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List of Acronyms

ac-ft	acre-feet
ADCP	Acoustic Doppler Current Profiler
AVM	Acoustic Velocity Meter
BLM	United States Bureau of Land Management
CDF	California Department of Forestry
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
cfs	cubic feet per second
Commission	Federal Energy Regulatory Commission
CRMP	Cultural Resources Management Plan
DWR	Department of Water Resources
EAP	Emergency Action Plan
FERC	Federal Energy Regulatory Commission
Hz	hertz
kV	kilovolt
MIF	minimum instream flow
MVA	mega volt amp
MW	megawatt
MWh	megawatt hours
NPS	National Parks Service
NRHP	National Register of Historic Places
OA	oil-air
Project	Kaweah Project
SCE	Southern California Edison Company
SNP	Sequoia National Park
State Water Board	State Water Resources Control Board
SUP	special use permit
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
WUD	water user diversion
WY	water year

2.0 PROJECT LOCATION, FACILITIES, AND OPERATIONS

2.1 INTRODUCTION

This section provides a description of Southern California Edison Company's (SCE) Kaweah Project (Project) (Federal Energy Regulatory Commission [FERC or Commission] Project No. 298). FERC's content requirements for this section are specified in Title 18 of the Code of Federal Regulations (CFR) Chapter I § 5.6(d)(2). This section includes the following major subsections:

2.2 Authorized Agent
2.3 Project Location
2.4 Project Overview
2.5 Existing Project Facilities
2.6 Project Facility Maintenance
2.7 Existing Environmental Programs, Measures, and Facilities
2.8 Project Operations
2.9 Proposed Project Modifications
2.10 Project Generation and Outflow Records
2.11 Current Net Investment
2.12 Compliance History
2.13 References

2.2 AUTHORIZED AGENT

The exact name, business address, and telephone number of each person authorized to act as agent for the applicant is identified below.

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Principal Manager, Hydro Licensing and Implementation
Southern California Edison Company
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Rosemead, CA 91770
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Email: wayne.allen@sce.com

2.3 PROJECT LOCATION

The Project is located on the Kaweah River and East Fork Kaweah River near the community of Three Rivers in Tulare County, California, on the western slope of the Sierra Nevada. Lake Kaweah (non-Project facility) is located approximately 5 miles downstream of the Kaweah No. 2 Powerhouse. The boundary for the Sequoia National Park (SNP) is

located directly adjacent to and north of the Kaweah No. 2 Diversion Dam and Pool and Kaweah No. 3 Powerhouse. The Project is located on private lands and public lands administered by the Bureau of Land Management (BLM). The Project also utilizes diversions and flowlines located within the SNP under a Special Use Permit (SUP). An overview of the major Project facilities and land jurisdictions in the vicinity of the Project are shown on Map 2-1.

2.4 PROJECT OVERVIEW

The Project consists of three developments: Kaweah No. 1, Kaweah No. 2, and Kaweah No. 3, which commenced operation in June 1899, February 1905, and May 1913, respectively. The Project has limited storage capacity and is operated in a "run-of-river" mode. The total generating capacity is 8.85 megawatts (MW). Water captured at diversion structures is transported through a connecting flowline and penstock to the powerhouse and then returned to the river through the powerhouse tailrace. Project facilities are shown on Maps 2-2a through 2-2g.

Portions of the Kaweah No. 1 and No. 3 developments are located within the SNP and are, therefore, not under FERC jurisdiction (Map 2-1). All Project facilities located within the SNP are currently operated under a SUP (Permit No. PWR-SEKI-6000-2016-015) issued to SCE by the National Parks Service (NPS). The current SUP expires on September 8, 2026. Appendix 2-A includes a description of the non-FERC Project portions of the Kaweah No. 1 and No. 3 developments. Since these facilities are not under FERC jurisdiction they are not subject to relicensing and are not further considered in this document.

2.5 EXISTING PROJECT FACILITIES

This section describes existing Project facilities, including diversions, flowlines, forebays, penstocks, powerhouses, transmission lines, power lines, communication lines, stream gages, access roads and trails, and ancillary and support facilities under FERC jurisdiction. A list of these Project facilities is provided in Table 2-1. The physical characteristics and facility specifications of the primary Project facilities is provided in Table 2-2. Map 2-1 provides a geographic overview of the Project. Maps 2-2a through 2-2g provide a detailed geographic depiction of Project facilities. The general elevation profile of the Project is shown on Figure 2-1.

2.5.1 Diversion Dams and Diversion Pools

2.5.1.1 Kaweah No. 1 Diversion Dam and Diversion Pool

The Kaweah No. 1 Diversion is located on the East Fork Kaweah River. The diversion structure is a 6-foot high overflow concrete gravity dam, with a crest length of 20 feet at an elevation of 2,583 feet. The Kaweah No. 1 Diversion Pool has a design and current capacity of approximately 0.03 acre-feet (ac-ft). The dam's outlet works is a 6-foot high, 3-foot wide, unlined tunnel controlled by a manually operated slide gate. The outlet works has a maximum capacity of 24 cubic feet per second (cfs). The tunnel extends approximately 50 feet and empties into a sandbox (sediment trap) at the downstream

end. The sandbox has a spillway crest elevation of 2,580 feet. Water leaving the sandbox flows through a trash rack and a 36-inch by 36-inch slide gate into the Kaweah No. 1 Flowline (24 cfs capacity).

2.5.1.2 Kaweah No. 2 Diversion Dam and Pool

The Kaweah No. 2 Diversion is located on the Kaweah River. The diversion structure is a 7-foot high masonry overflow gravity dam, with an overall crest length of 161 feet at an elevation of 1,365 feet. The Kaweah No. 2 Diversion Pool has a design capacity of approximately 1–2 ac-ft. Overtime, the diversion pool has filled in with sediment and it currently has a capacity of approximately 0.2 ac-ft. The outlet works has a maximum capacity of 100 cfs. A trash rack protects the intake at the upstream dam face. The concrete tunnel discharges into a 54-inch diameter by 42-foot long steel pipe, through a 54-inch square manually operated wooden slide gate and a fishwheel, and into the Kaweah No. 2 Flowline (87 cfs capacity). The MIF release pipe comes off of the concrete tunnel and releases into the Kaweah River before entering the Kaweah No. 2 Flowline.

2.5.2 Flowlines

2.5.2.1 Kaweah No. 1 Flowline

The Kaweah No. 1 Flowline consists of an elevated steel flume supported by a wooden support structure. The flowline traverses 30,723 feet along the south side of East Fork Kaweah River Canyon from Kaweah No. 1 Diversion slide gate to the Kaweah No. 1 Forebay Tank. The flowline has a maximum diversion capacity of approximately 24 cfs. There are two water user diversions (WUD) off of the Kaweah No. 1 Flowline (Bear WUD and Summit WUD). A description of WUD's along the Kaweah No. 1 Flowline is provided in Section 2.8 Project Operations.

2.5.2.2 Kaweah No. 2 Flowline

The Kaweah No. 2 Flowline is approximately 21,607 feet in length, including 16,738 feet of concrete ditch; 3,822 feet of steel flume comprised of 19 segments; and 1,047 feet of 50-inch diameter steel pipe. The flowline generally parallels the north side of the Kaweah River extending from the Kaweah No. 2 Diversion Dam to the Kaweah No. 2 Forebay. The flowline has a maximum diversion capacity of approximately 87 cfs. There are four WUDs on the Kaweah No. 2 Flowline (Flume 5 WUD, Flume 6 WUD, Canal 9 WUD, and Flume 14 WUD). A description of WUD's along the Kaweah No. 2 Flowline is provided in Section 2.8 Project Operations.

2.5.2.3 Kaweah No. 3 Flowline

The short segment of the Kaweah No. 3 Flowline is under FERC jurisdiction and consists of a 2,580-foot long concrete box flume that conveys water to the Kaweah No. 3 Forebay. The flowline has a maximum diversion capacity of approximately 97 cfs.

2.5.3 Forebays

2.5.3.1 Kaweah No. 1 Forebay Tank

The Kaweah No. 1 Forebay consists of a 24-foot diameter steel tank with a capacity of 0.18 ac-ft. Water enters the forebay tank from the Kaweah No. 1 Flowline and exits via the Kaweah No. 1 Penstock. An overflow spillway chute (24 cfs capacity) is built into the tank. Water that spills enters a natural drainage channel (adjacent to the penstock), flows downslope 0.72 mile, and discharges into the Kaweah River just south of the Kaweah No. 1 Powerhouse Campus.

2.5.3.2 Kaweah No. 2 Forebay

The Kaweah No. 2 Forebay is an enlargement of the Kaweah No. 2 Flowline. The forebay extends for a distance of 180 feet and has a cross section 13-feet wide by 14-feet deep and a capacity of 0.75 ac-ft. From the forebay, flow is conveyed to the Kaweah No. 2 Powerhouse through the Kaweah No. 2 Penstock.

At the Kaweah No. 2 Forebay, up to 87 cfs can spill into three concrete-lined spillways that discharge into natural drainages. The primary spill drainage is located adjacent to the forebay and receives spill flows up to 40 cfs. The spills flow approximately 0.23 mile downslope and discharges into the Kaweah No. 2 Powerhouse Tailrace. The other two spillways are located along the flowline, approximately 300 feet and 500 feet upstream of the forebay and can receive spills up to a combined 47 cfs. Spill flows enter natural drainages that converge approximately 220 feet downslope from the flowline and discharge into the Kaweah River, approximately 0.16 mile upstream of the Kaweah No. 2 Powerhouse.

2.5.3.3 Kaweah No. 3 Forebay

The Kaweah No. 3 Forebay is an embankment forebay with a capacity of approximately 11 ac-ft. A concrete-lined spillway near the downstream end of the forebay discharges into a drainage channel that connects to the Kaweah No. 3 Penstock.

At the Kaweah No. 3 Forebay, up to 97 cfs can spill into an approximately 75-foot long concrete-lined spillway chute that extends off the Kaweah No. 3 Flowline (upstream end of the forebay) then discharges into an adjacent drainage. The spill water flows approximately 0.3 mile downslope into the Kaweah River, within the SNP boundary.

2.5.4 Penstocks

2.5.4.1 Kaweah No. 1 Penstock

The Kaweah No. 1 Penstock is a 3,340-foot long buried steel pipe varying in diameter from 48–19 inches. Water from the forebay enters the penstock and is conveyed to the Kaweah No. 1 Powerhouse.

2.5.4.2 Kaweah No. 2 Penstock

The Kaweah No. 2 Penstock is a 1,012-foot long buried steel pipe varying in diameter from 60–34 inches. Water from the forebay enters the penstock and is conveyed to the Kaweah No. 2 Powerhouse.

2.5.4.3 Kaweah No. 3 Penstock

The Kaweah No. 3 Penstock is a 3,151-foot long buried steel pipe varying in diameter from 42–36 inches. Water from the forebay enters a short drainage channel prior to flowing into the penstock. The penstock conveys water to the Kaweah No. 3 Powerhouse.

2.5.5 Powerhouses and Switchyards

2.5.5.1 Kaweah No. 1 Powerhouse and Switchyard

The Kaweah No. 1 Powerhouse contains a single-jet, single-overhung impulse turbine with an installed capacity of 2.25 MW. The maximum estimated hydraulic capacity of the Kaweah No. 1 Powerhouse is 24 cfs. The above-grade portion of the powerhouse includes an approximately 22.5-foot by 26.3-foot reinforced concrete structure. The powerhouse is equipped with an 8-ton hand-operated traveling crane that provides hoisting facilities for all major equipment. From the powerhouse, a short tailrace canal returns the diverted water to the Kaweah River.

The Kaweah No. 1 Switchyard is located adjacent to the powerhouse. A galvanized structural steel switchrack supports the 66 kilovolt (kV) bus bar.[1] The switchgear consists of one remotely operated, 3-pole, 1,200 amp, 69 kV oil circuit breaker. The switchyard also includes a transformer bank consisting of a single three phase, 3 mega volt amp (MVA), 39.9/64-2.4 kV, oil-air[2] (OA), 60 hertz (Hz) transformer. Disconnect switches, grounding switches, single phase lightning arresters, and other related equipment are also located in the switchyard.

The powerhouse provides its own station light and power via the 2.4 kV bus that is energized by the generator when the unit is online and back fed from the 66 kV transmission line when the unit is offline. When the 66 kV line is not available, the station light and power is fed from the Salt Creek 12 kV line via a manual switch at the powerhouse/switchyard.

[1] In electrical power distribution, a busbar (also spelled bus bar, or sometimes as buss bar or bussbar, with the term *bus* being a contraction of the Latin *omnibus*, "for all") is a metallic strip or bar (typically copper, brass or aluminum) that conducts electricity within a switchboard, distribution board, substation, battery bank, or other electrical apparatus. Its main purpose is to conduct a substantial current of electricity, and not to function as a structural member.

[2] Oil-Air, a cooling classification for transformers now classified as ONAN. Oil type, Natural convection flow through cooling equipment and in windings, & Air external cooling medium.

2.5.5.2 Kaweah No. 2 Powerhouse and Switchyard

The Kaweah No. 2 Powerhouse contains a single Francis-type turbine and electrical generator with an installed generating capacity of 1.8 MW. The maximum estimated hydraulic capacity of the Kaweah No. 2 Powerhouse is 82 cfs. The above-grade portion of the powerhouse includes an approximately 34-foot by 62-foot wood frame structure. The powerhouse is equipped with an 8-ton hand-operated traveling crane that provides hoisting facilities for all major equipment. From the powerhouse, a 0.3-mile long tailrace canal returns the diverted water to the Kaweah River.

The Kaweah No. 2 Switchyard is located adjacent to the powerhouse. A galvanized structural steel switchrack supports the 66 kV bus bar. The switchgear consists of one remotely operated, 3-pole, 1,200 amp, 69 kV oil circuit breaker. The switchyard also includes a transformer bank consisting of a single three phase, 2.25 MVA, 39.8/69-2.3 kV, OA, 60 Hz transformer. Disconnect switches, grounding switches, single phase lightning arresters, and other related equipment are also located in the switchyard.

The powerhouse provides its own station light and power via the 2.4 kV bus that is energized by the generator when the unit is online and back fed from the 66 kV transmission line when the unit is offline. When the 66 kV line is not available, the station light and power is fed from the Salt Creek 12 kV line via a manual switch at the powerhouse/switchyard.

2.5.5.3 Kaweah No. 3 Powerhouse and Switchyard

The Kaweah No. 3 Powerhouse contains two single-jet, single-overhung impulse turbines with a combined installed generating capacity of 4.8 MW. The maximum estimated hydraulic capacity of the Kaweah No. 2 Powerhouse is 92 cfs. The above-grade portion of the powerhouse includes an approximately 52-foot by 52-foot concrete structure. The powerhouse is equipped with a 13-ton hand-operated traveling crane that provides hoisting facilities for all major equipment. From the powerhouse, a short tailrace canal returns the diverted water to the Kaweah River.

A switchyard is located adjacent to the powerhouse. A galvanized structural steel switchrack supports the 66 kV bus bar. The switchgear consists of one remotely operated, 3-pole, 1,200 amp, 69 kV oil circuit breaker. The switchyard also includes a transformer bank consisting of four single phase, 1.25 MVA, 41.6/72-2.4 kV, OA, 60 Hz transformers. One of the four transformers serves as a spare. Disconnect switches, grounding switches, single phase lightning arresters, and other related equipment are also located in the switchyard.

The powerhouse provides its own station light and power via the 2.4 kV bus that is energized by the generator when the unit is online and back fed from the 66 kV transmission line when the unit is offline. When the 66 kV line is not available, the station light and power is fed from the Salt Creek 12 kV line via a manual switch at the powerhouse/switchyard.

2.5.6 Transmission, Power, and Communication Lines

There are three transmission lines associated with the Project—the primary line and two tap lines. The primary Project transmission line extends approximately 4.09 miles from the Kaweah No. 3 Powerhouse to the Three Rivers Substation.[3] The line is a 66 kV, 3-phase, single circuit line construction on a combination of wooden and steel poles with suspension-type insulators. The primary transmission line connects to the Kaweah No. 1 Switchyard via a 66 kV, 120-foot long tap line, and to the Kaweah No. 2 Switchyard via a 66 kV, 0.4-mile long tap line.

Various power and communication lines are used to operate Project equipment and allow communication between Project facilities. Table 2-3 provides detailed information on each transmission, power, and communication line. Maps 2-2a through 2-2g show the location of all transmission, power, and communication lines.

2.5.7 Gages

SCE currently maintains a network of gaging stations to monitor and record water flow. The following identifies Project gages by river reach and includes the corresponding U.S. Geological Survey (USGS) and SCE Gage Number and defines the purpose of the gage. Refer Maps 2-2a through 2-2g for the location of these facilities. USGS maintains a contract with SCE to annually review Project gage streamflow records at USGS gages to satisfy license requirements.

2.5.7.1 East Fork Kaweah River

- East Fork Kaweah River Conduit 1 at Power Plant near Hammond CA (USGS Gage No. 11208800) (SCE Gage No. 200a) – Acoustic Velocity Meter (AVM) located on the penstock to the Kaweah No. 1 Powerhouse that measures flow into the powerhouse.
- East Fork Kaweah River near Three Rivers CA (USGS Gage No. 11208730) (SCE Gage No. 201) – Traditional stage-discharge stream gage located on the southwest bank of the East Fork Kaweah River that measures streamflow between the intake dam and the gage pool weir.
- Kaweah No. 1 Minimum Instream Flow Release (SCE Gage No. 201a) – Operational AVM located on a release pipe that comes out of the Kaweah No. 1 Sandbox and measures minimum instream flow releases.
- East Fork Kaweah River Conduit 1 near Three Rivers CA (SCE Gage No. 202) – Operational AVM just downstream from the Kaweah No. 1 Flowline intake that measures flow in the flowline.

[3] The Three Rivers Substation is not a FERC Project facility.

2.5.7.2 Kaweah River

- Kaweah River below Conduit No. 2 near Hammond CA (USGS Gage No. 11208600) (SCE Gage No. 203) – Traditional stage-discharge stream gage located on the west bank of the Kaweah River that measures streamflow approximately 500 feet downstream of the Kaweah No. 2 Diversion Dam.
- Kaweah River Conduit No. 2 near Hammond CA (SCE Gage No. 204a) – Operational Acoustic Doppler Current Profiler (ADCP) located on the Kaweah No. 2 Flowline that measures flow from the Kaweah No. 2 Intake into the flowline.
- Kaweah River Conduit No. 2 at Power Plant near Hammond CA (USGS Gage No. 11208818) (SCE Gage No. 205a) – AVM located on the penstock to the Kaweah No. 2 Powerhouse that measures flow into the powerhouse.
- Middle Fork Kaweah River Conduit No. 3 at Power Plant near Hammond CA (USGS Gage No. 11208565) (SCE Gage No. 206a) – AVM located on the penstock to the Kaweah No. 3 Powerhouse that measures flow into the powerhouse.

2.5.8 Access Roads and Trails

Various roads and trails are used for routine operation and maintenance of the Project (Maps 2-2a through 2-2g). Descriptive information on each access road and trail is provided in Table 2-4.

2.5.9 Ancillary and Support Facilities

Project ancillary and support facilities consist of office, maintenance, and storage buildings at the Kaweah No. 1 Powerhouse Campus; Kaweah No. 2 Powerhouse River Access (parking and trail); wildlife bridges and escape ramps along Project flowlines; footbridges along Project flowlines; solar panel yard; and satellite repeaters. Each of these facilities is described below and depicted on Maps 2-2a through 2-2g.

2.5.9.1 Kaweah No. 1 Powerhouse Campus

The Kaweah No. 1 Powerhouse Campus includes office, maintenance, and storage buildings (located adjacent to the Kaweah No. 1 Powerhouse). The office building includes space for supervisory and operations personnel and contains a lunch area, meeting area, and a restroom facility. The single maintenance building includes a machine, carpenter, and electrical shop areas, a restroom, warehouse, tool room, and office space for maintenance personnel.

2.5.9.2 Kaweah No. 2 Powerhouse River Access

A river access (parking and trail), is located adjacent to the Kaweah No. 2 Powerhouse. SCE provides five regular and one handicapped parking spots and a primitive trail at the site. Due to concerns from local residents, SCE only provides access Monday – Thursday between the hours of 8:00 am and 7:00 pm. When the river access is closed, an A-frame

sign is posted at the entrance providing hours of operation and entry is blocked by a barrier. Additional signage is provided at the parking area that specifies risks associated with usage of the property; rules and restrictions; prohibited activities; and emergency contact information.

2.5.9.3 Wildlife Bridges and Escape Ramps

To reduce wildlife mortality (drownings) in Project flowlines, SCE installed various wildlife protection measures along the Kaweah No. 2 and No. 3 flowlines, including wildlife bridges, escape ramps, deer outs (chain link fencing attached to the side of the flowline), and hazers (log and cable booms crossing the flowline at an angle, to direct a swimming deer to an escape ramp). Wildlife protection measures for the Kaweah No. 1 Flowline are not provided due to its elevated construction, which allows wildlife to pass under the flowline in most places, and the steep terrain that receives little wildlife use.

2.5.9.4 Footbridges

Footbridges are installed at various intervals along the Kaweah No. 2 and No. 3 flowlines to allow SCE personnel to cross the flowline.

2.5.9.5 Kaweah No. 1 Diversion Intake House Solar Panel

Approximately 500 feet west of the Kaweah No. 1 Diversion Dam is the Kaweah No. 1 Diversion Intake House Solar Panel that provides power for equipment and facility operation associated with the Kaweah No. 1 Diversion Dam.

2.5.9.6 Satellite Repeaters

The Project includes two satellite repeaters – Kaweah No. 1 Solar Yard Satellite Repeater located just north of the Kaweah No. 1 Diversion Intake House Solar Panel, and the Kaweah No. 1 Grapevine Repeater located at the terminus of the Kaweah No. 1 Flowline Access Road – Grapevine. These repeaters allow improved communication between facilities by receiving a signal and retransmitting it at a higher level/power, or onto the other side of an obstruction, so that the signal can cover longer distances.

2.6 PROJECT FACILITY MAINTENANCE

This section describes routine inspection and maintenance activities conducted at the Project. Routine inspections are conducted at Project facilities to verify the structural and/or functional integrity of the facilities, and to identify conditions that might disrupt operation or threaten public safety. Routine maintenance activities are conducted to maintain Project facilities in operational conditions. A description of each activity is provided in the following subsections. Table 2-5 includes detailed information on the location and frequency of these activities.

2.6.1 Maintenance Outage

SCE conducts maintenance outages at the Kaweah No. 1, No. 2, and No. 3 powerhouses, typically during low-flow periods (late summer/fall) when there is not enough water available for generation. The maintenance outages typically lasts up to three weeks. During the outages, SCE conducts mechanical and electrical inspections, and maintenance of Project powerhouse appurtenances. In conjunction with the maintenance outages, SCE also makes repairs to Project diversions and flowlines, as appropriate.

2.6.2 Powerhouse Inspections and Maintenance

As part of routine operation of the Project, SCE inspects all powerhouse appurtenances on a regular basis to ensure they are operating properly. Minor maintenance and repairs to powerhouse appurtenances are made on an as-needed basis.

2.6.3 Flowline Inspections and Maintenance

As part of routine operation of the Project, SCE conducts physical structure inspections of all flowlines up to three times per year (spring, summer, and fall) and after large storm events. Operational inspections are completed monthly to look for leakage and debris build-up (i.e., large woody debris and algae). Flowline maintenance and repairs are made on an as-needed basis and include the following:

- Hand patching of concrete intakes, flumes, and canals
- Removal of large woody debris
- Brush machine removal of algae on Kaweah No. 1 Flowline to remove build-up
    - Algae can build-up in the flowline causing water to be displaced and damage the facility. The brush machine is inserted at the top of the flowline (or other appropriate location along the flowline depending on build-up) and removed at the Forebay Tank. Algae sticks to the brush as it moves through the flowline. The brush is power washed following removal and reused, as needed.
- Repair of wildlife bridges and escape ramps
- Repair of support structures

2.6.4 Vegetation Management

Vegetation management at Project facilities is conducted under agreements (including Pesticide Use Proposals) with BLM and Tulare County. Vegetation management includes vegetation trimming by hand and with equipment, and herbicide use. In general, vegetation management activities occur during the spring and early summer to avoid work during periods of high-fire danger. Vegetation management is implemented within the area necessary to reduce fire hazards; provide access and protect Project facilities; and provide for worker/public health and safety. A description of each vegetation

management activity implemented for the Project is provided below and the area around Project facilities where vegetation management is implemented is included in Table 2-6.

2.6.4.1 Trimming by Hand and With Equipment

Vegetation trimming by hand and with equipment includes trimming of grasses and forbs with a weed eater; and trimming of shrubs and trees with a chain saw, other handheld saw, or pruners. These activities are implemented annually or infrequently depending on location and facility type.

2.6.4.2 Herbicide Use

Herbicide use on BLM-owned lands is conducted by SCE under Pesticide Use Proposal No. 2014-CA-160-1. The approved BLM pesticide use proposal includes application of herbicides to cut stumps and branches and foliar applications, annually for a period of three years (current permit expires in 2017). The permit specifies pesticide type, species to be treated, treatment methods, treatment sites, and rates of application. Vegetation management on privately-owned land is conducted by SCE under Pesticide Use Proposal No. 5460929-2015-V1 with Tulare County (current permit expires 12-31-2017).

2.6.5 Hazard Tree Removal

Hazard trees, generally defined as trees with defects that may cause a failure resulting in property damage, personal injury, or death, are removed on an as-needed basis. Removal is conducted with a chainsaw, handheld saw, or other equipment, as necessary.

2.6.6 Pest Management

Management of rodent populations at Project facilities is accomplished with the application of rodenticides. The purpose of rodent control is to prevent infestations in building interiors, thereby, protecting worker and public health and safety, and maintaining system reliability. SCE contracts with a commercial pest control company to apply rodenticide around the powerhouses, switchyards, and at the Kaweah No. 1 Powerhouse Campus facilities.

2.6.7 Sediment Management

SCE conducts sediment management activities at the Kaweah No. 1 Sandbox (flushing) and Forebay Tank (flushing and physical removal with equipment); Kaweah No. 2 Forebay (flushing and physical removal with equipment); and Kaweah No. 3 Forebay (physical removal with equipment). Historically, SCE has tested sediment to be removed from Project facilities for chemical constituents and heavy metals. Upon approval by BLM, SCE has deposited removed sediment in the immediate vicinity of the forebays/forebay tank.

2.6.8 Road Maintenance

Project access roads are regularly inspected during normal Project activities. Minor repairs are conducted on an as-needed basis and major repairs are implemented annually during low-runoff periods (late summer/fall). Minor Project road maintenance generally includes, but is not limited to, the following types of activities: debris removal; basic repairs, including filing of potholes; maintenance of erosion control features such as culverts, drains, ditches, and water bars; repair, replacement, or installation of access control structures such as posts, cables, rails, gates, and barrier rock; and repair and replacement of signage. Major Project road maintenance generally includes, but is not limited to, the following types of activities: placement or replacement of culverts and other drainage features; bridge deck replacement; grading; sealing; resurfacing; and road replacement. Vegetation management may be conducted concurrently with road and trail maintenance on an as-needed basis.

2.6.9 Trail Maintenance

Project access trails are regularly inspected during normal Project activities. Repairs are conducted on an as-needed basis typically during low-runoff periods (late summer/fall). Trail maintenance generally includes, but is not limited to, the following types of activities: debris removal; basic repairs including minor brushing; maintenance of erosion control features such as water bars; repair, replacement, or installation of access control structures such as barrier rock; and repair and replacement of signage. Vegetation management may be conducted concurrently with trail maintenance on an as-needed basis.

2.6.10 Transmission, Power, and Communication Line Maintenance

Transmission, power, and communication maintenance includes replacement of damaged poles. New poles are placed in, or immediately adjacent to previously existing holes, using line trucks. Helicopters are used if line trucks are unable to access locations where poles need to be replaced. Vegetation management is also conducted along transmission, power, and communication line corridors, and at repeaters.

2.7 EXISTING ENVIRONMENTAL PROGRAMS, MEASURES, AND FACILITIES

FERC issued a new license to SCE on January 31, 1992 for the Project. The license has subsequently been amended by FERC at various times over the term of the license, including revisions to license articles and deletion of license articles. FERC has also issued various administrative Orders approving management and monitoring plans, and design drawings that were required as part of the current license, effectively completing the requirement of the license article. Table 2-7 provides a summary of the status of each original license article and reference to any associated FERC Order. In addition, more detailed information is provided below for those license articles and requirements that are currently ongoing.

2.7.1 Water Resources

2.7.1.1 Ramping Requirements

SCE meets ramping rate requirements downstream of diversion dams and the Kaweah No. 1 and No. 2 powerhouses in accordance with FERC License Article 404, as described below.

> ***Article 404****. The licensee shall operate the project such that flows below Diversion Dams and Powerhouses Nos. 1 and 2 are not altered at a rate greater than 30 percent of the existing streamflow per hour.*

As required by FERC in letters dated March 13, 2003 and June 13, 2005, SCE files an annual report with FERC documenting compliance with ramping requirements by April 1 of each year.

2.7.1.2 Minimum Instream Flow Requirements

SCE provides minimum instream flow (MIF) releases in accordance with FERC License Article 405, as amended (Table 2-8). License Article 405 was amended on April 20, 1994 to include a definition for dry and normal years and to clarify minimum flow requirements for May that were previously omitted. As required by FERC in letters dated March 13, 2003 and June 13, 2005, SCE files an annual report with FERC documenting compliance with MIF requirements by April 1 of each year.

2.7.1.3 Erosion Protection and Remediation Plan

License Article 401 approved the Erosion Protection and Remediation Plan prepared by SCE for the Project. The plan was subsequently revised and FERC approved the revised plan in an Order issued January 19, 1993. The plan required the implementation of erosion protection and remediation measures along Kaweah No. 1 Flowline and Project access roads that were completed by SCE. In addition, the plan includes erosion protection measures that SCE is required to implement in the event of a future flowline break.

2.7.1.4 Stream Gaging Plan

As required by License Article 407, SCE prepared a Stream Gaging Plan that detailed installation, operation, and maintenance of stream gages in the East Fork Kaweah River and the mainstem Kaweah River. The stream gaging network was designed to be capable of effectively monitoring the requirements of License Articles 404 (ramping rates) and 405 (minimum instream flow). SCE submits annual reports to FERC documenting compliance with License Articles 404 and 405 using the data obtained from Project gages in accordance with the Stream Gaging Plan. In addition, should a violation associated with License Articles 404 or 405 occur, SCE is required to file a report with FERC detailing the nature of the violation and any measures implemented to correct the violation.

2.7.2 Cultural Resources

2.7.2.1 Cultural Resources Management Plan

As required by License Article 414, SCE prepared a Cultural Resources Management Plan (CRMP) that identifies specific measures that SCE undertakes to avoid adverse impacts to four National Register of Historic Places (NRHP) eligible properties located within the FERC Project boundary. The CRMP identifies various programmatic measures that SCE is required to implement, as well as resource monitoring and recordation. The CRMP states that if impacts to NRHP-eligible properties cannot be avoided with implementation of protective and avoidance measures, SCE, in consultation with State Historic Preservation Officer and FERC, shall develop a site-specific treatment plan in accordance with 36 CFR Part 800.4-800.6. Resource monitoring and recordation is required to occur in three-year increments to determine the success of current measures and to evaluate the need for additional treatment.

2.7.2.2 Ground-disturbing Activities Consultation

In accordance with License Article 415, prior to any land-clearing, land-disturbing, or spoil-producing activities associated with the Project, SCE is required to consult with resource agencies. In addition, SCE is required to conduct a cultural resource survey of the affected area and file a survey report and a cultural resource management plan should any significant archaeological or historic resource be identified.

2.7.3 Terrestrial Resources

2.7.3.1 Wildlife Protection and Monitoring

As required by License Article 408, SCE implemented measures to minimize wildlife drowning in the Kaweah No. 2 Flowline. The measures ranged from the installation of hazers and flashers at existing escape ramps to the replacement of existing bridges. Required improvements were implemented between 1992 and 1996.

As required by License Article 409, SCE developed a plan to protect deer and other wildlife from drowning in the Kaweah No. 3 Flowline. The plan included widening existing foot and wildlife bridges, moving existing footbridges, converting footbridges to wildlife bridges, constructing new wildlife bridges, and a plan for improving and maintaining the facilities. These improvements were implemented between 1994 and 1996.

In accordance with License Article 410, SCE conducts weekly monitoring to determine whether the measures implemented at Kaweah No. 2 and No. 3 flowlines were successful in minimizing wildlife drownings, and to inspect wildlife protection facilities to determine any required maintenance/upgrade actions. SCE files an annual report with FERC that documents mortality and observed wildlife use on or near the bridges.

2.7.3.2 Avian Mortality Reporting Plan

As required by License Article 412, SCE developed the Avian Mortality Reporting Plan that includes methods for monitoring Project transmission lines for injury or electrocution of raptors and other birds. SCE files a report with FERC every five years that documents monitoring results.

2.7.4 Land Management

2.7.4.1 Land Clearance Requirements

In accordance with License Article 203, SCE keeps all lands along open flowlines clear to an adequate width and disposes of all temporary structures. This includes removal of unused timber, hazard trees, brush, refuse, or other material unnecessary for the purpose of the Project. All clearing of lands and disposal of unnecessary material is conducted in accordance with appropriate federal, state, and local statutes and regulations.

2.7.4.2 Emergency Action Plan

Pursuant to 18 CFR §12.20(a), FERC requires licensees to develop and file an Emergency Action Plan (EAP) with the Regional Engineer, unless granted a written exemption in accordance with §12.21(a) of the regulations. Since April 1981, SCE has been exempted from filing an EAP for the Project diversions since it demonstrated that no reasonably foreseeable Project emergency would endanger life, health, or property. As required in 18 CFR §12.21(c)(1), SCE continues to review the conditions that allow them the exemption by conducting field reconnaissance of areas downstream of all exempt diversions to confirm that no new downstream development has occurred. During the current license term, SCE has filed annual requests with FERC for a continuation of the exemption from EAP requirements for the Project since no downstream hazard exists should any of the diversions fail. To date, FERC has agreed with SCE's annual requests and determined that an EAP is not required for the Project. Per 18 CFR §12.21(c)(2), if there are any changes to the Project that might cause an emergency endangering life, health, or property, SCE would promptly notify FERC to determine the necessity to prepare an EAP.

2.8 PROJECT OPERATIONS

The Project is operated consistent with existing regulatory requirements and operating agreements and contracts (operational constraints) to generate power for SCE customers and deliver consumptive water to local users. The following first describes operational constraints (regulatory requirements, and operating agreement and contracts) associated with the Project followed by a description of water management.

2.8.1 Regulatory Requirements

Regulatory requirements associated with operation of the Project include: (1) articles in the existing FERC License pertaining to MIF and ramping rates; and (2) stipulations in existing water rights held by SCE.

2.8.1.1 Existing FERC License Articles

The MIF requirements, as specified in License Article 405 of the existing FERC License, for the bypass reaches[4] associated with the Project are presented in Table 2-8. MIF release requirements at the Project diversions are based on water year type. In the existing FERC License, water year types for the Project are defined as either "Normal" or "Dry" based on the April 1 through July 1 forecast of runoff in the Kaweah River at Terminus Reservoir as published by the Department of Water Resources (DWR) in its May 1 forecast. A Dry Year is defined as a year when the forecast is equal to or less than 172,000 ac-ft of runoff. A Normal Year is defined as a year when the forecast is greater than 172,000 ac-ft of runoff. The MIF release schedules take effect on May 10 following the May 1 forecast and extend through May 9 of the following calendar year.

A summary of water year types from 1994-2015, based on the definition of Normal and Dry in the existing FERC license are provided in Table 2-9. This time period (1994-2015) is representative of recent runoff patterns and climatic conditions in the Kaweah River Watershed since issuance of the existing FERC license. Between 1994 and 2015, 68% of the years were classified as Normal and 32% were classified as Dry. The distribution of DWR runoff forecasts in the Kaweah River at Terminus Reservoir from 1994-2015 and associated water year types is shown in Figure 2-2.

In addition to MIF requirements, License Article 404 specifies that the "Licensee shall operate the project such that flows below Diversion Dams and Powerhouses Nos. 1 and 2 are not altered at a rate greater than 30 percent of the existing streamflow per hour" (i.e., ramping rates).

2.8.1.2 Water Rights

SCE operates the Project consistent with stipulations associated with its existing water rights. SCE holds several water rights associated with the Project for the diversion, use, and storage of water. The majority of the water rights are for non-consumptive uses associated with the generation of hydroelectric power. However, SCE does hold consumptive rights for incidental water use near the Project powerhouses. The water rights described in this section are limited to SCE's rights associated with operation of the Project. Water rights held by other parties associated with delivery of consumptive water by SCE to local water users through the Kaweah No. 1 and Kaweah No. 2 flowlines are provided in Section 2.8.2.

Kaweah No. 1 Development

Water for the Kaweah No. 1 Development is diverted from the East Fork Kaweah River at the Kaweah No. 1 Diversion Dam and conveyed to the Kaweah No. 1 Powerhouse. The Kaweah No. 1 Development also utilizes water stored in four small reservoirs located on tributaries to the East Fork Kaweah River, upstream of the Kaweah No. 1 Diversion Dam within the SNP (Map 2-1). These reservoirs are operated under a SUP with the

[4] A bypass reach is a segment of a river downstream of a diversion facility where Project operations result in the diversion of a portion of the water from that reach.

SNP and are, therefore, not under FERC jurisdiction. However, the water rights associated with these reservoirs influence the operation of the Kaweah No. 1 Powerhouse, which is under FERC jurisdiction. The following describes SCE's water rights associated with the Kaweah No. 1 Development.

Direct Diversion

Operation of the Kaweah No. 1 Development began on June 26, 1899. SCE's right to divert water from the East Fork Kaweah River at the Kaweah No. 1 Powerhouse is based on: (1) notices of appropriation posted prior to 1914; (2) grants from owners of prior rights; and (3) actual diversion and use. These rights were acquired by the Mt. Whitney Power Company in 1900, conveyed to the Mt. Whitney Power and Electric Company in 1909, and then obtained by SCE through a deed dated June 15, 1920. By this chain of title, SCE acquired the water rights necessary to operate the Kaweah No. 1 Development at full capacity. These water rights are subject to the rights of other parties discussed in Section 2.8.2.

SCE filed an application with the State Water Resources Control Board (State Water Board) identifying a pre-1914 water right to divert 30 cfs of water from the East Fork Kaweah River for the purpose of hydroelectric power generation. The application was accepted by the State Water Board on January 1, 1971 and is identified as S007760. Pursuant to Water Code section 5100, SCE has filed Supplemental Statements of Water Diversion and Use to the State Water Board. These reports document the amount of water SCE has put to beneficial use annually in association with the Kaweah No. 1 Development since the application was filed.

Diversion for Storage

SCE has an appropriative right, acquired by actual use on public lands prior to 1914, to divert and store water in four reservoirs and to release the water from the reservoirs to better facilitate the timing of hydroelectric generation. The four reservoirs were constructed between 1903 and 1905 and are identified as Eagle Lake, Lady Franklin Lake, Crystal Lake, and Upper Monarch Lake (collectively referred to as the Mineral King Lakes). The right to this stored water is in addition to the direct diversion rights discussed previously.

SCE's water right related to the four reservoirs was confirmed by judgment of the Superior Court of the County of Tulare, State of California, in the case of Lakeside Ditch Company vs. Mt. Whitney Power Company, dated and entered January 26, 1909. The judgment states that the Mt. Whitney Power Company (SCE's predecessor) could impound and store water in the Mineral King Lakes and could use the water stored in these reservoirs for "generation of electricity or electric power, and for irrigation, domestic, and livestock purposes in and about any power plant premises of the defendant…"

Kaweah No. 2 Development

Water for the Kaweah No. 2 Development is diverted from the Kaweah River at the Kaweah No. 2 Diversion Dam and conveyed to the Kaweah No. 2 Powerhouse. SCE has

water rights for the direct diversion of water for power generation and incidental consumptive use of water at the powerhouse. The following describes SCE's water rights associated with the Kaweah No. 2 Development.

Direct Diversion

Operation of the Kaweah No. 2 Development began in February 1905. SCE's right to divert water from the Kaweah River for generation at the Kaweah No. 2 Powerhouse is based on: (1) notices of appropriation posted by the Mt. Whitney Power Company on February 16, 1902, March 3, 1902, and October 7, 1902; (2) land and water right purchases made by the Mt. Whitney Power Company between 1901 and 1904; and (3) actual diversion and use. These rights were conveyed to the Mt. Whitney Power and Electric Company in 1909, and then obtained by SCE in a deed dated June 15, 1920. By this chain of title, SCE acquired the water rights necessary to operate the Kaweah No. 2 Development at full capacity. These water rights are subject to the rights of other parties discussed in Section 2.8.2.

SCE filed an application with the State Water Board identifying a pre-1914 right to divert 88 cfs of water from the Kaweah River for the purpose of hydroelectric generation. The application was accepted by the State Water Board on January 1, 1971 and is identified as S007767. Pursuant to Water Code section 5100, SCE has filed Supplemental Statements of Water Diversion and Use with the State Water Board. These reports document the amount of water SCE has put to beneficial use annually in association with the Kaweah No. 2 Development since the application was filed.

Kaweah No. 3 Development

Water for the Kaweah No. 3 Development is diverted at two locations: (1) the Middle Fork Diversion Dam located on the Middle Fork Kaweah River; and (2) the Marble Fork Diversion Dam located on the Marble Fork Kaweah River. Both of these diversions are located within the SNP and are operated under a SUP and are, therefore, not under FERC jurisdiction. However, the water rights associated with these diversions directly influences the operation of the Kaweah No. 3 Powerhouse, which is under FERC jurisdiction. SCE has water rights for the direct diversion of water for power generation in the Kaweah No. 3 Development and incidental consumptive use of water at the powerhouse. The following describes SCE's water rights associated with the Kaweah No. 3 Development.

Direct Diversion

Operation of the Kaweah No. 3 Development began on May 18, 1913. SCE's right to divert water for generation at the Kaweah No. 3 Powerhouse is based on: (1) notices of appropriation posted by the Mt. Whitney Power Company and the Mt. Whitney Power and Electric Company between January 2, 1902 and February 18, 1911; and (2) actual diversion and use. Early records do not separately list the amounts associated with each diversion. SCE's pre-1914 appropriative right is, therefore, based on the total amount of both diversions. These rights were conveyed from the Mt. Whitney Power and Electric Company to SCE through a deed dated June 15, 1920. Operation of the Middle Fork and

Marble Fork diversions is subject to specific requirements identified in a SUP issued by the NPS.

SCE filed water rights applications with the State Water Board identifying pre-1914 water rights to divert 68 cfs of water from the Middle Fork Kaweah River and 90 cfs of water from the Marble Fork Kaweah River for the purpose of power generation. The applications were accepted by the State Water Board on January 1, 1971. The Middle Fork Diversion application is identified as S007768 and the Marble Fork Diversion application is identified as S007765. Pursuant to Water Code section 5100, SCE has filed Supplemental Statements of Water Diversion and Use with the State Water Board. These reports document the amount of water SCE has put to beneficial use annually in association with the Kaweah No. 3 Development since the applications were filed.

2.8.2 Operating Agreements and Contracts

In addition to regulatory requirements, operation of the Project must be consistent with existing operating agreements and contracts. Specifically, the Project must be operated consistent with stipulations in: (1) the SUP issued by the NPS associated with the Kaweah No. 1 and Kaweah No. 3 developments; (2) water supply agreements (indenturements) between SCE and local water users associated with the delivery of consumptive water from the Kaweah No. 1 and Kaweah No. 2 flowlines; and (3) a water supply agreement between SCE and the California Division of Forestry (CDF) associated with the delivery of water to Hammond Fire Station from the Kaweah No. 1 Penstock. The following describes each of the agreements/contract.

2.8.2.1 National Park Service Special Use Permit

The Project makes use of several non-Project facilities located in the SNP, including portions of the Kaweah No. 1 Development (Mineral King Lakes) and portions of the Kaweah No. 3 Development (upper flowline and diversions) (Map 2-1). The NPS issued SCE a 10-year SUP on September 9, 2006 for the continued operation and maintenance of Project facilities that are located within the boundaries of the SNP (PWR-SEKI-6000-2012-007). The current SUP expires September 8, 2016. SCE and the NPS recently executed a 10-year renewal of the existing SUP extending the term of the permit to September 8, 2026 (PWR-SEKI-6000-2016-015).

The SUP contains MIF requirements below the Middle Fork and Marble Fork diversions. Although these MIF requirements are related to operation of non-FERC facilities, the requirements directly influence the amount of water available for generation at the Kaweah No. 3 Powerhouse (FERC Project facility). The SUP also allows for the storage of water in Crystal Lake, Eagle Lake, Upper Monarch Lake, and Lady Franklin Lake (collectively referred to as the Mineral King Lakes). Water stored in these reservoirs is used to better facilitate the timing of hydroelectric generation at Kaweah No. 1 Powerhouse.

2.8.2.2 Water Supply Agreements

Operation of the Project is subject to reservations made in various deeds and indentures (agreements) as summarized below, by development.

Kaweah No. 1 Development

Agreement with Local Water Users

SCE must maintain a continuous flow up to a maximum of 1 cfs in the Kaweah No. 1 Flowline to deliver water to local users consistent with an existing water supply agreement. The local users have pre-1914 consumptive water rights for water delivered through the Kaweah No. 1 Flowline.

SCE's responsibility and authority to delivery water to the local water users through the Kaweah No. 1 Flowline is very specific. SCE is required to deliver sufficient water through the flowline consistent with indenturements (agreements) dating back to 1898. As shown in Map 2-2e, water is delivered by SCE to local users at two delivery points along the Kaweah No. 1 Flowline, designated as WUD – Summit and WUD – Bear. SCE conveys water from the flowline through a short tap line to a valve/manifold. The short tap line and valve/manifold are not under FERC jurisdiction. Local water users take delivery of the water at the valve/manifold. From the valve/manifold, water users have established their own distribution system made up of individual valves to regulate water taken by each water user consistent with their water rights. The water users self-regulate the quantity of water taken by individual water user at the delivery point. Water users are also responsible for maintaining the water distribution system from the valve/manifold to their respective property. SCE does not have the responsibility or authority to govern individual use by the water users or maintain the water distribution system. SCE only has the authority to operate and maintain the flowline, short tap line, and valve/manifold such that the total volume of water available to the local water users at each delivery point is consistent with the indenturements dating back to 1898.

The origin of these deliveries dates back to reservations made in an indenture executed between Jacob and Mary Trauger and William Hammond on October 11, 1898 and recorded on February 9, 1899 (Vol. 89 of Deeds, Page 471). This indenture transferred property located on the East Fork Kaweah River and associated water rights from the Trauger's to William Hammond. In 1900, the property and a portion of the water rights held by Hammond was subsequently conveyed to the Mt. Whitney Power Company, then to the Mt. Whitney Power and Electric Company in 1909, and to SCE in 1920. As a condition of the original sale of the property and transfer of the water rights to Mt. Whitney Power Company, Hammond retained the rights to two miner's inches[5] of water to be made available at any point along the Kaweah No. 1 Flowline. The Mt. Whitney Power Company and all subsequent owners of the Kaweah No. 1 Development (currently SCE) are required to deliver water from the Kaweah No.1 Flowline consistent with the terms of

[5] Southern California miner's inch is equal to 0.020 cubic feet per second (cfs).

the agreement. The original Trauger deed, including the associated water rights, was upheld in the 1909 Lakeside Ditch Company vs. Mt. Whitney Power Company judgment.

Agreement with California Division of Forestry

In 1935, SCE agreed to deliver water to the CDF from the Kaweah No. 1 Flowline for domestic use at the Hammond Fire Station. Currently, water is delivered to the CDF Hammond Fire Station via a 0.75-inch pipeline tapping the Kaweah No. 1 Penstock.

Kaweah No. 2 Development

Agreement with Local Water Users

SCE must maintain a continuous flow up to a maximum of 3 cfs in the Kaweah No. 2 Flowline to deliver water to local users consistent with an existing water supply agreement. The local users have pre-1914 consumptive water rights for water delivered through the Kaweah No. 2 Flowline.

SCE's responsibility and authority to deliver water to the local water users through the Kaweah No. 2 Flowline is very specific. SCE is required to deliver sufficient water through the flowline consistent with indenturements (agreements) dating back to 1903. As shown in Maps 2-2a and 2-2b, water is delivered by SCE to local users at four delivery points along the Kaweah No. 2 Flowline, as follows:

- Flume 5/6 (Riverway Ranch Taps) – 4.0 miner's inches
- Canal 9 (Dinely Tap) – 2.0 miner's inches
- Flume 14 (Tap for 13 Users) – 26 miner's inches

SCE conveys water from the flowline through a short tap line to a valve/manifold. The short tap line and valve/manifold are not under FERC jurisdiction. Local water users take delivery of the water at the valve/manifold. From the valve/manifold, water users have established their own distribution system made up of individual valves to regulate water taken by each water user consistent with their water rights. The water users self-regulate the quantity of water taken by individual water user at the delivery point. Water users are also responsible for maintaining the water distribution system from the valve/manifold to their respective property. SCE does not have the responsibility or authority to govern individual use by the water users or maintain the water distribution system. SCE only has the authority to operate and maintain the flowline, short tap line, and valve/manifold such that the total volume of water available to the local water users at each delivery point is consistent with the indenturements dating back to 1903.

The origin of these deliveries dates back to reservations made in a deed between W.F. Dean and the Mt. Whitney Power Company dated March 31, 1903 and recorded March 23, 1903 (Vol. 111 of Deeds, Page 255). In this deed, Dean granted certain property and water rights to the Mt. Whitney Power Company, including title and interest to an existing ditch referred to as the Lovelace and Dean Ditch. As specified in the deed, Dean reserved the right to: (1) 25 miner's inches of water from the Kaweah River; and (2) sufficient water

to irrigate 12 acres of land located on the south side of the Kaweah River. It was later agreed with a Dean successor (I.E. Clark) that 7 miner inches, measured under a four-inch pressure, was a sufficient supply for irrigation of 12 acres (see indenture dated December 3, 1934 and recorded May 23, 1945, Vol. 1124 of Tulare County Official Records, page 226).

Over time, the rights to the 7 miner inches and 25 miner inches of water was divided among numerous parties. In 1934, after many years of costly and time consuming attempts to bypass sufficient water at the Kaweah No. 2 Flowline Intake and to satisfy the complicating claims and demands of all the individuals holding various partitions of the Dean reservation, SCE entered into an agreement with the owners of the Dean reservation. This agreement provided that all but one of the water rights holders (Chester) would take their respective entitlements at Flume 14 where SCE would provide a flume tap and diversion facility to assure continuous delivery of water in accordance with the individual rights. This substantially reduced water losses due to seepage, evapotranspiration, and individual ditch diversion problems and provided a single central location for delivery and monitoring purposes. Subsequent amendatory agreements resulted in three additional taps, one on Flume 5, one on Flume 6, and one on Canal 9. Today water is delivered to the local users by SCE through taps that provide a stable head over individually valved and calibrated orifices, thus assuring delivery of all, but no more than, the entitlement reserved under the 1903 Dean deed. The original Dean deed, including the associated water rights, was upheld in the 1909 Lakeside Ditch Company vs. Mt. Whitney Power Company judgment.

2.8.3 Water Management

The Project is operated in a run-of-river mode. The Project diverts water from the East Fork Kaweah River at Kaweah No. 1 Diversion Dam and from the Kaweah River at Kaweah No. 2 Diversion Dam for power generation and to meet contractual obligations with pre-1914 water users. These diversions alter the volume of water in the rivers downstream of the Project diversions (bypass reaches), with minimal to no change in the annual seasonal flow pattern. The bypass reaches associated with the Project include:

- East Fork Kaweah River, from the Kaweah No. 1 Diversion to the confluence with the Kaweah River (4.7 miles); and
- Kaweah River, from the Kaweah No. 2 Diversion to the confluence of the Kaweah No. 2 Powerhouse Tailrace and the Kaweah River (4.1 miles).

The amount and timing of flow diverted is a function of inflow (runoff), FERC License requirements for MIF and ramping rates, flowline capacities, and the minimum flow required to maintain sufficient head in the flowline to meet water delivery contractual obligations. Total annual inflow into the Project (combined inflow at the Kaweah No. 1 and No. 2 diversions) between water years 1994-2014 ranged from approximately 87,000 ac-ft (2014) to more than 605,000 ac-ft (1998). The median total annual inflow was approximately 235,000 ac-ft during this period (Figure 2-3).

The Kaweah No. 1 Flowline (East Fork Kaweah River) can divert up to 24 cfs, and the Kaweah No. 2 Flowline (Kaweah River) can divert up to 87 cfs. To maintain sufficient head pressure to meet water delivery contractual obligations along the flowlines, SCE must maintain a continuous flow up to a maximum of 1 cfs in the Kaweah No. 1 Flowline and up to a maximum of 3 cfs in the Kaweah No. 2 Flowline. Water diverted into the flowlines at Project diversions passes through Project powerhouses generating electricity prior to returning to the Kaweah River downstream of Project tailraces (with the exception of water diverted for consumptive purposes). Regulatory requirements associated with the Project are provided in Section 2.8.1.

Figures 2-4a-c and 2-5a-c show monthly flow exceedances and monthly average flows in the bypass reaches (below the diversions), Project flowlines, and flow into the powerhouses for example water years that are representative of different runoff conditions into the Project diversions. The following example water years were selected to be representative of different water year types:

- Normal Water Year – 2006;
- "Drier" Normal Year – 2009; and
- Dry – 2014.

SCE typically diverts water throughout the year in wetter years, peaking in the winter and early summer months (Figure 2-5). In drier years, low summer and winter flows (e.g., August to November) typically preclude diversion for generation and diversions for generation only occur in spring (including Normal years with low runoff and Dry years) (Figures 2-4 and 2-5). In "Drier" Normal years, inflows can be extremely low in the late summer/fall resulting in reductions in flow diversions (e.g., Figure 2-4, 2009).

SCE has two conflicting obligations (demands) associated with operation of the Project. These obligations include providing: (1) domestic water to local users through the Project flowlines based on a prior contractual entitlement dating back to 1903; and (2) MIF releases consistent with the flow schedule in License Article 405 (Table 2-8). SCE must maintain a continuous flow up to a maximum of 1 cfs from the Kaweah No. 1 Diversion and up to a maximum of 3 cfs from the Kaweah No. 2 Diversion to meet SCE's contractual obligations to local water users consistent with their pre-1914 water rights. During low-runoff periods, consumptive water is diverted and delivered to local water users, but no water is diverted for generation purposes. Figures 2-6 and 2-7 illustrate actual inflow compared to MIF release requirements and water supply obligations at the Kaweah No. 1 Diversion and the Kaweah No. 2 Diversion, respectively.

Historically, SCE has requested and obtained approval from resource agencies (California Department of Fish and Wildlife [CDFW] and U.S. Fish and Wildlife Service [USFWS]) to temporarily modify (reduce) MIF releases below the Kaweah No. 1 Diversion and Kaweah No. 2 Diversion when projected inflows were approaching the combined flow necessary to meet both water supply and MIF release requirements. The temporary flow modifications from the resource agencies were necessary to ensure that SCE could comply with the license conditions based on uncertainty in actual runoff (magnitude

and/or timing). SCE obtained agency approval for temporary modifications of MIFs below the Kaweah No. 1 Diversion in four Dry years and below Kaweah No. 2 Diversion in eight years (four Dry years and four Normal years) (Table 2-10).[6]

Although, SCE obtained agency approval for temporary modifications of MIFs when inflows were projected to not meet both the MIF requirements and the water supply commitments, the approved reductions in MIF were only implemented at the Kaweah No. 2 Diversion in 2002, 2012, 2015, and 2016 (Table 2-10). In 2002, SCE implemented the flow modifications, reducing the MIF release by 1.5 cfs on average for 13 days. In 2012, SCE reduced the MIF release by 1 cfs on average for three days. In 2015, SCE reduced the MIF release by 0.35 cfs on average for four days. In 2016, since runoff in the Kaweah Watershed was projected to remain low due to drought conditions in the region, SCE obtained approval from FERC for a temporary variance of the minimum flow requirement below the Kaweah No. 2 Diversion Dam. This temporary variance was implemented in late-August and expires December 31, 2016. In the East Fork Kaweah River, stream flows were sufficient to meet both the MIF requirements and the water supply commitments in all years despite requests for flow modifications based on projected inflow.

2.9 PROPOSED PROJECT MODIFICATIONS

SCE proposes the following modifications to Project facilities, maintenance activities, and operations during the term of the new license.

2.9.1 Administrative

SCE proposes to modify the existing FERC Project boundary to: (1) include all facilities necessary for operation and maintenance of the Project; and (2) exclude lands within the current FERC Project boundary not necessary for the operation and maintenance of the Project.

2.9.2 Maintenance

2.9.2.1 Kaweah No. 1 Forebay Access Road

SCE conducts maintenance on several Project roads used to access Project facilities. Currently, SCE and BLM share responsibility for maintaining portions of the Kaweah No. 1 Forebay Access Road. In the new license, SCE proposes to add the Kaweah No. 1 Forebay Access Road, in its entirety, to the Project allowing SCE the authority to maintain the road, which is necessary for access to Project facilities.

2.9.2.2 Sediment Management

As part of the relicensing process, SCE will define implementation methods for sediment management at the Kaweah No. 2 Diversion Pool, including methods for sediment removal and disposal; avoidance and protection measures to protect environmental

[6] See Table 2-9 for a definition of water year designations.

resources; and monitoring, reporting, and agency consultation requirements over the term of the new license.

2.9.2.3 Vegetation Management

Valley elderberry longhorn beetle was listed as a threatened species by the USFWS on August 8, 1980 (Federal Register Volume 45, No. 155, pages 52803–52807). However, on September 17, 2014, USFWS completed additional scientific review of the species and determined that the species' range is smaller than originally defined (Federal Register Volume 79, No. 180, pages 55874–55917). As a result, Kings, Kern and Tulare counties are no longer considered to be within the range of the species. As a result of this determination, SCE proposes to remove elderberry shrub protection measures from the new license.

2.9.3 Operations

2.9.3.1 Ramping Rates – Kaweah No. 1 Diversion

The ramping rate requirement in the existing Project license states that the licensee shall operate the Project such that flows below Kaweah No. 1 and No. 2 diversion dams and powerhouses are not altered at a rate greater than 30 percent of the existing streamflow per hour. This applies to flow increases and decreases. SCE proposes to remove the ramping rate requirement when increasing flows below the Kaweah No. 1 and No. 2 diversion dams.

2.9.3.2 Minimum Instream Flow Requirements

Historically, SCE has requested and obtained approval from resource agencies (CDFW and USFWS) to temporarily modify (reduce) minimum flow releases below Kaweah No. 1 Diversion (East Fork Kaweah River) and Kaweah No. 2 Diversion (Kaweah River) when projected inflows were approaching the combined flow necessary to meet both water supply and minimum flow release requirements (Section 2.8.3). The modification requests were necessary to ensure that SCE could comply with the license conditions based on uncertainty in actual runoff. SCE proposes to modify License Article 405 in order to eliminate the need for future modification requests to resource agencies. The proposed revisions are consistent with recent modification requests previously approved by the resource agencies and are provided in Appendix 2-B.

2.10 PROJECT GENERATION AND OUTFLOW RECORDS

Actual Project generation and outflow for each powerhouse (annually and by quarter) is summarized on Table 2-11 for the years 2010 through 2014. Average monthly energy production for each powerhouse for the year 2010 through 2014 is summarized in Table 2-12. This summary presents that last five complete years of available records for Project operation. During this period, annual generation ranged from 19,287 MWh to 48,741 MWh. The estimated dependable generating capacity of the Project by calendar year is 19,287 MWh based on generation records from 2014 (critical dry year).

2.11 CURRENT NET INVESTMENT

The current net investment for the Project, represented by the book value as of June 2015 is $31,000,000.

2.12 COMPLIANCE HISTORY

SCE is responsible for complying with all requirements of the FERC license, all subsequent orders and amendments issued to-date, findings of FERC inspections, findings of other inspections under 18 CFR § 12, as well as other FERC directives, information requests, or inquiries. SCE has not been cited for a license violation during the current license term, and has never received a Notice of Violation from FERC related to the Project. SCE's compliance history related to inspections, flow modification requests, and incident reports is summarized below.

2.12.1 Inspections

Over the term of the existing license, SCE has participated in FERC environmental inspections, operations inspections, and dam safety/operation inspections. Any subsequent FERC directives and items identified during the inspections as requiring attention have been timely addressed by SCE and written documentation filed with FERC.

2.12.2 Incident Reporting

SCE has filed four incident reports with FERC over the term of the existing license (2003, 2008, 2009, and 2014). All incidents were associated with failure of the Kaweah No. 1 Flowline caused by debris damaging the facility (rock slides and tree fall). In all cases, SCE timely notified FERC of the incident and filed a written incident report. FERC subsequently issued letter orders concurring that the incident reports filed by SCE satisfy the requirements of 18 CFR § 12.10.

2.13 REFERENCES

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TABLES

Table 2-1. Project Facilities.

Diversion Dams and Pools
Kaweah No. 1 Diversion Dam and Pool (East Fork Kaweah River)
Kaweah No. 2 Diversion Dam and Pool (Kaweah River)
Flowlines
Kaweah No. 1 Flowline
Kaweah No. 2 Flowline
Kaweah No. 3 Flowline
Forebays
Kaweah No. 1 Forebay Tank and Spillway Channel
Kaweah No. 2 Forebay and Spillway Channels
Kaweah No. 3 Forebay and Spillway Channel
Penstocks
Kaweah No. 1 Penstock
Kaweah No. 2 Penstock
Kaweah No. 3 Penstock
Powerhouses and Switchyards
Kaweah No. 1 Powerhouse and Switchyard
Kaweah No. 2 Powerhouse and Switchyard
Kaweah No. 3 Powerhouse and Switchyard
Transmission Lines and Transmission Tap Lines
Kaweah No. 3 Powerhouse to Three Rivers Substation Transmission Line
Kaweah No. 1 Powerhouse Transmission Tap Line
Kaweah No. 2 Powerhouse Transmission Tap Line
Power Lines
Kaweah No. 1 Diversion Intake House Solar Panel to Kaweah No. 1 Diversion Dam Power Line (solar)
Kaweah No. 1 Switchyard to Kaweah No. 1 Maintenance Building Power Line
Kaweah No. 1 Switchyard to Kaweah No. 1 Office Building Power Line
Kaweah No. 1 Switchyard to Kaweah No. 1 Old Machine Shop Power Line
Kaweah No. 1 Switchyard to K1 Workshop Power Line
Kaweah No. 1 Office Building to K1 Forebay Tank Power Line
Kaweah No. 1 Powerhouse Campus Alternate Power Line
Kaweah No. 2 Diversion/Flowline Gage and Kaweah No. 3 Powerhouse Alternate Power Line
Kaweah No. 2 Powerhouse Alternate Power Line
Kaweah No. 2 Powerhouse to Kaweah No. 2 Forebay Power Line
Kaweah No. 3 Powerhouse to Kaweah No. 2 Diversion Power Line
Kaweah No. 3 Powerhouse to Kaweah No. 2 Flowline Gage Power Line
Kaweah No. 3 Powerhouse to Kaweah No. 3 Forebay Power Line
Communication Lines
Kaweah No. 1 Powerhouse to Kaweah No. 1 Office Building Fiber Communication Line
Kaweah No. 1 Office Building to Kaweah No. 1 Forebay Tank Fiber Communication Line
Kaweah No. 2 Diversion Dam to Kaweah No. 3 Powerhouse Fiber Communication Line
Kaweah No. 2 Powerhouse to Kaweah No. 2 Forebay Fiber Communication Line
Kaweah No. 3 Powerhouse to Kaweah No. 3 Forebay Fiber Communication Line
Kaweah No. 3 Forebay to Kaweah No. 3 Forebay Inlet Fiber Communication Line
Stream Gages
East Fork Kaweah River Conduit 1 at Power Plant near Hammond CA (USGS Gage No. 11208800) (SCE Gage No. 200a)
East Fork Kaweah River near Three Rivers CA (USGS Gage No. 11208730) (SCE Gage No. 201)
Kaweah No. 1 Minimum Instream Flow Release (SCE Gage No. 201a)
East Fork Kaweah River Conduit 1 near Three Rivers CA (SCE Gage No. 202)
Kaweah River below Conduit No. 2 near Hammond CA (USGS Gage No. 11208600) (SCE Gage No. 203)
Kaweah River Conduit No. 2 near Hammond CA (SCE Gage No. 204a)

Table 2-1. Project Facilities (continued).

Stream Gages (continued)
Kaweah River Conduit No. 2 at Power Plant near Hammond CA (USGS Gage No. 11208818) (SCE Gage No. 205a)
Middle Fork Kaweah River Conduit No. 3 at Power Plant near Hammond CA (USGS Gage No. 11208565) (SCE Gage No. 206a)
Project Access Roads
Kaweah No. 1 Development
Kaweah No. 1 Flowline Access Road – Bear Canyon
Kaweah No. 1 Flowline Access Road – Grapevine
Kaweah No. 1 Flowline Access Road – Lower Pine
Kaweah No. 1 Flowline Access Road – Lumberyard
Kaweah No. 1 Flowline Access Road – Slick Rock
Kaweah No. 1 Flowline Access Road – Summit
Kaweah No. 1 Flowline Access Road – Unnamed
Kaweah No. 1 Flowline Access Road – Upper Pine
Kaweah No. 1 Forebay Road
Kaweah No. 1 Intake Road
Kaweah No. 2 Development
Kaweah No. 2 Flowline Access Road – Canal 2 Brushout Grid
Kaweah No. 2 Flowline Access Road – Canal 4 East
Kaweah No. 2 Flowline Access Road – Canal 4 West
Kaweah No. 2 Flowline Access Road – Canal 5
Kaweah No. 2 Flowline Access Road – Canal 6 East
Kaweah No. 2 Flowline Access Road – Canal 6 West
Kaweah No. 2 Flowline Access Road – Flume 8
Kaweah No. 2 Flowline Access Road – Flume 11
Kaweah No. 2 Flowline Access Road – Open Siphon Grids
Kaweah No. 2 Flowline Access Road – Red Barn
Kaweah No. 2 Flowline Center Access Road
Kaweah No. 2 Flowline East Access Road
Kaweah No. 2 Flowline West Access Road
Kaweah No. 2 Forebay Road
Kaweah No. 2 Intake Road
Kaweah No. 2 Penstock Road
Kaweah No. 2 Powerhouse Road
Kaweah No. 3 Development
Kaweah No. 3 Forebay Road
Kaweah No. 3 Powerhouse Road
Project Trails
Kaweah No. 1 Development
Kaweah No. 1 Flowline Access Trail – Grand Canyon
Kaweah No. 1 Solar Panel Access Trail
Kaweah No. 2 Development
Kaweah No. 2 Flowline Access Trail – Canal 11
Kaweah No. 2 Flowline Access Trail – Canal 13
Kaweah No. 2 Flowline Access Trail – Canal 15
Kaweah No. 2 Flowline Access Trail – Canal 2
Kaweah No. 2 Flowline Access Trail – Canal 4
Kaweah No. 2 Flowline Access Trail – Canal 5
Kaweah No. 2 Flowline Access Trail – Canal 6
Kaweah No. 2 Flowline Access Trail – Open Siphon
Kaweah No. 2 Flowline Access Trail – Water User 14
Kaweah No. 2 Flowline Access Trail – Water User 9

Table 2-1. Project Facilities (continued).

Project Trails (continued)
Kaweah No. 2 Development
Kaweah No. 2 Flowline Access Trail – Wildlife Crossing 2
Kaweah No. 2 Powerhouse River Access Trail
Kaweah No. 3 Development
Kaweah No. 3 Flowline Access Trail
Ancillary and Support Facilities
Kaweah No. 1 Powerhouse Campus
Kaweah No. 1 Diversion Intake House Solar Panel
Kaweah No. 1 Solar Yard Satellite Repeater
Kaweah No. 1 Grapevine Satellite Repeater
Kaweah No. 2 Powerhouse River Access Parking
Kaweah No. 2 Wildlife Bridges
Kaweah No. 2 Wildlife Escape Ramps
Kaweah No. 2 Footbridges
Kaweah No. 3 Wildlife Bridges
Kaweah No. 3 Wildlife Escape Ramps
Kaweah No. 3 Footbridges

Table 2-2. Project Facility Specifications.

KAWEAH NO. 1 DEVELOPMENT	
DIVERSION	
Dam	
Type	overflow concrete gravity dam
Height of Dam Crest above Streambed	6 feet
Dam Crest Length	20 feet
Volume	80 cubic feet
Elevation of Dam Crest	2,583 feet
Elevation of Streambed	2,577 feet
Pool	
Capacity (approx. design/current)	0.03 ac-ft/0.03 ac-ft
Outlet Works	
Type	unlined tunnel
Dimensions	50-feet long x 3-feet wide x 6-feet high
Control	manually operated slide gate
Maximum Capacity	24 cfs
Sandbox (Sediment Trap)	
Elevation of Spillway Crest	2,580 feet
Control	36-inch x 36-inch slide gate
Spillway	
Type	Overflow concrete
Width	30 feet
Capacity	50 cfs
FLOWLINE	
Type	steel flume
Length	30,723 feet
Maximum Diversion Capacity	24 cfs
Invert Gradient	29 feet/mile
FOREBAY TANK	
Type	steel
Diameter	24 feet
Capacity	0.18 ac-ft
Discharge	directly into penstock
PENSTOCK	
Type	buried steel
Length	3,340 feet
Diameter	varies from 48-19 inches
POWERHOUSE	
Installed Capacity, Generator	2.25 MW
Type of Turbine	Allis-Chalmers Impulse Turbine
Horsepower	3,790
Design Head	1,260 feet
R.P.M.	600
Minimum Load	150 kW with 2.5 cfs
Maximum Hydraulic Capacity	24 cfs
Maximum Tail Water Surface	60 square feet
Minimum Tail Water Surface	60 square feet
Elevation Runner	1,166 feet
Tailrace Structure/Length	Rectangular flume 10 feet x 6 feet

Table 2-2. Project Facility Specifications (continued).

KAWEAH NO. 2 DEVELOPMENT	
DIVERSION	
Dam	
Type	overflow masonry gravity dam
Height of Dam Crest above Streambed	7 feet
Dam Crest Length	161 feet
Volume	2,500 cubic feet
Elevation of Dam Crest	1,365 feet
Elevation of Streambed	1,358 feet
Pool	
Capacity (approx. design/current)	1-2 ac-ft/0.2 ac-ft
Outlet Works	
Type	concrete tunnel
Dimensions	12.5-feet long x 10-feet wide x 10-feet high
Control	dual 48-inch motor operated slide gates
Tunnel Discharge Pipe:	
Type	steel
Length	42 feet
Diameter	54 inches
Control	manually operated slide gate
Maximum Capacity	100 cfs
FLOWLINE	
Type:	
Segment 1	steel flume
Segment 2	steel pipe
Segment 3	concrete ditch
Length:	
Segment 1	3,822 feet x 7-feet wide
Segment 2	1,047-feet long x 50-inch diameter
Segment 3	16,738-feet long x 12-feet wide
Maximum Diversion Capacity	87 cfs
Invert Gradient	11.5 feet/mile
FOREBAY	
Type	concrete-lined
Dimensions	180-feet long x 13-feet wide x 14-feet deep
Capacity	0.75 ac-ft
Discharge	directly into penstock
PENSTOCK	
Type	buried steel
Length	1,012 feet
Diameter	varies from 60-34 inches

Table 2-2. Project Facility Specifications (continued).

KAWEAH NO. 2 DEVELOPMENT (continued)	
POWERHOUSE	
Installed Capacity, Generator	1.8 MW
Type of Turbine	Francis
Horsepower	2,900
Design Head	344 feet
R.P.M.	720
Minimum Load	150 kW with 13 cfs
Maximum Hydraulic Capacity	82 cfs
Maximum Tail Water Surface	1,600 square feet
Minimum Tail Water Surface	1,600 square feet
Elevation Runner	978 feet
Tailrace Structure/Length	Rectangular flume 20 feet x 80 feet

Table 2-2. Project Facility Specifications (continued).

KAWEAH NO. 3 DEVELOPMENT	
FLOWLINE	
Type	concrete box flume
Length	2,580 feet
Maximum Diversion Capacity	97 cfs
Invert Gradient	6.6 feet/mile
FOREBAY	
Type	embankment
Capacity	11 ac-ft
Discharge	drainage channel
PENSTOCK	
Type	buried steel
Length	3,151 feet
Diameter	varies from 42-36 inches
POWERHOUSE	
Installed Capacity, Generators:	
Unit 1	2.4 MW
Unit 2	2.4 MW
Type of Turbine:	
Unit 1	Pelton – Double Impulse Turbine
Unit 2	Pelton – Double Impulse Turbine
Horsepower:	
Unit 1	3,000
Unit 2	3,000
Design Head:	
Unit 1	750
Unit 2	750
R.P.M.:	
Unit 1	300
Unit 2	300
Minimum Load:	
Unit 1	150 kW with 4 cfs
Unit 2	150 kW with 5 cfs
Maximum Hydraulic Capacity	92 cfs
Maximum Tail Water Surface	1,500 square feet
Minimum Tail Water Surface	1,500 square feet
Elevation Runner	1,428 feet
Tailrace Structure/Length	Rectangular flume 10 feet x 150 feet

Notes:

ac-ft = acre-feet
cfs = cubic feet per second
MW = megawatts
R.P.M. = rotations per minute

Table 2-3. Description of Project Transmission, Power, and Communication Lines.

Name	Start	End	Length (approx. miles)	Voltage	Purpose
Transmission Line					
K3 Powerhouse to Three Rivers Substation Transmission Line	Three Rivers Substation[1]	K3 Powerhouse	4.09	66 kV	Power for equipment and facility operation
Transmission Tap Lines					
K1 Powerhouse Transmission Tap Line	Primary Transmission Line Interconnection at the K1 Switchyard	K1 Switchyard	0.03	66 kV	Power for equipment and facility operation
K2 Powerhouse Transmission Tap Line	Primary Transmission Line Interconnection near the Intersection of Hwy 198 and Skyline Drive	K2 Switchyard	0.4	66 kV	Power for equipment and facility operation
Power Lines					
K1 Diversion Intake House Solar Panel to K1 Diversion Dam Power Line (solar)	K1 Diversion Intake House Solar Panel	K1 Diversion Dam	0.10	120 V	Power for equipment and facility operation
K1 Switchyard to K1 Maintenance Building Power Line	K1 Switchyard	K1 Maintenance Building	0.02	2.4 kV	Power for equipment and facility operation
K1 Switchyard to K1 Office Building Power Line	K1 Switchyard	K1 Office Building	0.01	2.4 kV	Power for equipment and facility operation
K1 Switchyard to K1 Old Machine Shop Power Line	K1 Switchyard	K1 Old Machine Shop	0.02	2.4 kV	Power for equipment and facility operation
K1 Switchyard to K1 Workshop Power Line	K1 Switchyard	K1 Workshop	0.03	2.4 kV	Power for equipment and facility operation
K1 Office Building to K1 Forebay Tank Power Line	K1 Office Building	K1 Forebay Tank	0.57	2.4 kV	Power for equipment and facility operation
K1 Powerhouse Campus Alternate Power Line	Non-Project Distribution Line (near Hwy 198)	K1 Switchyard	0.28	12 kV	Alternate power source for equipment and facility operation
K2 Diversion/Flowline Gage and K3 Powerhouse Alternate Power Line	Non-Project Distribution Line (near Hwy 198)	SCE Project Pole	0.09	12 kV	Alternate power source for equipment and facility operation
K2 Powerhouse Alternate Power Line	Non-Project Distribution Line (near Hwy 198)	K2 Switchyard	0.04	12 kV	Alternate power source for equipment and facility operation
K2 Powerhouse to K2 Forebay Power Line	K2 Powerhouse	K2 Forebay	0.17	2.4 kV	Power for equipment and facility operation
K3 Powerhouse to K2 Diversion Power Line	K3 Powerhouse	K2 Diversion Dam	0.11	2.4 kV	Power for equipment and facility operation
K3 Powerhouse to K2 Flowline Gage Power Line	K3 Powerhouse	K2 Flowline Gage	0.15	2.4 kV	Power for equipment and facility operation
K3 Powerhouse to K3 Forebay Power Line	K3 Powerhouse	K3 Forebay	0.47	2.4 kV	Power for equipment and facility operation
Communication Lines					
K1 Powerhouse to K1 Office Building Fiber Communication Line	K1 Powerhouse	K1 Office Building	0.02	–	Communication between Project facilities
K1 Office Building to K1 Forebay Tank Fiber Communication Line	K1 Office Building	K1 Forebay Tank	0.56	–	Communication between Project facilities
K2 Diversion Dam to K3 Powerhouse Fiber Communication Line	K2 Diversion Dam	K3 Powerhouse	0.06	–	Communication between Project facilities
K2 Powerhouse to K2 Forebay Fiber Communication Line	K2 Powerhouse	K2 Forebay	0.17	–	Communication between Project facilities
K3 Powerhouse to K3 Forebay Fiber Communication Line	K3 Powerhouse	K3 Forebay	0.47	–	Communication between Project facilities
K3 Forebay to K3 Forebay Inlet Fiber Communication Line	K3 Forebay	K3 Forebay Inlet	0.10	–	Communication between Project facilities

Source: FERC Order amending license (August 7, 2001)
SCE communication August 24, 2015

[1] The Three Rivers Substation is not a FERC Project facility.

Table 2-4. Description of Project Access Roads and Trails.

Name	Start	End	Length - Ft (Approximate)	Width - Ft (Approximate)	Surface (Unconfirmed)	Comments
Project Access Roads						
Kaweah No. 1 Development						
Kaweah No. 1 Flowline Access Road - Bear Canyon	Mineral King Road	Kaweah No. 1 Flowline	165	12	Paved	Bear Canyon Road
Kaweah No. 1 Flowline Access Road - Grapevine	Mineral King Road	Kaweah No. 1 Flowline	1,662	12	Aggregate	Grapevine Road
Kaweah No. 1 Flowline Access Road - Lower Pine	Mineral King Road	Kaweah No. 1 Flowline	1,023	16	Aggregate	Lower Pine Road
Kaweah No. 1 Flowline Access Road - Lumberyard	Mineral King Road	Kaweah No. 1 Flowline	300	16	Aggregate	Lumberyard Road
Kaweah No. 1 Flowline Access Road - Slick Rock	Mineral King Road	Kaweah No. 1 Flowline	310	16	Aggregate	Slick Rock Road
Kaweah No. 1 Flowline Access Road - Summit	Mineral King Road	Kaweah No. 1 Flowline	2,554	16	Paved/Aggregate	Summit Road
Kaweah No. 1 Flowline Access Road - Unnamed	Mineral King Road	Kaweah No. 1 Flowline	135	12	Native	Private but used - non-SCE gate
Kaweah No. 1 Flowline Access Road - Upper Pine	Mineral King Road	Kaweah No. 1 Flowline	724	16	Aggregate	Upper Pine Road
Kaweah No. 1 Forebay Road	Craig Ranch Road	Kaweah No. 1 Flowline	6,125	12	Aggregate	
Kaweah No. 1 Intake Road	Mineral King Road	Kaweah No. 1 Flowline	1,155	12	Paved	
Kaweah No. 2 Development						
Kaweah No. 2 Flowline Access Road - Canal 2 Brushout Grid	Canyon View Drive Spur	Kaweah No. 2 Flowline	90	12	Native	Brushout grid access
Kaweah No. 2 Flowline Access Road - Canal 4 East	Kaweah No. 2 Flowline East Access Road	Kaweah No. 2 Flowline	386	12	Native	Canal 4 access
Kaweah No. 2 Flowline Access Road - Canal 4 West	Kaweah No. 2 Flowline East Access Road	Kaweah No. 2 Flowline	688	12	Native	Canal 4 access
Kaweah No. 2 Flowline Access Road - Canal 5	Kaweah No. 2 Flowline East Access Road	Kaweah No. 2 Flowline	1,215	12	Native	Referred to as "Flume 4 Jumpup"
Kaweah No. 2 Flowline Access Road - Canal 6 East	Kaweah No. 2 Flowline East Access Road	Kaweah No. 2 Flowline	341	12	Native	
Kaweah No. 2 Flowline Access Road - Canal 6 West	Kaweah No. 2 Flowline East Access Road	Kaweah No. 2 Flowline	167	12	Native	
Kaweah No. 2 Flowline Access Road - Flume 8	Kaweah No. 2 Flowline Center Access Road	Kaweah No. 2 Flowline	277	12	Native	
Kaweah No. 2 Flowline Access Road - Flume 11	Kaweah No. 2 Flowline West Access Road	Kaweah No. 2 Flowline	195	16	Native	Split to access Flume 11
Kaweah No. 2 Flowline Access Road - Open Siphon Grids	Kaweah No. 3 Powerhouse Road	Kaweah No. 2 Flowline	301	24	Aggregate	
Kaweah No. 2 Flowline Access Road - Red Barn	Dinely Road	Kaweah No. 2 Flowline	703	20	Paved	
Kaweah No. 2 Flowline Center Access Road	Dinely Road	Dinely Road	4,642	16	Paved/Aggregate/Native	Access Road - Connects to Dinely Road on both ends
Kaweah No. 2 Flowline East Access Road	Dinely Road	Canyon View Drive	5,751	12	Paved/Aggregate	
Kaweah No. 2 Flowline West Access Road	Kaweah River Drive	Kaweah No. 2 Flowline Access Road - Flume 11	6,331	16	Paved/Aggregate/Native	
Kaweah No. 2 Forebay Road	Kaweah No. 2 Flowline West Access Road	Kaweah No. 2 Forebay	1,561	16	Paved/Aggregate/Native	Split from Kaweah No. 2 West Access Road to Forebay
Kaweah No. 2 Intake Road	Kaweah No. 3 Powerhouse Road	Kaweah No. 2 Intake	603	16	Paved	
Kaweah No. 2 Penstock Road	Kaweah No. 2 Flowline West Access Road	Kaweah No. 2 Penstock	444	12	Paved/Native	
Kaweah No. 2 Powerhouse Road	Kaweah River Drive	Kaweah No. 2 Powerhouse	1,068	16	Paved	
Kaweah No. 3 Development						
Kaweah No. 3 Forebay Road	Kaweah No. 3 Powerhouse Road	Kaweah No. 3 Forebay	8,704	12	Aggregate	
Kaweah No. 3 Powerhouse Road	State Highway 168	Kaweah No. 3 Powerhouse	1,165	20	Paved	
TOTAL			**48,785**			

Project Trails						
Kaweah No. 1 Development						
Kaweah No. 1 Flowline Access Trail - Grand Canyon	Mineral King Road	Kaweah No. 1 Flowline	317	4	Aggregate	Grand Canyon Trail
Kaweah No. 1 Solar Panel Access Trail	Mineral King Road	Kaweah No. 1 Solar Panel	256	4	Native	
Kaweah No. 2 Development						
Kaweah No. 2 Flowline Access Trail - Canal 11	Kaweah No. 2 Flowline West Access Road	Kaweah No. 2 Flowline	89	4	Native	
Kaweah No. 2 Flowline Access Trail - Canal 13	Kaweah No. 2 Flowline West Access Road	Kaweah No. 2 Flowline	94	4	Native	
Kaweah No. 2 Flowline Access Trail - Canal 15	Kaweah No. 2 Flowline West Access Road	Kaweah No. 2 Flowline	114	4	Native	
Kaweah No. 2 Flowline Access Trail - Canal 2	Canyon View Drive Spur	Kaweah No. 2 Flowline	39	4	Native	Canal 2 Footbridge Access Trail
Kaweah No. 2 Flowline Access Trail - Canal 4	Kaweah No. 2 Flowline Access Road - Canal 4 East	Kaweah No. 2 Flowline	52	4	Native	Canal 4 Access Trail
Kaweah No. 2 Flowline Access Trail - Canal 5	Kaweah No. 2 Flowline Access Road - Canal 5	Kaweah No. 2 Flowline	44	4	Native	"Flume 4 Jumpup"
Kaweah No. 2 Flowline Access Trail - Canal 6	Kaweah No. 2 Flowline Access Road - Canal 6 East	Kaweah No. 2 Flowline	40	4	Native	
Kaweah No. 2 Flowline Access Trail - Open Siphon	State Highway 168	Kaweah No. 2 Flowline	86	4	Native	
Kaweah No. 2 Flowline Access Trail - Water User 14	Kaweah No. 2 Flowline West Access Road	Kaweah No. 2 Flowline	49	4	Native	
Kaweah No. 2 Flowline Access Trail - Water User 9	Kaweah No. 2 Flowline Center Access Road	Kaweah No. 2 Flowline	85	4	Native	
Kaweah No. 2 Flowline Access Trail - Wildlife Crossing 2	Kaweah No. 2 Flowline Access Road - Open Siphon Grids	Kaweah No. 2 Flowline	72	4	Native	Wildlife Crossing 2 Access Trail
Kaweah No. 2 Powerhouse River Access Trail	Kaweah No. 2 Powerhouse Road	Kaweah No. 2 Powerhouse River Access	95	4	Native	Kaweah No. 2 Powerhouse River Access
Kaweah No. 3 Development						
Kaweah No. 3 Flowline Access Trail	Kaweah No. 3 Forebay	Sequoia National Park Boundary	2947	4	Native	
TOTAL			**4,379**			

Table 2-5. Project Maintenance Activities.

Project Facility or Feature	Maintenance Outages	Powerhouse Inspections and Maintenance	Flowline Inspections and Maintenance	Vegetation Management - Trimming by Hand	Vegetation Management - Herbicide Use	Hazard Tree Removal	Pest Management	Sediment Management	Road Maintenance	Trail Maintenance	Transmission, Power, and Communication Line Maintenance
Diversion Dams and Pools											
Kaweah No. 1 Diversion Dam and Pool (East Fork Kaweah River)	A			I	I	AN		I			
Kaweah No. 2 Diversion Dam and Pool (Kaweah River)	A			I	I	AN		I			
Flowlines											
Kaweah No. 1 Flowline	A		M / AN	I	I	AN					
Kaweah No. 2 Flowline	A		M / AN	I		AN					
Kaweah No. 3 Flowline	A		M / AN	I	I[1]	AN					
Forebays											
Kaweah No. 1 Forebay Tank and Spillway Channel	A		M / AN	I		AN		I			
Kaweah No. 2 Forebay and Spillway Channels	A		M / AN	I		AN		I			
Kaweah No. 3 Forebay and Spillway Channel	A		M / AN	I		AN		I			
Penstocks											
Kaweah No. 1 Penstock	A			I		AN					
Kaweah No. 2 Penstock	A			I		AN					
Kaweah No. 3 Penstock	A			I		AN					
Powerhouses and Switchyards											
Kaweah No. 1 Powerhouse and Switchyard	A	D / AN		I	I	AN	I				
Kaweah No. 2 Powerhouse and Switchyard	A	D / AN		I	I	AN	I				
Kaweah No. 3 Powerhouse and Switchyard	A	D / AN		I	I	AN	I				
Transmission Lines and Transmission Tap Lines											
Kaweah No. 3 Powerhouse to Three Rivers Substation Transmission Line				I	I	AN					AN
Kaweah No. 1 Powerhouse Transmission Tap Line				I	I	AN					AN
Kaweah No. 2 Powerhouse Transmission Tap line				I	I	AN					AN
Power Lines											
Kaweah No. 1 Diversion Intake House Solar Panel to Kaweah No. 1 Diversion Dam Power Line (solar)				I	I	AN					AN
Kaweah No. 1 Switchyard to Kaweah No. 1 Maintenance Building Power Line				I	I	AN					AN
Kaweah No. 1 Switchyard to Kaweah No. 1 Office Building Power Line				I	I	AN					AN
Kaweah No. 1 Switchyard to Kaweah No. 1 Old Machine Shop Power Line				I	I	AN					AN
Kaweah No. 1 Switchyard to K1 Workshop Power Line				I	I	AN					AN
Kaweah No. 1 Office Building to K1 Forebay Tank Power Line				I	I	AN					AN
Kaweah No. 1 Powerhouse Campus Alternate Power Line				I	I	AN					AN
Kaweah No. 2 Diversion/Flowline Gage and Kaweah No. 3 Powerhouse Alternate Power Line				I	I	AN					AN
Kaweah No. 2 Powerhouse Alternate Power Line				I	I	AN					AN
Kaweah No. 2 Powerhouse to Kaweah No. 2 Forebay Power Line				I	I	AN					AN
Kaweah No. 3 Powerhouse to Kaweah No. 2 Diversion Power Line				I	I	AN					AN
Kaweah No. 3 Powerhouse to Kaweah No. 2 Flowline Gage Power Line				I	I	AN					AN
Kaweah No. 3 Powerhouse to Kaweah No. 3 Forebay Power Line				I	I	AN					AN

Table 2-5. Project Maintenance Activities.

Project Facility or Feature	Maintenance Outages	Powerhouse Inspections and Maintenance	Flowline Inspections and Maintenance	Vegetation Management - Trimming by Hand	Vegetation Management - Herbicide Use	Hazard Tree Removal	Pest Management	Sediment Management	Road Maintenance	Trail Maintenance	Transmission, Power, and Communication Line Maintenance
Communication Lines											
Kaweah No. 1 Powerhouse to Kaweah No. 1 Office Building Fiber Communication Line				I	I	AN					AN
Kaweah No. 1 Office Building to Kaweah No. 1 Forebay Tank Fiber Communication Line				I	I	AN					AN
Kaweah No. 2 Diversion Dam to Kaweah No. 3 Powerhouse Fiber Communication Line				I	I	AN					AN
Kaweah No. 2 Powerhouse to Kaweah No. 2 Forebay Fiber Communication Line				I	I	AN					AN
Kaweah No. 3 Powerhouse to Kaweah No. 3 Forebay Fiber Communication Line				I	I	AN					AN
Kaweah No. 3 Forebay to Kaweah No. 3 Forebay Inlet Fiber Communication Line				I	I	AN					AN
Stream Gages											
East Fork Kaweah River Conduit 1 at Power Plant near Hammond CA (USGS Gage No. 11208800) (SCE Gage No. 200a)						AN					
East Fork Kaweah River near Three Rivers CA (USGS Gage No. 11208730) (SCE Gage No. 201)						AN					
Kaweah No. 1 Minimum Instream Flow Release (SCE Gage No. 201a)											
East Fork Kaweah River Conduit 1 near Three Rivers CA (SCE Gage No. 202)						AN					
Kaweah River below Conduit No. 2 near Hammond CA (USGS Gage No. 11208600) (SCE Gage No. 203)						AN					
Kaweah River Conduit No. 2 near Hammond CA (SCE Gage No. 204a)						AN					
Kaweah River Conduit No. 2 at Power Plant near Hammond CA (USGS Gage No. 11208818) (SCE Gage No. 205a)											
Middle Fork Kaweah River Conduit No. 3 at Power Plant near Hammond CA (USGS Gage No. 11208565) (SCE Gage No. 206a)						AN					

Table 2-5. Project Maintenance Activities.

Project Facility or Feature	Maintenance Outages	Powerhouse Inspections and Maintenance	Flowline Inspections and Maintenance	Vegetation Management - Trimming by Hand	Vegetation Management - Herbicide Use	Hazard Tree Removal	Pest Management	Sediment Management	Road Maintenance	Trail Maintenance	Transmission, Power, and Communication Line Maintenance
Project Access Roads											
Kaweah No. 1 Development											
Kaweah No. 1 Flowline Access Road – Bear Canyon				I	I	AN			AN		
Kaweah No. 1 Flowline Access Road – Grapevine				I	I	AN			AN		
Kaweah No. 1 Flowline Access Road – Lower Pine				I	I	AN			AN		
Kaweah No. 1 Flowline Access Road – Lumberyard				I	I	AN			AN		
Kaweah No. 1 Flowline Access Road – Slick Rock				I	I	AN			AN		
Kaweah No. 1 Flowline Access Road – Summit				I	I	AN			AN		
Kaweah No. 1 Flowline Access Road – Unnamed				I	I	AN			AN		
Kaweah No. 1 Flowline Access Road – Upper Pine				I	I	AN			AN		
Kaweah No. 1 Forebay Road				I	I	AN			AN		
Kaweah No. 1 Intake Road				I	I	AN			AN		
Kaweah No. 2 Development											
Kaweah No. 2 Flowline Access Road – Canal 2 Brushout Grid				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Canal 4 East				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Canal 4 West				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Canal 5				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Canal 6 East				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Canal 6 West				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Flume 8				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Flume 11				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Open Siphon Grids				I	I	AN			AN		
Kaweah No. 2 Flowline Access Road – Red Barn				I	I	AN			AN		
Kaweah No. 2 Flowline Center Access Road				I	I	AN			AN		
Kaweah No. 2 Flowline East Access Road				I	I	AN			AN		
Kaweah No. 2 Flowline West Access Road				I	I	AN			AN		
Kaweah No. 2 Forebay Road				I	I	AN			AN		
Kaweah No. 2 Intake Road				I	I	AN			AN		
Kaweah No. 2 Penstock Road				I	I	AN			AN		
Kaweah No. 2 Powerhouse Road				I	I	AN			AN		
Kaweah No. 3 Development											
Kaweah No. 3 Forebay Road				I	I	AN			AN		
Kaweah No. 3 Powerhouse Road				I	I	AN			AN		

Table 2-5. Project Maintenance Activities.

Project Facility or Feature	Maintenance Outages	Powerhouse Inspections and Maintenance	Flowline Inspections and Maintenance	Vegetation Management - Trimming by Hand	Vegetation Management - Herbicide Use	Hazard Tree Removal	Pest Management	Sediment Management	Road Maintenance	Trail Maintenance	Transmission, Power, and Communication Line Maintenance
Project Trails											
Kaweah No. 1 Development											
Kaweah No. 1 Flowline Access Trail – Grand Canyon				I		AN				AN	
Kaweah No. 1 Solar Panel Access Trail				I		AN				AN	
Kaweah No. 2 Development											
Kaweah No. 2 Flowline Access Trail – Canal 11				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Canal 13				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Canal 15				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Canal 2				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Canal 4				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Canal 5				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Canal 6				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Open Siphon				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Water User 14				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Water User 9				I		AN				AN	
Kaweah No. 2 Flowline Access Trail – Wildlife Crossing 2				I		AN				AN	
Kaweah No. 2 Powerhouse River Access Trail				I		AN				AN	
Kaweah No. 3 Development											
Kaweah No. 3 Flowline Access Trail				I		AN				AN	
Ancillary and Support Facilities											
Kaweah No. 1 Powerhouse Campus				I	I	AN	AN		AN		
Kaweah No. 1 Diversion Intake House Solar Panel				I							
Kaweah No. 1 Solar Yard Satellite Repeater				I							
Kaweah No. 1 Grapevine Satellite Repeater				I							
Kaweah No. 2 Powerhouse River Access Parking				I	I	AN					
Kaweah No. 2 Wildlife Bridges			M / AN			AN					
Kaweah No. 2 Wildlife Escape Ramps			M / AN			AN					
Kaweah No. 2 Footbridges			M / AN			AN					
Kaweah No. 3 Wildlife Bridges			M / AN			AN					
Kaweah No. 3 Wildlife Escape Ramps			M / AN			AN					
Kaweah No. 3 Footbridges			M / AN			AN					

D = Activity occurs on a daily basis.
W = Activity occurs on a weekly basis.
M = Activity occurs on a monthly basis.
A = Activity occurs on an annual basis.
I = Activity occurs on an infrequent basis.
AN = Activity occurs on an as-needed basis.

[1] Herbicide use is allowed only up to the SNP boundary.

Table 2-6. Area Around Project Facilities Where Vegetation Management is Implemented.

Project Facility	Vegetation Management
Diversion Dams and Pools	5 feet around the perimeter
Flowlines	10 feet on either side
Forebays/Forebay Tank	10 feet around the perimeter
Penstocks	5 feet on either side
Powerhouses	Within and up to 5 feet around the perimeter fence
Switchyards	Within and up to 5 feet around the perimeter fence
Transmission, Power, and Communication Lines	15 feet on either side
Repeaters	5 feet around the perimeter
Roads	10 feet on either side
Trails	5 feet on either side
Kaweah No. 1 Powerhouse Campus	Within the developed campus

Table 2-7. Summary of License Article Compliance.

License Article	Topic	FERC Actions Taken		Status	Current Compliance Efforts Implemented by SCE
		Date	Summary		
201	Annual Payment	August 7, 2001	Order Amending License in Part, Approving Revised Exhibits, and Revising Annual Charges	Ongoing	Administration • Annually reimburses FERC for administrative costs and recompensing for use and occupancy of Federal lands
202	Amortization Reserve Account			Ongoing	Administration • Annually determines reasonable rate of return.
203	Land Clearance			Ongoing	Routine operation and maintenance • Keeps lands along open flowlines clear and disposes of unnecessary materials
301	Revised Exhibit F and G	September 15, 1992	Order approving revised Exhibits F and G filed on July 29, 1992	Complete	
401	Erosion Protection and Remediation Plan	January 19, 1993	Order approving the revised Erosion Protection and Remediation Plan filed on November 18, 1992	Ongoing	Routine operation and maintenance • Implements measures in the plan in the event of a future flowline break
402	Erosion Protection and Remediation Plan Monitoring	June 29, 1993	Order approving Erosion Protection Monitoring Plan filed January 29, 1993	Complete	• In accordance with the plan, SCE inspected Flowline No. 1 and Marble Fork Canal erosion control areas annually each spring from 1995 to 1999 and reported results to FERC, Soil Conservation Service, and National Park Service by August 1 of each year. Following the initial five-year monitoring period, it was determined that no further measures were necessary and monitoring was deemed complete
403	Recreation Plan	June 30, 1993	Order deleting Article 403	Deleted	
404	Ramping Rates			Ongoing	Routine operation and maintenance • Implements ramping requirements downstream of Kaweah No. 1 and No. 2 diversion dams • Annual reporting of compliance with ramping rates
405	Minimum Instream Flows	April 20, 1994	Order amending Article 405 to include a definition distinguishing normal from dry years for the purposes of releasing minimum flows, and amended minimum instream flow table to correct a typographical error (omission of minimum flow requirements for the month of May)	Ongoing	Routine operation and maintenance • Implements minimum instream flow requirements downstream of Kaweah No. 1 and No. 2 diversion dams • Annual reporting of compliance with minimum instream flows
406	Diversion Dam Functional Design Drawings	June 2, 1993	Order approving functional design drawings and plans for the minimum flow release structures filed on April 30, 1993	Complete	
407	Stream Gaging Plan	June 10, 1993	Order approving and modifying the Stream Gaging Plan filed on April 30, 1993, as modified by paragraph B of the Order	Ongoing	Routine operation and maintenance • Annual reporting of compliance with ramping rates and minimum instream flows • Reporting, as necessary, associated with violations with ramping rates and minimum instream flow requirements
408	Measures to Minimize Wildlife Drownings in Kaweah No. 2 Flowline	June 30, 1993	Order approving request to delete Measure No. 8 from Article 408, filed on January 29, 1993 and supplemented on April 12, 1993	Complete	• Measures to minimize wildlife drownings in Kaweah No. 2 Flowline implemented between 1992 and 1996
409	Wildlife Protection Plan	June 30, 1993	Order approving Wildlife Protection Plan filed on January 29, 1993 and supplemented on March 19, 1993	Complete	• Measures identified in plan were implemented between 1994 and 1996
410	Wildlife Mortality Monitoring Plan	July 8, 1993	Order approving Wildlife Mortality Monitoring Plan filed on January 29, 1993	Ongoing	Routine operation and maintenance • Weekly monitoring of Kaweah No. 2 and No. 3 flowlines to determine success of wildlife protection measures included in the Wildlife Protection Plan and to inspect wildlife protection facilities • Annual reporting of monitoring results
411	Wildlife Management Plan for Transmission Line Right-of-Way	January 18, 2000	Order deleting Article 411	Deleted	

Table 2-7. Summary of License Article Compliance (continued).

License Article	Topic	FERC Actions Taken		Status	Current Compliance Efforts Implemented by SCE
		Date	Summary		
412	Transmission Line Avian Monitoring	July 23, 1993	Order approving Avian Mortality Reporting Plan filed on January 29, 1993	Ongoing	Routine operation and maintenance • Annual monitoring and five-year reporting of monitoring results
413	Cultural Repair Plan at Kaweah No. 3 Historic District			Ongoing	Routine operation and maintenance • Implements measures included in the Cultural Resources Management Plan to repair and protect the Kaweah No. 3 Historic District
414	Cultural Resources Management Plan	August 7, 1995	Order approving Report on Implementation of the Cultural Resources Management Plan filed May 22, 1995	Ongoing	Routine operation and maintenance • Implements measures included in the Cultural Resources Management Plan related to future maintenance work or any other work be projected for the area where the identified archaeological sites are located • Three-year reporting on NRHP-eligible sites
415	Cultural Resources Surveys, Reporting, and Consultation	August 7, 1995	Order approving Report on Implementation of the Cultural Resources Management Plan filed May 22, 1995	Ongoing	Routine operation and maintenance • Implements measures included in the Cultural Resources Management Plan, related to ground-disturbing activities, including conducting cultural surveys, reporting, and agency consultation, as required, prior to implementation
416	Occupancy and Conveyance of Project Lands			Ongoing	Administration • Implement procedures related to occupancy and conveyance of Project lands

Table 2-8. Minimum Instream Flow Requirements.[1, 2]

Month	Kaweah No. 1 Diversion		Kaweah No. 2 Diversion	
	Normal Year (cfs)	Dry Year (cfs)	Normal Year (cfs)	Dry Year (cfs)
October	5	5	11	5
November	5	5	11	5
December	5	5	11	5
January	5	5	20	10
February	5	5	20	10
March	10	10	30	20
April	10	10	30	30
May	10	10	30	30
June	10	10	30	30
July	10	10	20	10
August	5	5	20	10
September	5	5	11	5

Source: FERC License Article 405, as amended on April 20, 1994.

[1] Runoff of Kaweah River at Terminus Reservoir for April 1 through July 31, for the current year, as estimated by the California Department of Water Resources (DWR) on or about May 1 of each such calendar year shall be used to distinguish between a normal water year and a dry water year for the purpose of this article. A "Normal Year" is defined as a forecasted runoff of greater than 172,000 acre-feet. A "Dry Year" is defined as a forecasted runoff of equal to or less than 172,000 acre-feet. The determination of either a normal water year or a dry water year shall then be used in maintaining the appropriate minimum flow release for the period May 10 of each calendar year through May 9 of the succeeding calendar year.

[2] This flow schedule may be temporarily modified if required by operating emergencies beyond the control of the licensee or for short periods on mutual agreement between the licensee, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Table 2-9. Historic Water Year Types for the Kaweah River at Terminus Reservoir Based on Department of Water Resources Bulletin 120 May 1 Runoff Forecast (1994-2016).[1]

Year	Apr-Jul Runoff Forecast (TAF)	Water Year Type Classification[2]
1994	135	Dry
1995	500	Normal
1996	320	Normal
1997	320	Normal
1998	540	Normal
1999	160	Dry
2000	240	Normal
2001	190	Normal
2002	195	Normal
2003	225	Normal
2004	160	Dry
2005	380	Normal
2006	480	Normal
2007	95	Dry
2008	230	Normal
2009	195	Normal
2010	380	Normal
2011	490	Normal
2012	175	Normal
2013	83	Dry
2014	72	Dry
2015	38	Dry
2016	210	Normal

[1] Data obtained from: DWR Bulletin 120. Available at: http://cdec.water.ca.gov/snow/bulletin120/. Water Year Types for Apr 1 - Jul 1 Forecast of Runoff in the Kaweah River at Terminus Reservoir based on Bulletin 120 May 1 Forecast.

[2] Pursuant to License Article 405, as amended on April 20, 1994, runoff of Kaweah River at Terminus Reservoir for April 1 through July 31, for the current year, as estimated by the California Department of Water Resources (DWR) on or about May 1 of each such calendar year shall be used to distinguish between a normal water year and a dry water year for the purpose of this article. A "Normal Year" is defined as a forecasted runoff of greater than 172,000 acre-feet. A "Dry Year" is defined as a forecasted runoff of equal to or less than 172,000 acre-feet.

TAF = thousand acre-feet

Table 2-10. Recent History (2002-2016) of Temporary Flow Modifications Requested by SCE and Approved by Resource Agencies.

SCE Modification Request	Resource Agency Approval	Water Year Type	Modification Implemented (Yes/No)	Amount/Duration of Offset Water (cfs/Days)
Kaweah No. 1 Diversion				
June 29, 2015	CDFW: July 16, 2015 USFWS: August 26, 2015	Dry	No	N/A
August 8, 2014	CDFW: August 28, 2014 USFWS: September 2, 2014	Dry	No	N/A
September 5, 2013	CDFW: September 16, 2013 USFWS: September 11, 2013	Dry	No	N/A
September 10, 2007	CDFW: Approved USFWS: October 19, 2007	Dry	No	N/A
Kaweah No. 2 Diversion				
August 11, 2016	CDFW: August 17, 2016 USFWS: August 18, 2016	Normal	Yes	In Progress
June 29, 2015	CDFW: July 16, 2015 USFWS: August 26, 2015	Dry	Yes	Average 0.35 cfs/4 days
August 25, 2014	CDFW: August 28, 2014 USFWS: September 2, 2014	Dry	No	N/A
August 16, 19, 21, and 22, 2013	CDFW: August 27, 2013 USFWS: August 23, 2013	Dry	No	N/A
August 3, 2012	CDFW: August 8, 2012 USFWS: August 9, 2012	Normal	Yes	Average 1 cfs/3 days
September 25, 2009	CDFW & USFWS Approved	Normal	No	N/A
September 10, 2007	CDFW: Approved USFWS: October 19, 2007	Dry	No	N/A
August 16, 2002	CDFW: August 16, 2002 USFWS: August 16, 2002	Normal	Yes	Average 1.5 cfs/13 days

Table 2-11. Summary of Project Generation and Outflows (2010-2014).[1]

Year	Quarter	Kaweah No. 1		Kaweah No. 2		Kaweah No. 3		Total
		Flow[2] (ac-ft)	Generation (MWh)	Flow[3] (ac-ft)	Generation (MWh)	Flow[4] (ac-ft)	Generation (MWh)	Generation (MWh)
2010	1	870	934	12,530	3,879	13,208	7,753	12,566
	2	2,738	2,857	13,428	4,186	15,343	9,023	16,066
	3	2,946	3,109	7,123	2,224	8,912	5,388	10,721
	4	1,136	1,195	8,005	2,476	9,585	5,716	9,388
2010 Annual Total		**7,689**	**8,095**	**41,087**	**12,765**	**47,048**	**27,881**	**48,741**
2011	1	1,986	2,091	13,851	4,285	5,691	2,809	9,185
	2	2,570	2,685	12,123	3,766	1,347	688	7,139
	3	3,362	3,549	10,515	3,257	0	0	6,806
	4	2,561	2,697	9,263	2,791	10	0	5,488
2011 Annual Total		**10,479**	**11,022**	**45,751**	**14,099**	**7,048**	**3,497**	**28,618**
2012	1	2,584	2,712	8,691	2,627	6,879	4,073	9,413
	2	3,261	3,454	12,762	3,980	3,642	2,154	9,588
	3	1,478	1,587	900	241	1,315	851	2,679
	4	0	0	0	0	0	0	0
2012 Annual Total		**7,323**	**7,753**	**22,352**	**6,848**	**11,836**	**7,078**	**21,679**
2013	1	2,274	2,339	10,350	3,160	4,427	2,576	8,075
	2	3,424	3,589	11,484	3,550	14,059	8,413	15,552
	3	140	157	444	116	273	188	461
	4	0	0	0	0	0	0	0
2013 Annual Total		**5,837**	**6,085**	**22,279**	**6,826**	**18,759**	**11,176**	**24,088**
2014	1	1,057	1,108	4,328	1,283	4,179	2,523	4,914
	2	2,383	2,530	10,387	3,216	13,668	8,161	13,907
	3	0	0	0	0	173	107	107
	4	1	0	361	103	953	256	359
2014 Annual Total		**3,441**	**3,638**	**15,076**	**4,602**	**18,973**	**11,047**	**19,287**

[1] All Project powerhouses experienced periods of no generation between 2010 and 2014. Lack of generation at a powerhouse is generally the result of: (1) the maintenance outage; (2) outages caused by the powerhouse tripping; or (3) periods of low runoff when SCE is required to meet contractual entitlements to deliver water to local water users consistent with their pre-1914 water rights and there is not enough water remaining for generation.
[2] Kaweah No. 1 2010-2014 flow data derived from SCE Gage No. 200a, an Acoustic Velocity Meter (AVM) located on the penstock to the Kaweah No. 1 Powerhouse.
[3] Kaweah No. 2 2010-2014 flow data derived from SCE Gage No. 205a, an AVM located on the penstock to the Kaweah No. 2 Powerhouse.
[4] Kaweah No. 3 2010-2014 flow data derived from SCE Gage No. 206a, an AVM located on the penstock to the Kaweah No. 3 Powerhouse.

ac-ft: acre-feet
MWh: megawatt hours

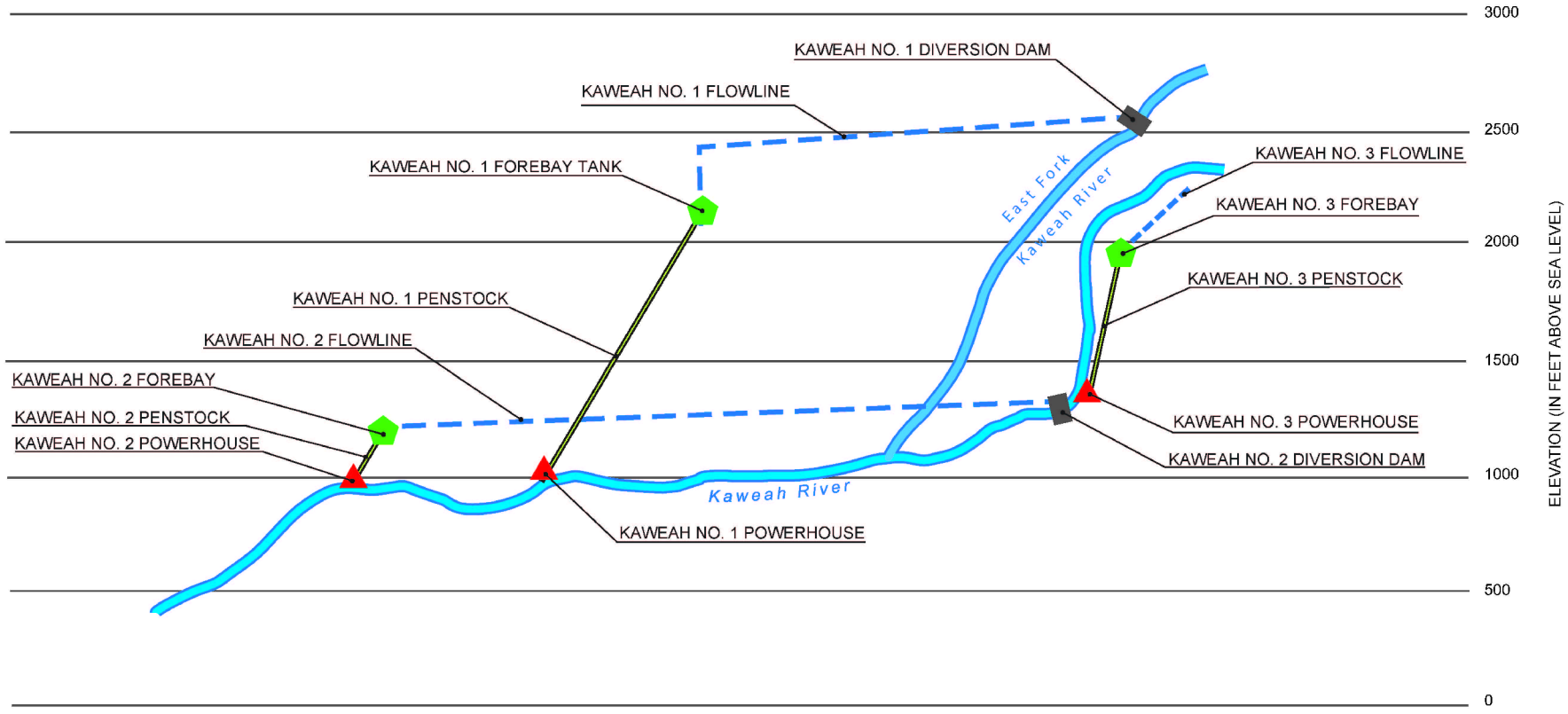
Table 2-12. Average Monthly Generation (2010-2014).[1]

Month	Kaweah No. 1 (MWh)	Kaweah No. 2 (MWh)	Kaweah No. 3 (MWh)	Total Average Monthly Generation (2010-2014)
January	530	686	861	2,077
February	728	1,050	1,045	2,823
March	579	1,311	2,041	3,931
April	918	1,302	2,017	4,237
May	1,186	1,328	1,916	4,430
June	919	1,110	1,755	3,784
July	669	660	872	2,202
August	561	400	394	1,356
September	450	107	41	597
October	211	240	229	680
November	376	494	494	1,363
December	192	340	471	1,003

[1] All Project powerhouses experienced periods of no generation between 2010 and 2014. Lack of generation at a powerhouse is generally the result of: (1) the maintenance outage; (2) outages caused by the powerhouse tripping; or (3) periods of low runoff when SCE is required to meet contractual entitlements to deliver water to local water users consistent with their pre-1914 water rights and there is not enough water remaining for generation.

MWh: megawatt hours

FIGURES



Horizontal dimension and size of facilities not to scale

Project Facility	Development		
	Kaweah No. 1	Kaweah No. 2	Kaweah No. 3
Diversion Dam Crest Elevation	2,583 feet	1,365 feet	–
Flowline Diversion Capacity (Max)	24 cfs	87 cfs	97 cfs
Forebay Capacity	0.18 ac-ft	0.75 ac-ft	11 ac-ft
Penstock Length	3,340 feet	1,012 feet	3,151 feet
Powerhouse Installed Capacity	2.25 MW	1.8 MW	Unit 1: 2.4 MW Unit 2: 2.4 MW

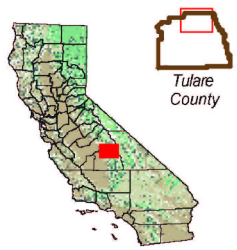


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Figure 2-1

Kaweah Project Facilities Elevation Profile

Figure 2-2. Distribution of the April 1 to July 1 Forecast of Runoff in the Kaweah River at Terminus Reservoir based on the Bulletin 120 May 1 Forecast (1994-2016).

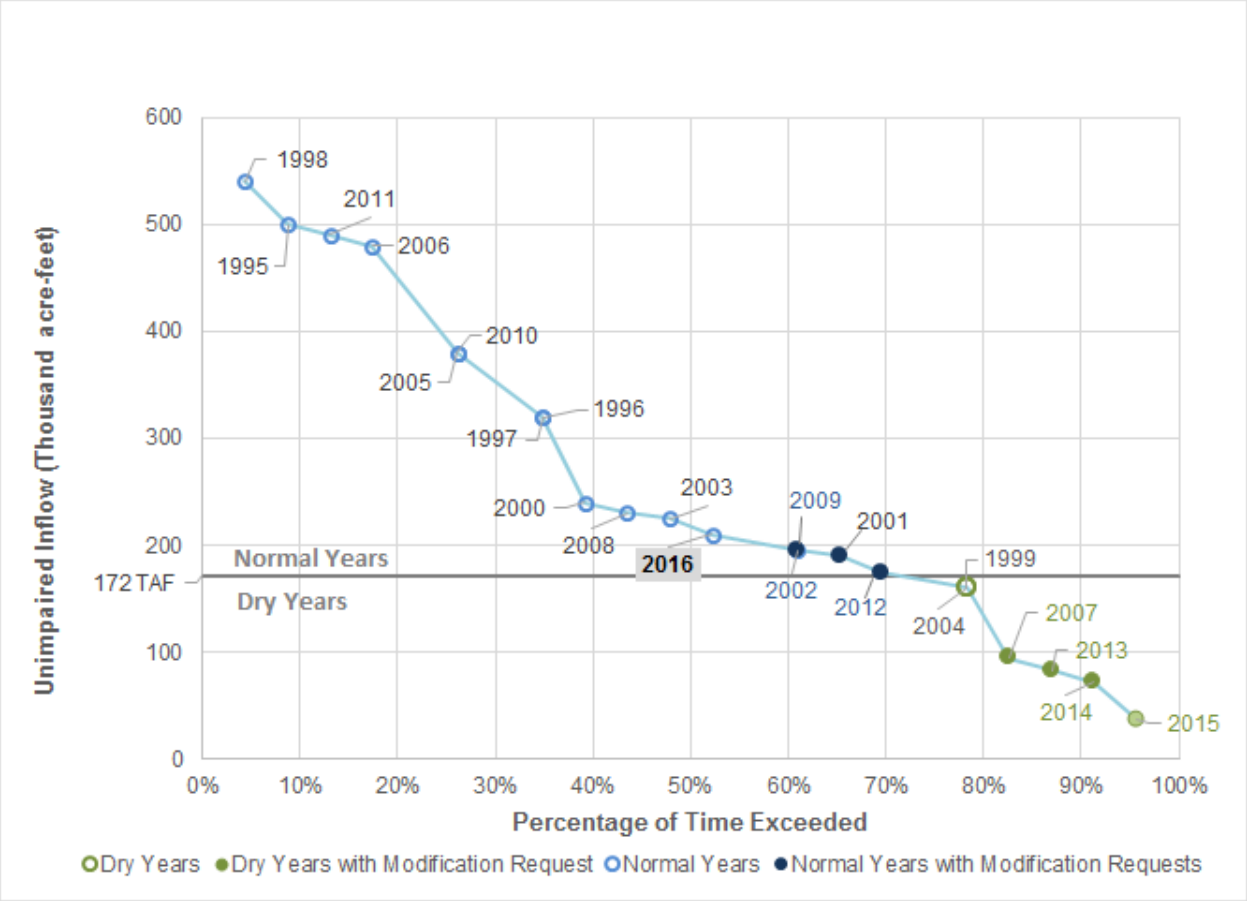
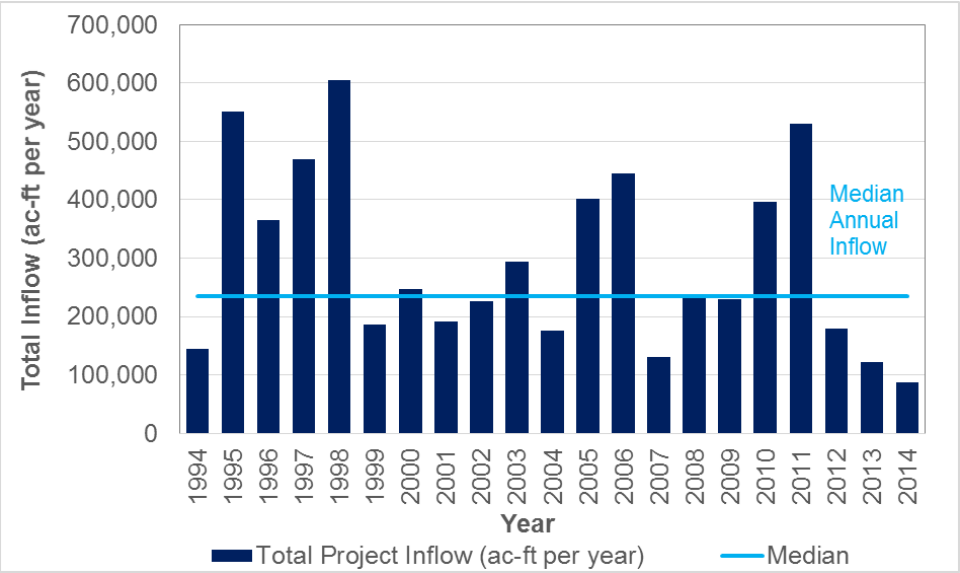
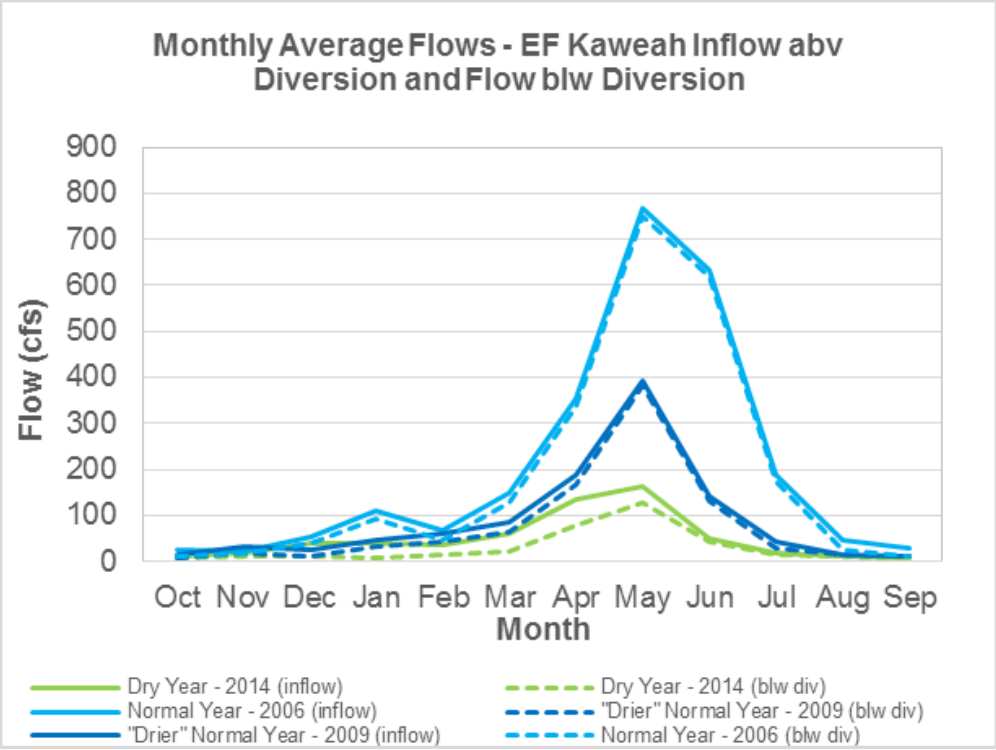


Figure 2-3. Annual Inflow to the Kaweah Project (WY 1994-2014)[1].



[1] The period of record (POR) used to characterize recent historical flows in the Kaweah River and East Fork Kaweah River extends from water year 1994 through 2014. This time period best represents Project operations since issuance of the FERC license and recent climatic conditions.

Figure 2-4a. Monthly Average Flows in a Representative Dry Year (2014), Normal Year (2006), and "Drier" Normal Year (2009) in the East Fork Kaweah River Bypass Reach and Kaweah No. 1 Flowline, and at the Kaweah No. 1 Powerhouse.



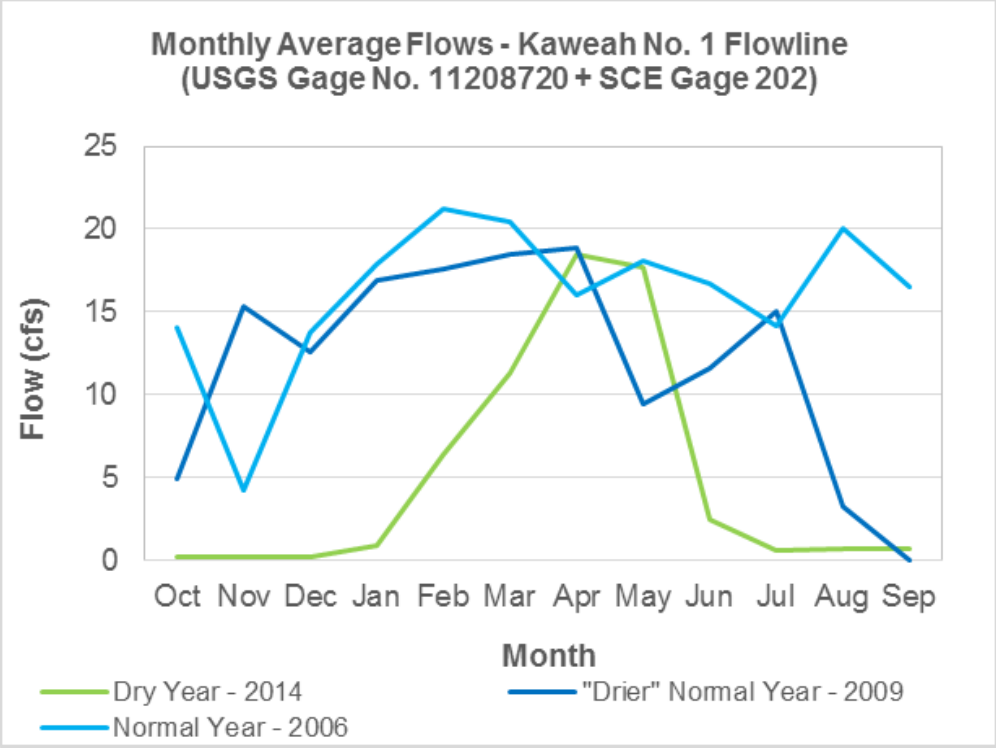


Figure 2-4a. Monthly Average Flows in a Representative Dry Year (2014), Normal Year (2006), and "Drier" Normal Year (2009) in the East Fork Kaweah River Bypass Reach and Kaweah No. 1 Flowline, and at the Kaweah No. 1 Powerhouse (continued).

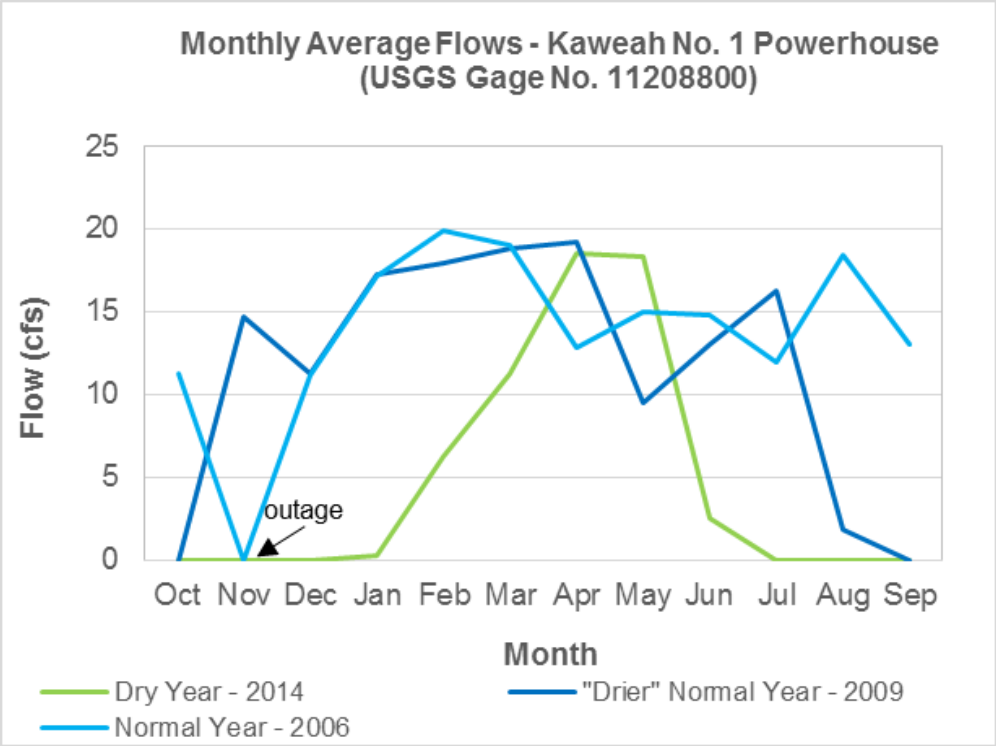
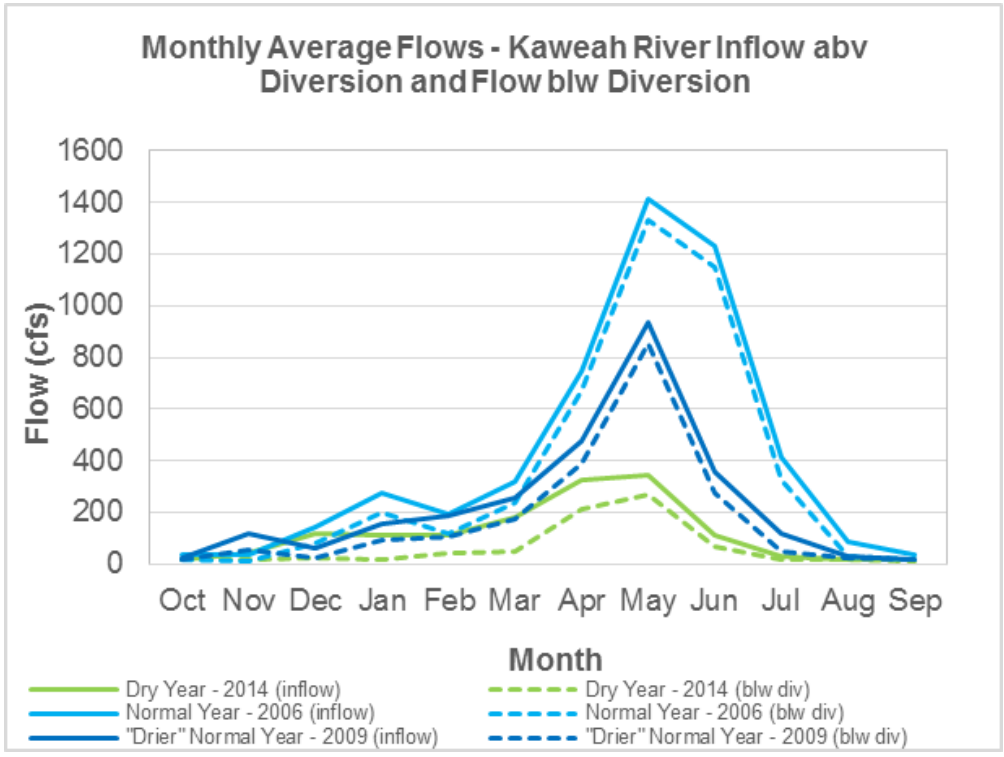


Figure 2-4b. Monthly Average Flows in a Representative Dry Year (2014), Normal Year (2006), and "Drier" Normal Year (2009) in the Kaweah River Bypass Reach and Kaweah No. 2 Flowline, and at the Kaweah No. 2 Powerhouse.



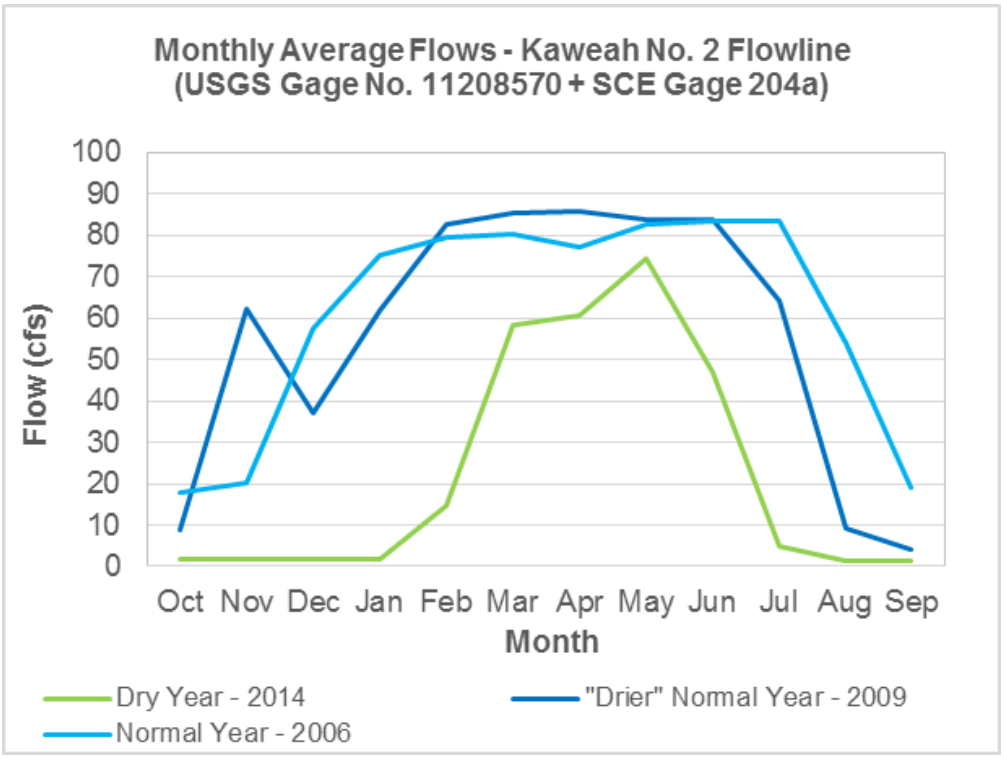


Figure 2-4b. Monthly Average Flows in a Representative Dry Year (2014), Normal Year (2006), and "Drier" Normal Year (2009) in the Kaweah River Bypass Reach and Kaweah No. 2 Flowline, and at the Kaweah No. 2 Powerhouse (continued).

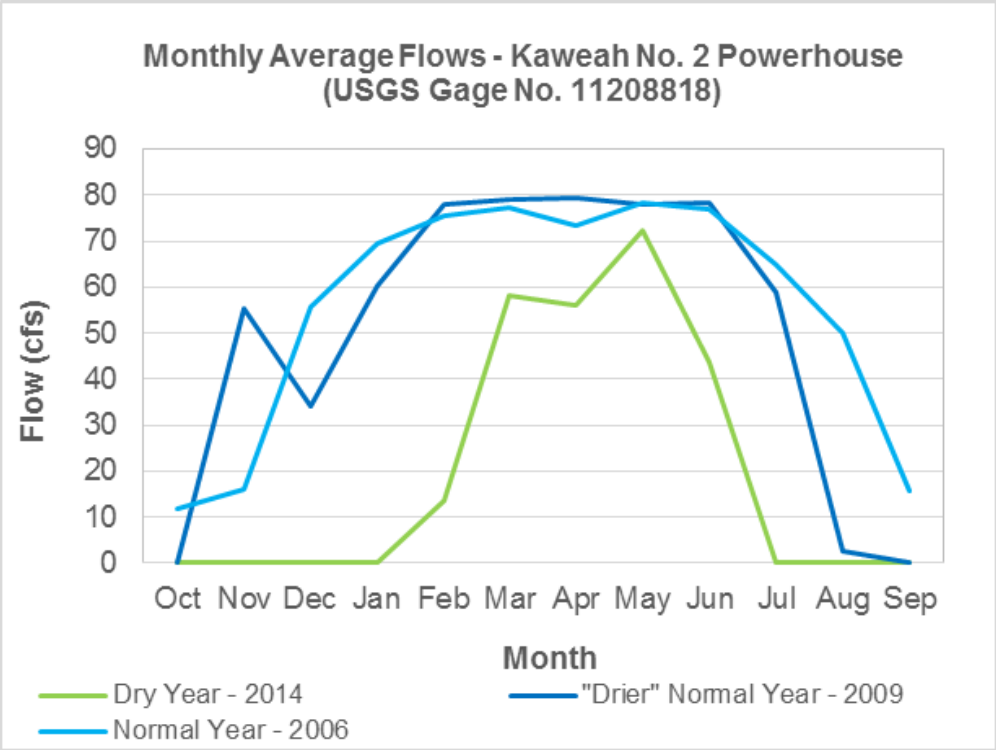


Figure 2-4c. Monthly Average Flows in a Representative Dry Year (2014), Normal Year (2006), and "Drier" Normal Year (2009) at the Kaweah No. 3 Powerhouse.

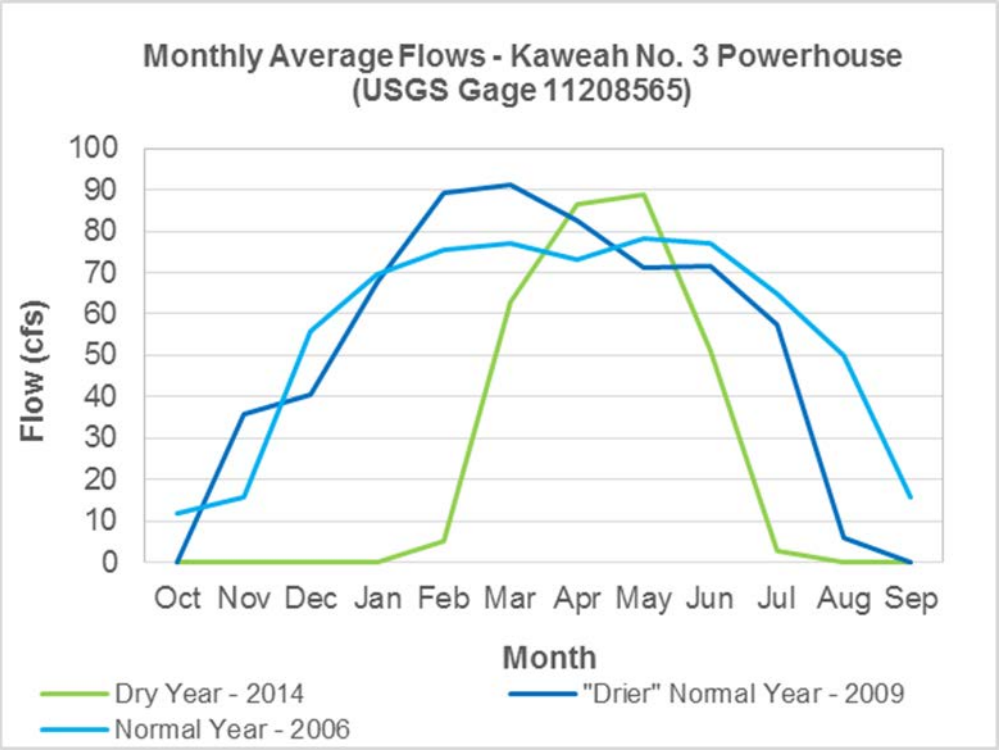
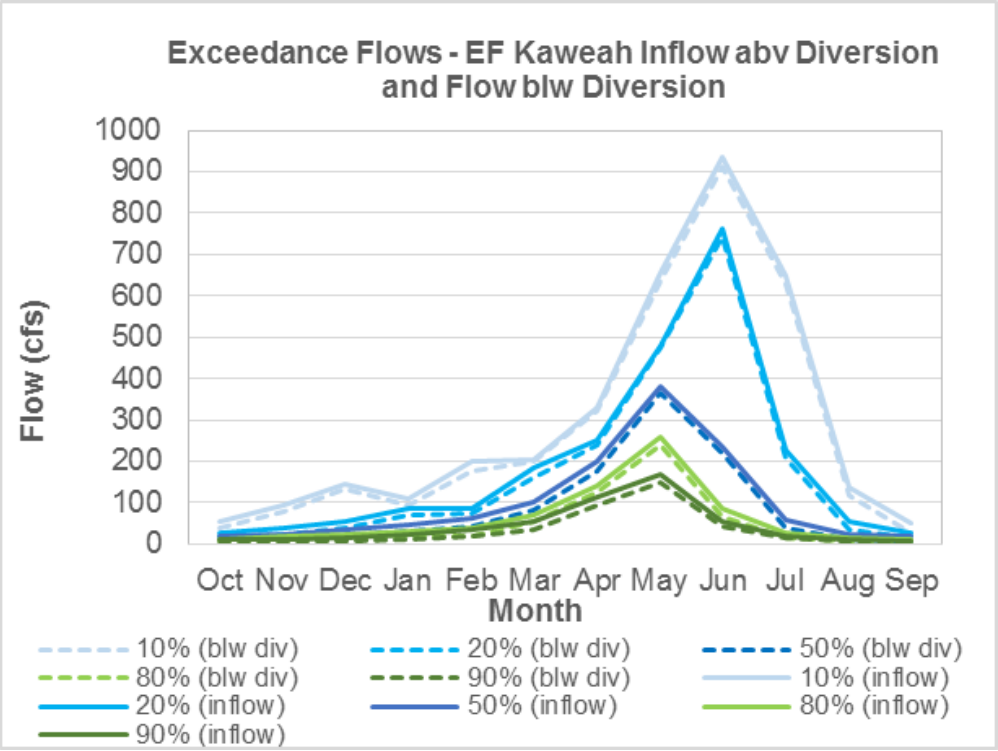


Figure 2-5a. Monthly Exceedance Flows (10%, 20%, 50%, 80%, and 90%) in the East Fork Kaweah River Bypass Reach and Kaweah No. 1 Flowline, and at the Kaweah No. 1 Powerhouse (WY 1994-2014)[1].



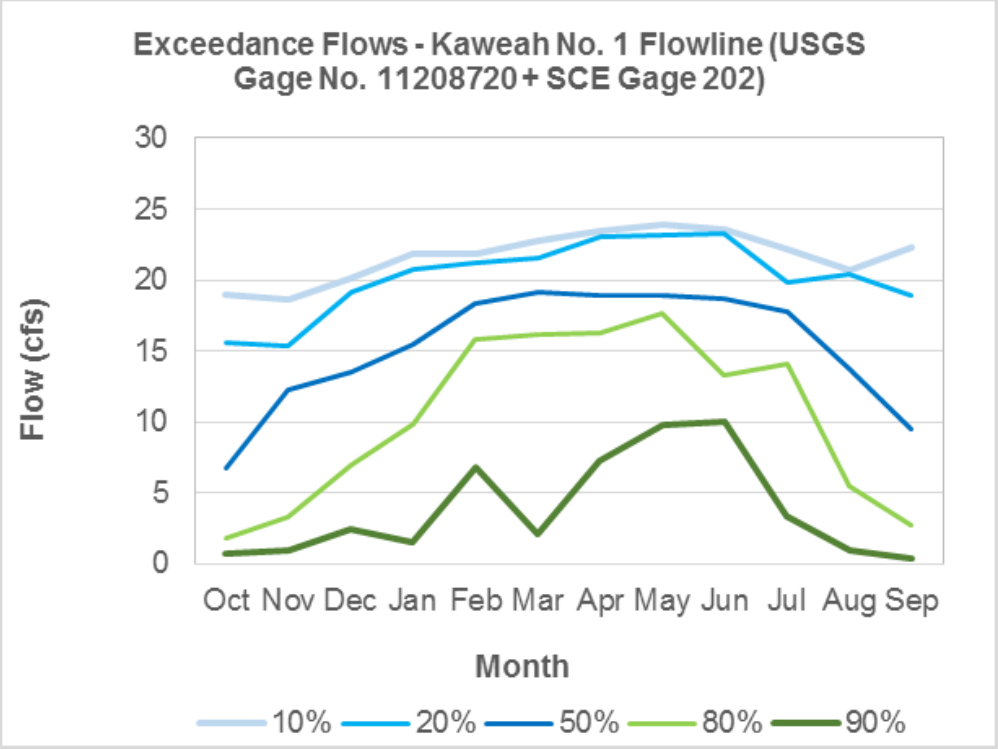
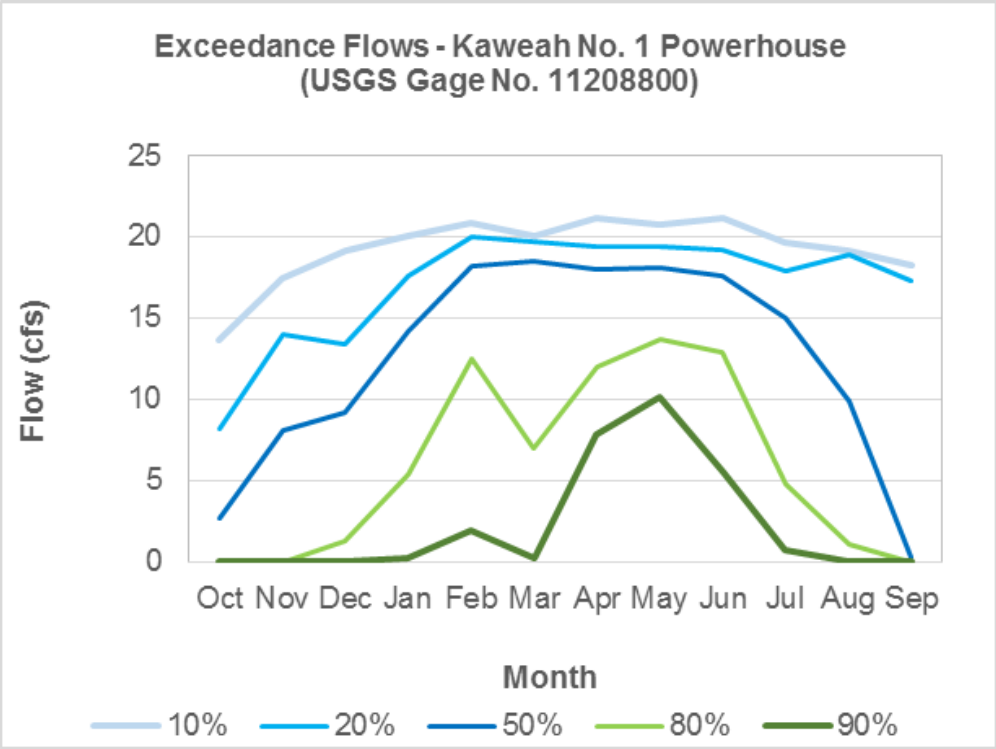
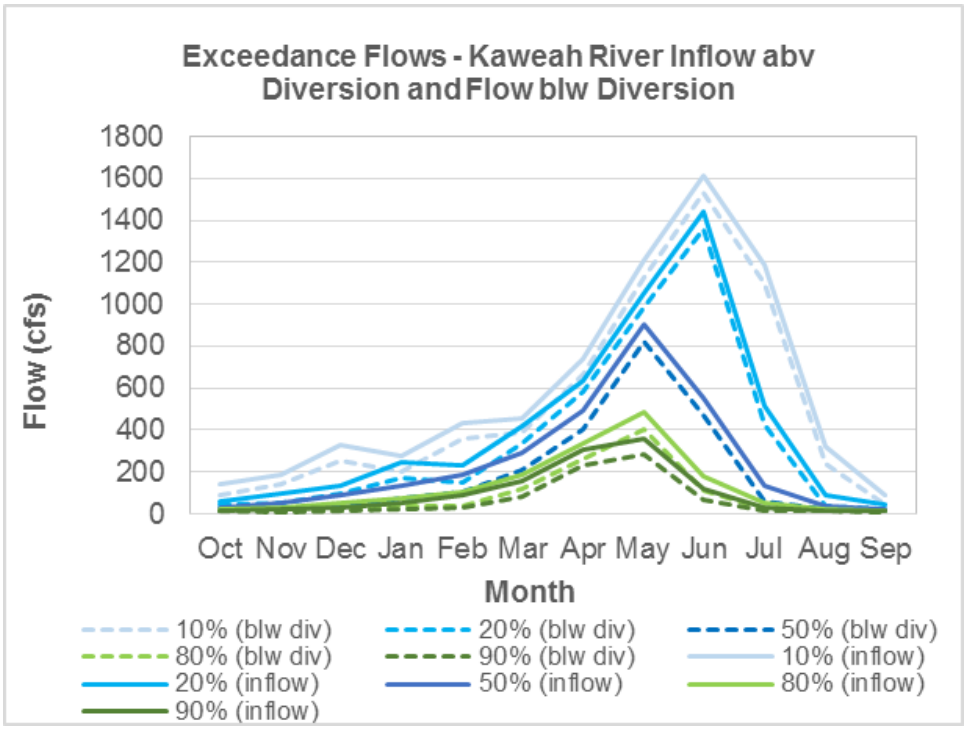


Figure 2-5a. Monthly Exceedance Flows (10%, 20%, 50%, 80%, and 90%) in the East Fork Kaweah River Bypass Reach and Kaweah No. 1 Flowline, and at the Kaweah No. 1 Powerhouse (WY 1994-2014)[1] (continued).



[1] Kaweah No. 1 Powerhouse period of record is from 2002-2014.

Figure 2-5b. Monthly Exceedance Flows (10%, 20%, 50%, 80%, and 90%) in the Kaweah River Bypass Reach and Kaweah No. 2 Flowline, and at the Kaweah No. 2 Powerhouse (WY 1994-2014)[1].



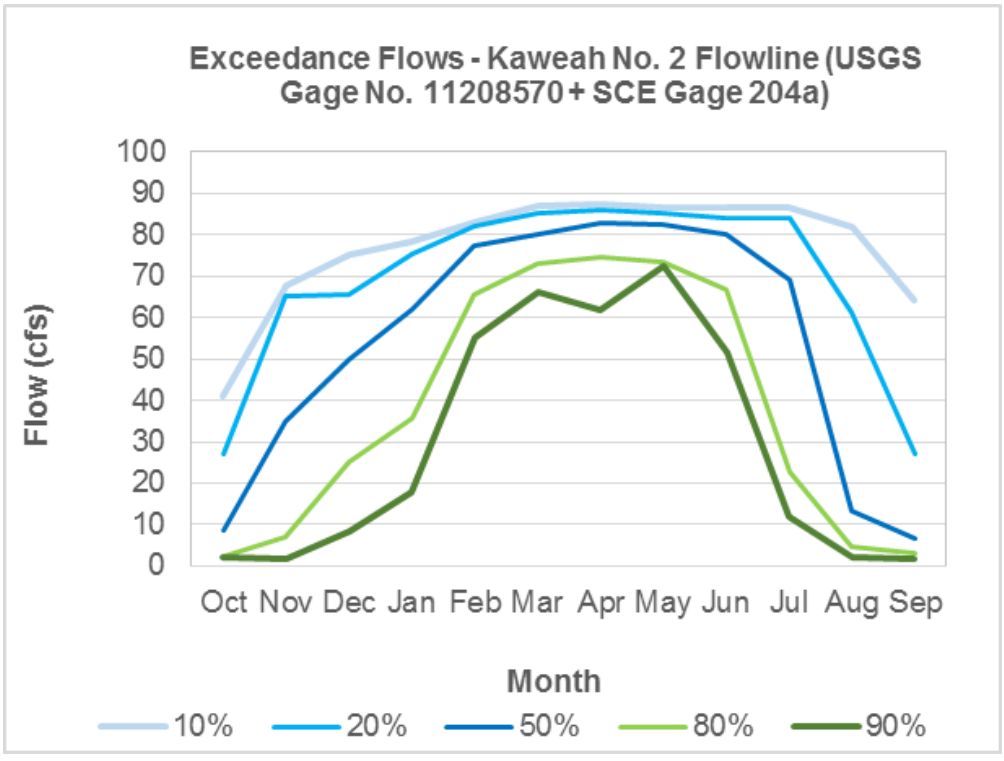
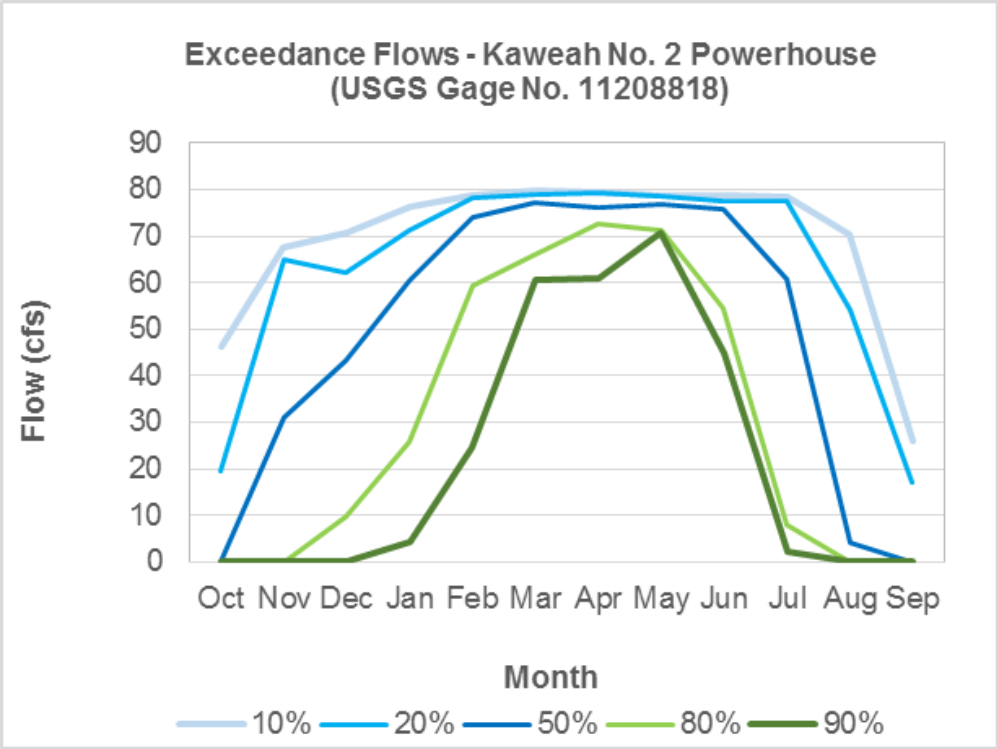
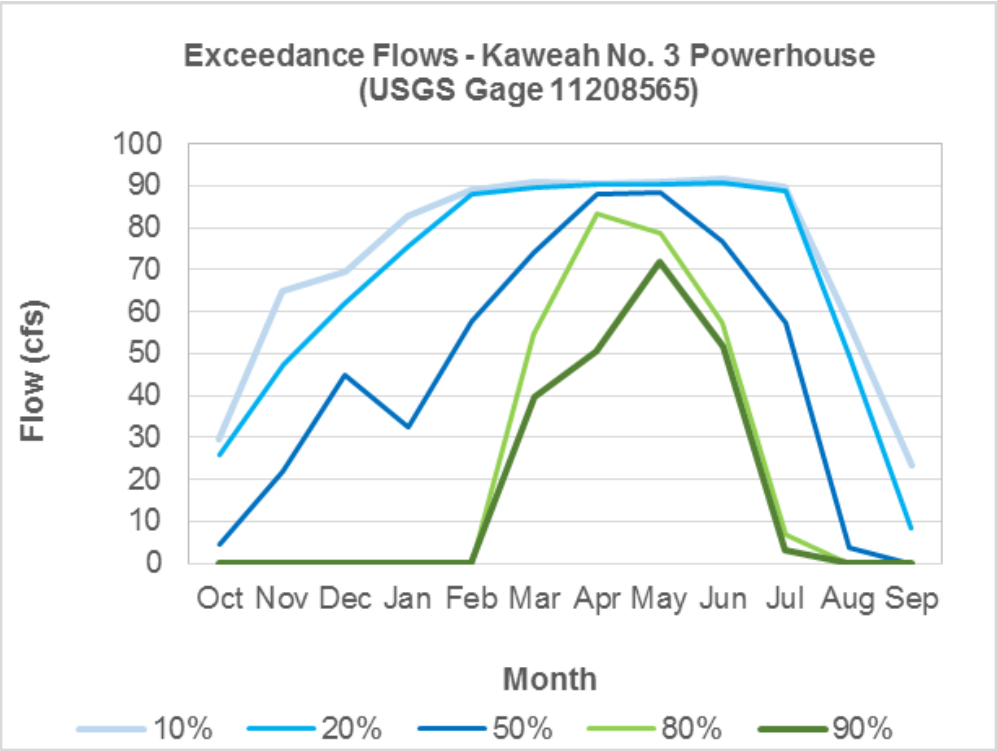


Figure 2-5b. Monthly Exceedance Flows (10%, 20%, 50%, 80%, and 90%) in the Kaweah River Bypass Reach and Kaweah No. 2 Flowline, and at the Kaweah No. 2 Powerhouse (WY 1994-2014)[1] (continued).



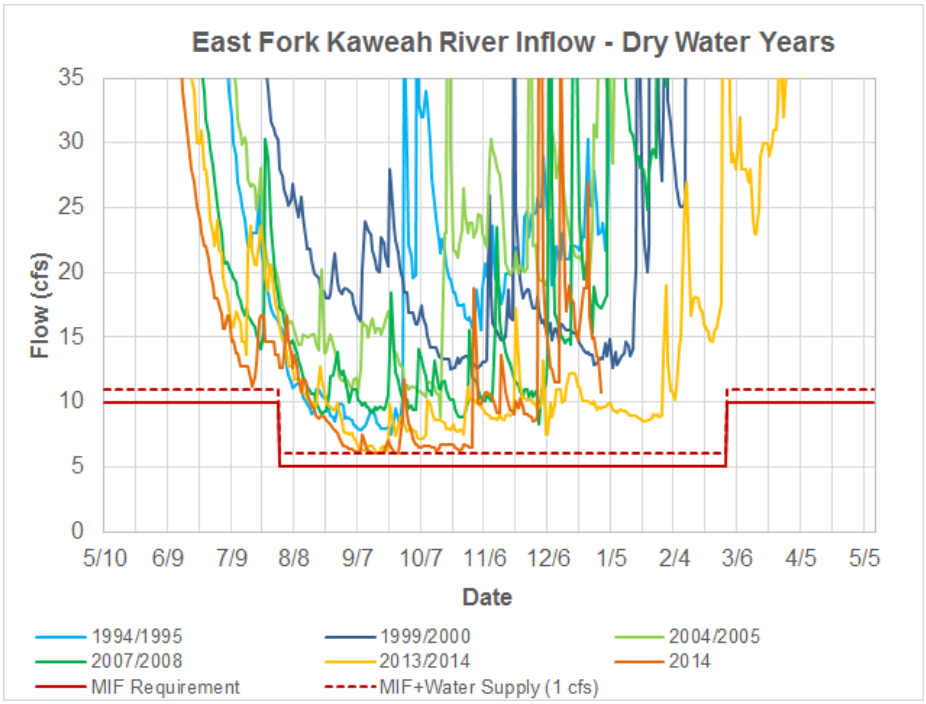
[1] Kaweah No. 2 Powerhouse period of record is from 2002-2014.

Figure 2-5c. Monthly Exceedance Flows (10%, 20%, 50%, 80%, and 90%) at the Kaweah No. 3 Powerhouse (WY 2002-2014)[1].



[1] Kaweah No. 3 Powerhouse period of record is from 2002-2014. Extended outages at the powerhouse occurred in April-July 2011 and April-May 2012. These months were not included in the analysis.

Figure 2-6. East Fork Kaweah River Inflow and Kaweah No. 1 Diversion Dam in Relation to Minimum Instream Flow Requirements and Water Supply Commitments in Dry (top) and Normal (bottom) Years (May 1994-December 2014).



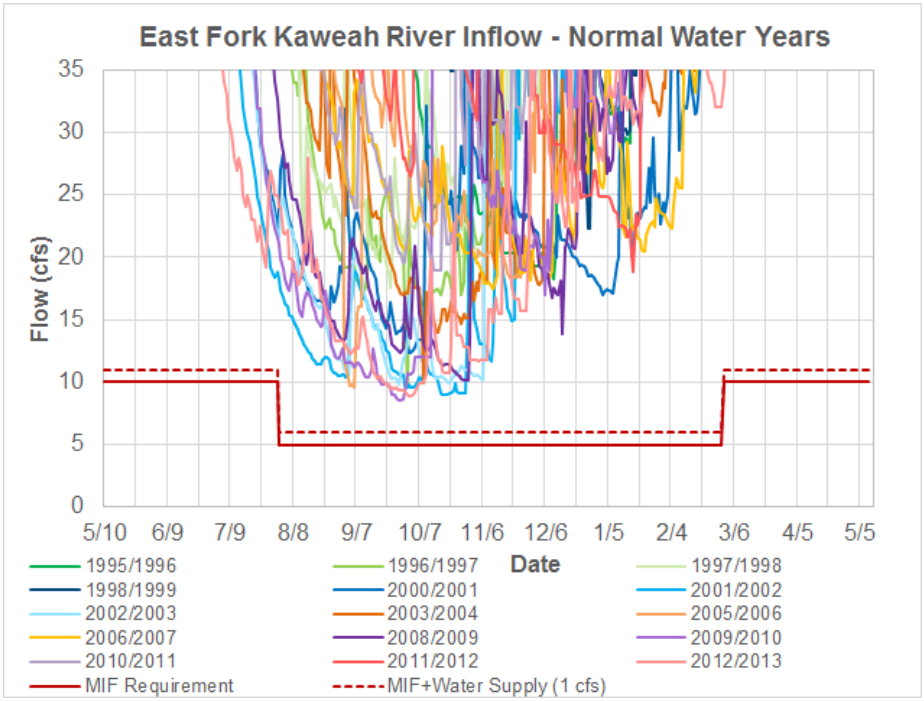
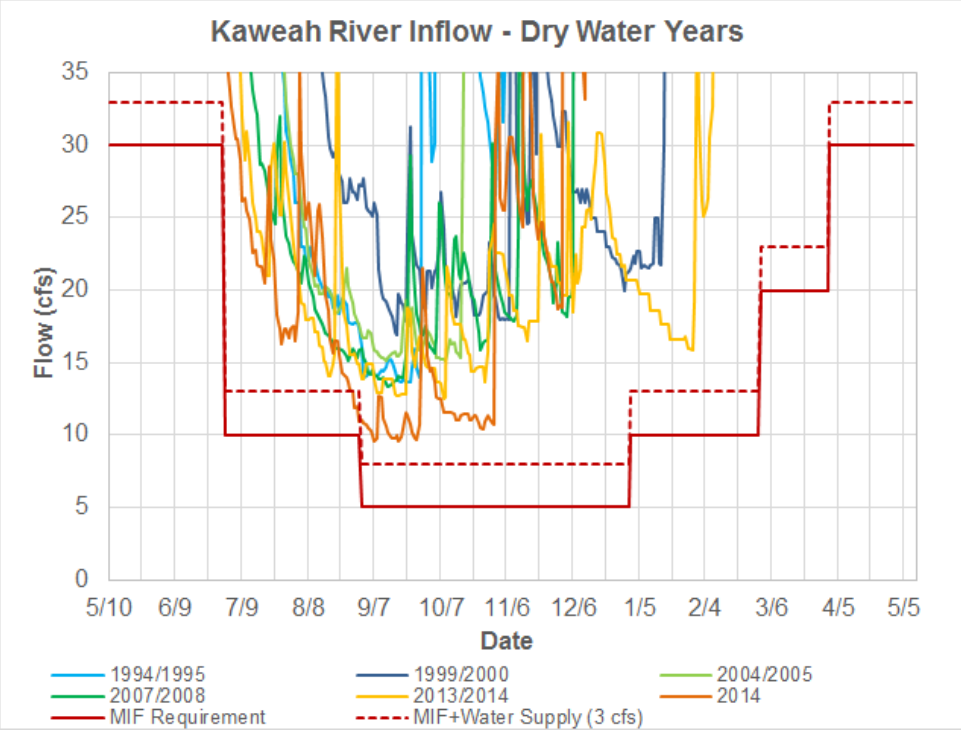
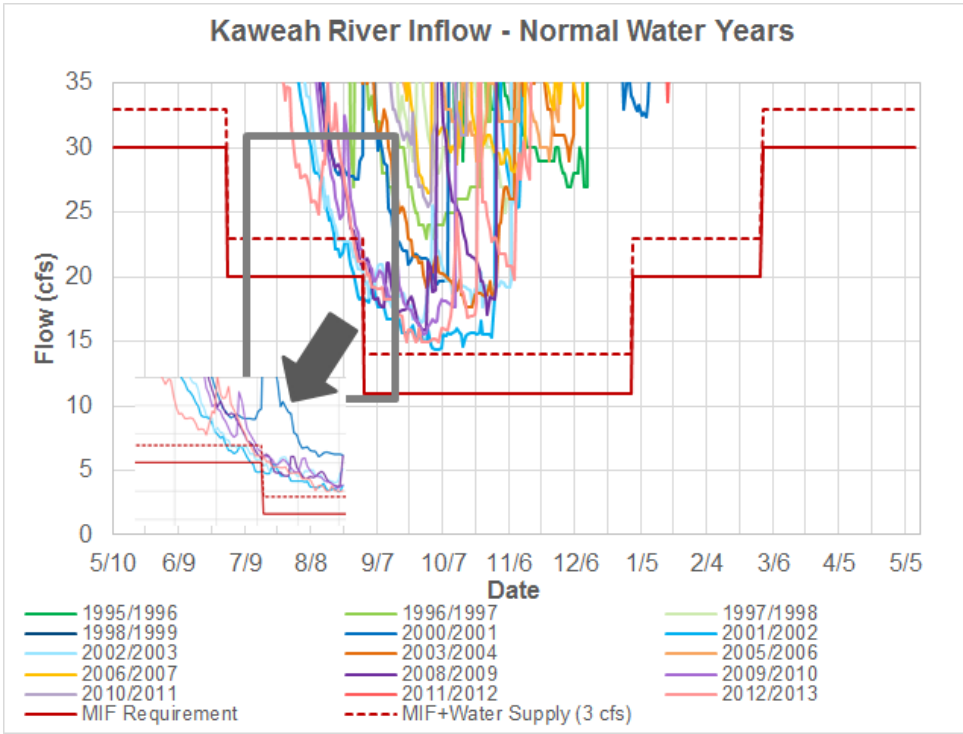
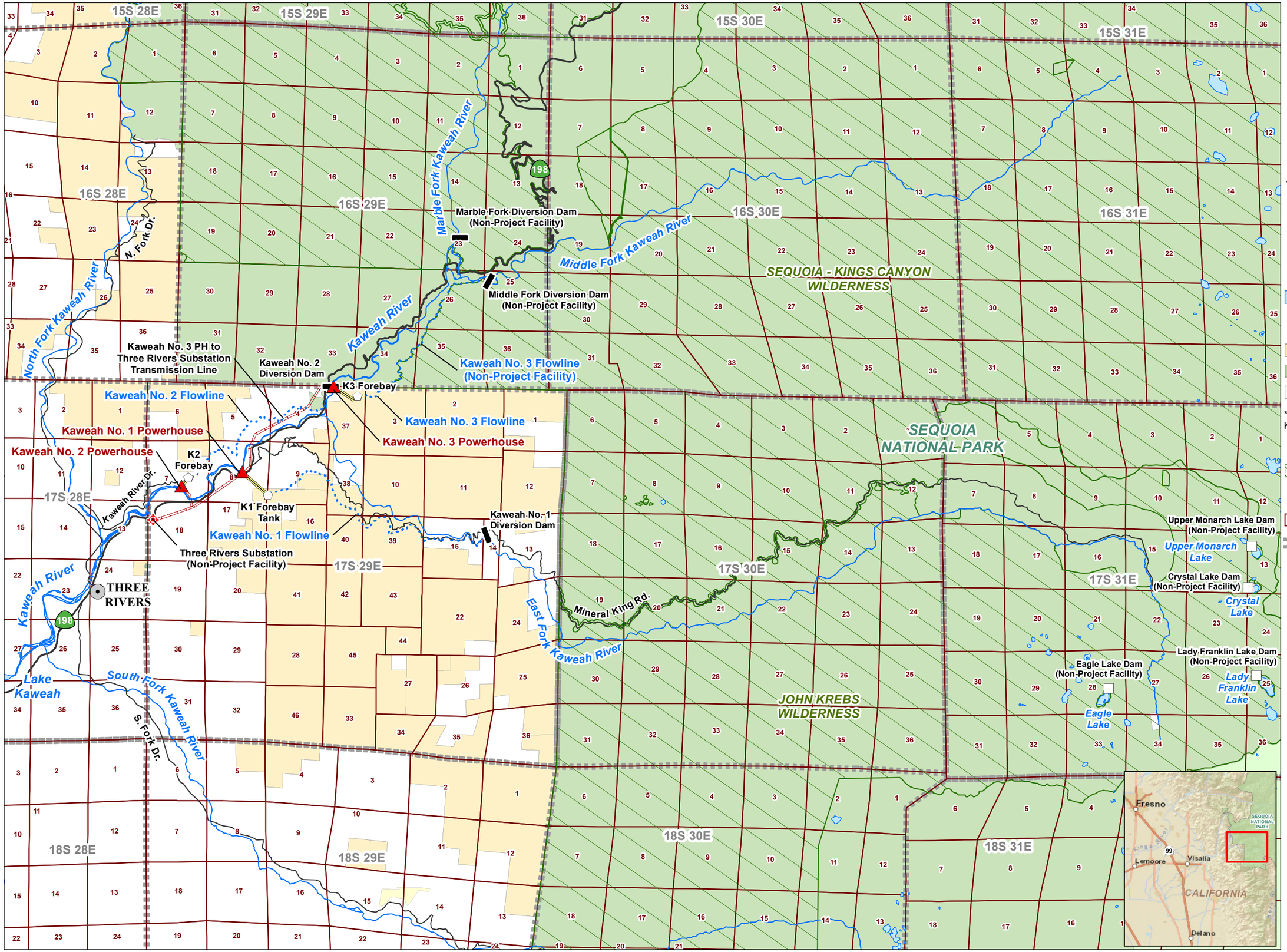


Figure 2-7. Kaweah River Inflow at Kaweah No. 2 Diversion Dam in Relation to Minimum Instream Flow Requirements and Water Supply Commitments in Dry (top) and Normal (bottom) Years (May 1994-December 2014).





MAPS



Facilities

- Powerhouse
- Diversion [1]
- Dam
- Utility
- Forebay
- Flowline
- Penstock
- Transmission Line

[1] NOTE: The Marble and Middle Fork Diversion Dams are not in designated Wilderness

Other Features

- City/Town
- Highway/Road
- Watercourse
- Water Body

Land Jurisdiction*

- Bureau of Land Management
- National Park Service
- Private (Blank)

*SOURCE: BLM 2012.
Kaweah Project entirely within Tulare County.

Land Management

- National Wilderness Area

Public Land Survey System

- Section
- Township / Range

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Eastern Hydro Generation

Map 2-1

Kaweah Project Vicinity and Land Jurisdictions

0 0.5 1 Miles

Projection: UTM Zone 11
Datum: NAD 83

Date: 10/29/2015

SEQUOIA - KINGS CANYON WILDERNESS

SEQUOIA NATIONAL PARK

N. Fork Dr.

North Fork Kaweah River

Marble Fork Kaweah River

Marble Fork Diversion Dam (Non-Project Facility)

Middle Fork Kaweah River

Middle Fork Diversion Dam (Non-Project Facility)

Kaweah River

Kaweah No. 3 Flowline (Non-Project Facility)

Kaweah No. 3 PH to Three Rivers Substation Transmission Line

Kaweah No. 2 Diversion Dam

K3 Forebay

Kaweah No. 2 Flowline

Kaweah No. 3 Flowline

Kaweah No. 3 Powerhouse

Kaweah No. 1 Powerhouse

Kaweah No. 2 Powerhouse

K2 Forebay

K1 Forebay Tank

Mineral King Rd.

East Fork Kaweah River

Kaweah River Dr.

Kaweah No. 1 Flowline

Three Rivers Substation (Non-Project Facility)

Kaweah No. 1 Diversion Dam

THREE RIVERS

Kaweah River

2-2a

2-2b

2-2c

2-2d

2-2e

2-2f

2-2g

198

Facilities

- Powerhouse
- Diversion
- Utility
- Forebay
- Flowline
- Penstock
- Transmission Line

Other Features

- City/Town
- Highway/Road
- Watercourse
- Water Body
- River Mile

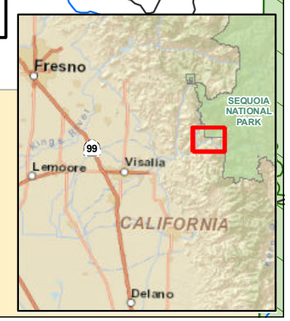
Land Jurisdiction*

- Bureau of Land Management
- National Park Service
- Private (Blank)

*SOURCE: BLM 2012.
Kaweah Project entirely within Tulare County.

Land Management

- National Wilderness Area



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Eastern Hydro Generation

Map 2-2

Kaweah Project
Index Map

Date: 8/12/2015

0 0.25 0.5 Miles

Projection: UTM Zone 11
Datum: NAD 83

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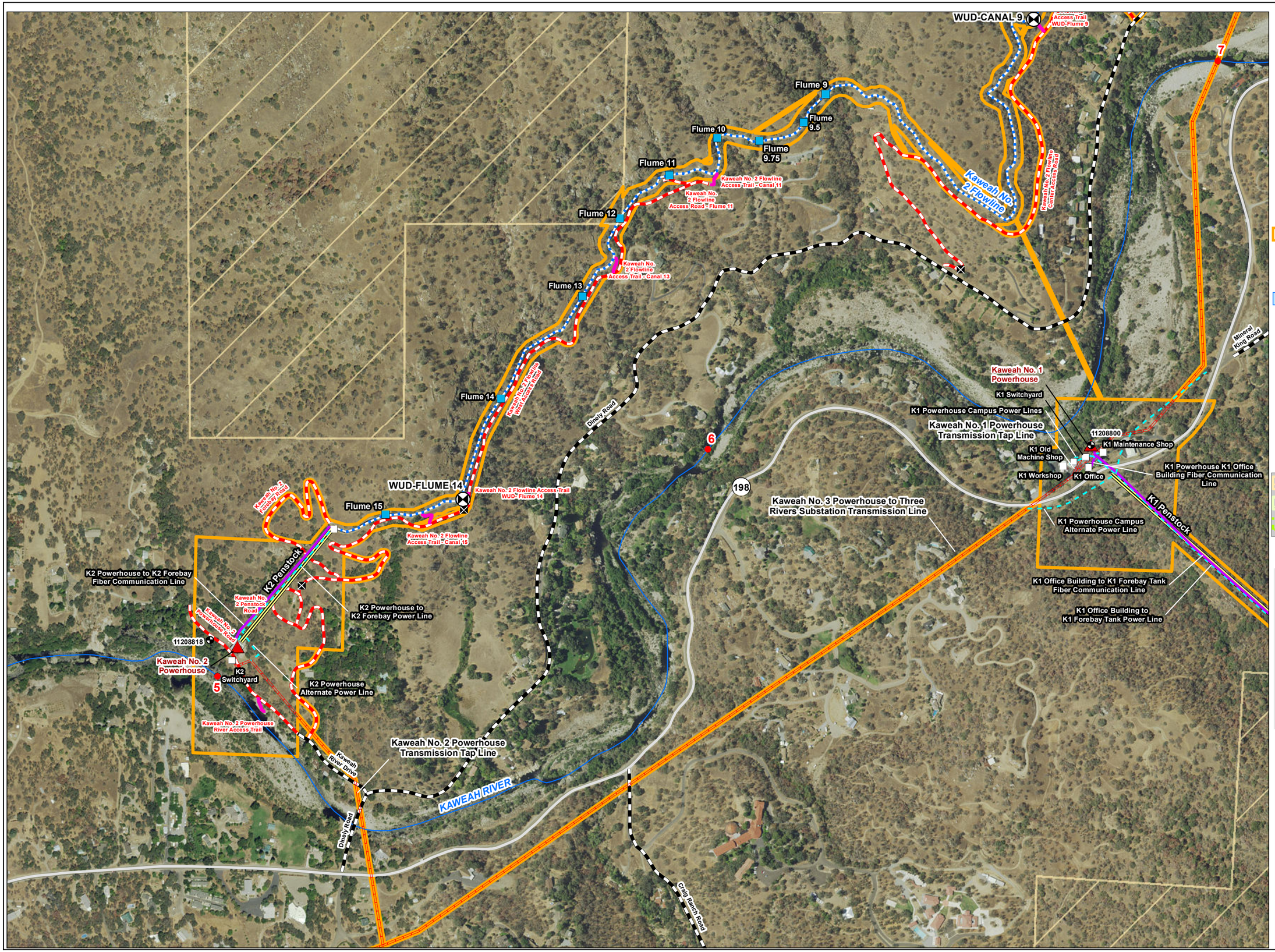


Facilities

- Powerhouse
- Diversion
- Flowline
- Penstock
- Flume Segment
- Ancillary Facility
- Gage
- Transmission Line
- Power Line
- Communication Line
- FERC Boundary

Other Features

- Watercourse
- Water Body
- Water User Diversion
- River Mile

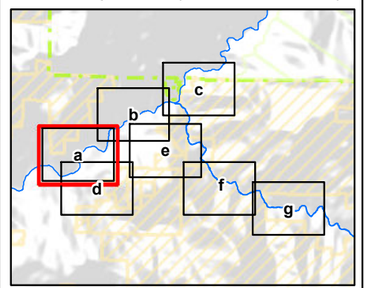
Transportation

- Project Road
- Project Trail
- Non-Project General Access Road
- Gate

Land Jurisdiction*

- Bureau of Land Management
- Wilderness Area
- National Park Service

*SOURCE: BLM 2012
Kaweah Project entirely within Tulare County



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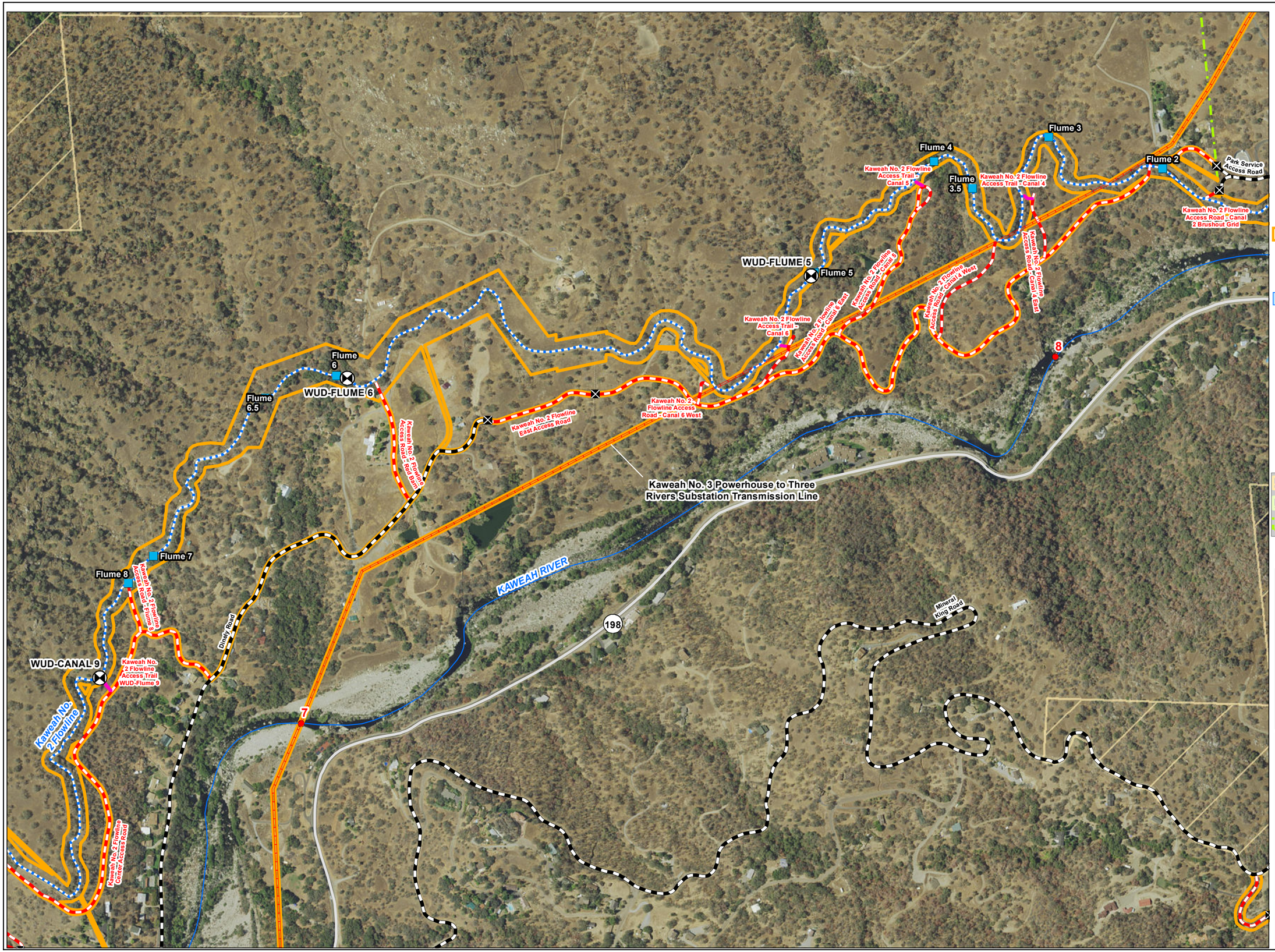
Eastern Hydro Generation

Map 2-2a
Kaweah Project

0 250 500 Feet

Date: 9/1/2015

Projection: UTM Zone 11
Datum: NAD 83



Facilities

- Powerhouse
- Diversion
- Flowline
- Penstock
- Flume Segment
- Ancillary Facility
- Gage
- Transmission Line
- Power Line
- Communication Line
- FERC Boundary

Other Features

- Watercourse
- Water Body
- Water User Diversion
- River Mile

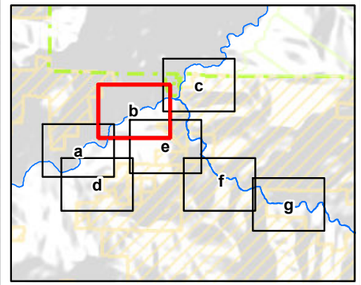
Transportation

- Project Road
- Project Trail
- Non-Project General Access Road
- Gate

Land Jurisdiction*

- Bureau of Land Management
- Wilderness Area
- National Park Service

*SOURCE: BLM 2012
Kaweah Project entirely within Tulare County



SOUTHERN CALIFORNIA EDISON®
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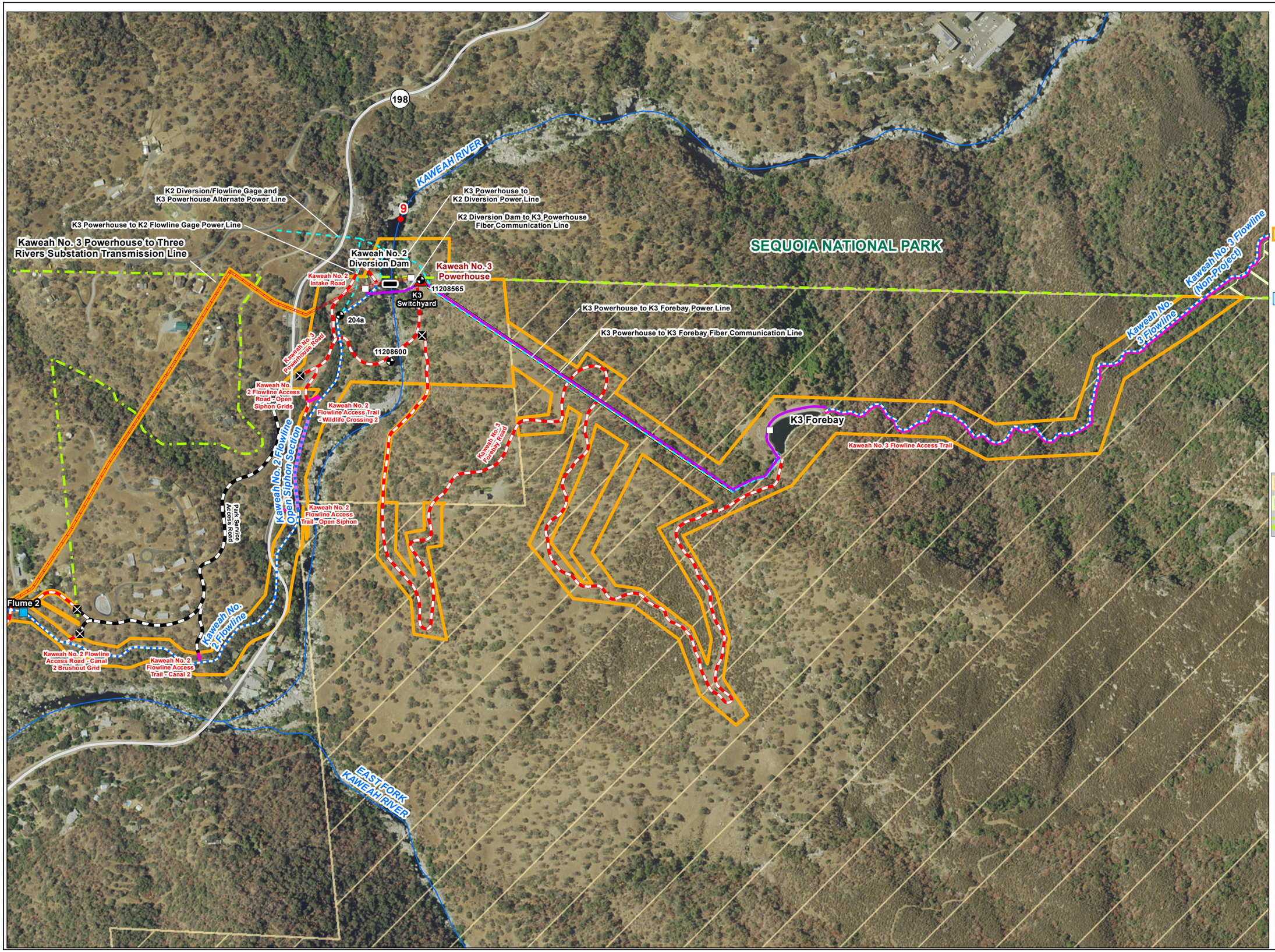
Eastern Hydro Generation

Map 2-2b
Kaweah Project

0 250 500 Feet

Date: 9/1/2015

Projection: UTM Zone 11
Datum: NAD 83



Facilities

- Powerhouse
- Diversion
- Flowline
- Penstock
- Flume Segment
- Ancillary Facility
- Gage
- Transmission Line
- Power Line
- Communication Line
- FERC Boundary

Other Features

- Watercourse
- Water Body
- Water User Diversion
- River Mile

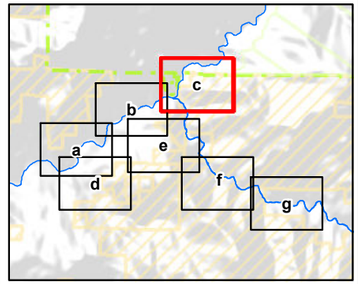
Transportation

- Project Road
- Project Trail
- Non-Project General Access Road
- Gate

Land Jurisdiction*

- Bureau of Land Management
- Wilderness Area
- National Park Service

*SOURCE: BLM 2012
Kaweah Project entirely within Tulare County



SOUTHERN CALIFORNIA EDISON®
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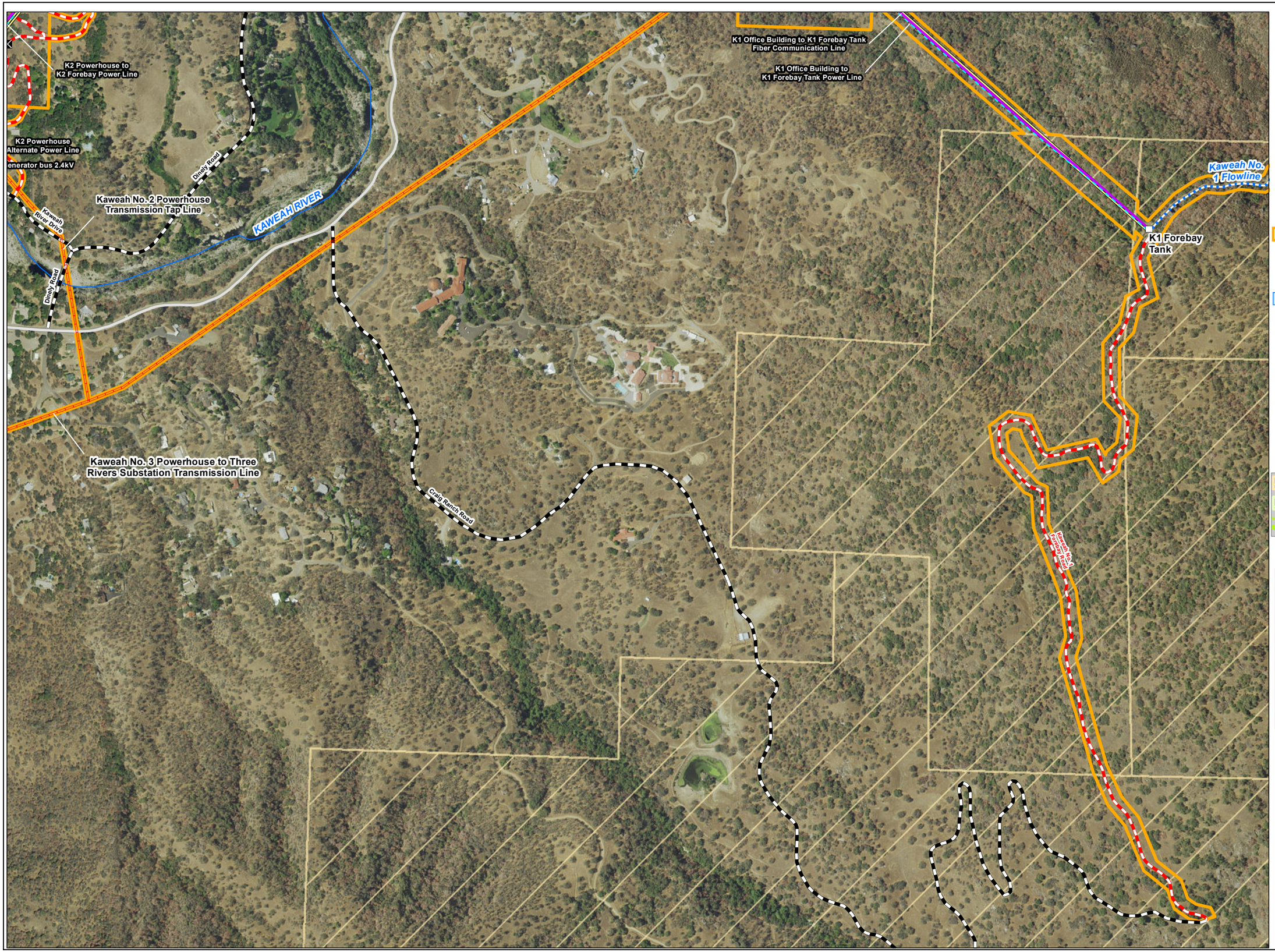
Eastern Hydro Generation

Map 2-2c
Kaweah Project

0 250 500 Feet

Date: 9/1/2015

Projection: UTM Zone 11
Datum: NAD 83



Facilities

- Powerhouse
- Diversion
- Flowline
- Penstock
- Flume Segment
- Ancillary Facility
- Gage
- Transmission Line
- Power Line
- Communication Line
- FERC Boundary

Other Features

- Watercourse
- Water Body
- Water User Diversion
- River Mile

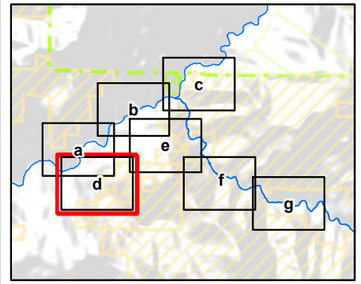
Transportation

- Project Road
- Project Trail
- Non-Project General Access Road
- Gate

Land Jurisdiction*

- Bureau of Land Management
- Wilderness Area
- National Park Service

*SOURCE: BLM 2012
Kaweah Project entirely within Tulare County



SOUTHERN CALIFORNIA EDISON®
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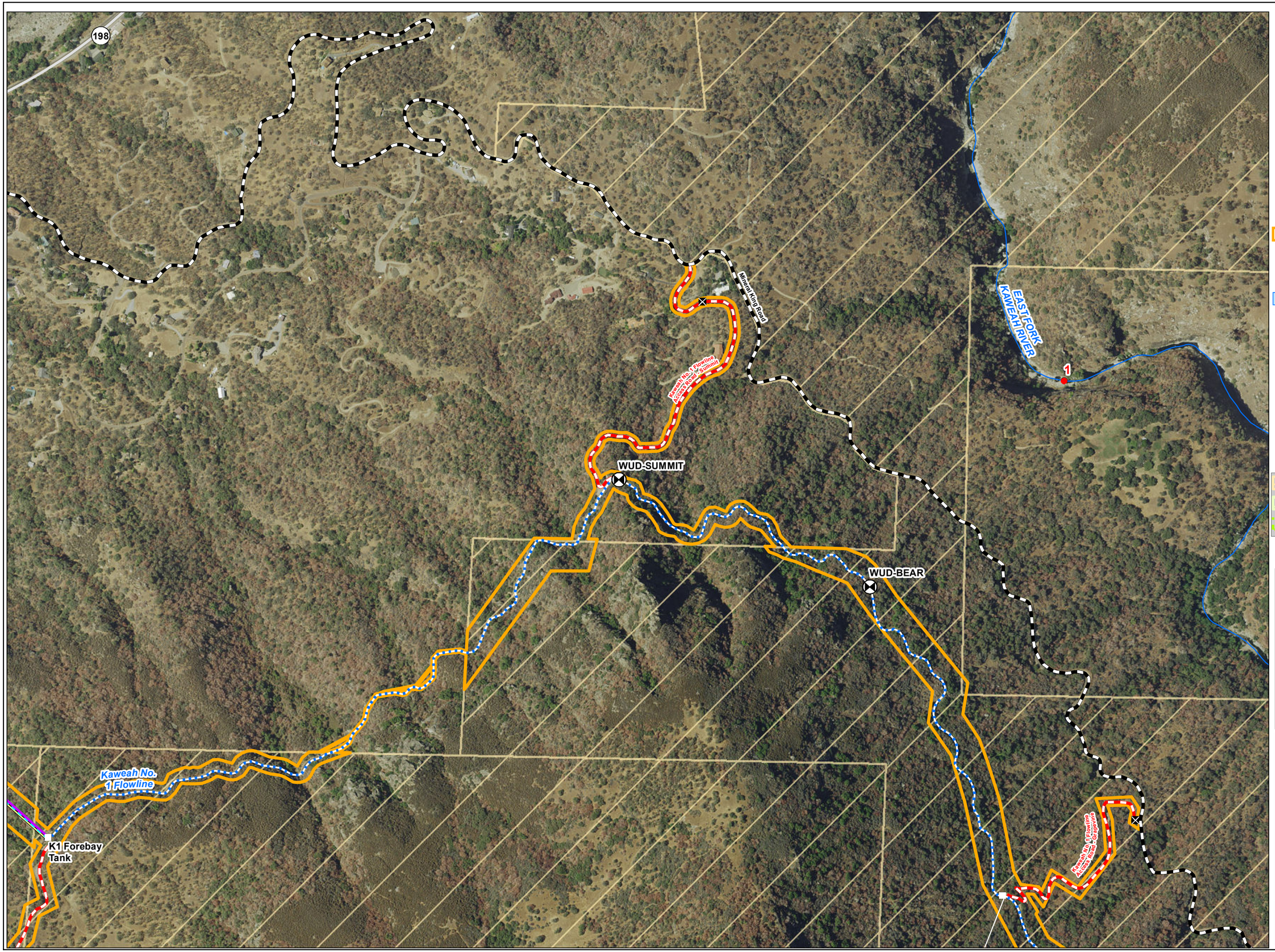
Eastern Hydro Generation

Map 2-2d
Kaweah Project

0 250 500 Feet

Date: 9/1/2015

Projection: UTM Zone 11
Datum: NAD 83



Facilities

- Powerhouse
- Diversion
- Flowline
- Penstock
- Flume Segment
- Ancillary Facility
- Gage
- Transmission Line
- Power Line
- Communication Line
- FERC Boundary

Other Features

- Watercourse
- Water Body
- Water User Diversion
- River Mile

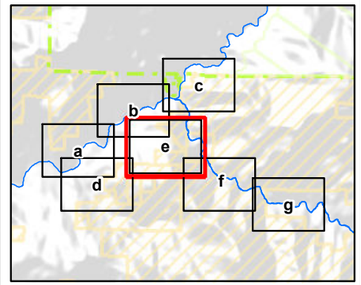
Transportation

- Project Road
- Project Trail
- Non-Project General Access Road
- Gate

Land Jurisdiction*

- Bureau of Land Management
- Wilderness Area
- National Park Service

*SOURCE: BLM 2012
Kaweah Project entirely within Tulare County



SOUTHERN CALIFORNIA EDISON®
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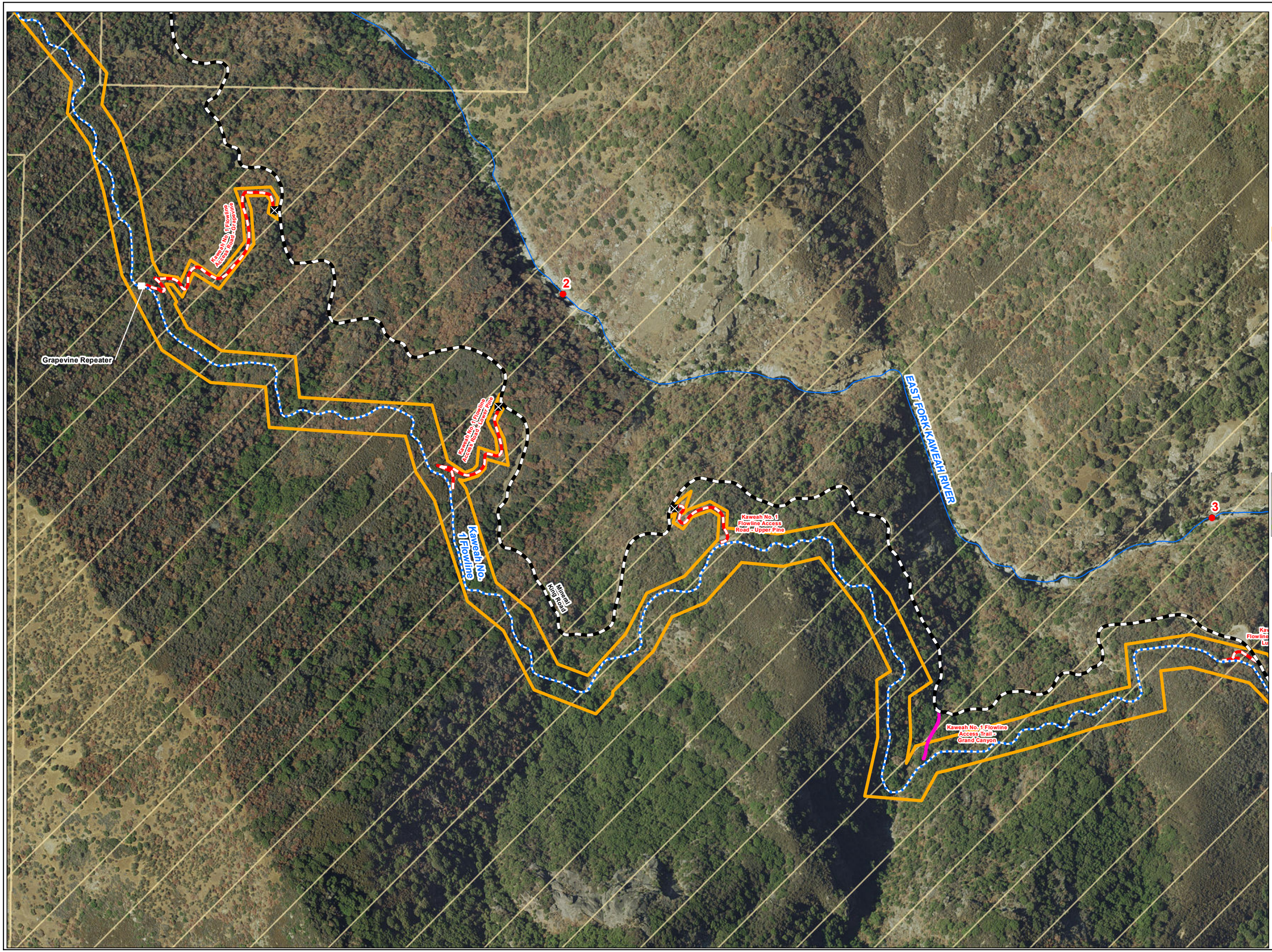
Eastern Hydro Generation

Map 2-2e
Kaweah Project

0 250 500 Feet

Date: 9/1/2015

Projection: UTM Zone 11
Datum: NAD 83



Facilities

- Powerhouse
- Diversion
- Flowline
- Penstock
- Flume Segment
- Ancillary Facility
- Gage
- Transmission Line
- Power Line
- Communication Line
- FERC Boundary

Other Features

- Watercourse
- Water Body
- Water User Diversion
- River Mile

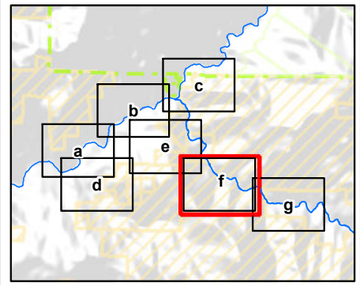
Transportation

- Project Road
- Project Trail
- Non-Project General Access Road
- Gate

Land Jurisdiction*

- Bureau of Land Management
- Wilderness Area
- National Park Service

*SOURCE: BLM 2012
Kaweah Project entirely within Tulare County



SOUTHERN CALIFORNIA EDISON®
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Eastern Hydro Generation

Map 2-2f
Kaweah Project

0 250 500 Feet

Date: 9/1/2015

Projection: UTM Zone 11
Datum: NAD 83

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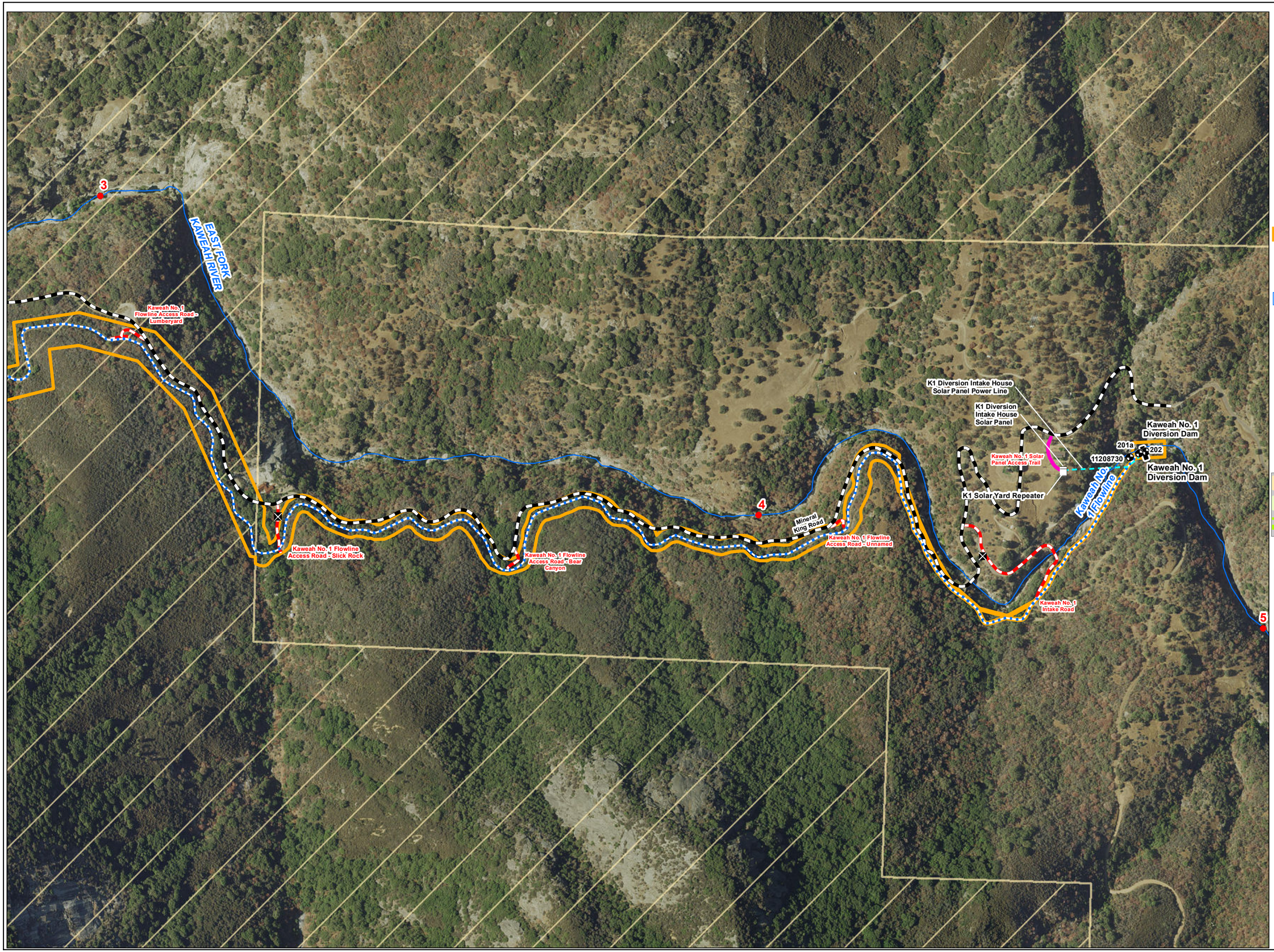


Facilities

- Powerhouse
- Diversion
- Flowline
- Penstock
- Flume Segment
- Ancillary Facility
- Gage
- Transmission Line
- Power Line
- Communication Line
- FERC Boundary

Other Features

- Watercourse
- Water Body
- Water User Diversion
- River Mile

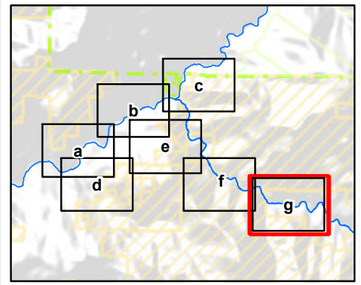
Transportation

- Project Road
- Project Trail
- Non-Project General Access Road
- Gate

Land Jurisdiction*

- Bureau of Land Management
- Wilderness Area
- National Park Service

*SOURCE: BLM 2012
Kaweah Project entirely within Tulare County



SOUTHERN CALIFORNIA EDISON®
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Eastern Hydro Generation

Map 2-2g
Kaweah Project

0 250 500 Feet

Date: 9/1/2015

Projection: UTM Zone 11
Datum: NAD 83

APPENDIX 2-A

Description of Non-FERC Project Facilities

Southern California Edison Company (SCE) operates the Kaweah Project (Project) (Federal Energy Regulatory Commission [FERC or Commission] Project No. 298) which is located on the Kaweah River and East Fork Kaweah River near the community of Three Rivers in Tulare County, California, on the western slope of the Sierra Nevada.

The Project consists of three developments: Kaweah No. 1 Development (East Fork Kaweah River); Kaweah No. 2 Development (Kaweah River); and Kaweah No. 3 Development (Middle and Marble forks of the Kaweah River and the Kaweah River), which commenced operation in June 1899, February 1905, and May 1913, respectively.

The Project makes use of several non-FERC Project facilities located in Sequoia National Park (SNP) that are not subject to the FERC License. All Project facilities located within SNP are currently operated under a Special Use Permit (SUP) (Permit No. PWR-SEKI-6000-2016-015) issued to SCE by the National Park Service (NPS). The current SUP expires on September 8, 2026. Facilities operated under the SUP include portions of the Kaweah No. 1 and No. 3 developments, as described below and shown on Map 2-1.

Kaweah No. 1 – the upper portion of the Kaweah No. 1 Development near the Mineral King Area, including four small lakes—Eagle Lake, Lady Franklin Lake, Crystal Lake, and Upper Monarch Lake (collectively referred to as the Mineral King Lakes)—that release water during the late summer and fall months to augment flows in the East Fork Kaweah River and generating capacity of the Kaweah No. 1 Powerhouse during periods of low flow. The Mineral King Lakes were originally constructed between 1903 and 1905 on public lands that were subsequently included in the Sierra National Forest, and were part of the original license. However in 1978, that portion of Sierra National Forest was added to SNP. The enabling legislation empowered the NPS to issue SUPs for the continued use of the reservoirs.

Kaweah No. 3 – the upper portion of the Kaweah No. 3 Development, including the Middle Fork and Marble Fork Kaweah River diversion dams, and a water conveyance system (Kaweah No. 3 Flowline) that diverts water from these structures to the Kaweah No. 3 Powerhouse. The Middle Fork and Marble Fork Kaweah River diversion dams are 6-foot high overflow concrete gravity dams, with a crest length of approximately 50 feet. Outflow from the Marble Fork Diversion Dam enters a 2,800-foot long concrete-lined ditch and joins the Middle Fork Diversion Dam flowline through a 1,085-foot long, 48-inch diameter siphon under the Middle Fork of the river. Outflow from the Middle Fork Diversion Dam enters a 3,230-foot long concrete box flume to the confluence with the Marble Fork Diversion flowline. From this juncture, the flowline consists of 5,200 feet of concrete-lined ditch; 15,700 feet of concrete box flume; and three short wooden flume sections. All but the last 2,580 feet of the flowline is located in the SNP and is not part of the FERC License. The Middle Fork and Marble Fork diversions and flowline were constructed within the SNP by permission of the NPS between 1907 and 1913 in exchange for the construction of a park road and annual payments.

APPENDIX 2-B

Proposed Modifications to License Article 405

The following provides SCE's Proposed Amendment to License Article 405, as amended in a FERC Order issued on April 20, 1994, in redline/strikeout. The Proposed Amendment would eliminate the need for future modification requests to resource agencies. These proposed revisions are consistent with recent modification requests previously approved by the resource agencies.

Article 405. *The licensee shall release from the Kaweah River Project the following continuous minimum flows measured at diversion structures Nos. 1 and 2 ~~or inflows to the diversions, whichever are less,~~ for the enhancement of fish resources in the bypass reach of the East Fork Kaweah River and the main-stem Kaweah River, respectively:*

Kaweah No. 1 Diversion

Month	*Normal Years*	*Dry Years*
	cfs	*cfs*
Oct	*5*	*5*
Nov	*5*	*5*
Dec	*5*	*5*
Jan	*5*	*5*
Feb	*5*	*5*
Mar	*10*	*10*
Apr	*10*	*10*
May	*10*	*10*
Jun	*10*	*10*
Jul	*10*	*10*
Aug	*5*	*5*
Sep	*5*	*5*

Kaweah No. 2 Diversion

Month	*Normal Years*	*Dry Years*
	cfs	*cfs*
Oct	*11*	*5*
Nov	*11*	*5*
Dec	*11*	*5*
Jan	*20*	*10*
Feb	*20*	*10*
Mar	*30*	*20*
Apr	*30*	*30*
May	*30*	*30*
Jun	*30*	*30*
Jul	*20*	*10*
Aug	*20*	*10*
Sep	*11*	*5*

Runoff of Kaweah River at Terminus Reservoir for April 1 through July 31, for the current year, as estimated by the California Department of Water Resources (DWR) on or about

May 1 of each such calendar year shall be used to distinguish between a normal water year and a dry water year for the purpose of this article. A "Normal Year" is defined as a forecasted runoff of 172,000 acre-feet or more. A "Dry Year" is defined as a forecasted runoff of less than 172,000 acre-feet. The determination of either a normal water year or a dry water year shall then be used in maintaining the appropriate minimum flow release for the period May 10 of each calendar year through May 9 of the succeeding calendar year.

However, in the event that natural inflow into the Project diversions are insufficient to meet both the minimum flow releases (described above) and water supply requirements, the Licensee will continue to divert up to 1 cfs at the Kaweah No. 1 Diversion and up to 3 cfs at the Kaweah No. 2 Diversion to meet water supply deliveries.

In the event that minimum flows in the flow schedule are reduced to meet water supply requirements (as described above), the Licensee will:

- *Not generate power during the period that schedule flows are modified;*
- *Operate flow-measurement devices to record the amount of flow in the flow line and in the river;*
- *Inspect the domestic water supply intakes and manifolds on the flow line to verify that water use does not exceed the water rights holders' entitlements, and if necessary, to adjust water user's valves to the authorized amount; and*
- *Include a summary of the actions taken in SCE's annual report on MIF and ramping rates to FERC and provide a copy of the report to USFWS and CDFW.*

Th~~is~~e flow schedule may be temporarily modified if required by operating emergencies beyond the control of the licensee or for short periods on mutual agreement between the licensee, the U.S. Fish and Wildlife Service, and the California Department of Fish and ~~Game~~ Wildlife. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.