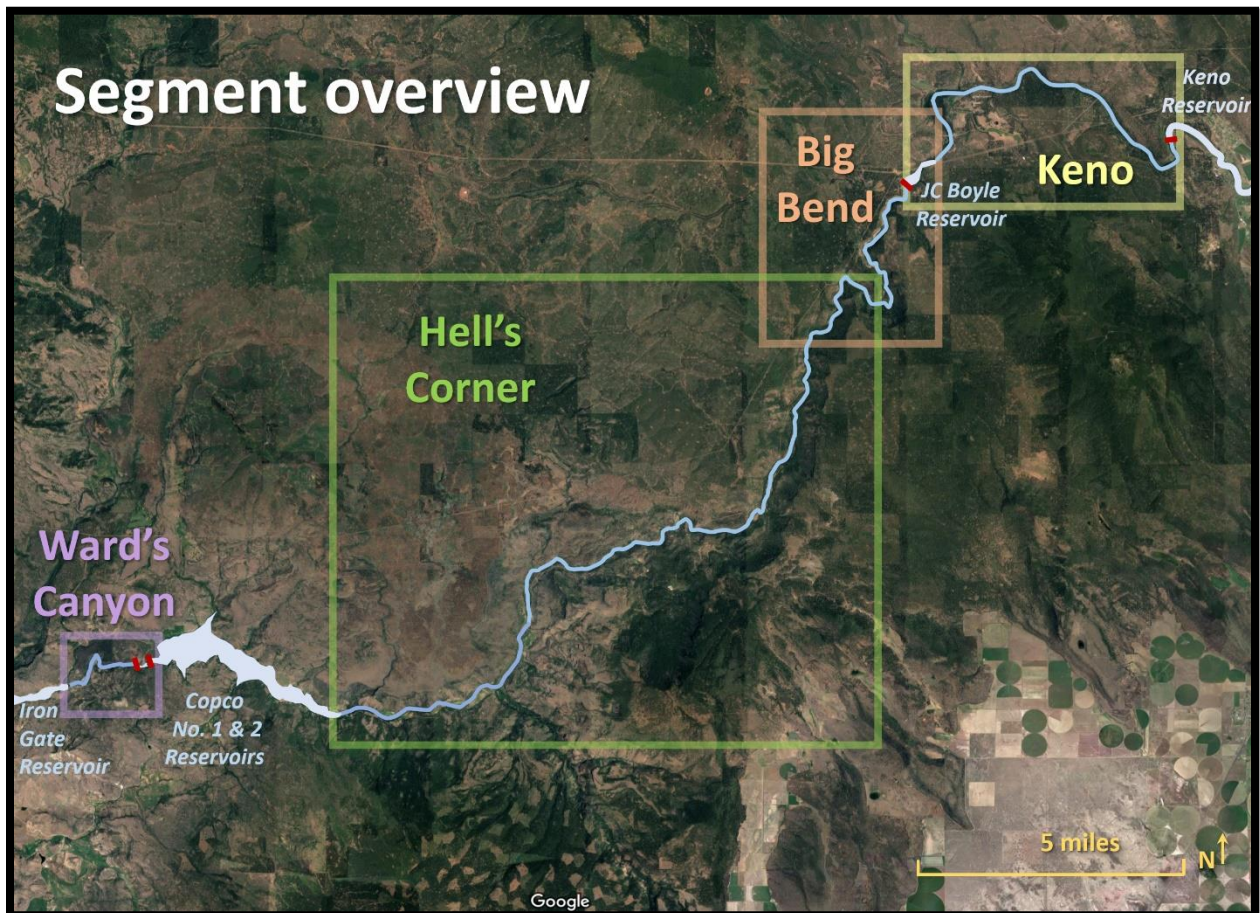
- More precisely determine the Proposed Action flow regime in the Keno, Big Bend, Hell's Corner, and Ward's Canyon Segments.
- Discuss how flows may affect boating opportunities on the four segments or their extensions/connections through restored segments.
- Assess boating-related access needs and solutions during deconstruction, as well as over the long-term.
- Identify in-channel and riparian vegetation issues as a result of dam removal, particularly in Ward's Canyon.

The Renewal Corporation commissioned this Whitewater Boating Study focusing on the following boating opportunities, flow ranges, access issues, and riparian vegetation constraints.

- ***Keno Segment*** (from Keno Dam to J.C. Boyle Reservoir). Private and commercial boating anticipated during mid- to late-summer low flows.
- ***Big Bend Segment*** (aka Boyle Bypass Reach, from J.C. Boyle Dam to J.C. Boyle Powerhouse). Private and commercial boating anticipated during mid- to late-summer low flows. In addition, assess boatability of Sidecast Slide Rapid, a river feature created by erosion of the overburden generated during construction of J.C. Boyle Power Canal, which has been modified for fish passage as part of KHSA Interim Measure 8.
- ***Hell's Corner Segment*** (from the J.C. Boyle Powerhouse to Copco Lake, including the Klamath Wild and Scenic River (W&SR) and Oregon State Scenic Waterway (OSSW) segments). Private and commercial boating anticipated during mid- to late-summer low flows.
- ***Ward's Canyon Segment*** (aka Copco No. 2 Bypass Reach, from Copco No. 2 Dam to Iron Gate Reservoir). Non-commercial and commercial boating anticipated during mid- to late-summer low flows.

- Review **boating-related river access issues for each segment**, as well as new boating opportunities that connect existing river segments to those uncovered as reservoirs are drained. The study did **not** assess whitewater features in the reservoir-into-river segments, which can be better assessed after drawdown.
- Preliminary assessment of **tree growth in the channel and riparian zone** in Ward’s Canyon due to years of reduced base flows and infrequent higher flows from the hydroelectric project. Current vegetation could create impasses and safety issues for future whitewater boating, and the study took advantage of the opportunity to consider possibilities for restoration/enhancement.

In general, the 2020 Whitewater Boating Study collected information from controlled flow assessments on Big Bend, Hell’s Corner, and Ward’s Canyon, while capitalizing on existing flows to assess the Keno Segment. Target flows were chosen to optimize boatability information about more natural Proposed Action flow regimes (see hydrology analysis summary below), considering assessments from earlier relicensing studies and changes in commercial boating equipment and practices in the intervening years.



Map 1. Segment overview.

1.2 Study Overview and Objectives

The Whitewater Boating Study included controlled flow assessments of one flow on Big Bend and two flows on Hell's Corner and Ward's Canyon. Target flows were chosen to bookend anticipated Klamath River mid- to late-summer flows under the Proposed Action, as identified in a hydrology analysis (CRC, 2020; see summary below). Controlled flows were not feasible on the Keno Segment due to irrigation, endangered species, and water rights commitments, but the existing flow at the time of the study reasonably represented mid- to late-summer conditions.

Non-commercial and commercial boaters traveled the river in their own craft to assess different types of trips. They completed formal evaluations and participated in focus groups for each run, and after all the runs. Assessments focused on boatability, whitewater challenge, skill and craft options, and potential river hazards and solutions (including non-natural features such as Sidecast Slide rapid or vegetation growth in bypass channels). The study also considered access locations and facility options near Keno Dam, Turtle Camp, and Copco No. 2 Powerhouse.

The Whitewater Boating Study includes information about the following:

- Recreation-relevant hydrology of anticipated flow regimes (see summary of hydrology analysis below).
- Whitewater boating opportunities on existing and to-be-restored river segments. Opportunities vary by equipment (e.g., craft or rigging), skill level, activity objective (e.g., technical, standard, or big water experiences), or specific flow-related conditions.
- Flow-quality relationships, including acceptable and optimal ranges for each opportunity, with specific focus on anticipated mid- to late-summer low flows.
- Opportunities for whitewater flow enhancements if water became available (e.g., due to changes in Keno operations, irrigation demand, return-flow rates, or requirements for endangered species).
- Existing and potential access for boating, advantages and disadvantages of different options, and potential improvements.
- Possible whitewater opportunities and use-levels with agencies considering whitewater and other resource values.
- Impacts of vegetation in bypassed reaches with altered flow regimes, especially Ward's Canyon.