DEVIL CANYON PROJECT RELICENSING
FERC PROJECT NUMBER 14797

VISUAL RESOURCES MANAGEMENT PLAN

November 2019

State of California
California Natural Resources Agency
DEPARTMENT OF WATER RESOURCES
Hydropower License Planning and Compliance Office

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Governor	Secretary for	Director
State of California	California Natural Resources	Department of Water Resources

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COMMONLY USED TERMS, ACRONYMS AND ABBREVIATIONS

Application for New License	DWR's Application for a New License for Major Project – Existing Dam for the Devil Canyon Project Relicensing, FERC Project Number 14797
DPR	California Department of Parks and Recreation
DWR	California Department of Water Resources
FERC	Federal Energy Regulatory Commission
NFS	National Forest System
O&M	operations and maintenance
PCT	Pacific Crest National Scenic Trail
PCTA	Pacific Crest Trail Association
Plan	Visual Resources Management Plan
PM&E measures	Protection, Mitigation, and Enhancement measures, which are operations and management activities to: (1) protect resources against impacts from continued operations and maintenance of the Project; (2) mitigate any impacts from continued operations and maintenance of the Project (if the resource cannot be fully protected); and (3) enhance resources affected by continued Project operations and maintenance
Primary Project Road	A road, or segment of a road, that is identified in the Project's new license as a Project facility, is used almost exclusively to access the Project, is within the FERC Project boundary, and is operated and maintained exclusively by DWR as a Project feature
Project	Devil Canyon Project Relicensing, FERC Project Number 14979
SBNF	San Bernardino National Forest
SRA	State Recreation Area
SWP	State Water Project
U.S.	United States
USFS	U.S. Department of Agriculture, Forest Service

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1.0 INTRODUCTION

In November 2019, the California Department of Water Resources (DWR), pursuant to Title 18 of the Code of Federal Regulations, Subchapter B (Regulation under the Federal Power Act), Part 4, Subpart F (Application for License for Major Project – Existing Dam) (Traditional Licensing Process), filed with the Federal Energy Regulatory Commission (FERC), an Application for a New License for Major Project – Existing Dam (Application for New License) for DWR's Devil Canyon Project Relicensing, FERC Project Number 14797 (Project). DWR has included this Visual Resource Management Plan (Plan) in its November 2019 Application for New License.

All elevation data in this Plan are in U.S. Department of Commerce, National Oceanic and Atmospheric Association, National Geodetic Survey Vertical Datum of 1929, unless otherwise stated.

1.1 BACKGROUND

1.1.1 Brief Project Description

The Project is part of a larger water storage and delivery system, the State Water Project (SWP), which is the largest state-owned and operated water supply project of its kind in the United States. The SWP provides southern California with many benefits, including affordable water supply, reliable regional clean energy, opportunities to integrate green energy, accessible public recreation opportunities, and environmental benefits.

The Project, which is on the East Branch of the SWP in San Bernardino County, has a FERC-authorized installed capacity of 280 megawatts. Project facilities range in elevation from 3,378 feet to 1,778 feet, and include: Cedar Springs Dam and Silverwood Lake; San Bernardino Tunnel; Devil Canyon Powerplant Penstocks and Surge Chamber; Devil Canyon Powerplant and Switchyard; Devil Canyon Afterbay and Devil Canyon Second Afterbay; Silverwood Lake-associated recreation facilities; and appurtenant facilities and features. The California Department of Parks and Recreation (DPR), on behalf of DWR, maintains and operates the Silverwood Lake-associated Project recreation facilities as part of the Silverwood Lake State Recreation Area (SRA). Non-Project facilities (e.g., Crestline Lake Arrowhead Water Agency intake, and State Highway 138 – Rim of the World Scenic Byway, and the Pacific Crest National Scenic Trail [PCT]) traverse or are located in the Silverwood Lake SRA but are not Project facilities. The Project interconnects with the regional electric transmission system grid at the Devil Canyon Switchyard and therefore does not include any transmission lines. DWR generates electricity using SWP water as the water is delivered to downstream SWP water users.

The Project boundary comprises 2,079.2 acres, of which 125.7 acres are National Forest System (NFS) lands managed by the U.S. Department of Agriculture, Forest Service (USFS), as part of the San Bernardino National Forest (SBNF). USFS

administers the SBNF in conformance with the SBNF Land Management Plan (USFS 2005), as amended.

DWR will continue to operate the Project as it has been operated historically, with the addition of a number of Protection, Mitigation, and Enhancement (PM&E) measures, which are operations and management activities to: (1) protect resources against impacts from continued operations and maintenance (O&M) of the Project; (2) mitigate any impacts from continued O&M of the Project (if the resource cannot be fully protected); and (3) enhance resources affected by continued Project O&M. This Plan is one of those PM&E measures.

Figure 1.1-1 shows the Project vicinity. Figure 1.1-2 shows primary Project facilities, including DWR's Project boundary.

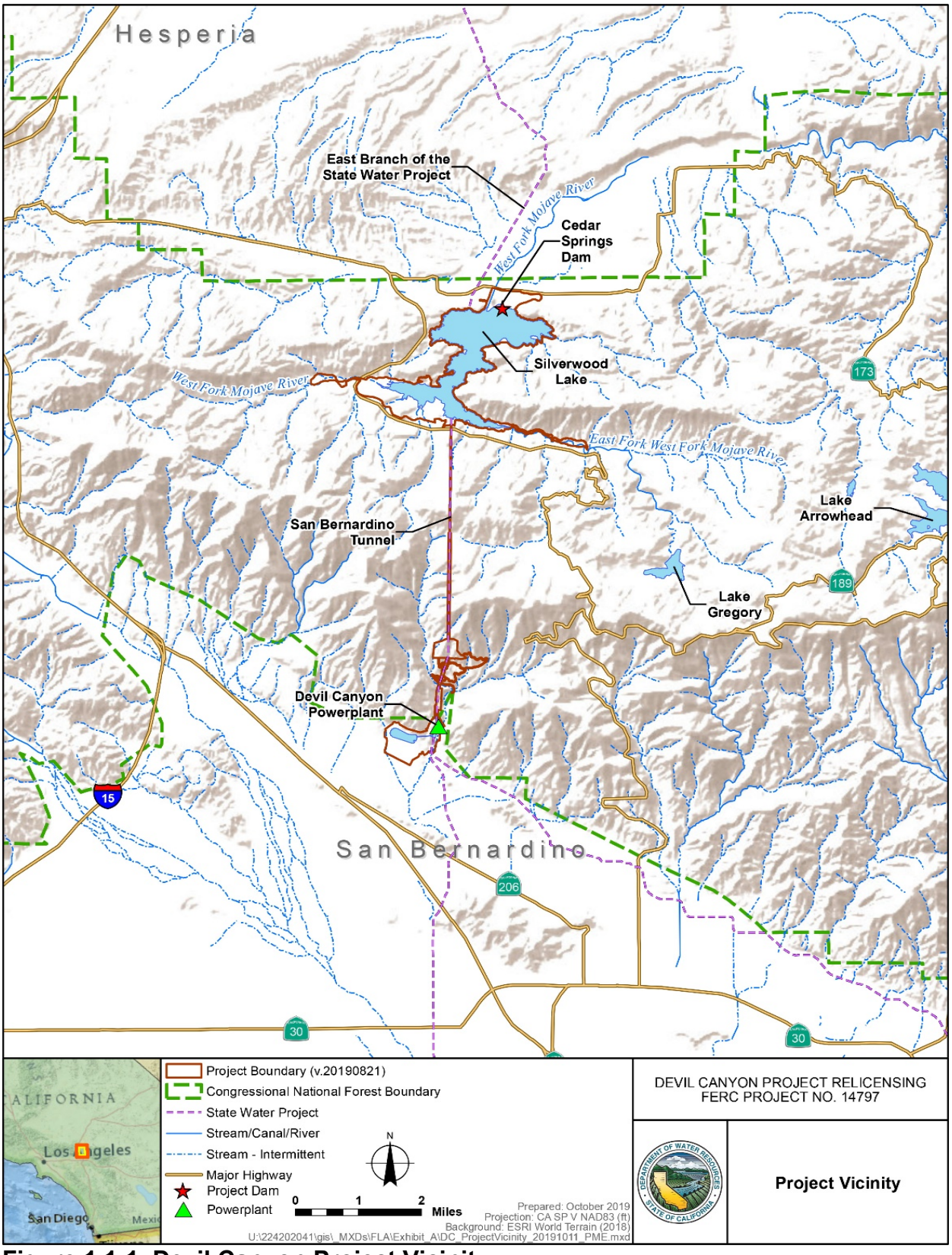

Figure 1.1-1. Devil Canyon Project Vicinity

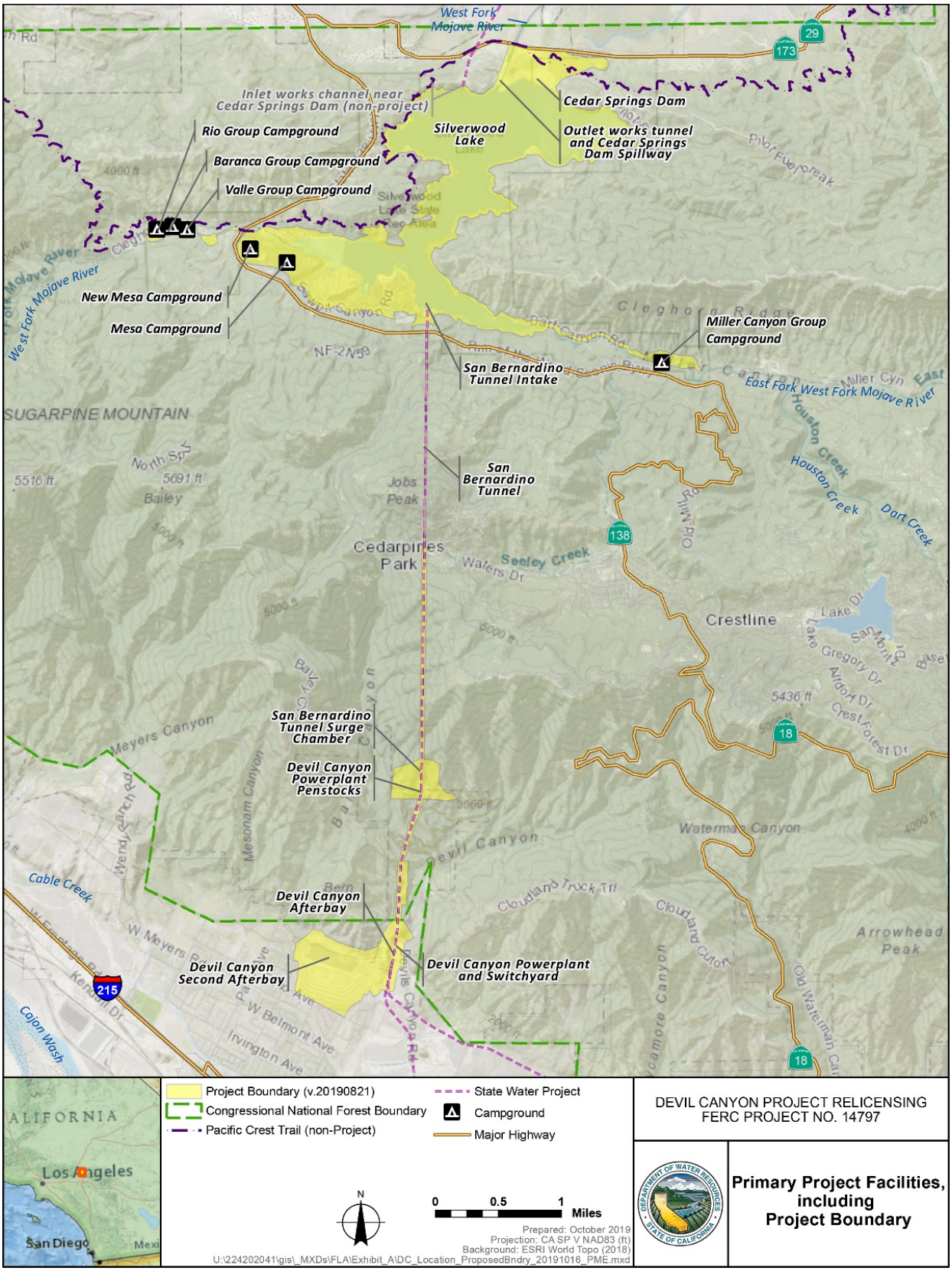

Figure 1.1-2. Devil Canyon Project Boundary

1.2 PURPOSE OF THE PLAN

This Plan provides guidance for the implementation of PM&E measures related to visual resources in the Project vicinity and the visual quality of Project facilities. In addition, this Plan provides a framework for addressing visual quality when there are changes to the Project. To the extent appropriate, DWR will coordinate the efforts required under this Plan with other Project resource efforts, including implementation of other resource management plans and measures included in the license.

1.3 GOALS AND OBJECTIVES OF THE PLAN

The primary goals of this Plan are to describe the PM&E measures for maintaining, updating and enhancing visual quality conditions affected by Project facilities and features, and to describe the consultation process and the consideration of new mitigation measures if there are changes to the Project that could affect visual quality. The objective of the Plan is to provide the guidance necessary to meet Plan goals.

1.4 CONTENTS OF THE PLAN

The Plan includes the following:

- Section 1.0. Introduction. This section includes introductory information, including the purpose and goal of the Plan.
- Section 2.0. Visual Resource Issues. This section identifies visual resource issues at the Project facilities.
- Section 3.0. Proposed Protection, Mitigation, and Enhancement Measures. This section includes a description of proposed PM&E measures and enhancements.
- Section 4.0. Consultation, Reporting, and Plan Revisions. This section describes consultation between DWR and the SBNF; reporting; and Plan review as it pertains to visual resources on NFS lands.
- Section 5.0. References Cited. This section includes the resource documents cited in the Plan.

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2.0 VISUAL RESOURCE ISSUES

This section discusses the existing visual condition of the Project facilities in the Silverwood Lake area (Figure 2.0-1) and in the Devil Canyon Powerplant area (Figure 2.0-2), which are the foundation for the development of the PM&E measures in Section 3.0.

2.1 SILVERWOOD LAKE, THE PACIFIC CREST NATIONAL SCENIC TRAIL, AND STATE HIGHWAY 138

All of the Project facilities associated with Silverwood Lake, both recreational and operational, are located on lands owned and managed by the State of California. NFS lands surround the State of California lands, except to the north, where the ownership is private. Some non-Project facilities (e.g., the PCT) traverse or are located in the Silverwood Lake SRA, but they are not Project facilities.

The PCT crosses through Silverwood Lake SRA on State of California lands along the north and west shores of Silverwood Lake (Figure 2.0-1) and is administered by USFS through an easement agreement with DPR. On State lands near Cedar Springs Dam, USFS has an easement agreement with DPR for the PCT in this area. On March 26, 1980, the State of California, acting though DWR, granted the United States, acting through USFS, a non-exclusive agreement for use of certain State of California-owned land parcels in San Bernardino County to “locate, construct, use, maintain, relocate and repair” the PCT on lands below Cedar Springs Dam (DWR 1980), which had already been built and was already in operation. The agreement reserved DWR’s rights to continue to use the area for its purposes and specified that USFS was responsible for constructing and maintaining the PCT on those land parcels.

State Highway 138 passes along the west and south sides of the Project in the Silverwood Lake area (Figure 2.0-1). State Highway 138 is part of the 110-mile Rim of the World Scenic Byway, which encompasses portions of State Highways 138, 18, and 38 (USFS 2018). A Corridor Management Plan for the portion of State Highway 138 near the Project has not been prepared. The Rim of the World Scenic Byway traverses the rim of the San Bernardino Mountains from Cajon Pass to their eastern and then southern edges offering numerous vistas and panoramas along the route. In the Project area, State Highway 138 includes one formal vista point with parking (a non-Project facility) along the west side of Silverwood Lake that provides expansive views of Silverwood Lake and the facilities near the dam. In addition, there are several roadside pull off areas along the south side of the Project area that provide limited views of Silverwood Lake and associated Project and non-Project facilities. Much of the roadside pull offs along the southern side of the reservoir lack views of the lake due to thick vegetation.

The SBNF Land Management Plan identifies for SBNF lands a Desired Condition emphasis on preserving natural appearing views from the scenic byway and the PCT. Standard SBNF S7 in the Land Management Plan also requires that scenic values in accordance with adopted scenic integrity objectives be protected, as well as foreground

views from the footpath and designated viewpoints. Where practicable, it is also emphasized to avoid establishing non-conforming land uses within the viewshed of the trail.

Silverwood Lake is a scenic asset for the area. However, it also has some hydropower-related and recreation facilities that do not blend in well with the natural landscape, as described below.

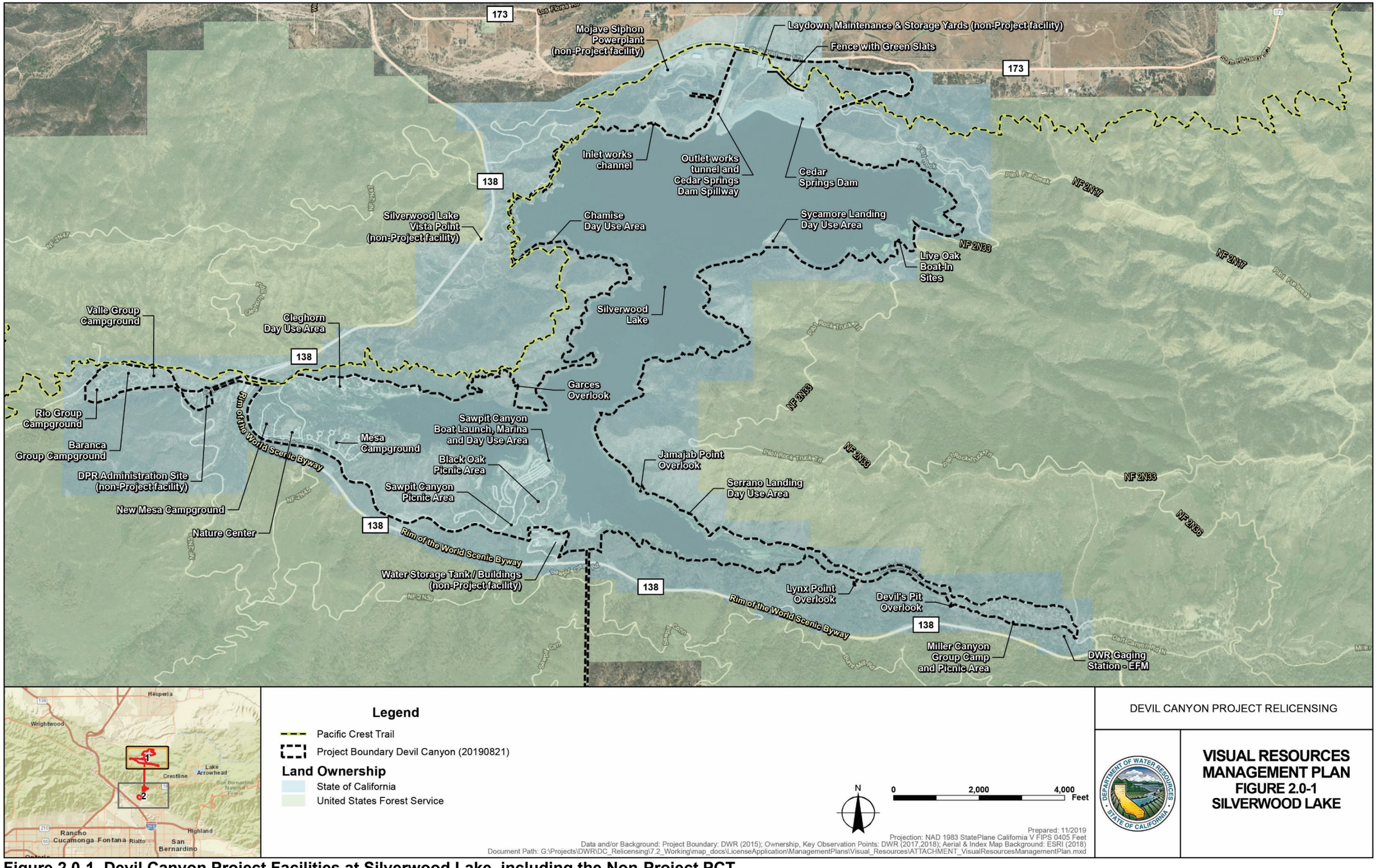

Figure 2.0-1. Devil Canyon Project Facilities at Silverwood Lake, including the Non-Project PCT

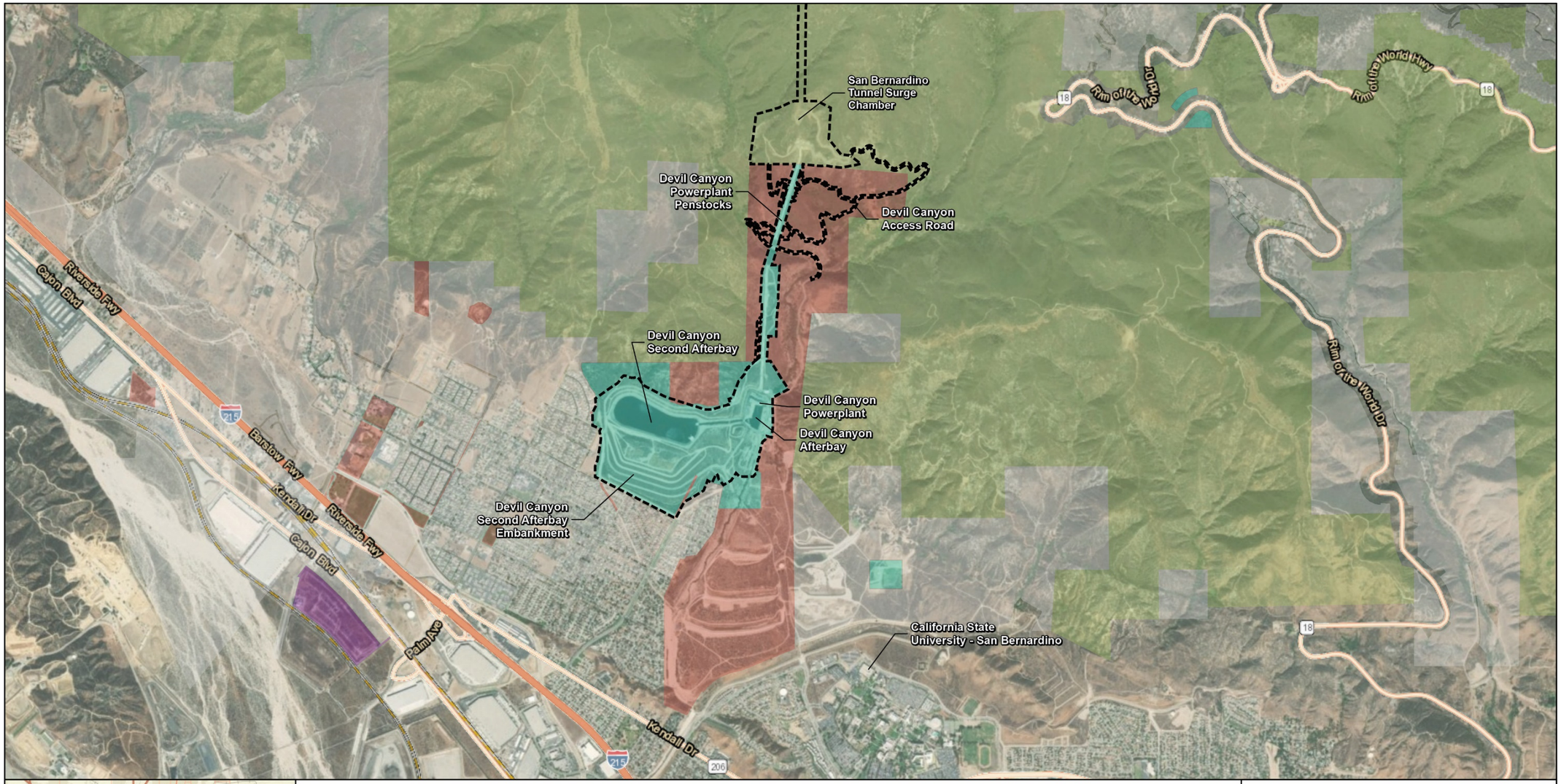

Figure 2.0-2. Devil Canyon Project Facilities in the Devil Canyon Powerplant Area

2.1.1 Cedar Springs Dam, Spillway and Associated Facilities

The Cedar Springs Dam and spillway are on State lands. The dam and spillway, as viewed from the PCT (along an approximately 0.9-mile segment) and State Highway 173 (an eligible State Scenic Highway), all present strong visual contrast to the natural setting (Figures 2.1-1 through 2.1-3). The recently constructed Cedar Springs Dam security fence was intentionally built with a section of green slats running along the PCT to screen views of the dam from the trail just below the dam (Figures 2.1-1 through 2.1-3).

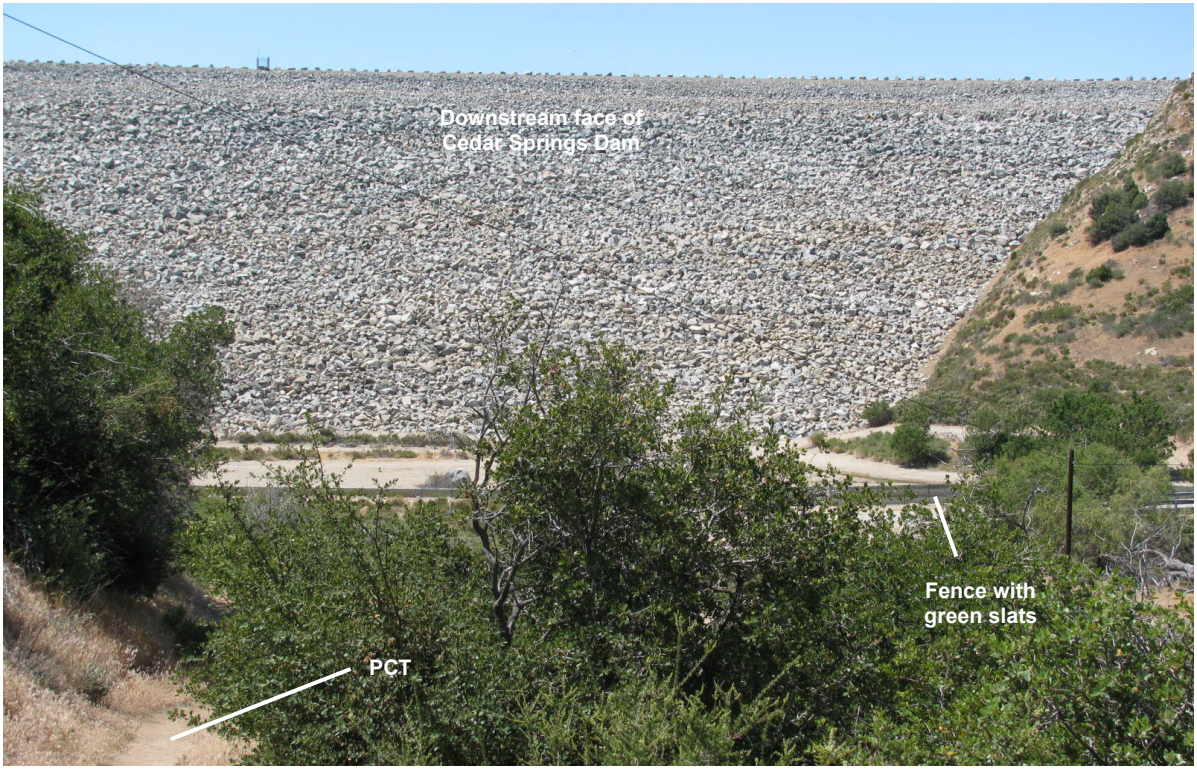

Figure 2.1-1. Cedar Springs Dam as Viewed from the PCT from the Ridgeline as the Project is First Viewable by PCT Users from the North

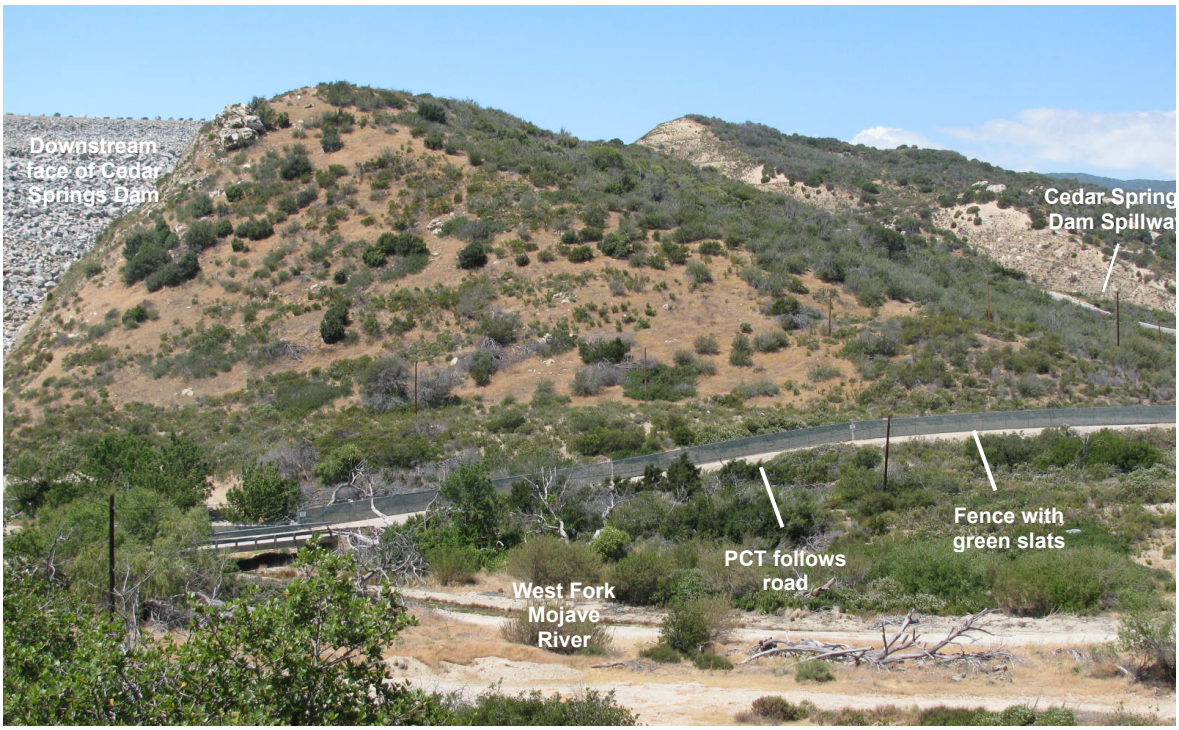

Figure 2.1-2. Fence with Green Slats Along the PCT as Viewed from the PCT Along the Ridgeline as the Project is First Viewable by PCT Users from the North

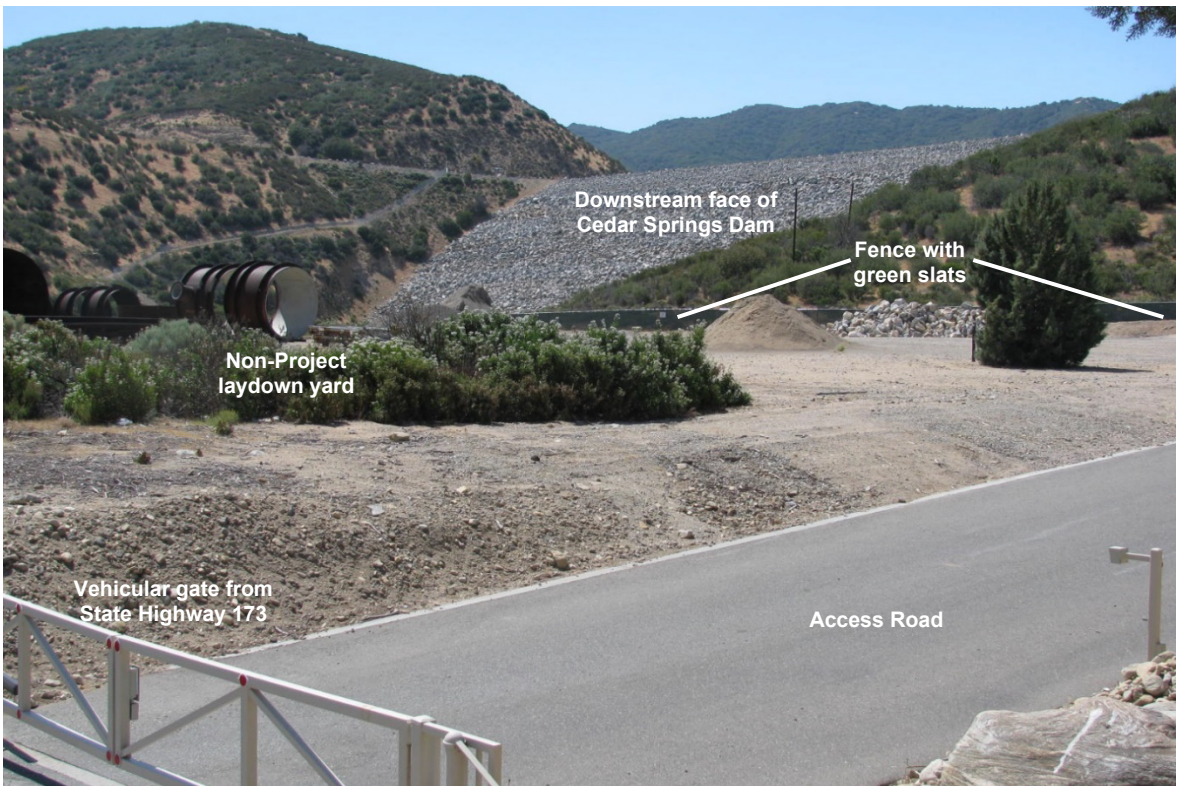

Figure 2.1-3. Cedar Springs Dam as Viewed from the PCT Along The Shoulder of Highway 173 Showing the Fence with Green Slats

The Cedar Springs Dam and spillway are also visible from the reservoir side of the dam along the PCT, and State Highway 138; but these facilities, including the outlet and inlet works, present less visual contrast because water covers most of the dam and spillway (Figures 2.1-4 and 2.1-5). Primary Project Roads associated with the dam and spillway can also present various levels of visual contrast, depending on the view point, but overall the contrast is light to moderate for these Project Roads, and they are seldom seen from sensitive viewpoints.

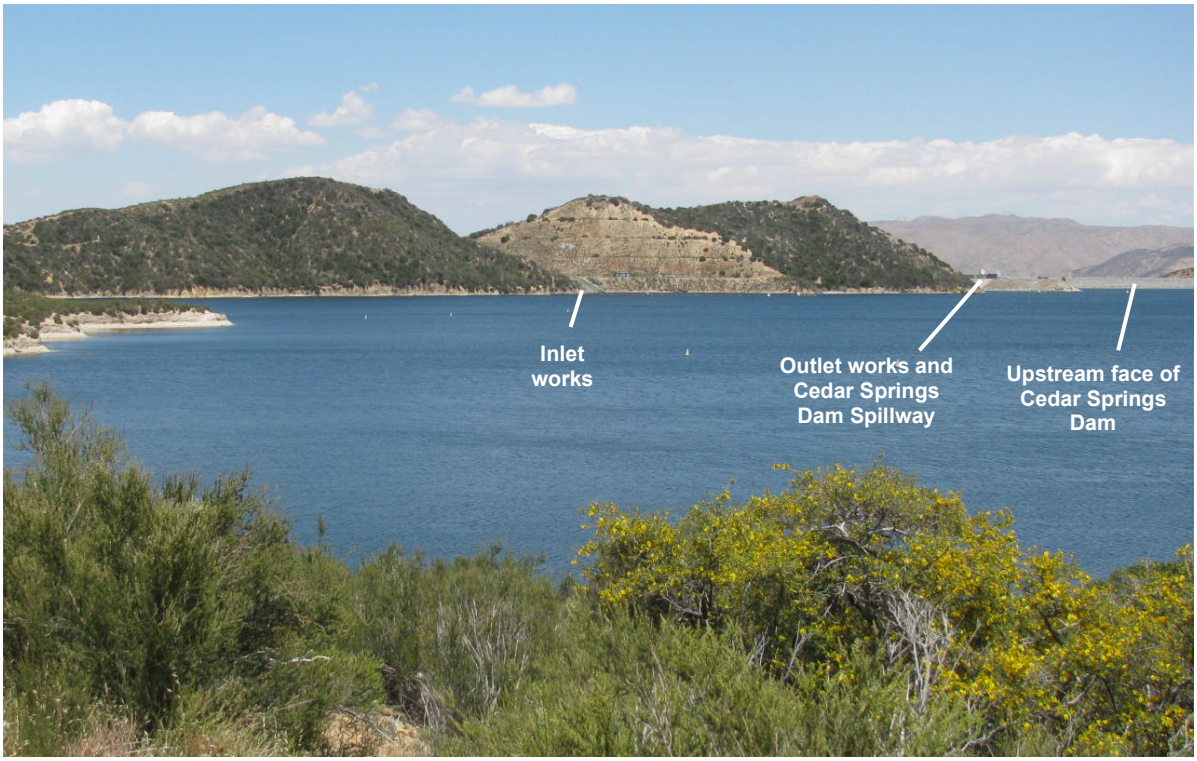

Figure 2.1-4. Cedar Springs Dam and Spillway as Viewed from the PCT from the Reservoir Side

Figure 2.1-5. Cedar Springs Dam and Spillway as Viewed from State Highway 138 from the Reservoir Side

2.1.2 Project Recreation Facilities

Overall views of Silverwood Lake SRA Project recreational facilities are primarily available from the PCT, which traverses the western shoreline of the reservoir, and from vehicle pullouts serving as vista points along State Highway 138. The Sawpit Canyon Boat Ramp and Marina are visible from State Highway 138, the PCT, and boaters on the reservoir and sent strong visual contrast (Figures 2.1-6 through 2.1-8). Note that the white water tank and buildings in the far right of Figure 2.1-6 are non-Project. Overall, the few facilities with visual contrast are typical of a reservoir-oriented setting and common to visitors to this Project and the other reservoirs in the area. Therefore, visual PM&E measures for these Project features (e.g., marina, boat docks, etc.) are not a necessity.

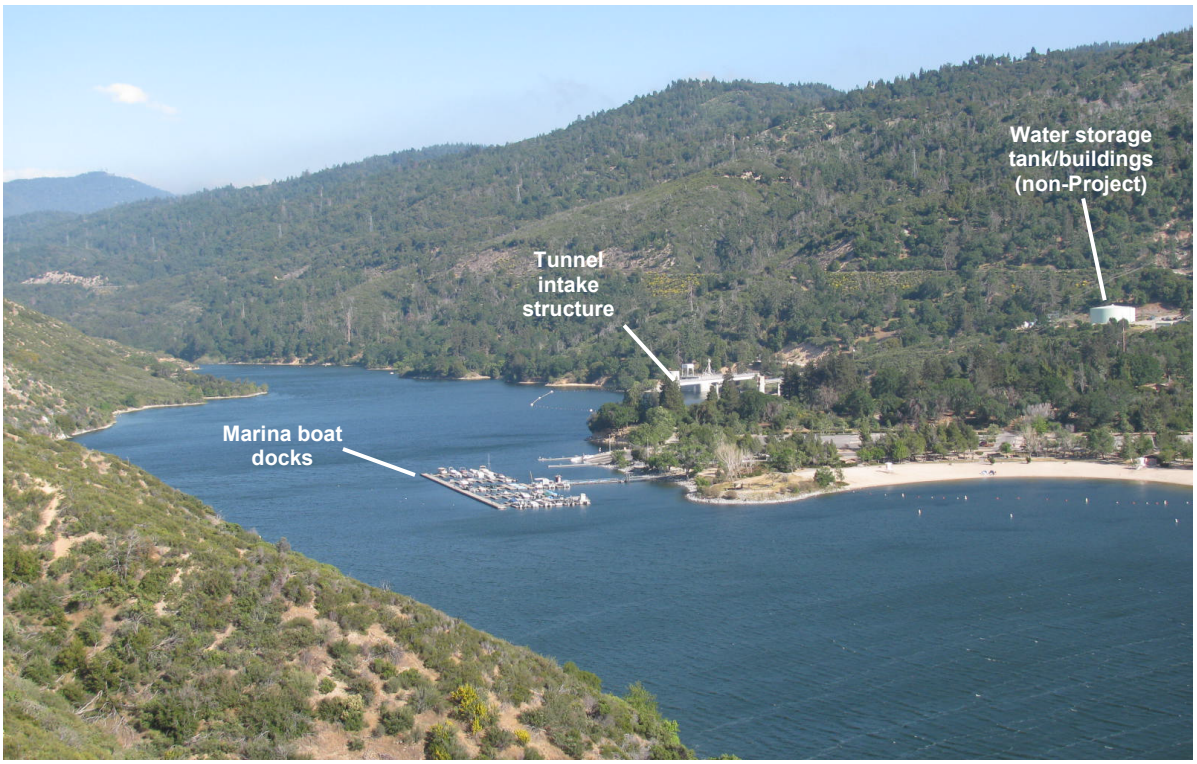

Figure 2.1-6. Sawpit Canyon Boat Ramp and Marina as Viewed from the PCT

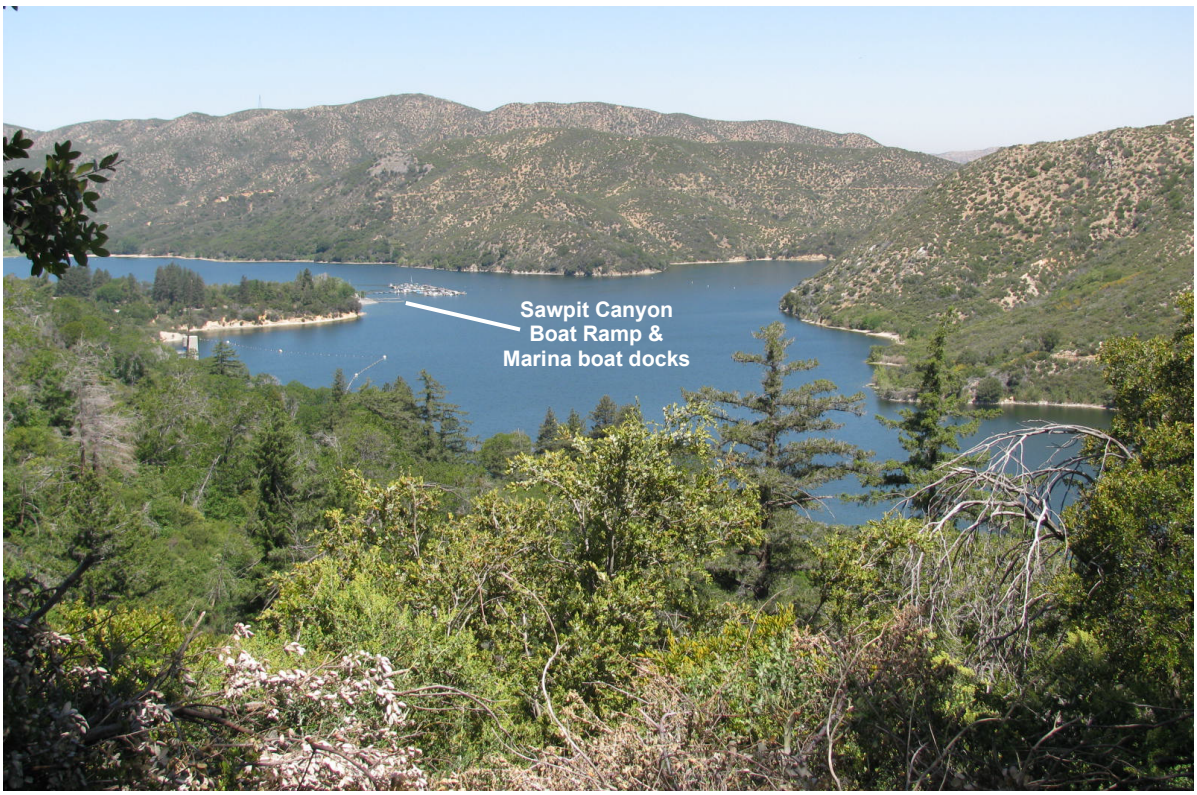

Figure 2.1-7. Sawpit Canyon Boat Ramp and Marina as Viewed from the State Highway 138 Pull Off along Miller Canyon

Figure 2.1-8. Sawpit Canyon Boat Ramp Parking Area and Marina as Viewed from the State Highway 138 Pull Off

The group campground facilities are located in Cleghorn Canyon, west of Silverwood Lake and State Highway 138. The group campground facilities (i.e., Valle, Barranca and Rio sites) are generally well screened by vegetation as viewed in the foreground from the PCT and Cleghorn Road, except for the metal corral fencing in Rio Group Campground. Overall the building and structure colors match the local native soil well with only minimal contrast due to their geometric shapes (Figure 2.1-9).

Figure 2.1-9. Rio Group Campground as Viewed from the PCT

2.2 DEVIL CANYON POWERPLANT

The Devil Canyon Powerplant area includes the Devil Canyon Penstocks, Powerplant, and Afterbay facilities located on the south side of the San Bernardino Mountains at the transition from the mountains to the inland coastal plain. The mountainous areas are generally within the SBNF. However, the majority of the Project facilities are on State lands, with a small portion of the Project on NFS lands, including the upper surge chamber and top portion of the penstocks.

2.2.1 Devil Canyon Penstocks, Powerplant, Surge Chamber, and Roads

The two parallel penstocks, roads, surge chamber, and the powerplant are visible in the middleground from the south near the California State University, San Bernardino campus and from the residential communities of Verdemont and University Heights (Figures 2.2-1, 2.2-2, and 2.2-3). The penstocks and associated concrete visually contrast with the surrounding greens and browns of the landscape as they descend through Devil Canyon. The light colors, lines, and geometric shapes of the Devil Canyon Powerplant, surge chamber, and Primary Project Roads are visible from the south and create a visual contrast against the visual character of the mountains.

Figure 2.2-1. Devil Canyon Powerplant, Penstocks, and Surge Chamber as Viewed from Ohio Street at Ashley Court

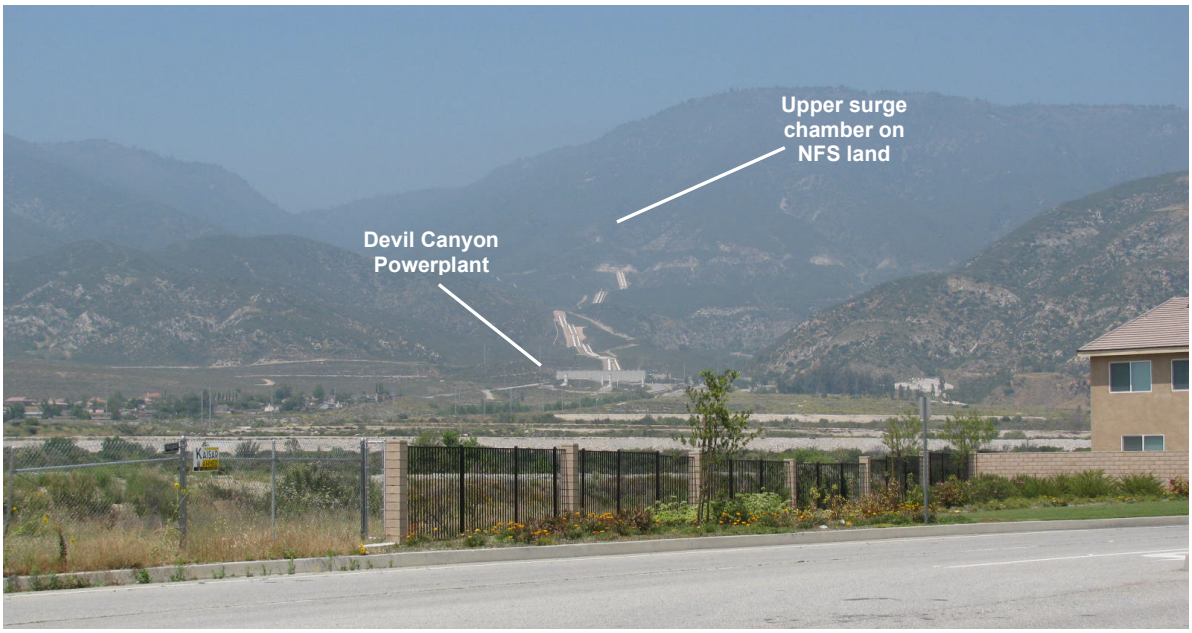

Figure 2.2-2. Devil Canyon Powerplant, Penstocks, and Surge Chamber as Viewed from Campus Parkway

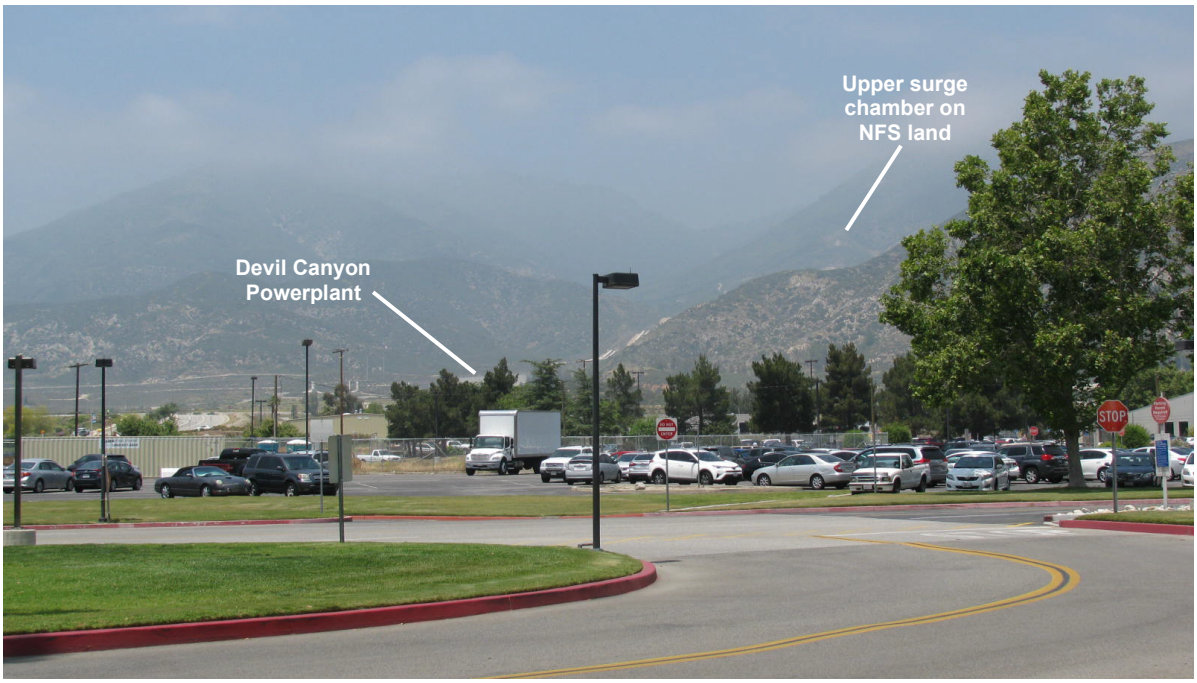

Figure 2.2-3. Devil Canyon Powerplant, Penstocks, and Surge Chamber as Viewed from California State University San Bernardino

The portion of the Project that is located on NFS lands is a short section of the uppermost penstocks, the upper surge chamber just above the start of the penstocks, and short segments of Primary Project Roads. These facilities do not meet the SBNF Land Management Plan's scenic integrity objective of "high" (i.e., the landscape should appear unaltered) (USFS 2005).

The vast majority of public viewpoints of the Project facilities in the Devil Canyon Powerplant area occur from heavy residential and commercial settings on private lands. As such, most views are bracketed by residential and commercial structures with geometric shapes and light colors similar to some of the Project facilities.

2.2.2 Devil Canyon Second Afterbay

Devil Canyon Second Afterbay, located entirely on State lands, is viewable in the foreground from the nearby residential communities (Figure 2.2-4). Devil Canyon Second Afterbay embankment terraces can only be seen from select viewpoints; the majority of the views are from the south where the terraces are not visible (Figure 2.2-5). Overall, Devil Canyon Second Afterbay and its embankment blend well with the surrounding landscape, particularly due to the native chaparral/sage scrub plant vegetation covering the embankment, which appears natural when viewed from the south in the foreground and middleground.

Figure 2.2-4. Devil Canyon Second Afterbay as Viewed from North Melvin Avenue

Figure 2.2-5. Devil Canyon Second Afterbay Embankment Terraces as Viewed from North Walnut Avenue

3.0 PROPOSED PROTECTION, MITIGATION, AND ENHANCEMENT MEASURES

The Cedar Springs Dam, spillway, and outlet structures as viewed from the PCT and the adjacent State Highway 173 present visual contrast to the natural setting, as described in Section 2.1.1. These facilities are seen in the immediate foreground from the PCT as trail users first view the Project from the north (Figures 2.1-1 and 2.1-2). Within a year of license issuance, DWR will coordinate with DPR, USFS, and the Pacific Crest Trail Association (PCTA) on installing an interpretive sign where the Cedar Springs Dam complex is first viewed by PCT users, but not directly on the PCT. This could be in or near the Cleghorn Day Use Area facilities or along the fence to the Cedar Springs Dam maintenance yards near State Highway 173 (also situated on State lands). The interpretive sign will explain the size and purpose of the Project, including where the water is coming from and going to. DWR will consult with USFS and the PCTA on the location and details related to the interpretive sign. Further, when in DWR's estimation that the slats in the fencing along the PCT are in need of replacement, DWR will consult with USFS and the PCTA regarding the color of the replacement slats. Within a year of license issuance, DWR will treat the metal corral fencing at Rio Group Campground to better match the surrounding natural environment.

Prior to performing scheduled maintenance of Project facilities (e.g., penstocks, powerplant, surge chamber) that affect the color of the facilities (e.g., painting, re-coating), to the extent consistent with the function and safe operation of the facility, DWR will select colors that blend with the natural landscape. If the facility is located on NFS lands, DWR will consult with SBNF regarding the selection of the color. Further, when Project facilities are replaced or updated, DWR will consult with the SBNF regarding potential visual improvements for the replacement or updated Project facilities.

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4.0 CONSULTATION, REPORTING, AND PLAN REVISIONS

4.1 CONSULTATION AND REPORTING

DWR will annually review with the SBNF any DWR activities on NFS lands that could affect visual resources as seen from NFS lands that are completed in the previous calendar year, as well as any DWR activities planned for NFS lands for the current calendar year.

4.2 PLAN REVISIONS

DWR, in consultation with the SBNF, will review, update, and/or revise this Plan as it pertains to visual resources on NFS lands. Any updates to the Plan will be prepared in coordination and consultation with the SBNF. DWR will provide SBNF 60 days to provide written comment and recommendations before DWR files the updated Plan with FERC for FERC's approval. DWR will include documentation of all relevant coordination and consultation with the updated Plan filed with FERC. If DWR does not adopt a particular recommendation by the SBNF, the filing will include DWR's reasons for not doing so. DWR will implement the Plan as approved by FERC. The Plan will not be considered revised until FERC issues its approval.

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5.0 REFERENCES CITED

California Department of Water Resources (DWR). 1980. Non-Exclusive Easement for the Pacific Crest Trail by State of California, acting through and by its Director of Water Resources, to the United States of America, acting through the U.S. Forest Service of the U.S. Department of Agriculture. March 25, 1980. Sacramento, California.

U.S. Department of Agriculture, Forest Service (USFS). 2018. San Bernardino National Forest Website - Rim of the World Scenic Byway. Available online: https://www.fs.usda.gov/recarea/sbnf/recarea/?recid=74122. Accessed: August 10, 2018.

_____. 2005. San Bernardino National Forest Land and Resource Management Plan. Department of Agriculture. San Bernardino, California. Available online: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev7_007719.pdf. Accessed: June 25, 2018.

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