

3.19 Aesthetics

This section identifies and describes potential impacts to scenic resources of the Klamath River and adjacent landscape due to implementation of the Proposed Project.

Several comments were received during the NOP public scoping process relating to potential dam removal impacts on aesthetics, including the likelihood of adverse impacts due to the loss of scenic reservoir views. Several commenters felt that the reservoir footprints would be left as bare slopes with only mud and debris for an extended period of time prior to restoration, and that the loss of reservoir views after implementing the Proposed Project would adversely affect the viability of residential communities that currently surround Copco No. 1 and Iron Gate reservoirs. Individual public scoping comments are presented in Appendix A of this EIR.

3.19.1 Area of Analysis

Removal of the Lower Klamath Project could affect aspects of scenic quality throughout the Klamath River in California, including aspects like water clarity, fish viewing opportunities, and riparian and channel characteristics of the river downstream of the dams. However, potential aesthetic effects on these aspects would decrease with distance downstream from the Lower Klamath Project as the river is affected more by tributary inputs and less by the dams and associated facilities. Therefore, the primary Area of Analysis for aesthetics is within the viewshed of the Lower Klamath Project reservoirs, which includes the proposed Limits of Work in California (i.e., Copco No. 1, Copco No. 2, and Iron Gate dams, reservoirs, and associated facilities, and the areas identified as construction/demolition areas and staging areas) plus a buffer to the ridgeline surrounding the reservoirs. The secondary Area of Analysis for aesthetics includes those areas within view of the Klamath River downstream from Iron Gate Dam to the confluence with the Shasta River (RM 179.5), as well as the portion of the Klamath River extending upstream from Copco No. 1 Reservoir to the Oregon-California border, because these river reaches may be affected by removal of the upstream dams.

The Primary and Secondary Areas of Analysis were generated in Geographic Information Systems (GIS) to approximate the viewshed visible from the Limits of Work and reaches of the Klamath River from the Oregon-California state line to the confluence with the Shasta River, respectively. Where the Primary and Secondary Areas of Analysis overlapped (e.g., at the upstream end of Copco No. 1 Reservoir, see Figure 3.19-1), precedence was given to the Primary Area of Analysis. The viewshed was digitized to follow ridgelines of steep slopes visible using a 10-meter digital elevation model (DEM) hillshade and USGS topographic maps. The area visible from the ground was confirmed using the terrain and ground-level view tools in Google Earth®. The viewshed only includes land that is anticipated to be continuously visible from the Limits of Work or the Klamath River. For example, when ridgelines or peaks appeared to be visible in the distance, but the land between the Limits of Work or Klamath River did not appear to be visible, those areas were not included. The viewshed is meant to be all encompassing of views from anywhere within the Limits of Work, and viewshed limits are approximate and generalized. The Primary Area of Analysis was expanded into Oregon where the viewshed from the Limits of Work in California extended beyond the state line, but it was truncated at the state line along the Klamath River based on the

assumption that an on-the-ground viewer would only be looking downstream toward California for the assessment of potential aesthetics impacts in California.

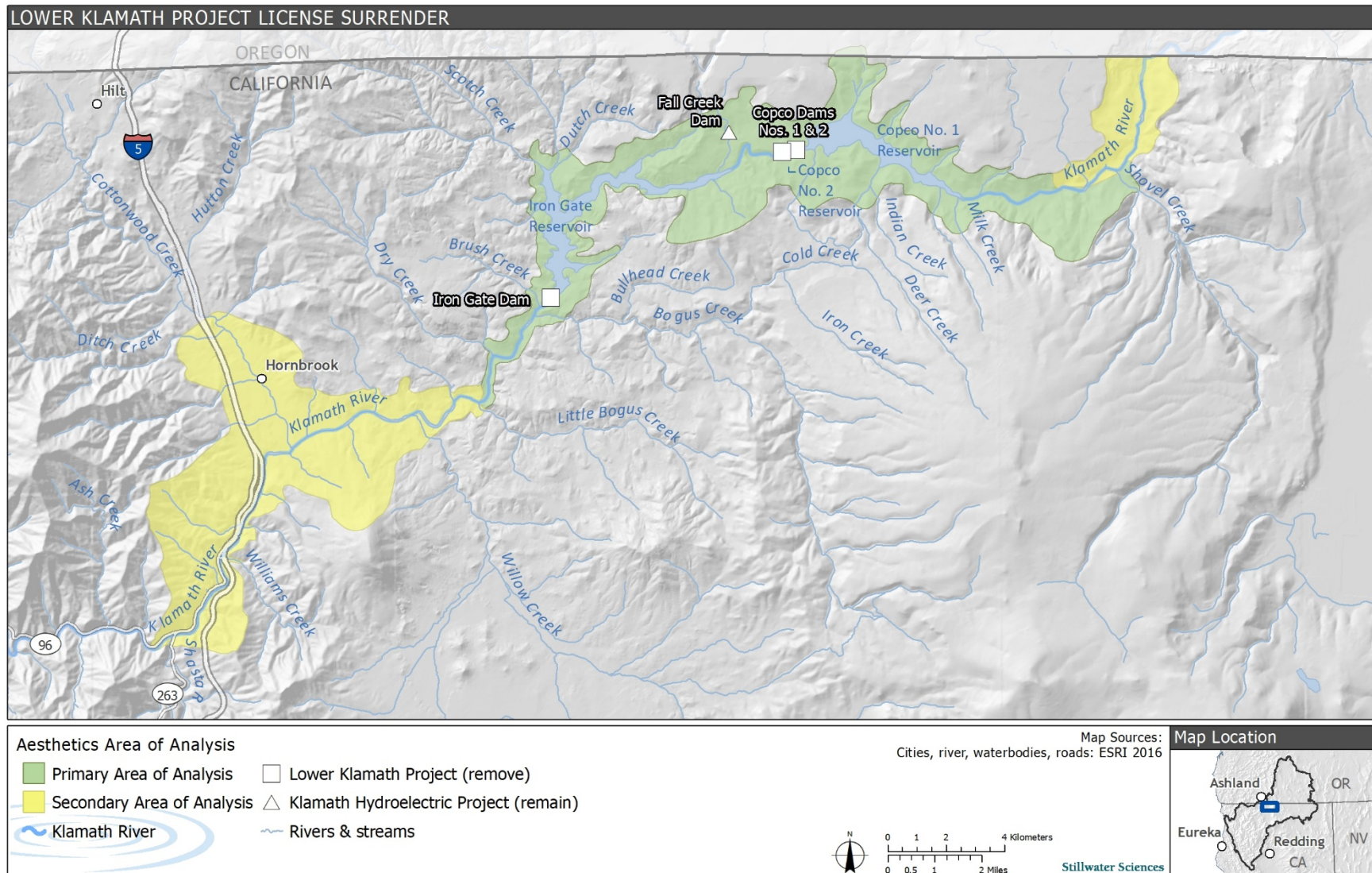


Figure 3.19-1. Aesthetics Area of Analysis.

3.19.2 Environmental Setting

The Klamath Basin as a whole contains widely varied scenic resources, including wetlands, uplands, rangelands, National Wildlife Refuges, farmlands, timberlands, and small urbanized areas in Yreka and along the Interstate 5 corridor. The Klamath Basin also supports vegetation communities including, but not limited to, montane hardwood and annual grasslands, as described in Section 3.5.2 *Environmental Setting*.

Sightseeing opportunities to enjoy the scenic resources are widely available in the Klamath Basin generally, and more specifically within the Area of Analysis for aesthetics. Section 3.20 *Recreation* lists recreation resources, including Wild and Scenic River (WSR) segments, and locations in the surrounding region that offer wildlife viewing as well as opportunities for sightseeing, leisure drives, photography, and other forms of recreation.

This section provides further description of the environmental setting for scenic resources in the Area of Analysis pertinent to this and other resource impact analyses in this document.

3.19.2.1 PacifiCorp Analysis and Bureau of Land Management Methodology

PacifiCorp conducted a detailed visual evaluation of the project vicinity (FERC 2007) in 2002 and 2003 and documented it in the Land Use, Visual, and Aesthetic Resources Final Technical Report (PacifiCorp 2004a). This evaluation involved identifying and photographing key observation points during different seasons and documenting views of the reservoirs at different water levels. Photographs taken from these viewpoints portray typical scenic/landscape character along the Klamath River, including such features as canyon walls, channel configuration, water clarity, and bank and riparian appearance. Additional photographs were taken from selected locations in October 2010 (CDM 2010) and were compared to the 2003 photographs to verify the continued existence of earlier-documented conditions (Appendix R).

The following discussion describes the scenic resources found in the Area of Analysis for aesthetic resources. PacifiCorp (2004a) identified eight key observation points in the Hell's Corner Reach (Klamath River between J.C. Boyle Powerhouse and Copco No. 1 Reservoir), seven in the Copco No. 1 Reservoir area, twelve in the area of Iron Gate Reservoir, and three downstream of Iron Gate Dam.

These key observation points are not intended to be comprehensive but were selected to represent typical views (including scenic overlooks) for members of the public from riverside and/or reservoir communities and residences, recreational access sites, campgrounds, as well as scenic byways, and state highways 96, 169, and 101.

For their visual analysis, PacifiCorp used the Bureau of Land Management's (BLM) Visual Resource Management (VRM) process. Within their visual resource study area, PacifiCorp evaluated the way in which project features and operations fit into the overall visual landscape using the following three-step process: (1) identify the VRM classifications applicable within the study area; (2) define viewpoints from which Lower Klamath Project dams and associated facilities and operations could be seen; and (3) evaluate whether project facilities and operations, when seen from the viewpoints, conform to the objectives of the management classification in which they are found (PacifiCorp 2004a).

In response to the Federal Land Policy and Management Act (43 U.S.C. 35, §§ 1701 et seq.) and subsequent agency-specific regulations, federal land management agencies have developed systems specifically designed to inventory, evaluate and manage for scenic (visual) resources on public lands. As a result, the BLM developed the VRM system. The objective of BLM's VRM system is to manage public lands in a manner which will project the quality of the scenic (visual) values of those lands (BLM, 1984).

All BLM lands are assigned to one of four VRM classes, ranging from Class I, which includes the highest value scenery and associated protections, to Class IV, which reflects the lowest value scenery and associated protections. The VRM classes provide a valuation of existing visual resources and protection standards for determining Resource Management Plan conformance during project planning.

The Lower Klamath Project dams and associated facilities fall under the BLM Redding District Resource Management Plan. All of the facilities except three [all associated with J.C. Boyle] are located in areas that have been designated as a Class III area by an RMP or have been classified as a Class III area because the area has not been given a specific VRM class by BLM (PacifiCorp 2004). When evaluating project impacts, the objective for Class III visual resources is to "partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape" (BLM 1984).

For the purposes of this document, the site-specific, project level inventory is limited to the Area of Analysis and based upon a combination of original data from the 2004a PacifiCorp Technical Report and additional analysis from several key observation points. In addition to the aesthetic resources in the Area of Analysis being considered Class III, USBR and CDFW conducted a baseline Visual Resource Inventory within the Area of Analysis as part of the 2012 KHSA EIS/EIR, according to three components: scenic quality, visual sensitivity, and distance zones, as described below.

In terms of scenic quality, BLM's VRM methodology assigns public land a rating of A, B, or C (inherent scenic attractiveness), with A being the most distinctive and C being the most common, in terms of seven key factors including: color, water, vegetation, landform, influence of adjacent scenery, scarcity, and cultural modifications (BLM 1984). Based on review of the visual analysis completed for the 2012 EIS/EIR, all of the Proposed Project area would be contained within rating A landscapes due to the following key factors:

- **Color** – Some intensity or variety in colors and contrast of the soil, rock and vegetation, but not a dominant scenic element
- **Water** – Water flowing or still, dominant in the landscape when viewed from most KOPs, but not always clear and clean appearing
- **Vegetation** – A variety of vegetative types as expressed in interesting forms, textures, and patterns
- **Landform** – Steep canyons, some interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional

- **Influence of adjacent scenery** – Adjacent scenery moderately enhances overall visual quality
- **Scarcity** – Distinctive, though somewhat similar to others within the region
- **Cultural modifications** – Some modifications add favorably to visual variety while other add little or no visual variety or may be discordant

In terms of visual sensitivity, BLM's VRM methodology rates landscapes as either High, Moderate, or Low by analyzing the various indicators of public concern, including: type of users, amount of use, public interest, adjacent land uses, specially designated areas, and other factors. Based on review of the visual quality analysis completed for the 2012 EIS/EIR, all of the Area of Analysis would be considered High visual sensitivity because: (1) recreational sightseers are highly sensitive to changes in visual quality; (2) public interest and controversy in the area has increased in response to Proposed Project activities; (3) portions of the Area of Analysis are within the viewshed of residential areas; and (4) much of the Klamath River has been designated under the National Wild and Scenic Rivers Act (WSRA).

In terms of distance zones, BLM's VRM methodology classifies public lands as either foreground-middleground, background, or seldom seen. Based on review of the visual quality analysis, all of the Area of Analysis would be located with the foreground-middleground distance zone due to the proximity of views from recreational access sites along the river, campgrounds, key observation points along scenic highways, riverside and/or reservoir communities and residences, rivers, or other viewing locations, which are less than three to five miles away.

While all of the facilities have been classified as Class III as identified above, if BLM's Visual Resource Inventory Matrix (Table 3.19-1) is used the aesthetics Area of Analysis could be classified as VRM Class II, based on Class A distinctive scenic quality of high visual sensitivity as viewed from a foreground/middleground distance zone, from an inventory context. The objective of Class II is "to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape" (BLM 1984). If Class II objectives are applied, the changes due to the Proposed Project would be even more beneficial because they will return the areas to a more natural character, and would not change the significance of potential aesthetic impacts discussed in this section.

Table 3.19-1. Visual Resource Inventory Matrix.

Special Areas		Visual Sensitivity						
		High			Medium			Low
		I	I	I	I	I	I	I
Scenic Quality	A	II	II	II	II	II	II	II
	B	II	III	III*	III	IV	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
		f/m	b	s/s	f/m	B	s/s	s/s
		Distance Zones						

Source: BLM 1984, KHSA 2012 EIS/EIR

Notes:

Highlighted cells indicate visual resource inventory determinations for the affected environment

* If adjacent area is Class III or lower assign Class III, if higher assign Class IV

Key:

b: background

f/m: foreground/midleground

s/s: seldom seen

3.19.2.2 Wild and Scenic Rivers and Scenic Highways/Byways

Klamath River components are part of the National (and state) Wild and Scenic Rivers System because of their free-flowing condition and “outstandingly remarkable” values. According to the WSRA (16 U.S.C. 1271 et. seq.) these outstandingly remarkable values include scenic, recreational, geologic, fish, wildlife historic, cultural or other similar characteristics. These values along designated wild and scenic reaches are protected by both the federal and state WSRA to various degrees, but all designated river segments must maintain at least a generally natural appearance along their waterways. The natural-appearing scenic quality within the more immediate and prominent portions of these rivers is also protected along these WSR segments by the WSRA.

The WSR segment of the Klamath River that could be affected by the Proposed Project include the mainstem of the Klamath River beginning 3,600 feet downstream from Iron Gate Dam and continuing 189 miles downstream to the Pacific Ocean. This WSR segment is recognized for its outstandingly remarkable fisheries. It is classified under the California WSRA as recreational (river segments that are readily accessible by road or railroad, and that may have some development along their shorelines, and may have been impounded or diverted in the past (PRC § 5093.53), with portions of the tributaries classified as scenic and wild.

Scenery within the California Klamath WSR is dominated by natural settings. Its water appearance, anadromous fish and riparian vegetation within a forested river canyon are the primary scenic aspects. Since its designation in 1981, flow regimes have varied moderately in response to water resource competition, government mandated flow requirements and weather within the Klamath Basin. During summer months, fluctuations in the flow regime have typically been caused by water diversions (Van de Water et al. 2006). As described in Section 3.20 *Recreation*, reduced water clarity and discoloration resulting from seasonal algae blooms has impaired the scenic character and recreational opportunities of the Middle and Lower Klamath River (see also Section 3.2 *Water Quality* and Section 3.4 *Phytoplankton and Periphyton*).

In addition, in 1990, BLM found the 5.3-mile section of the Klamath River from the Oregon-California state line to Copco No. 1 Reservoir eligible and suitable for WSR designation. The river segment is free-flowing and possesses outstandingly remarkable scenic, recreational, fish, and wildlife values. This river segment is not a designated WSR and is not protected under the National WSRA and its Section 7(a) requirements. However, agencies are still required within their authorities, to protect this suitable river segment's free-flowing character, water quality, and outstandingly remarkable river values. This segment of the Klamath River is also listed on the Nationwide Rivers Inventory to ensure protection of its river values (NPS 2009).

In addition, there are three Scenic Byways located along the Klamath River and within the Klamath and Six Rivers National Forests. The "State of Jefferson" National Forest Scenic Byway is located primarily on California State Highway 96 (Highway 96) between Shasta River to Happy Camp, and the "Bigfoot" National Forest Scenic Byway is located on Highway 96 from Happy Camp to California State Highway 299 (Highway 299). There is also an "All American Road" as classified by the U.S. Department of Transportation's Federal Highway Administration - the Volcanic Legacy Scenic Byway—which goes from Lassen National Park in California and through the Proposed Project area via Highways 97, 140, and 62 on its way to Crater Lake National Park in Oregon. These byways provide excellent views for sightseers within the Klamath and Six Rivers National Forests and access to numerous other recreational activities (America's National Scenic Byways 2010).

3.19.2.3 Klamath Watershed

Along the northernmost, eastern edge, upstream of the Area of Analysis, the Klamath River borders remnants of central Oregon's Modoc Plateau province. The river flows through a broad, flat valley that gradually transitions to a narrow channel as it crosses the low, rolling ridges of the Cascade Mountains.

The Upper Klamath Basin begins at the headwaters of the Klamath River in south-central Oregon and extends downstream into north-central California. This area includes agricultural lands and the Upper Klamath Basin National Wildlife Refuge Complex, which is comprised of six wildlife refuges and contains the USBR Klamath Irrigation Project. Regionally, a variety of public lands contain notable scenic resources. Table 3.20-1 in Section 3.20.2.1 *Regional Recreation* lists locations within the aesthetics Area of Analysis and surrounding region that offer opportunities for wildlife viewing, sightseeing, leisure driving, photography, and other forms of recreation that benefit from scenic quality.

In the central section of the Upper Klamath Basin, starting upstream of J.C. Boyle Dam, the topography changes dramatically, dropping rapidly into the 1,000-foot-deep upper Klamath River Canyon. The ruggedness of the terrain exemplifies the surrounding landscape, where nearby mountain peaks often reach 5,000 feet in elevation. As the Klamath River passes through the Cascade Mountains, the upper Klamath River Canyon represents a transition from the desert landscape in the east to a mountainous landscape in the west. The steep-walled canyon is the predominant visual element in the region. As it flows through the deep gorge, the river changes from slack, slow-flowing water in the broad, flat valley to a torrent of cascading whitewater. Less than five miles downstream of J.C. Boyle Dam, the canyon and neighboring ridges gradually become flatter and wider as the river flows southwesterly across the state line and into

Copco No. 1 Reservoir. Here, along the Proposed Project's western edge, the topography surrounding Copco No. 1 and Iron Gate reservoirs is open and rolling.

3.19.2.4 Klamath River Key Observation Points

Within the Area of Analysis, PacifiCorp identified eight key observation points in the Hell's Corner Reach (between J.C. Boyle Powerhouse and Copco No. 1 Reservoir), and four downstream from Iron Gate Dam (PacifiCorp 2004a). Many of the reaches have similar characteristics with the aesthetic differences between high flows and low flows varying depending on the individual physical features of each reach (e.g., during low flows, more rocks and vegetation were visible at the river edges than at high flows; in shallower areas, lower flows affected channel depth more greatly).

Figures 3.19-2 and 3.19-3 depict views of the Klamath River from two of the selected key observation points downstream of Iron Gate Dam. Under the range of flows observed, river water continues to inundate the entire channel width. Higher flows exhibit deeper water depth and higher flow velocity. Views of the Klamath River, downstream of the Lower Klamath Project dams and associated facilities, show a free-flowing river with broad channel dimensions. As a result, exposed shoreline margins and riverbed deposits are exposed under a wider range of flow conditions than the upstream sections.

Views of the Klamath River, upstream of the Lower Klamath Project dams and associated facilities (Figures 3.19-4 and 3.19-5), show a free-flowing river with similar surface area dimensions over a range of flows due to the narrower channel. Only the shoreline margins are exposed at lower flows of approximately 350 cfs. During higher flow conditions ranging up toward 2,800 cfs, water extends into adjacent upland vegetation.

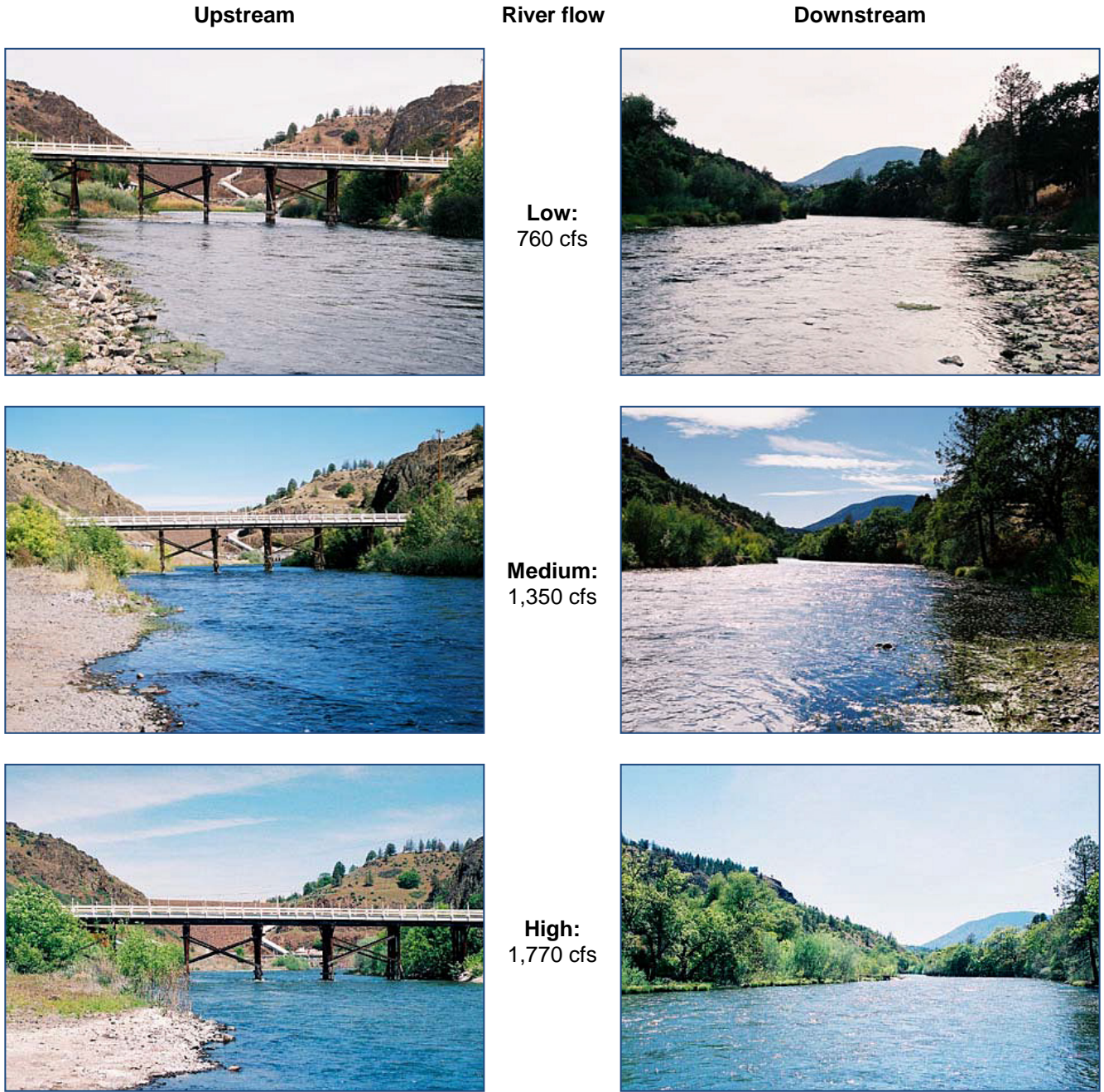


Figure 3.19-2. Views of Klamath River Downstream of Iron Gate Dam. Source: PacifiCorp 2004a.

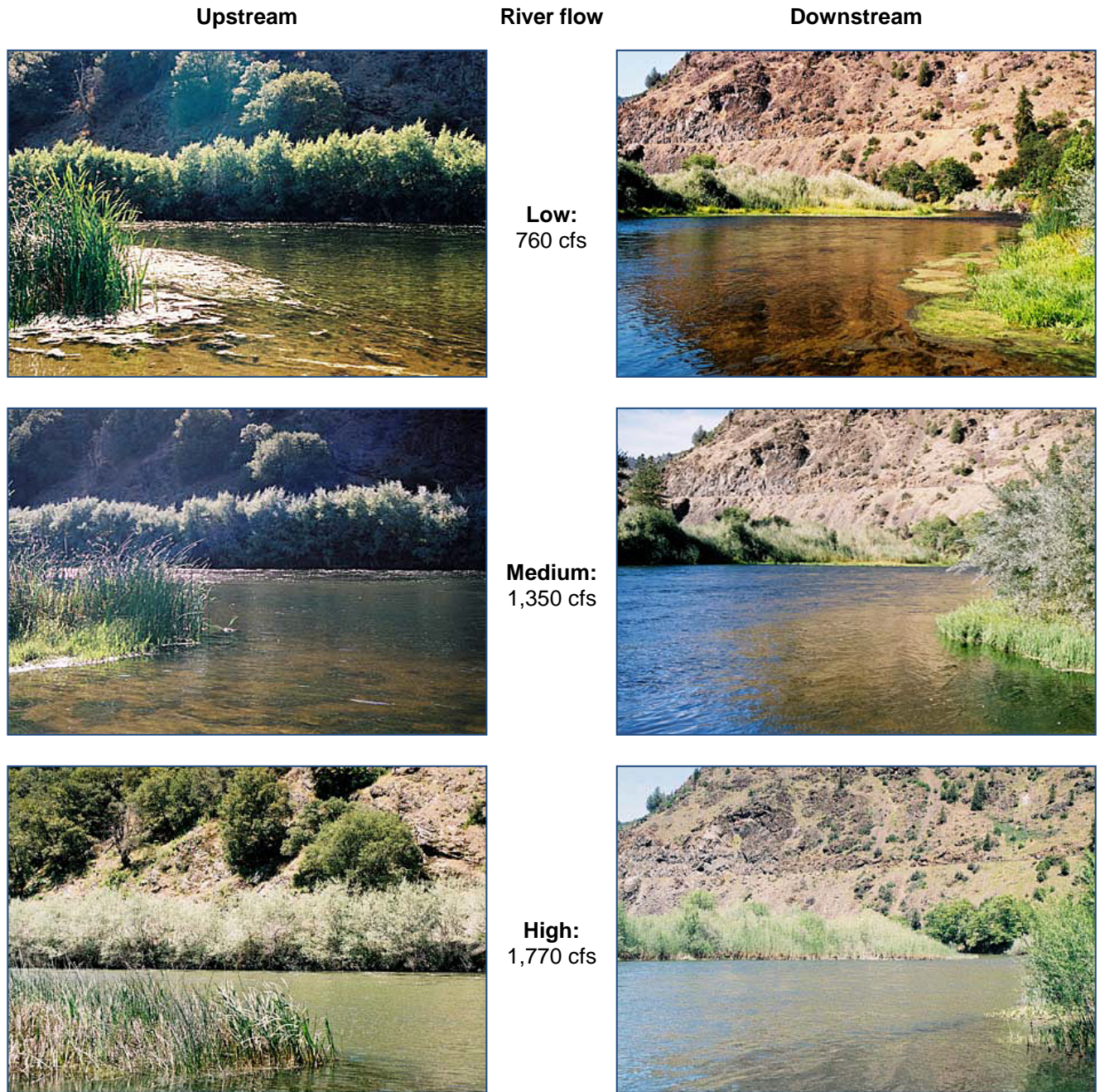


Figure 3.19-3. Views of Klamath River from Tree of Heaven River Access Boat Ramp (1.5 miles downstream of Iron Gate Dam). Source: PacifiCorp 2004a.

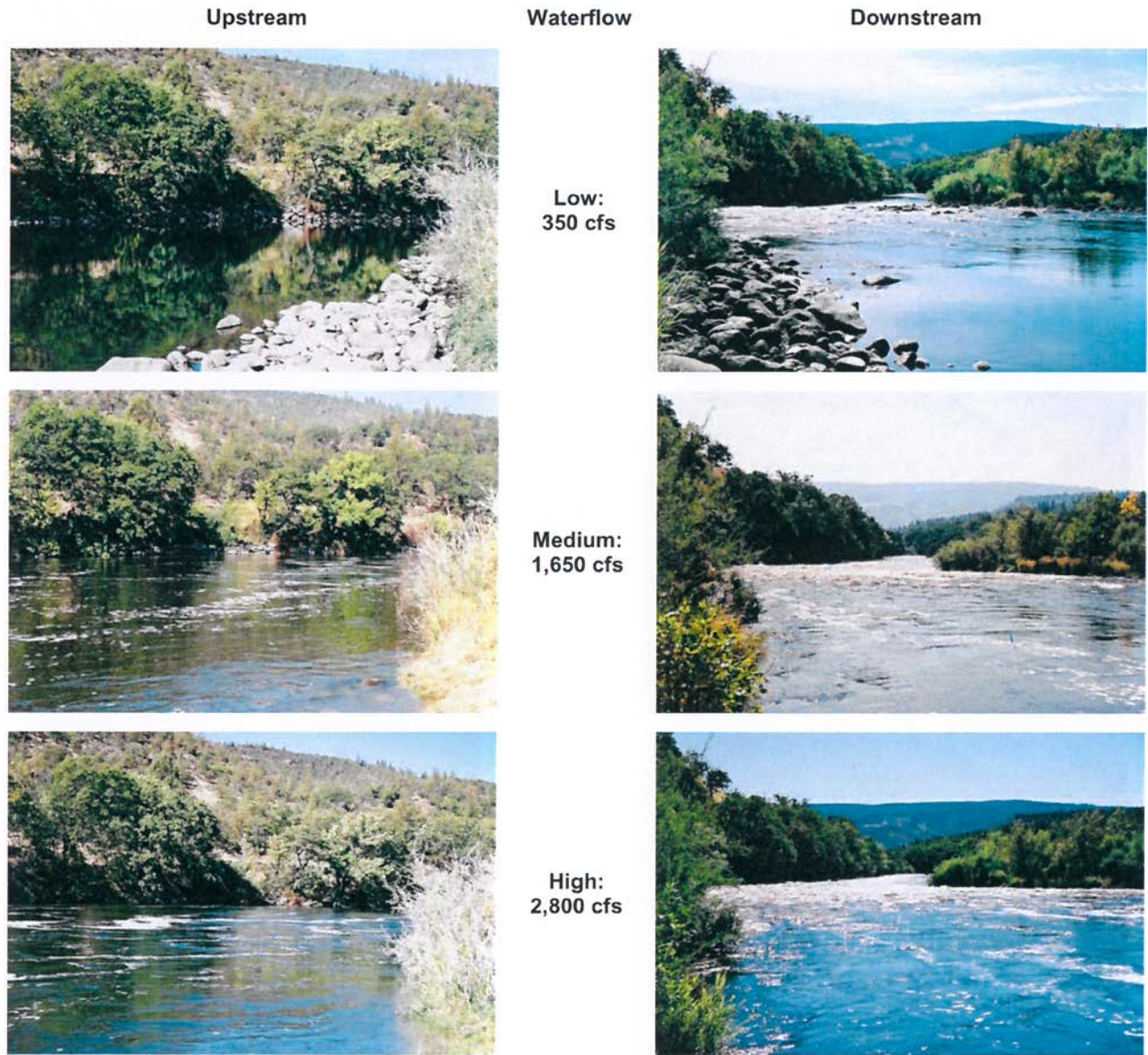


Figure 3.19-4. Views of Klamath River from Stateline Takeout. Source: PacifiCorp 2004a.

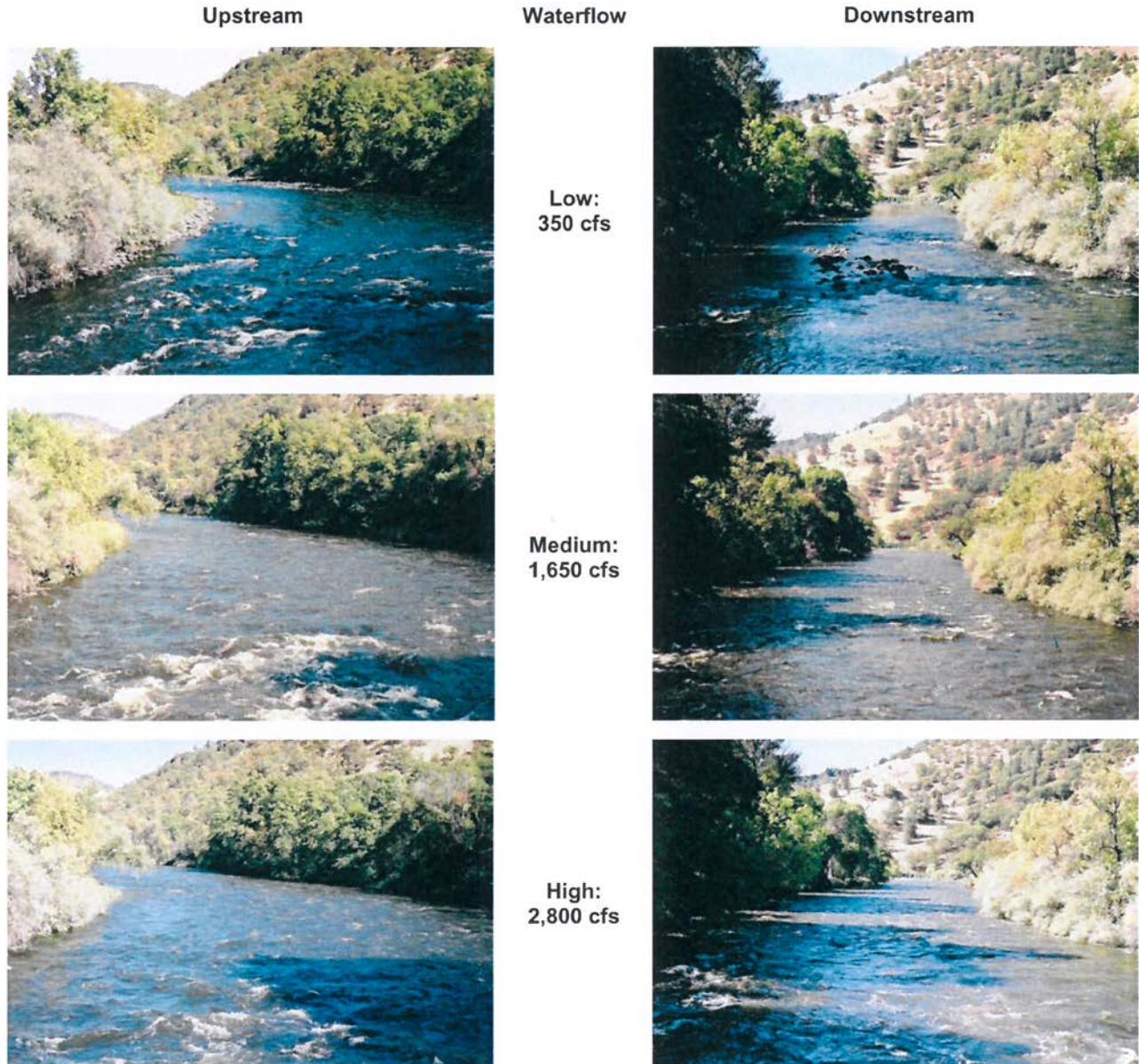


Figure 3.19-5. Views of Klamath River from Fishing Access #5 (Topsy Grade Road). Source: PacifiCorp 2004a.

3.19.2.5 PacifiCorp’s Hydroelectric Project Facilities

Reservoirs

PacifiCorp (2004a) described the area landscape from nine key observation points in the vicinity of the reservoirs. All reservoirs were viewed under high pool and low pool conditions. In general, the reported visual observations of the reservoirs indicated that under normal operating conditions, the three reservoirs share the visual characteristics of open expanses of relatively flat water. Also, as described in sections 3.2 *Water Quality* and 3.4 *Phytoplankton and Periphyton*, seasonal algae blooms occur in the reservoirs, typically peaking in late summer to early fall. During particularly intense algal

blooms, floating algae mats and scums often appear and concentrate in protected areas or along the shoreline where they are not exposed to wind.

Because the water surface elevations of these reservoirs do not fluctuate substantially, the visual appearance of the landscape does not change considerably over the course of the year. When the water surface is drawn down, limited shoreline material is exposed. However, this limited exposure does not detract from the view shown.

Residences along the Copco No. 1 Reservoir shoreline, of which there are approximately 140, have unobstructed views of the reservoir water surface. The waterbody dominates their views and likely enhances the aesthetic quality of this landscape. Views on Iron Gate Reservoir are similar, however, there are no permanent residences located along this reservoir's shoreline. Viewers are limited to recreationists utilizing the local roads and recreational facilities.

Lower Klamath Project Hydroelectric Facilities in California

PacifiCorp documented the scenic characteristics of the Lower Klamath Project facilities within the aesthetics Area of Analysis at the following seven key observation points (alphanumeric designations refer to key observation point designations and accompanying photographs in the PacifiCorp [2004a] report):

- C3: Copco No. 1 Dam and Powerhouse
- C4: Copco No. 2 Dam
- C6: Copco No. 2 Powerhouse
- C7: Copco Transmission Line
- IG8: Iron Gate Transmission Line
- IG9: Iron Gate Dam and Powerhouse from Iron Gate Fish Hatchery
- IG10: Iron Gate Fish Hatchery and Fish Ladder

In the PacifiCorp (2004a) report, the views of the three facilities from these key observation points were characterized using the BLM VRM system. The report describes each of the three facilities in the context of the BLM VRM classification for the surrounding area. It should be noted that these assessments were done using one single photo from quite close to each facility, which magnifies its influence on the visual landscape. These observations may be summarized by facility as follows:

- **Copco No. 1 Facilities**—Copco No. 1 Dam and Powerhouse were not considered to be consistent with the VRM Class III objectives of the surrounding area. The size and prominence of these facilities were considered to dominate the view from the key observation point. However, the Copco No. 1 transmission line was typically at a distance from the viewing points and would blend into the sky and not obstruct views of other parts of the landscape. Thus, the transmission line was considered to be consistent with VRM Class III objectives.
- **Copco No. 2 Facilities**—Copco No. 2 Powerhouse was not considered to be consistent with the VRM Class III objectives of the surrounding area because of its size and prominence the powerhouse dominates the view from the key observation point. However, although the Copco No. 2 Dam is large, it has been designed with colors and lines that blend with the landscape, and when viewed in isolation, or from a longer distance, could therefore be considered consistent with VRM Class III objectives.

- **Iron Gate Facilities**—The Iron Gate Dam, Powerhouse, and transmission lines were considered to be consistent with the VRM Class III objectives of the surrounding area in a detailed visual evaluation of the project vicinity as summarized in the Final EIS (2007) and documented in the *Land Use, Visual, and Aesthetic Resources Final Technical Report* (PacifiCorp 2004a). Although the dam and powerhouse are large, their colors and lines blend with the landscape. Similarly, the transmission line was typically at a distance from the viewing points and would blend into the sky and not obstruct views of other parts of the landscape. In instances where the support poles of the transmission lines were prominent, it was only for a short time while a viewer walks or drives by.

Figures 3.19-6 through 3.19-8 depict views of several project features located at Copco No. 1 and Iron Gate dams and associated facilities. The reservoir waterbodies are the dominant visual feature from both distant views and from shoreline locations.

Views of Copco No. 1 and Iron Gate dams are limited by topographic features that obstruct more distant views of these facilities. Views of Copco No. 1 Dam are limited to approximately 0.25 river miles downstream. Views are often blocked by local topography and the meandering course of the river. Views of Copco No. 2 Dam can also be limited because of local topography, the meandering course of the river, and vegetation. Copco No. 2 Dam can only be seen from a distance of approximately 500 feet due to these obstructions. Iron Gate Dam can be seen from a distance of approximately one mile at several residences located downstream of this facility. Views of the dam are partially obstructed by local topographic features.



Figure 3.19-6. Copco Lake at Mallard Cove Recreation Area during Low and High Pool Conditions. Source: PacifiCorp 2004a.



Figure 3.19-7. Iron Gate Reservoir at Long Gulch Recreation Area during Low and High Pool Conditions. Note the algal mats in the second photo. Source: PacifiCorp 2004a.

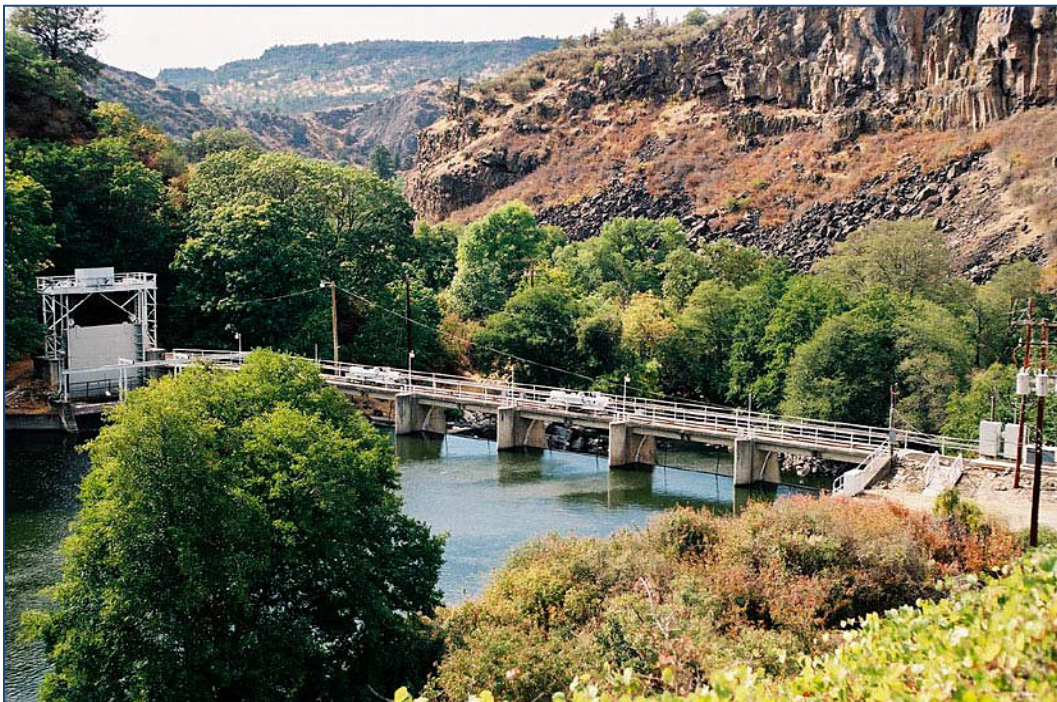


Figure 3.19-8. View of Copco No. 1 Powerhouse and Copco No. 2 Dam. Source: PacifiCorp 2004a.

3.19.3 Significance Criteria

Criteria for determining significant impacts on aesthetics are based upon Appendix G of the CEQA Guidelines (California Code of Regulations, title 14, section 15000 et seq.) and best professional judgement. Impacts are considered significant if the Proposed Project would:

- Cause a landscape to be inconsistent with the following Class III VRM objectives (BLM 1984): (1) the existing character of the landscape is partially retained; (2) the level of change to the characteristic landscape is moderate; (3) management activities may attract attention but would not dominate the view of the casual observer; and (4) changes would repeat the basic elements found in the predominant natural features of the characteristic landscape.
- Result in a loss of or substantial adverse change to scenic elements of a landscape (including, but not limited to, landforms, trees, and rock outcroppings) as viewed from a vista point, community, recreation site area, trail, scenic highway, or designated wild and scenic river reach.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.19.4 Impact Analysis Approach

Aesthetic resources are generally not as amenable to simple quantification as other environmental resources considered under CEQA. Accordingly, the analysis of aesthetic resources in this EIR is primarily qualitative and acknowledges a degree of subjectivity, where one person's idea of what is aesthetically pleasing may not match another person's idea. However, certain guideposts or aesthetic goals can be used to guide an inquiry into what aesthetic changes many, or even most, viewers would find appealing or not. For these cases, the BLM's Visual Resource Management (VRM) methodology was used as guidance, since PacifiCorp previously had used this approach for a visual analysis of Copco No. 1, Copco No. 2, and Iron Gate dams and associated facilities (see also Section 3.19.2.1 *PacifiCorp Analysis and Bureau of Land Management Methodology*).

The Area of Analysis for aesthetics experiences four distinct seasons, within which Klamath River flows, reservoir water levels, and the appearance of vegetation vary. The detailed visual evaluation of the Project vicinity as summarized in the 2007 FERC EIS (FERC 2007) and documented in the *Land Use, Visual, and Aesthetic Resources Final Technical Report* (PacifiCorp 2004a) was used to characterize the Area of Analysis for aesthetics because the PacifiCorp (2004a) report included viewing the key observation points during different seasons and at different water levels over an extended time period. The PacifiCorp (2004a) report provides an assessment of a baseline measure of the scenic appeal of the aesthetics Area of Analysis through a Scenic Quality Evaluation consistent with the BLM inventory process. Scenic quality and sensitivity information were delineated and/or inventoried and documented spatially, in a manner that follows physical features in the landscape (PacifiCorp 2004a).

To evaluate the significance of potential impacts to scenic resources, the key observation points were reviewed to determine which scenic resources would be changed by the Proposed Project, with potential changes identified in terms of degree of contrast, relative size or scale, distance, visibility, and magnitude. Although the contrast rating forms provided in the BLM VRM process were not filled out for this EIR, the same basic steps were used to consider potential impacts of the Proposed Project. These steps include describing the characteristics of the existing landscape, as well as those of the Proposed Project, and assessing the contrast between the two. The scenic quality impact analysis for this EIR is built on the general premise that removal of human-made improvements and restoration of the area to more natural conditions (see Section 2.7.4 *Restoration Within the Reservoir Footprint*) would have overall beneficial effects on aesthetics for Class III visual resources, in light of the aesthetic resources significance criteria (see Section 3.19.3 *Significance Criteria*).

Changes in scenic quality were identified and evaluated by establishing a level of contrast (i.e., no effect [visual contrast is imperceptible], weak, moderate, and strong [contrast caused by the action would be substantial]) considering effects on form, line, color, texture, and comparing to approved VRM objectives for Class III areas. Light pollution effects that could be generated during construction were also considered.

Note that significance in visual contrast as defined under the BLM VRM system is not the same as a significance determination for the purposes of this EIR. The BLM VRM process and objectives are used as guidance for assessing the impacts of the Proposed Project, whereas the criteria used for significance determination for this EIR's impact analyses are guided by CEQA and professional judgement based on the significance criteria listed in Section 3.19.3 *Significance Criteria*.

This EIR analysis categorizes potential visual impacts associated with the project into five groups: (1) loss of open water vistas; (2) changes to the river channel, flows and water quality; (3) reservoir drawdown and restoration; (4) removal of the dams and associated facilities; and (5) construction impacts. Short-term construction-related impacts would occur during the deconstruction period, including reservoir drawdown and short-term restoration activities (zero to five years), while long-term impacts would include restoration activities beyond approximately five years following dam removal.

Because the Area of Analysis does not extend downstream of the confluence with the Shasta River (RM 179.5), the review of local plans and policies for aesthetics focuses on Siskiyou County. The following policies and objectives from the Siskiyou General Plan were reviewed and considered relevant to the Proposed Project: Conservation Element (1973) Objective F, and Scenic Highways Element (1975) Objectives 3 and 4. These objectives generally promote aesthetic characteristics of the land to benefit residents of the county and state, as well as tourists. The issues addressed by the aforementioned Siskiyou General Plan objectives, including revegetation of cut-and-fill slopes, are inherently addressed in the impact analyses presented in Section 3.19.5 *[Aesthetics] Potential Impacts and Mitigation*.

3.19.5 Potential Impacts and Mitigation

The Proposed Project involves removal of three dams in California (Copco No. 1, Copco No. 2, Iron Gate) and essentially all appurtenant features associated with the dams and related facilities, with the exception of buried features (Section 2.7 *Proposed Project*).

The Proposed Project includes reservoir drawdown prior to removal of the dams (Section 2.7 *Proposed Project*), which would expose the formerly inundated areas to view. The proposed reservoir restoration activities include revegetating the newly exposed reservoir areas with native species through hydroseeding and manual planting. Monitoring and adaptive management will be used to ensure affected areas are appropriately revegetated. Management of invasive exotic vegetation could include manual weed extraction, soil solarization (covering of ground areas with black visqueen), tilling, and use of herbicides (Section 2.7.4 *Restoration Within the Reservoir Footprint* and Appendix B: *Definite Plan*).

Under the Proposed Project, the hard lines of the dams and large expanses of water in the reservoirs would be changed to a more natural setting with river canyon landforms and vegetation framing a continuous river. Due to the surrounding mountainous topography, the dams themselves are not visible from more than one mile away. However, the long-term scenic change of removing the large expanses of water in the reservoirs would be visible for a very long distance around the prior reservoir locations and at most reservoir key observation points. Figures 2.7-5 and 2.7-6 show aerial photos of the existing reservoirs with an overlay of existing reservoir bathymetry, including the historical river channels. The historical river channels represent the projected long-term extent of the Klamath River following implementation of the Proposed Project. Immediately following reservoir drawdown, and until revegetation efforts are complete, areas within the reservoir footprints would appear barren and/or sparsely vegetated.

The existing water supply pipeline for the City of Yreka passes under the upstream end of Iron Gate Reservoir (Figure 2.7-17) and would be relocated prior to reservoir drawdown to prevent damage from increased water velocities and scour once the reservoir has been drawn down. Three options for modifying the pipeline are being explored. These include: (1) micro-tunneled crossing, (2) aerial crossing on a new utility bridge, and (3) aerial crossing on Daggett Road bridge (see also Section 2.7.7 *City of Yreka Water Supply Pipeline Relocation*). Also, several bridges within the aesthetics Area of Analysis would be replaced to address structural deficiencies and/or to raise them above the new 100-year flood elevation. The Proposed Project includes the complete removal of eight recreation sites (Table 2.7-14), including removal of structures, concrete, pavement, and most other existing recreation facilities, such as campgrounds and boat ramps that are currently located on the reservoir banks, and regrading and revegetating associated parking areas and trails (see also Section 2.7.8.3 *Recreation Facilities Management*). The removed recreation sites would be planted with a native seed mix as described in the Reservoir Area Management Plan (Appendix B: *Definite Plan – Appendix H*). Recreational facilities at Fall Creek and Jenny Creek Day-Use Areas at Iron Gate Reservoir, and the Iron Gate Fish Hatchery Day-Use Area, would remain and may be upgraded or enhanced (Table 2.7-15). Future enhancements at these locations would depend on the future ownership of Parcel B lands, where these three recreational facilities are located.

Aesthetic changes resulting from the aforementioned actions under the Proposed Project would occur in the short term (up to five years) and/or the long-term (more than five years). These aesthetic changes include the following:

- Long-term loss of open water vistas/views;
- Short-term and long-term changes in flows and channel morphology;

- Short-term and long-term changes in visual water quality, including increased turbidity and reduced algal blooms;
- Short-term bare/unvegetated area under former reservoirs after reservoir drawdown;
- Long-term visual changes due to removal of Lower Klamath Project dams and associated facilities, and improvements to or construction of new infrastructure (e.g., bridges, recreation facilities);
- Short-term visual impacts from stockpiles, lighting, and equipment.

Each of these potential aesthetic changes are analyzed below.

Potential Impact 3.19-1 Loss of Open Water Vistas.

The primary aesthetics Area of Analysis is rural. There are no major highways or towns within the viewshed of the reservoirs. However, there is a substantial amount of public land and public access to the area. While there is only one officially designated scenic overlook or vista point, recreational sites within the aesthetics Area of Analysis include the following:

- Nine developed recreation sites along the river corridor between the Oregon-California state line and Copco No. 1 Reservoir (all fishing access sites except for the "Stateline Take-out");
- Two developed and two dispersed recreation sites at Copco No. 1 Reservoir;
- Eight developed and five dispersed recreation sites at Iron Gate Reservoir;
- Two developed recreation sites just downstream of Iron Gate Dam.

In 2001 and 2002, the California Lower Klamath Project reservoir recreation sites accounted for an average of 61,240 recreation days (defined as one visitor to a recreation area for any reason in a 24-hour period), and the river recreation sites accounted for an average of 12,500 recreation days, (PacifiCorp 2004), not including estimated angler days. In addition to the public land and recreational sites, there are also approximately 140 residences located around Copco No. 1 Reservoir, the majority of which are vacation homes. Also, several rural and local roads, mostly unpaved, provide access within and around the primary aesthetics Area of Analysis. Most of the nearby residents and the users of the recreational facilities associated with Iron Gate and Copco No. 1 reservoirs are there to enjoy activities on those reservoirs. Part of that experience includes the scenic, open water vistas of the area. (Potential impacts to recreational opportunities are discussed in further detail in Section 3.20 *Recreation*)

Sightseeing is a popular activity within the aesthetics primary Area of Analysis, with 39 percent of all respondents to a recreational survey of the area participating in that activity (PacifiCorp 2004b). However, sightseeing was less popular around the Lower Klamath Project dams and associated facilities, with only 30 percent and 32 percent of visitors participating in that activity at Copco No. 1 Reservoir and Iron Gate Reservoir, respectively (PacifiCorp 2004b). Conversely, 46 percent of respondents participated in sightseeing within the Hell's Corner River reach, between Copco No. 1 and J.C. Boyle reservoirs (which is in the secondary Area of Analysis and partly in Oregon), indicating that the river itself provides a more important visual resource for visitors than the reservoirs. Boat fishing, camping and resting/relaxing were the three most popular activities at both Copco No. 1 and Iron Gate reservoirs (PacifiCorp 2004b).

Long-term scenic vistas within the primary Area of Analysis would not necessarily be lost as a result of the Proposed Project, but they would be altered. Open water and lake vistas would be lost in favor of more natural river, canyon, and valley vistas. While not all people prefer a more natural, riverine setting, the results of prior surveys (PacifiCorp 2004b) suggest that in general the free-flowing river is preferred to the flatwater reservoir views. For those recreationalists that prefer lake and open water scenes, there are numerous other lakes and reservoirs in the region. In Siskiyou County there is vehicular access to more than 30 boatable lakes. There are another 56 boatable lakes in Jackson and Klamath counties to the north in Oregon (PacifiCorp 2004b). The recreation facilities within the aesthetics Area of Analysis were the primary destination of 54 percent of the recreation survey respondents (PacifiCorp 2004b), indicating that many users are just passing through and/or are visiting other destinations as well, reducing the severity of the impact of the loss of the Lower Klamath Project reservoirs.

Some of the owners of the residences located around Copco No. 1 Reservoir have expressed concerns about the loss of lake views from their property. Presumably those homeowners, whether permanent residents or sporadic users, chose to purchase or build those residences based on proximity to the reservoir. Because of the public access and recreational facilities, the Proposed Project would affect the environment of persons in general, not just individual property owners.

While the change from nearby flatwater reservoir views to further-away riverine views would presumably be considered a negative change for the owners and users of residences located around Copco No. 1 Reservoir, based on available survey results the change would not substantially degrade the existing visual quality of the primary Area of Analysis for the viewing public as a whole. Furthermore, although the reservoirs could be considered scenic resources in their own right, they are in general not consistent with the Class III VRM designation, because their creation changed the character of the natural landscape and they dominate the view from many public view locations. In addition, the Copco No. 1 and Iron Gate reservoirs often appear in a visually degraded condition due to summer algal blooms, which negatively impact a majority of recreational survey respondents (see Potential Impact 3.19-3). Once the river is restored, open water vistas would be replaced by a different, more natural setting and associated vistas, consistent with the VRM classification. Therefore, the long-term change from open water lake vistas to river, canyon, and valley vistas within the primary Area of Analysis would be less than significant.

Significance

No significant impact

Potential Impact 3.19-2 Changes in Flows and Channel Morphology.

The aesthetics primary Area of Analysis (i.e., within the viewshed of the Lower Klamath Project reservoirs, which includes the proposed Limits of Work in California, see Figure 3.19-1), is not visible from any of the nearby designated scenic byways, highways, or the WSR sections of the river. However, the Proposed Project could affect flows and channel morphology within the WSR sections that are associated with the aesthetics secondary Area of Analysis, which could affect scenic elements of the landscape as viewed from a vista point, community, recreation site area, trail, scenic highway, or river vantage point within the designated WSR sections.

Within the aesthetics secondary Area of Analysis, the stretch of the Klamath River from the Oregon-California state line to the upstream end of Copco No. 1 Reservoir has been determined to be eligible for listing under the WSRA. In addition, the mainstem Klamath River from 3,600 feet below Iron Gate Dam downstream to the Klamath River Estuary has been designated as "Recreational" under the WSRA. There are a number of fishing access sites along the Klamath River from the California-Oregon state line to the upstream end of Copco No. 1 Reservoir, as well as downstream of Iron Gate Dam. The river is also visible from several roadways that run along the channel within the Area of Analysis.

Although the portion of the Hydroelectric Reach between Copco No. 1 Reservoir and the Oregon-California state line would not be impacted by any of the decommissioning or restoration activities occurring in California, flow characteristics within this reach (which is within the aesthetics secondary Area of Analysis) would be impacted by the removal of the J.C. Boyle Dam approximately 15 river miles upstream. Similarly, flow characteristics and channel morphology would change in the WSR segment downstream of Iron Gate Dam to the confluence with the Shasta River (RM 179.5).

Potential changes to flow characteristics include the timing, duration and magnitude of flows. These changes can impact the physical structure (morphology) of the river channel and the riparian vegetation. Much of the channel morphology within the secondary aesthetics Area of Analysis closest to the hydroelectric facilities is bedrock-controlled, which means flows do not have a significant influence on the channel configuration (Philip Williams & Associates, Ltd. [PWA] 2009), though there may be some minor changes to small alluvial floodplains. Comparing the annual hydrographs¹⁶⁸ from USGS stream gages on the Klamath River upstream and downstream of the Lower Klamath Project, similar patterns can be seen across years (USBR 2011). The primary flow-related effects of the Lower Klamath Project dams are: (1) dams create unnatural "steps" in the hydrograph due to controlled releases during the dry season, (2) dams generate somewhat higher flows in the late summer and lower flows in the late fall than what would occur naturally, and (3) dams allow attenuation of large storm events during the wet season. Though storm flows are somewhat attenuated by the dams, the impacts of that attenuation is lessened by non-attenuated tributary inputs; the hydrograph effects can still be discerned at the Seiad Gage (approximately RM 132.7) but are barely discernable at the Orleans Gage (approximately RM 58.9) (USBR 2011). Note that these hydrograph patterns would not be readily noticeable to the casual observer along the Klamath River and since they are outside of the aesthetics secondary Area of Analysis, they are not discussed further.

Overall, hydrologic modeling (see Section 3.6 *Flood Hydrology*) indicates that the flows in the Klamath River would not be expected to be substantially different from current conditions downstream of the confluence with the Shasta River (RM 179.5) due to tributary inputs. Water flow is expected to remain visually similar to current flow levels, and the existing river channel configuration patterns would likely be continued. Some aggradation of the channel immediately downstream of the dams is expected with the return of a natural sediment load. However, this would represent a return to natural

¹⁶⁸ A hydrograph is a graph depicting the rate of flow (discharge) versus time past a specific point in a river, channel, or conduit carrying flow. An annual hydrograph depicts rate of flow (discharge) over a 365-day period and often uses a water year designation (i.e., October 1 to September 30).

conditions and is considered desirable. The changes to flow characteristics within the secondary aesthetics Area of Analysis resulting from the Proposed Project would not result in a loss of or substantial adverse change to scenic elements of the landscape (including, but not limited to, landforms, trees, and rock outcroppings) as viewed from a vista point, community, recreation site area, trail, scenic highway, or designated WSR as compared with current conditions, and therefore, there would be no impact. See Section 3.6 *Flood Hydrology* for a discussion of potential impacts due to flood hydrology.

Significance

No significant impact

Potential Impact 3.19-3 Changes in Visual Water Quality.

There would be visible changes in downstream water quality resulting from the Proposed Project, including short-term increases in turbidity in the Hydroelectric Reach, Middle and Lower Klamath River, and Klamath River Estuary during reservoir drawdown, as well as long-term decreases in summer algal blooms after dam removal.

Short-term Changes in Visual Water Quality

Due to their general lack of cohesion, the majority of the accumulated sediment deposits currently in the reservoirs would be eroded during reservoir drawdown (Section 2.7.3 *Reservoir Sediment Deposits and Erosion During Drawdown*). The erosion of reservoir sediment deposits would result in short-term increases in turbidity and reduced clarity within and downstream of the Lower Klamath Project for several weeks to months during the reservoir drawdown period. Sediment jetting would be used at selected locations within Copco No. 1 and Iron Gate reservoirs to maximize erosion of accumulated sediments during drawdown. Revegetation efforts would occur immediately following drawdown, minimizing the potential for prolonged increases in turbidity due to erosion of sediment deposits remaining in the reservoir footprints (Section 2.7.4 *Restoration Within the Reservoir Footprint*).

Suspended sediment concentrations (and turbidity) are expected to return to background concentrations by the end of summer during dam removal year 1, with most of the erosion occurring by March 15, regardless of the water year type. The amount of the remaining sediment deposits in the active channel after drawdown would vary based on the hydrologic conditions, with a wet year eroding more than a dry year and the KRRRC's proposal for sediment jetting increasing the potential that sediments on the two-year floodplain would be eroded to the extent possible (see also Section 2.7.3 *Reservoir Sediment Deposits and Erosion During Drawdown*). The short-term pulse of sediment could also cause some deposition in eddies and slack water pools until subsequent annual flood events move the sediment to the ocean. Depending on the severity of the color change and volume of the deposits, this could represent a weak to moderate contrast from the existing conditions, as further described in the paragraph below. Impacts would decrease the farther downstream the viewing point is from the dams.

The primary drawdown period for the J.C. Boyle Dam, which is upstream of the aesthetics Area of Analysis, would occur between January 1 and January 31 of the drawdown year. Drawdown of Copco No. 1 Reservoir would likely commence on November 1 of the year prior to drawdown, but no significant sediment release is expected until after January 1. Drawdown would be completed by March 15 of the drawdown year. Drawdown of Iron Gate Reservoir would also start January 1, with water levels controlled through the spring (Section 2.7 *Proposed Project*). Copco No. 2

Dam does not impound a significant volume of sediment, and drawdown of this reservoir would occur after Copco No. 1 Reservoir is drained to grade. Due to naturally high levels of turbidity in the river during winter flows, increased turbidity from the Proposed Project would not be noticeable for most of the drawdown period. In addition, impacts would occur for a period of less than six months. Therefore, visual impacts from increased turbidity and reduced clarity related to sediment discharges would be less than significant.

Long-term Changes in Visual Water Quality

Existing summer algal blooms in the Lower Klamath Project reservoirs adversely impact water quality, salmonids, recreation, and aesthetics (Section 3.2 *Water Quality*, Section 3.3 *Aquatic Resources*, Section 3.4 *Phytoplankton and Periphyton*). More than 66 percent of recreational survey respondents indicated that water quality detracted from their experience at least a little at both Copco No. 1 and Iron Gate reservoirs; 91 percent indicated the same concern about the Hell's Corner Reach. Algae was the primary water quality concern cited by respondents (PacifiCorp 2004b). The Proposed Project would reduce the occurrence and severity of algal blooms (Potential Impact 3.4-2). The removal of the dams is expected to reduce the river's summer algae concentrations, which result in changes to both water clarity and coloration. Improvements in water quality, such as water clarity or fish viewing opportunities, could result in some improvement in scenic resources. These improvements would be more noticeable from on-river and riverside viewpoints, and much less noticeable from river canyon roadway and community viewpoints. These improvements to water quality would be beneficial.

Significance

No significant impact from short-term changes in water quality including increased turbidity and reduced clarity

Beneficial due to long-term changes in visual water quality from reduced algal blooms

Potential Impact 3.19-4 Visual changes resulting from reservoir drawdown and restoration including temporarily bare/unvegetated banks.

Substantial areas of bare sediment and rock would be exposed in previously inundated areas after reservoir drawdown and dam removal. Much of these areas would remain relatively bare, consisting mostly of grass and small forbs, during the summer and first wet season after dam removal, while larger vegetation becomes reestablished. Because much of the sediment would be eroded during reservoir drawdown, and because the river is bedrock-controlled, the river channel would not appear to be significantly entrenched or flowing through mud, but rather, is expected to appear very similar to conditions before the river was impounded, though lacking in vegetation. Some slumping of the remaining sediment is anticipated, followed by drying, cracking, and hardening of the sediment prior to the establishment of vegetation. Existing wetland vegetation on the reservoir shorelines may also die off, though some of it would be relocated to repopulate the newly formed and exposed banks (Appendix B: *Definite Plan – Appendix H*).

As proposed in the Reservoir Area Management Plan (Appendix B: *Definite Plan – Appendix H*), manual revegetation would occur quickly following reservoir drawdown while the sediment deposits are still wet. In the short term, all exposed areas would be hydroseeded. Woody vegetation would also be planted in the year immediately following drawdown. Planting areas would be divided into zones (e.g., upland, riparian)

that would have different species composition. Based on monitoring results, reseeded and replanting would occur again, as needed, for the following five years. Monitoring, revegetation, and invasive species control would occur annually until vegetation is reestablished and reservoir management goals are met (Appendix B: *Definite Plan – Appendix H*).

Until the restoration is complete, some areas could appear barren and/or sparsely vegetated. In addition, some tree-dominated wet areas that are currently near the reservoir edges may experience die-offs, but these areas account for less than 10 percent of the shoreline areas (see Potential Impact 3.5-22 and Figures 3.5-4 and 3.5-5). Revegetation of herbaceous species in barren and/or sparsely vegetated areas is anticipated to be achieved in the short term (from less than one to three years). However, it should be noted that this is not necessarily consistent with restoration of natural-appearing vegetation patterns below and above the reservoir line. Natural-appearing mature vegetation patterns with woody riparian vegetation may require 10 to over 50 years to develop. Although the condition is considered temporary, some adverse scenery impacts would be extensive and long-term, perhaps requiring 30 years for the river corridor habitats to fully recover from dam removal (PWA 2009). However, much of the aesthetics primary Area of Analysis is grassland, which would revegetate rapidly (from less than one to three years). Woody vegetation would begin to grow and add variability to the landscape within a few years, decreasing the contrast with undisturbed areas over time.

Based upon the proposed Reservoir Area Management Plan (Appendix B: *Definite Plan – Appendix H*), the aesthetics primary Area of Analysis would be in a visible state of transition for four to five years, followed by several more years where contrast from adjacent natural woodlands, where they exist, would be evident. The exposure of previously inundated areas would be considered a moderate contrast from the existing condition under the VRM rating system, because it would attract attention and dominate the landscape encompassing a large area surrounding the river. It would likely be visible from various key observation points around each of the existing reservoirs. However, much of the vegetation around the reservoirs is grassland, which would have less contrast with the restoration areas. In addition, a moderate contrast is still consistent with the Class III objectives. It is expected that within five years, the contrast would be moderate or less.

Therefore, while aesthetic impacts due to barren areas within the reservoir footprints would be significant and unavoidable in the short term until vegetation in previously inundated areas has established, the long-term visible contrast from adjacent natural woodlands, where they exist, would be less than significant.

Significance

Significant and unavoidable in the short term due to reservoir drawdown

No significant impact in the long term due to reservoir drawdown

Potential Impact 3.19-5 Visual changes resulting from the removal of Lower Klamath Project dams and associated facilities and improvements to or construction of new infrastructure.

Demolition Impacts

Under existing conditions, many of the Lower Klamath Project facilities do not blend with the natural landscape and can dominate views due to their form, line, color, size, or locations, particularly those that appear taller from a distance than other natural features. Because, the Lower Klamath Project facilities are inconsistent with the VRM classification for the surrounding area, their removal would result in a landscape that would appear more similar to the surrounding characteristic natural landscape. Figures 3.19-9 and 3.19-11 show photo-simulations of the removal of Iron Gate Dam and Copco No. 1 Dam, respectively. As discussed above, the dams themselves are generally not visible for any scenic highway and the topography of the area makes the dams themselves generally not visible from most vantage points. Accordingly, any dam-related landscape disturbances that are not fully restored to natural conditions by revegetation do not have the potential to cause significant impacts. The aesthetic impacts of removing the Lower Klamath Project dam complexes would be beneficial.

Some of the Lower Klamath Project facilities are considered to be historic structures (FERC 2007), including the Copco No. 1 Powerhouse and Dam; Copco No. 2 Powerhouse; and, the Copco No. 2 wooden stave penstock (see also Table 4.3-1, Table 4.3-3, and Table 4.3-5). However, these particular structures are not visible from any scenic highways or river sections. Potential impacts to historic resources are discussed in more detail in Section 3.12.5 [*Historical Resources and Tribal Cultural Resources*] *Potential Impacts and Mitigation Measures* but, for purposes of potential impacts to aesthetics, removal of these structures will have no impact.

Improvements/New Recreation Facilities

The Proposed Project includes replacement of the 24-inch diameter water supply pipeline for the City of Yreka, which crosses under the Klamath River near the upstream end of Iron Gate Reservoir. There are a number of residential, commercial, and industrial developments in the vicinity of the City of Yreka water supply pipeline (see Section 2.7.7 *City of Yreka Water Supply Pipeline Relocation*). In addition, Daggett Road Bridge is located approximately 2,000 feet upstream of the current pipeline. Due to the other development nearby, a new bridge or aerial pipeline would be seen as a new feature but would not conflict with or degrade the existing visual quality or character of the site or its surroundings. The aesthetic impact would be less than significant.

In addition, at least six bridges would need to be replaced due to structural deficiencies and/or in order to raise them above the new 100-year flood elevation. There are also culverts and roads that would need to be upgraded with new erosion and drainage control improvements (Appendix B: *Definite Plan*). However, these improvements would result in only minor visual changes to existing structures. New bridges would be built in the same general location as the ones being removed and would be sized and oriented similarly. Associated construction activities would be small-scale and temporary, consistent with normal road and infrastructure maintenance activities. Therefore, they would not degrade the existing visual character of the sites or their surroundings and the impact is less than significant.

The Proposed Project also includes removal of eight recreational facilities on Copco No. 1 and Iron Gate reservoirs and modification of three other facilities. In addition, KRRC

has developed a Draft Recreation Plan (Appendix B: *Definite Plan – Appendix Q*) that seeks to identify recreation opportunities, in coordination with stakeholders, that would offset the removal of reservoir recreation opportunities and the reduction in whitewater boating days associated with the Proposed Project. New river-based opportunities may include: (a) new routes and roads for river access; (b) two small to medium river recreation facilities that would accommodate 20 campsites, day use amenities, and access to the river for fishing and boating; and (c) a new trail between J.C. Boyle Dam and the Iron Gate Fish Hatchery (see also Section 2.7.8.3 *Recreation Facilities Management*).

The areas in which recreation facilities that currently exist but are proposed to be removed are located will be restored through regrading and revegetating those areas, which would minimize aesthetic impacts. Construction of new facilities could have long-term aesthetic impacts depending on the final design and location of the new facilities. New recreation facilities are anticipated to be modest in size and spread throughout the Primary Area of Analysis. Therefore, they would have minimal potential to be inconsistent with the aforementioned aesthetics significance criteria. In addition, a Draft Recreation Plan will be developed by KRRC working with appropriate agencies through the FERC process, and KRRC also proposes that KRRC and the appropriate state and local agencies work together to develop recommended terms and conditions that should be adopted by FERC as conditions of approval for the Lower Klamath Project. This is consistent with FERC's preference to licensees to be 'good citizens' of the communities in which the project area is located and thus to comply, where possible, with state and local requirements. With these expected processes and opportunities for public and/or agency input, it is unlikely that new recreation facilities will be constructed that are inconsistent with the aesthetics significance criteria; however, overseeing development and implementation of terms and conditions relating to aesthetics of new recreation facilities does not fall within the scope of the State Water Board's water quality certification authority. Because the State Water Board cannot ensure implementation of measures in the Final Restoration Plan that would minimize potential aesthetic impacts, the visual impacts of new recreation facilities is considered in this Draft EIR as significant and unavoidable.

Significance

No impact in the long term due to removal of the Lower Klamath Project dams and associated facilities

No significant impact in the long term due to improvements to and construction of new infrastructure

Significant and unavoidable in the long term for new recreation facilities



Figure 3.19-9. Iron Gate Dam Before Removal (top) and a Simulation of What the Facility Could Look Like After Dam Removal (bottom) Except for Landform/Vegetation Restoration Details Which Were Not Known at the Time of Simulation. Note that the residence shown in the foreground would also be removed under the Proposed Project Source: 2012 KHSA EIS/EIR.

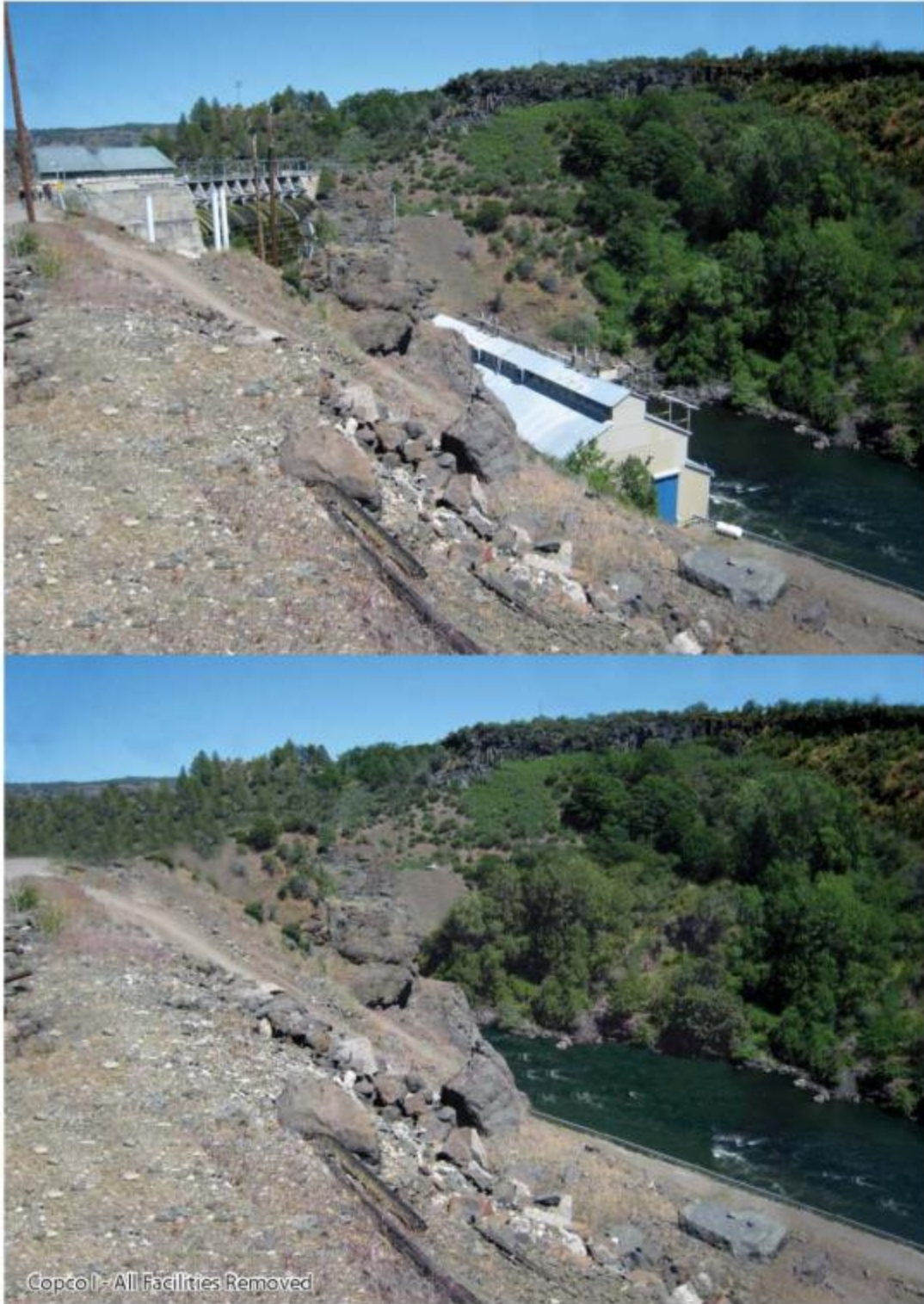


Figure 3.19-10. Copco No. 1 Dam Before Removal (top) and a Simulation of what the Facility Could Look Like After Full Removal (bottom) Except for Landform/Vegetation Restoration Details Were Not Known at the Time of Simulation. Source: 2012 KHSA EIS/EIR.

Potential Impact 3.19-6 Short-term visual impacts of construction activities/equipment.

Removal of the Lower Klamath Project dams and associated facilities would be completed in stages over one year, with primary deconstruction activities occurring between May and September (Table 2.7-1). During the deconstruction, the aesthetics primary Area of Analysis would have large construction vehicles and equipment, temporary structures (e.g., trailers, portable toilets, security fencing, temporary power supply, fueling stations), temporary access roads, equipment storage areas, material stockpiles, piles of demolition materials (rock, concrete, steel), and other common construction items that would detract from the natural surroundings. Proposed construction activities are anticipated to range from weak (the element can be seen but does not attract attention) to strong (the element demands attention, would not be overlooked and dominates the landscape) contrasts, depending on the amount of vehicles, equipment, and materials in any given area. During ongoing construction activities, portions of the primary Area of Analysis near those activities would be inconsistent with the applicable VRM classification. Some scenic resources, such as trees, rocks, and vegetation in the immediate vicinity of the dams would need to be removed but areas will in general be restored to a natural appearance, including through revegetation.

During construction some material stockpiling areas may be visible but may not stand out because the color and form of the materials may blend in to the surrounding landscape. However, in most instances temporary stockpiling of dam fill materials, along with larger vehicles and construction equipment, would cause a moderate to strong contrast as the color and form are anticipated to stand out substantially from the existing landscape. Stockpile areas and most equipment will not be readily visible from most key observation points. In addition, after construction, all vehicles, equipment, and stockpiles would be removed and the area would be restored to relatively natural conditions (regraded, covered with topsoil and hydroseeded). There will be no long-term visual impacts from construction activities.

Dust emissions from dam removal activities may also temporarily impact views and enjoyment of the river. The majority of fugitive dust generally settles out of the atmosphere within 300 feet of the source, with larger particles traveling less distance and smaller particles traveling a longer distance (USEPA 1995). Because the recreational facilities that would be impacted by construction and demolition activities would be closed, and most dust settles quickly, aesthetic impacts from fugitive dust would be minimal and less than significant.

The Proposed Project involves the replacement of the City of Yreka water pipeline where it crosses the Klamath River. In addition, at least six bridges would need to be replaced due to structural deficiencies and/or in order to raise them above the new 100-year flood elevation. There are also culverts and roads that would need to be upgraded with new erosion and drainage control improvements (Appendix B: *Definite Plan*). The Proposed Project also involves removal of eight recreational facilities on Copco No. 1 and Iron Gate Reservoirs and modification of three other facilities. In addition, KRRC has developed a Draft Recreation Plan (Appendix B: *Definite Plan – Appendix Q*) that may result in construction of new recreation facilities. Construction activities associated with these portions of the Proposed Project would be small-scale and temporary, consistent with normal road and infrastructure maintenance activities and small construction projects. Construction activities and equipment would be seen during construction but

would be temporary and would occur in already heavily disturbed areas. Therefore, they would not degrade the existing visual character of the sites or their surroundings. Similar to the other short-term potential visual impacts from construction this is considered less than significant.

Overall, because the construction activities would occur over a period of less than a year and during that time most nearby recreational facilities would be closed, the activities would not be visible to a substantial number of people, in addition to generally not being visible from any scenic vista. Furthermore, the immediate vicinities of the dams and most other construction activities are already heavily disturbed and the long term impacts will be beneficial. The short term visual impacts from construction activities are considered less than significant.

Significance

No significant impact due to construction activities

Potential Impact 3.19-7 The Project's construction or security lighting could result in new sources of substantial light or glare that would adversely affect nighttime views in the area.

Temporary lighting would be erected for nighttime construction activities during dam demolition, and security lighting might be required during deconstruction. During peak construction periods (April through November of dam removal year 2, Table 2.7-8), nighttime construction activities could occur regularly. Temporary lighting could cause glare that would adversely affect nighttime views in the area, particularly for overnight visitors and residents near the Copco No. 1 Reservoir. Because the area is rural with very little existing night lighting, and because construction lighting would be relatively intense, the impact on nighttime views would be a significant impact that would occur temporarily, until dam deconstruction was complete. No new permanent sources of light or glare would result from the Proposed Project.

The Proposed Project currently does not include measures that would reduce impacts to nighttime views cause by temporary construction lighting. KRRRC proposes that KRRRC and the appropriate state or local agency would work together to develop recommended terms and conditions that should be adopted by FERC as conditions of approval for the Lower Klamath Project. This is consistent with FERC's preference for licensees to be 'good citizens' of the communities in which projects are located and thus to comply, where possible, with state and local requirements. It would be appropriate for any such terms to include measures to reduce nighttime light and glare on surrounding residences during construction. However, overseeing development and implementation of measures to reduce impacts to nighttime views does not fall within the scope of the State Water Board's water quality certification authority. While the KRRRC has stated its intention to reach enforceable good citizen agreements that will be finalized and implemented, at this time these agreements are not finalized and the State Water Board cannot require their implementation. Accordingly, while the State Water Board anticipates that implementation of the final FERC terms and conditions for the Proposed Project would reduce potential impacts to nighttime views to less than significant, because the State Water Board cannot ensure implementation of any associated measures, it is analyzing the impact in this Draft EIR as significant and unavoidable.

Significance

Significant and unavoidable

3.19.6 References

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Section 7(a) Wild and Scenic Rivers Act Preliminary Determination Report. 27
November.

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