

#### KERN RIVER No. 3 HYDROELECTRIC PROJECT (P-2290)

#### **INITIAL STUDY REPORT MEETING**

TUESDAY, OCTOBER 17, 2023; 1:00 PM-5:00 PM

**LOCATION: KERNVILLE CHAMBER OF COMMERCE** 

MEETING: TEAMS LINK

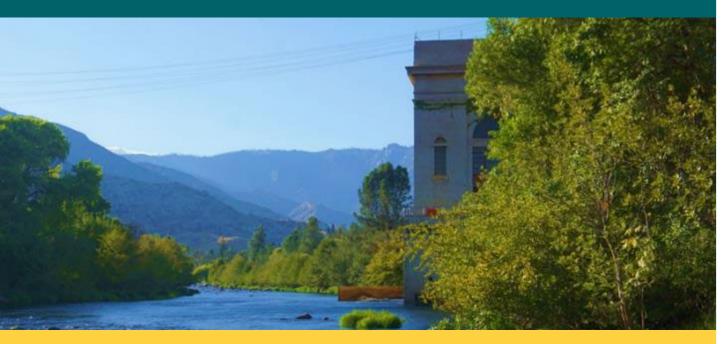
CALL IN: 213-279-1475 / 263283953#

1:00-1:30	Welcome, Safety & Guidelines			
	<ul> <li>Purpose and Objective of Meeting</li> <li>Introductions</li> <li>Project Overview &amp; Schedule</li> </ul>			
1:30-4:50*	Status of Technical Study Plan Implementation			
	<ul> <li>Cultural/Tribal Resources</li> </ul>			
	o CUL-1 Cultural Resource			
	o TRI-1 Tribal Resource			
	Water Resources			
	<ul> <li>WR-1 Water Quality</li> </ul>			
	○ WR-2 Hydrology			
	<ul> <li>Biological/Botanical Resources</li> </ul>			
	<ul> <li>Fish Monitoring Study Update</li> </ul>			
	<ul> <li>BIO-6 Stream Habitat</li> </ul>			
	<ul> <li>BIO-1 Foothill Yellow-legged Frog</li> </ul>			
	<ul> <li>BIO-4 Benthic Macroinvertebrate Survey</li> </ul>			
	<ul> <li>BIO-2 Special-Status Salamanders</li> </ul>			
	<ul> <li>BIO-5 Western Pond Turtle</li> </ul>			
	<ul> <li>BIO-3 General Wildlife Resources</li> </ul>			
	o BOT-1 General Botanical Resources			
	BREAK			
	<ul> <li>Land Use/Operations</li> </ul>			
	<ul> <li>LAND-1 Road Condition Assessment</li> </ul>			
	<ul> <li>GEO-1 Erosion and Sedimentation</li> </ul>			
	<ul> <li>OPS-1 Tunnel Assessment</li> </ul>			
	<ul> <li>EJ-1 Environmental Justice</li> </ul>			
	Recreation Resources			
	o REC-1 Whitewater Boating			
	<ul> <li>REC-2 Recreation Facilities Use Assessment</li> </ul>			
	<ul> <li>REC-3 Existing Recreation Facilities Condition Assessment</li> </ul>			
	<ul> <li>AES-1 Aesthetics Flows Study</li> </ul>			
	<ul> <li>ANG-1 Enjoyable Angling Flows</li> </ul>			
4:50-5:00	Next Steps			

<sup>\*</sup>Times are approximate and subject to change during the meeting.

# Kern No. 3 Project (FERC Project No. 2290)

Initial Study Report Meeting October 17, 2023; 1:00 PM – 5:00 PM



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# Initial Study Report (ISR) Meeting Agenda

1:00 PM - 1:30 PM

Welcome, Safety, & Guidelines
Purpose and Objective of Meeting
Introductions
Project Overview & Schedule

1:30 PM – 4:50 PM

Status of Technical Study Plan Implementation

- Cultural / Tribal Resources
- Water Resources
- Biological / Botanical Resources
- Land Use / Operations
- Recreation Resources

4:50 PM - 5:00 PM

**Next Steps** 

# **Meeting Guidelines**

- Speak one at a time when prompted
- Please be concise
- Focus on issues, not personalities

Remember, this is not the only opportunity to comment on the ISR

# **Purpose of Initial Study Report Meeting**

- Filed Initial Study Report (ISR) on October 10, 2023
  - Link on SCE KR3 Relicensing Website: <u>www. SCE.com/KR3</u>
  - FERC e-Library
- Hold a meeting to:
  - Discuss progress of FERC approved studies
  - Review study plan variances/modifications
- File meeting summary with FERC (November 1st)
- Substantive Stakeholder comments and/or study modification request, encourage e-Filing with FERC

## Criteria for Modification of a Study

- Per 18 CFR §5.15(d) Criteria for modification of approved study.
  - Any proposal to modify an ongoing study pursuant to paragraphs (c)(1)–(4) of this section must be accompanied by a showing of good cause why the proposal should be approved, and must include, as appropriate to the facts of the case, a demonstration that:
    - (1) Approved studies were not conducted as provided for in the approved study plan; or
    - (2) The study was conducted under anomalous environmental conditions or that environmental conditions have changed in a material way.

## Criteria for Request of a New Study

- Per 18 CFR §5.15(e) Criteria for new study.
  - Any proposal for new information gathering or studies pursuant to paragraphs (c)(1)–(4) of this section must be accompanied by a showing of good cause why the proposal should be approved, and must include, as appropriate to the facts of the case, a statement explaining:
    - (1) Any material changes in the law or regulations applicable to the information request;
    - (2) Why the goals and objectives of any approved study could not be met with the approved study methodology;
    - (3) Why the request was not made earlier;
    - (4) Significant changes in the project proposal or that significant new information material to the study objectives has become available; and
    - (5) Why the new study request satisfies the study criteria in § 5.9(b).

# Kern River No. 3 (KR3) Project Team Introductions

- Southern California Edison (SCE)
  - David Moore, Project Manager\*
  - Martin Ostendorf, Sr Licensing Manager\*
  - Dan Keverline, KR3 Area Manager\*
  - Audry Williams, Cultural Resources Specialist\*
  - SCE Legal Council
- Stillwater Sciences (SWS)
  - Russ Liebig, Aquatics Specialist\*
  - Colleen Kamoroff, Amphibians
  - Melissa Lane, Hydrology
  - Ian Pryor, Geology and Lands
  - Annabelle Howe, Stream Habitat Typing
- Psomas
  - Brad Blood, Amphibian, Reptile and Wildlife\*
  - Lindsay Messett, Amphibian, Reptile and Wildlife
  - Sarah Thomas, Amphibian, Reptile and Wildlife

- Environmental Resources Management (ERM)
  - Jillian Roach, Project Manager\*
  - Samantha Bennett, Deputy PM\*
  - Poppy Milliken, Env Justice
  - Luke Hegeman, Aesthetics
- Kleinschmidt Associates
  - Angela Whelpley, Recreation\*
  - Kelly Larimer, Recreation
  - Carl Mannheim, PE, Project Infrastructure
- River Science Institute
  - John Gangemi, Whitewater Resources\*
- McCormick Biological, Inc.
  - Randi McCormick, Botanical Resources\*
  - Alexander Welch, Botanical Resources

# KR3 Project Overview and Relicensing Schedule

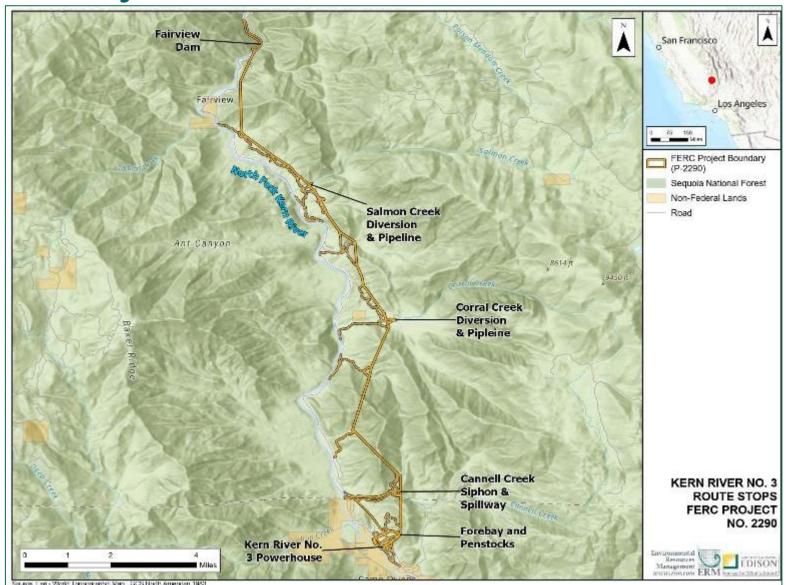


# Kern River No. 3 (KR3) Project

- Current License Expires on November 30, 2026
- Dependable Generating Capacity is 36.8 MW
- Located in Tulare and Kern Counties on Sequoia National Forest (SQF) and SCE-owned lands
- Run-of-River Operations
- Key Project Elements
  - ➤ Fairview Dam and Sandbox
  - ➤ Salmon Creek Diversion
  - Corral Creek Diversion
  - Stream Gages (Kern River& Adit 6/7
  - ➤ Cannell Creek Siphon

- Conveyance Flowline
- Pressure Flume, Forebay & Penstocks
- Stream Gages (Kern River
  Kern River No. 3 Powerhouse

# KR3 Project Area



# Kern River No. 3 Project Integrated Relicensing Process Project Timeline

1st Yr Initial 2nd Yr Draft **Updated** Final Technical **FERC** Field Study Field License Study License NOI/PAD Study Scoping **Studies** Studies Report Report App. App. Plans (22-23)(ISR) (23-24)(USR) (DLA) (FLA) ·11/21/21: •3/4/22: SCE ·10/11/24: ·11/30/24: **•9/22/21**: ·10/10/23: •7/3/24: SCE Filed Notice FERC issued Filed SCE filed files Draft **SCE** files **SCE** files of Intent Scoping **Proposed** ISR USR FLA License (NOI) and Study Plans Document 1 Application 10/17/23: Oct '24: (SD1) Pre-•3/22/22: SCE Holds SCE Holds 10/1/24: **Application** ·12/14/22: SCE held ISR Meeting Stakeholder USR Document FERC held PSP Mtg. file Meeting 11/1/23: (PAD) **Public** •7/1/22: SCE SCE files ISR comments Scoping on DLA filed Meeting Meeting Revised Notes ·3/4/22: Study Plans **FERC** issued ·10/12/22: SD2 **FERC** issued Study Plan Determination (SPD)

# FERC Relicensing Schedule (Revised 10/2022)

Due Date	Responsible Party	Milestone	FERC Regulation 18 CFR§
10/12/23 (filed 10/10/23)	SCE	File Initial Study Report	5.15(c)(1)
10/27/23 (held 10/17/23)	SCE	Initial Study Report Meeting	5.15(c)(2)
11/13/23 (due 11/1/23)	SCE	File Study Report Meeting Summary	5.15(c)(3)
12/11/23	Stakeholders	File Disagreements/Requests to Amend Study Plans*	5.15(c)(4)
1/10/24	Stakeholders	File Responses to Disagreements/Amendment Requests*	5.15(c)(5)
2/9/24	FERC	Issue Director's Determination on Disagreements/Amendments*	5.15(c)(6)
Fall 23 - Summer 24	SCE	Conduct Second Study Season	5.15(a)
7/3/24	SCE	File Draft License Application	5.16(a)-(c)
10/1/24	Stakeholders	File Comments on Draft License Application	5.16(e)
10/11/24	SCE	File Updated Study Report	5.15(f)
10/28/24	SCE	Updated Study Report Meeting	5.15(f)
11/11/24	SCE	File Study Report Meeting Summary	5.15(f)
11/30/24	SCE	File Final License Application	5.17

Energy for What's Ahead® 10/17/2023

# FERC Approved Study Plan Implementation



## **FERC Approved Study Plans**

 FERC approved or approved with modifications 19 study plans and added 1 new study plan

Completed Study Plan Elements	Initiate Fall 2023	Ongoing/Outstanding Study Elements
<ul> <li>BIO-2 Special Status         Salamanders</li> <li>BIO-3 General Wildlife         Resources</li> <li>BIO-5 Western Pond         Turtle</li> <li>BIO-6 Stream Habitat</li> <li>BOT-1 Botanical         Resources</li> <li>REC-3 Existing Recreation         Facilities Condition Assmt.</li> <li>GEO-1 Erosion and         Sedimentation</li> </ul>	➤ BIO-4 Benthic Macroinvertebrate Survey	<ul> <li>WR-1 Water Quality</li> <li>WR-2 Hydrology</li> <li>BIO-1 Foothill Yellow-legged Frog</li> <li>REC-1 Whitewater Boating</li> <li>REC-2 Recreation Facilities Use Assessment</li> <li>AES-1 Aesthetics Flows Study</li> <li>ANG-1 Enjoyable Angling Flows</li> <li>LAND-1 Road Condition Assmt.</li> <li>OPS-1 Tunnel Assessment</li> <li>CUL-1 Cultural Resources</li> <li>TRI-1 Tribal Resources</li> <li>EJ-1 Environmental Justice</li> </ul>

# **FERC Approved Study Plans**

<b>Technical Study Plan</b>	ISR Att.	Technical Study Plan	ISR Att.
WR-1 Water Quality	Att. D	REC-2 Recreation Facilities Use Assessment	Att. N
WR-2 Hydrology	Att. E	REC-3 Recreation Facility Condition Assessment	Att. O
BIO-1 Foothill Yellow-legged Frog	Att. F	CUL-1 Cultural Resources	Att. P
BIO-2 Special Status Salamanders	Att. G	TRI-1 Tribal Resources	Att. Q
BIO-3 General Wildlife Resources	Att. H	Land-1 Road Condition Assessment	Att. R
BIO-4 Benthic Macroinvertebrate	Att. I	GEO-1 Erosion and Sedimentation	Att. S
BIO-5 Western Pond Turtle	Att. J	OPS-1 Water Conveyance Assessment	Att. T
BIO-6 Stream Habitat Typing	Att. K	AES-1 Aesthetic Flows	Att. U
BOT-1 Botanical Resources	Att. L	ANG-1 Enjoyable Angling Flows	Att. V
/¹ॠ€3-1 Whitewater Boating	Att. M	EJ-1 Environmental Justice	Att. W

# Cultural/Tribal Resources



### **CUL-1 Cultural Resources (Att. P)**

# Study Elements Completed

 Reviewed previously recorded and identified new archaeological resources, built-environment resources, and traditional cultural properties (TCPs) within APE

# Ongoing/Outstanding Study Elements

- Finalize Technical Study Reports
- Develop National Register of Historic Places Evaluation Plan
- Prepare Historic Properties Management Plan
- Consult with SQF and Tribes

#### Variances

None

#### **CUL-1 Cultural Resources**

- Key Study Results
  - Archaeological Resources
    - Documented 34 archaeological sites
      - 5 sites were newly documented; remaining 29 were previously recorded
      - 1 newly documented and 3 previously documented sites contained built-environment elements related to the Project
  - Built-Environment Resources
    - Documented 18 resources including the KR3 Historic District
    - All 18 resources are located within or cross the district, and are associated with the KR3HD

## TRI-1 Tribal Resources (Att. Q)

- Study Elements Completed
  - None
- Ongoing/Outstanding Study Elements
  - Document Tribal Resources within or adjacent to the APE
  - Conduct an American Indian ethnographic/ethnohistoric survey
  - Finalize Technical Resource Reports
  - Prepare Historic Properties Management Plan
  - Consult with SQF and Tribes
- Variances
  - None
- Key Study Results
  - None

# Questions / Comments



# Water Resources



## WR-1 Water Quality (Att. D)

- Study Elements Completed
  - Water temperature and dissolved oxygen (DO)
    - May October 2021; May 2022 May 2023\*
  - Bacteriological Monitoring
    - Collected samples September October 2022
    - Collected samples August September 2023\*\*
- Ongoing/Outstanding Study Elements
  - Additional bacterial sampling will be conducted summer 2024
  - Description of spillway operations
  - Data analysis and reports (water temperature, DO, bacterial)

# WR-1 Water Quality (Att. D)

- Variances
  - Water Temperature and DO
    - High flows prevented retrieval and deployment of some data loggers
    - DO data logger malfunction and siltation issues limit data availability
  - Bacterial Sampling
    - Collected additional samples in summer 2022
    - Due to high flows in 2023, sampling over July 4<sup>th</sup> holiday was postponed until 2024
- Modifications to Ongoing Study
  - Redeploy water temperature and DO loggers from fall 2023 summer 2024

# **WR-1 Water Quality**

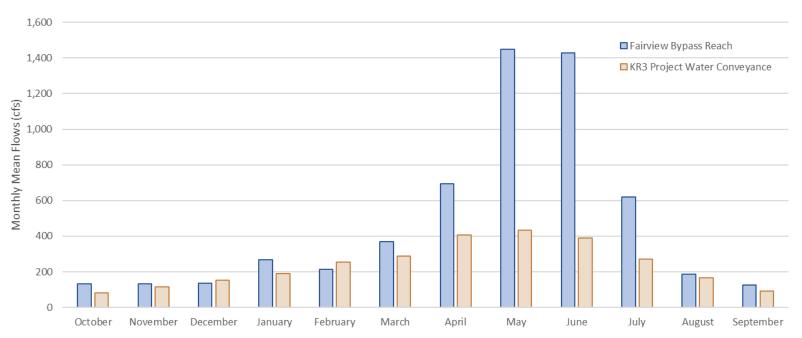
- Key Study Results
  - Water Temperature
    - Water warms from upstream to downstream
    - Seasonal variation with cooler temperatures in winter and warmer temperatures in summer
  - Dissolved Oxygen
    - DO levels generally follow seasonal patterns, decreasing with increased water temperatures
  - Bacteriological Monitoring
    - Initial samples (summer 2022) show generally low levels of fecal coliform, increasing following rain events

# WR-2 Hydrology (Att. E)

- Study Elements Completed
  - Compiled hydrology data for water years 1997–2021
    - June 30, 2023 posted data to public website and notified stakeholders
  - Summarized hydrology (1997-2022) and natural functional flow ranges of the NFKR, consistent with Section A of the California Environmental Flows Framework (CEFF)
- Ongoing/Outstanding Study Elements
  - Calculate flow travel times along the NFKR
  - Review and disseminate hourly gage data WY2022 and 2023
  - Summarize existing flow data from Salmon and Corral Creeks
- Variances
  - Hydrology analysis included an additional water year 2022

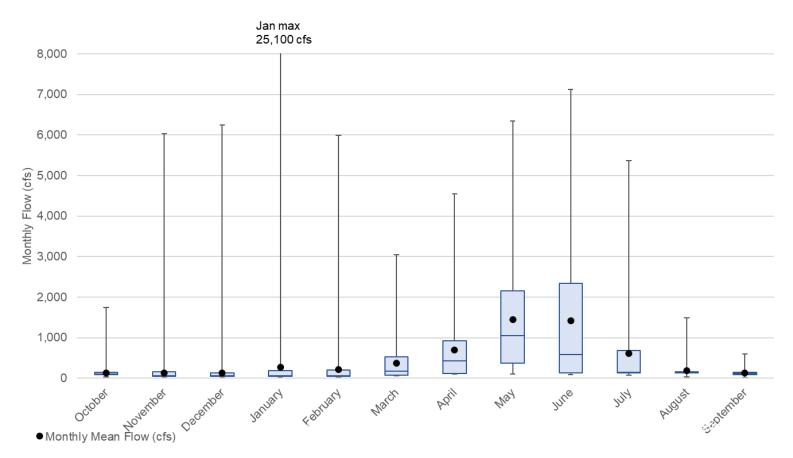
# **WR-2 Hydrology**

- Key Study Results- Hydrology Data
  - North Fork Kern River hydrograph for Fairview Dam Bypass Reach and KR3 Water Conveyance
    - Wettest periods typically occur during spring (April through June)



# **WR-2 Hydrology**

Key Study Results- Hydrology Data (Cont.)



Monthly flow in the Fairview Dam Bypass Reach, Water Years 1997–2022

# **WR-2 Hydrology**

- Key Study Results California Environmental Flows Framework
  - Identified 6 Ecological Management Goals for North Fork Kern River
  - Assessed the Ecological Management Goals to identify essential natural functional flows (e.g., wet season peak flow and dry-season baseflow)
  - Identified the natural flow ranges for each functional flow from the California Natural Flows Database (CNFD)

# Questions / Comments



# Biological & Botanical Resources



# Fish Monitoring Study

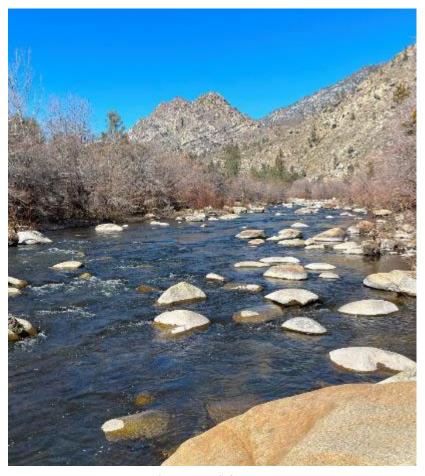
- Current License Requirement (License Article 411)
- Monitor fish populations every 5 years along the NFKR:
  - 2 sites above Fairview Dam
  - 2 sites between Dam and Goldlege Campground
  - 1 site in lower bypass reach
- Conducted field study Oct 2023
- Reporting
  - Due to agencies early 2024
  - File with FERC February 2024
  - Include information/analysis with DLA filing

## BIO-6 Stream Habitat (Att. K)

- Study Elements Completed
  - Mapped macro-habitats within the Fairview Dam Bypass Reach using high-resolution aerial photographs
    - Aerial drone photographs collected by SCE in fall 2022
  - Conducted reach-scale habitat characterization along all study reaches
    - March and July 2023
- Outstanding Study Elements
  - None
- Variances
  - None

#### **BIO-6 Stream Habitat**

- Key Study Results
  - Habitat typing in NFKR were generally consistent with the results from 1991
  - Minor differences:
    - Higher percentage of boulder run versus boulder pocket water
    - Higher percentage of riffles versus runs



Representative Boulder Run on NFKR

# BIO-1 Foothill Yellow-legged Frog (Att. F)

- Study Elements Completed
  - Phase I: Desktop analysis, field visit to assess suitable habitat, select sites
    - Site visit August 29-31, 2022, with SQF
  - Phase II: Implemented Field Surveys
    - Visual Encounter Surveys (VES) # 1: June 21-23, 2023
    - VES# 2: September 5-8, 2023\*
    - Environmental DNA collection: September 5-8, 2023\*
- Variances / Modifications to Ongoing Study
  - Sampling sites along the NFKR and Salmon Creek were inaccessible during the June survey event; will conduct VES in spring 2024
- Ongoing/Outstanding Study Elements
  - Data analysis and reporting
  - Phase III: Pending positive identification, additional data collection may be conducted

# **BIO-1 Foothill Yellow-legged Frog**

- Key Study Results
  - No foothill yellow-legged frogs were observed
  - Suitable habitat for foothill yellow-legged frogs is present in the study area
  - Other herpetofauna observed included Sierran tree frogs, western pond turtles, and southern alligator lizards





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#### **BIO-4 Benthic Macroinvertebrate Survey (Att. I)**

- Study Elements Completed
  - None
- Ongoing/Outstanding Study Elements
  - Field surveys are scheduled for October 2023 (flow and safety dependent)
    - Conduct an inventory and assessment of BMI diversity and abundance at 4 sites in the North Fork Kern River using an aquatic ecosystem health index
  - Data analysis and reporting will be completed following the field surveys
- Variances
  - None

#### BIO-2 Special-Status Salamanders (Att. G)

- Study Elements Completed
  - Phase I: Literature review and habitat assessment
    - October 25-28, 2022 and November 14-16, 2022
    - Installed cover boards at 3 locations
  - Phase II: Conducted field surveys at suitable habitat
    - #1: February 6-9, 2023
    - #2: April 17-18, 2023
- Outstanding Study Elements
  - None
- Variances
  - Second salamander survey delayed until April 2023
  - VESs not conducted due to site safety conditions:
    - Cover Object Searches (COSs) were conducted
    - Modified time-constrained search was used

#### **BIO-2 Special-Status Salamanders**

- Key Study Results
  - 3 Fairview salamanders were observed
    - 2 in Packsaddle Canyon
    - 1 in a small un-named canyon adjacent to Adit 16/17.
  - No other special status salamander species were observed
  - Other herpetofauna observed included gopher snake and Sierra garter snake





#### **BIO-5 Northwestern Pond Turtle (Att. J)**

- Study Elements Completed
  - Phase I: Literature review and habitat assessment
    - October 25-28, 2022 and November 14-16, 2022
  - Phase II: Implemented Field Surveys
    - Survey #1: May 15-18, 2023
    - Survey #2: August 10-11, 2023
- Outstanding Study Elements
  - None
- Variances
  - Some potentially suitable habitat locations viewed using binoculars due to high flows and locations unsafe to access/cross during early breeding season surveys

#### **BIO-5 Northwestern Pond Turtle**

- Key Study Results
  - Suitable habitat is present in the study area
    - Most suitable habitat located within Cannell Ck
  - 1 adult observed below Siphon Road in Cannell Ck
  - 4 additional pond turtles were incidentally observed during FYLF surveys
    - 50m-400m above the Cannell Creek spillway



 Other herpetofauna observed: Baja California treefrog, western fence lizard, common side-blotched lizard, and Sierra garter snake

#### BIO-3 General Wildlife Resources (Att. H)

- Study Elements Completed
  - Phase I: Literature review and habitat assessment
    - October 25-28, 2022, and November 14-16, 2022
  - Phase II: Field Surveys
    - #1: May 15-18, 2023
    - #2: June 21-23, 2023
    - #3: July 10-12, 2023
    - Installed and reviewed trail camera data in 2022 and 2023
- Outstanding Study Elements
  - None
- Variances
  - Recorded least Bell's vireo vocalizations not used during the surveys

#### **BIO-3 General Wildlife Resources**

#### Key Study Results

- No western yellow-billed cuckoo, southwestern willow flycatcher or least Bell's vireo were observed or detected
- No sign of bat roosting was observed on any of the Project facilities
- No California condors were observed
- No Pacific fishers were observed or detected
- Varying amounts of suitable habitat for these species is present in the study area



#### **BOT-1 General Botanical Resources (Att. L)**

#### Study Elements Completed

- Identified and mapped potentially suitable habitat for known and likely to occur special-status botanical resources and nonnative invasive plants
- Conducted floristic field surveys during 3 botanical survey periods
  - April 12-20, 2022; June 7-9, 2022; August 3-11, 2022
  - April 17-20, 2023; May 30-June 2, 2023

#### Outstanding Study Elements

None

#### Variances

- High flows limited safe access along west bank NFKR during 2023 surveys
- Red brome and cheatgrass were found in all survey areas; no specific geospatial data were recorded

#### **BOT-1 General Botanical Resources**

- Key Study Results
  - 10 special-status plants were found in the Study Area
    - Call's angelica
    - Kern River daisy
    - Kern Canyon clarkia
    - Limestone dudleya
    - Mojave tarplant
    - Piute cypress
    - Rose-flowered larkspur (=Kern County larkspur)
    - Tracy's eriastrum
    - Transverse Range phacelia
    - Two-colored monkey flower
  - 3 non-native invasive plants with a Cal-IPC rank of high were found
    - Red brome, cheatgrass, Himalayan blackberry

## Questions / Comments



# Land Resources and Project Operations



#### LAND-1 Road Condition Assessment (Att. R)

- Study Elements Completed
  - May 2023: Desktop review of road conditions and road maintenance practices
  - June 2023: Field assessment to characterize existing road conditions
  - June 2023: Initiated monthly spot counts on Project and Shared Access Roads
- Ongoing/Outstanding Study Elements
  - Road use spot counts through May 2024
  - Characterization of SCE's use along Project Roads
- Variances
  - Start of the monthly spot counts was delayed

#### **LAND-1 Road Condition Assessment**

- Key Study Results
  - 36 roads, totaling 19.33 miles were surveyed
    - 105 drainage features, including 75 culverts were mapped and inventoried
    - 56 erosion features were mapped and inventoried
    - 32 roads were categorized as "Good" to "Fair" condition



Left: Example of road in "Good Condition"





#### **GEO-1 Erosion and Sedimentation (Att. S)**

- Study Elements Completed
  - Desktop review conducted May to June 2023
    - Reviewed aerial imagery, LiDAR topographic data from 2008 to 2009, and available operation maintenance records
  - Field survey conducted July 25–26, 2023
    - Document erosion from Project-related sources and shared access roads within the FERC Project Boundary
- Outstanding Study Elements
  - None
- Variances
  - None

#### **GEO-1 Erosion and Sedimentation**

- Key Study Results
  - Desktop Review
    - Erosion and sedimentation are small scale and remained stable from 2005 to 2022 with few exceptions
    - KR3 Powerhouse Forebay Spillway channel and Cannell Creek Siphon and Spillway has remained largely unchanged since 2005
  - Field Survey: Erosion Locations
    - Surface erosion at 4 spoil sites pads
    - KR3 Spillway Channel (primarily early 1900s)

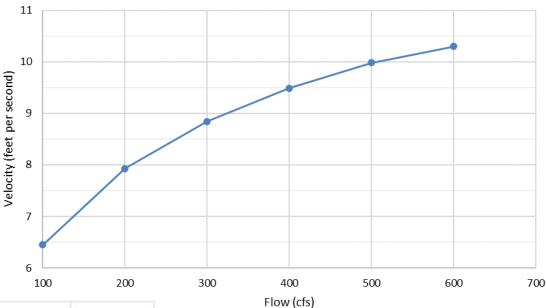
 KR3 Powerhouse and access road bank erosion

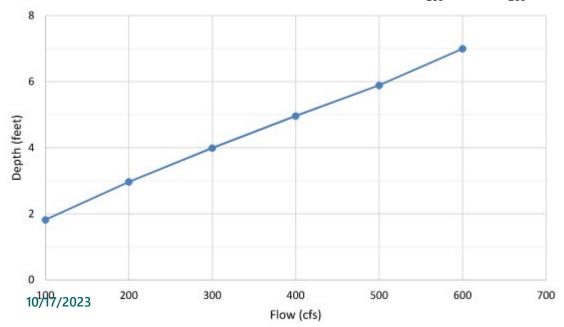
#### **OPS-1 Tunnel Assessment (Att. T)**

- Study Elements Completed
  - Phase 1: Summarized existing literature
  - Phase 2: Completed engineering review and hydraulic assessment under varying flow conditions
- Ongoing/Outstanding Study Elements
  - Phase 2: structural integrity assessment, including a list of guidelines and recommendations for longterm Project operations and tunnel cycling
- Variances
  - None

#### **OPS-1 Tunnel Assessment**

Right: Typical Velocity vs. Flow Relationship in Concrete-lined Tunnel Sections





Left: Typical Depth vs. Flow Relationship in Concrete-lined Tunnel Sections

#### **EJ-1 Environmental Justice (Att. W)**

- Study Elements Completed
  - Evaluated environmental justice communities within 1-mile of the Project
- Outstanding Study Elements
  - If applicable, evaluation of potential Project effects on EJ communities, and inclusion of mitigation measures to avoid or minimize Project impacts
- Variances
  - None

#### **EJ-1 Environmental Justice**

- Key Study Results
  - Three Census Block Groups (CBG) within 1-mile of the Project are classified as EJ communities based on income
  - The study area does not include any communities with high minority populations
  - Census Block Groups within 1-Mile of the Project

County	1-Mile Radius
Kern County	CT 52.07 BG 3 <sup>a</sup> CT 52.07 BG 2 <sup>a</sup> CT 52.08 BG 3 <sup>a</sup>
Tulare County	CT 27.01 BG 2 <sup>a</sup>

BG= Block Group; CT=Census Tract

<sup>&</sup>lt;sup>a</sup>EJ community based on low-income population higher than the relative counties.

## Questions / Comments



### Recreation Resources



#### **REC-1 Whitewater Boating (Att. M)**

- Study Elements Completed
  - Level 1: Desktop review and structured interview questionnaire
  - Level 2: Limited Reconnaissance Site Visit
  - Level 3: Intensive Study
    - Single flow boating survey initiated
- Ongoing/Outstanding Study Elements
  - Level 1: Analysis of structured interview questionnaire responses
  - Level 3: Intensive Study
    - Continuation of single flow boating survey
    - If needed, provide enhanced flow releases designed to target knowledge gaps
    - Comparative flow survey and comparative flow focus group
  - Level 3 Data analysis
- Variances
  - None

#### **REC-1 Whitewater Boating**

- Key Study Results
  - Level 1: Desktop Review
    - Summarized existing information
    - Structured interview questionnaire: May 5 August 15, 2023
      - 51 responses received
  - Level 2: Limited Reconnaissance
    - Study participant self nomination: April 15 May 15, 2023
      - 13 individuals self-nominated; 10 participated
    - Resource agencies: 2 agencies accepted; 1 attended
    - Conducted site visit on August 25, 2023
  - Level 3: Intensive Study
    - Single flow whitewater survey: April 1, 2023-ongoing
      - Boaters evaluate flows for each trip on the NFKR
      - 401 responses as of September 20, 2023

#### REC-2 Recreation Facilities Use Assessment (Att. N)

#### Study Elements Completed

- Visitor Surveys
  - Finalized survey questionnaire per SPD
  - Initiated in-person/online visitor surveys and spot counts in April 2023
- Trail Cameras
  - Initiated installation in March 2023 and included 1-hr calibration counts
  - Initiated 2-hr calibration counts and spot counts in June 2023 following removal of cameras
- Ongoing/Outstanding Study Elements
  - Visitor Surveys
    - In-person visitor intercept surveys and spot counts continue through March 2024
    - Online visitor surveys available through March 2024
  - Two-hour calibration counts and spot counts continue through March 2024 (in lieu of trail cameras)
  - Data analysis and reporting following completion of field surveys

#### **REC-2 Recreation Facilities Use Assessment**

#### Variances

#### **Visitor Surveys**

- Reworded visitor survey questions
- Revised daily start/end time
- Combined 2 survey circuits into 1 circuit
- Shifted 1yr calendar date for visitor surveys

#### **Trail Cameras**

 Removed all trail cameras; replaced with 2-hr calibration counts and spot counts

#### Modifications to Ongoing Study

- Start/end times coincide with sunrise/sunset
- Continue 1-circuit data collection approach
- Continue with 2-hr calibration and spot counts through March 2024

#### **REC-2 Recreation Facilities Use Assessment**

- Data Summary To Date
  - Visitor Surveys, Spot Counts and One-hour Calibration counts
    - 16 visitor survey days
    - 1,014 recreationists approached
      - 734 completed survey 280 declined to participate
    - 16 spot count days
    - 5 one-hour calibration counts
  - Two-hour Calibration Counts and Spot Counts
    - 11 two-hour calibration counts
    - 11 spot counts
  - Online Surveys
    - 15 surveys submitted

# REC-3 Existing Recreation Facilities Condition Assessment (Att. O)

- Study Elements Completed
  - Facility inventory and condition assessment
    - Field surveys conducted October 11-13, 2022
  - Assessed the condition and potential for universal accessibility, where feasible
  - Identified existing dispersed recreation sites, including documentation of existing conditions
- Outstanding Study Elements
  - None
- Variances
  - None

# REC-3 Existing Recreation Facilities Condition Assessment

- Key Study Results
  - 15 developed recreation facilities inventoried, and condition assessment completed
    - Overall, sites are in adequate condition
    - 14 sites are SQF owned/operated (non-Project facilities)
    - 1 site is a KR3 Project Facility
  - 7 dispersed recreation sites assessed
    - All sites are SQF owned/operated (non-Project facilities)
    - No Fee required
    - First-come/first-serve availability

#### **AES-1 Aesthetic Flows Study (Att. U)**

- Study Elements Completed
  - Level 1 Desktop Review of Existing Information
    - Literature review describing landscape and aesthetic resources
    - Updated aesthetic questions for the REC-2 visitor intercept survey
    - Summarized resource management goals and objectives
    - USFS Scenery Management System for Fairview Dam Bypass Reach
- Ongoing/Outstanding Study Elements
  - Complete Level 1: Desktop Review
    - Analyze responses from REC-2 Visitor Intercept Survey
  - Assess need for Level 2 Limited Reconnaissance based in part on REC-2 Visitor Intercept Survey
  - If needed, progression to Level 3

#### **AES-1 Aesthetic Flows Study**

- Variances / Modifications to Ongoing Study
  - Level 2 Reconnaissance Assessment
    - Not conducted concurrently with REC-1 Whitewater Boating Level 2 Reconnaissance Assessment
    - If applicable, the Level 2 assessment will include a diverse group of Stakeholders, not only those who participated in the REC-1 Level 2 Reconnaissance effort
  - Study Implementation Schedule
    - Data collection as part of Level 1 Desktop Analysis is ongoing, premature to conclude the need for progression to Level 2 and Level 3 assessments
    - If applicable, SCE will evaluate the need for further intensive data collection (i.e., Level 2 assessment) and will include a rationale and justification for its conclusions regarding recommendation on whether to proceed to the next level of study.

#### ANG-1 Enjoyable Angling Flows (Att. V)

- Study Elements Completed
  - Level 1 Desktop Study
    - Literature review describing river characteristics and angling opportunities
    - Structured interviews with persons knowledgeable about angling in the Project Area
    - Updated angling questions for REC-2 visitor intercept survey
    - Summarized resource agency goals and objectives
- Ongoing/Outstanding Study Elements
  - Complete Level 1: Desktop Study
  - Analyze angling question responses in REC-2 Visitor Intercept Survey
  - Assess need for Level 2 Limited Reconnaissance based in part on REC-2 Visitor Intercept Survey
  - If needed, progression to Level 3

#### **ANG-1 Enjoyable Angling Flows**

- Variances / Modification to Ongoing Study
  - Data collection as part of Level 1 Desktop Analysis is ongoing, premature to conclude the need for progression to Level 2 and Level 3 assessments
  - If applicable, SCE will evaluate the need for further intensive data collection (i.e., Level 2 assessment) and will include a rationale and justification for its conclusions regarding recommendation on whether to proceed to the next level of study.

## Questions / Comments



# Next Steps



#### **Next Steps**

- November 1, 2023: SCE will file the ISR Meeting Summary with FERC
- December 11, 2023: Stakeholders can file written comments with FERC
  - Associated with the ISR / ISR meeting notes
  - New/modified study requests per 18 CFR §5.15(d) or (e)

# **KR3 Project Contact Information**

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Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
WR-1 Water Quality (Attachment D)	<ul> <li>Utilize data loggers to collect stream water temperature and dissolved oxygen (DO) at 10 sites. Deploy loggers starting June 1, 2022, and collect data for 12 months (through May 31, 2023) to capture summer shoulder (fall and spring) and winter seasons.</li> <li>Bacterial (fecal coliform) sampling will occur during the recreation season and include the 2023 July 4th holiday weekend as well as the 2023 Labor Day holiday weekend.</li> <li>Describe spillway operations (e.g., frequency, duration, volume, and periods of spill) in the Initial Study Report (ISR).</li> </ul>	<ul> <li>Collected stream water temperature and DO at 10 sites:         <ul> <li>Water temperature loggers: May 11 to October 18, 2021; May 1, 2022, to May 11, 2023 (with some exceptions due to equipment malfunctions or stream access conditions)</li> <li>DO loggers: May 10 to October 18, 2021; May 26 to November 10, 2022 (with some exceptions due to equipment malfunctions or stream access conditions)</li> </ul> </li> <li>Collected bacterial water samples:         <ul> <li>One sampling event was conducted between September 6 and September 26, 2022.</li> </ul> </li> </ul>	<ul> <li>Data loggers:         <ul> <li>Due to data logger malfunction and high sustained spring and summer flows, stream water temperature and DO data loggers did not collect data for 12 continuous months.</li> </ul> </li> <li>Bacterial sampling:         <ul> <li>Conducted additional sampling in September 2022.</li> <li>Due to high flows in summer 2023, water sampling over the July 4th holiday weekend was postponed until 2024.</li> </ul> </li> </ul>	<ul> <li>Bacterial (fecal coliform)         water samples during the         2024 July 4th holiday         weekend:</li></ul>	Redeploy water temperature and DO data loggers for an additional year of data collection from fall 2023 to summer 2024.
WR-2 Hydrology (Attachment E)	<ul> <li>Compile and summarize hydrologic gage data from water years (WYs) 1997 through 2021.</li> <li>Summarize existing flow data for Salmon and Corral Creeks.</li> <li>Compile hourly gage data from WYs 2022 and 2023.</li> <li>Calculate natural functional flow ranges for the North Fork Kern River (NFKR) upstream of Fairview Dam consistent with Section A of the <i>California Environmental Flows Framework</i> (CEFWG, 2021).<sup>1</sup></li> <li>Describe flow travel times (on an hourly level) on the NFKR between Fairview Dam and Kernville for a variety of flows (minimum bypass reach flows up to maximum whitewater release flow target of 1,400 cfs) during the recreational boating season.</li> </ul>	<ul> <li>Compiled and distributed hydrology data from Southern California Edison (SCE) and the U.S. Geological Survey for the current license term from WYs 1997 to 2021.</li> <li>Posted data to public website and notified Stakeholders via email on June 30, 2023.</li> <li>Summarized hydrology gage data using various statistical parameters for WYs 1997 to 2022.</li> <li>Summarized natural functional flow ranges for the NFKR consistent with Section A of the California Environmental Flows Framework.</li> </ul>	Hydrology analysis included an additional WY as additional data were available (2022).	<ul> <li>Estimate flow travel times on the NFKR between Fairview Dam and Kernville.</li> <li>Review and disseminate hourly gage data from WYs 2022 and 2023.</li> <li>Summarize existing flow data from Salmon and Corral Creeks.</li> </ul>	• None
BIO-1 Foothill Yellow- Legged Frog (Attachment F)	<ul> <li>Phase I: Assess the general study area for suitable habitat and select survey and sampling sites.</li> <li>Phase II: Implement field studies to collect environmental DNA (eDNA) samples and conduct two Visual Encounter Surveys (VESs). VESs will be conducted in early spring and late summer. Exact timing will depend on water hydrograph and oviposition timing of nearest known extent population and in consultation with U.S. Fish and Wildlife Service and the U.S. Forest Service (USFS).</li> <li>Surveys will occur at 6 to 11 sites depending on the availability of habitat.</li> </ul>	<ul> <li>Phase I: Assessed the general study area for suitable habitat and selected survey and sampling sites.</li> <li>Conducted a site visit on August 29–31, 2022, with Sequoia National Forest (SQF) to review and map potential sampling sites.</li> <li>Reassessed habitat suitability in June 2023.</li> <li>Phase II: Implement eDNA and VES protocols.</li> <li>Foothill yellow-legged frog VES #1 (conducted June 20–22, 2023).</li> </ul>	Due to high flows, sampling sites along the NFKR and Salmon Creek were unable to be surveyed during June 2023 sampling event.	<ul> <li>Phase II: Implement eDNA and VES protocols.</li> <li>Foothill yellow-legged frog VES #2 (scheduled for September 2023).</li> <li>Foothill yellow-legged frog eDNA survey (scheduled for September 2023).</li> <li>Data analysis and reporting are in progress following the completion of field surveys and eDNA.</li> <li>Phase III: Pending positive identification in any Project-affected stream reaches, additional data collection may be conducted.</li> </ul>	sites along the NFKR and Salmon Creek in spring 2024; exact timing dependent on water hydrograph and oviposition timing.

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October 2023

<sup>&</sup>lt;sup>1</sup> CEFWG (California Environmental Flows Working Group). 2021. California Environmental Flows Framework. Version 1.0. California Water Quality Monitoring Council Technical Report. March.

Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
BIO-2 Special-Status Salamanders (Attachment G)	<ul> <li>Phase 1: Habitat Assessment         <ul> <li>Identify and map potentially suitable special-status salamander habitat within the study area.</li> <li>Install up to six cover board arrays.</li> </ul> </li> <li>Phase 2: VESs         <ul> <li>Conduct VES at potential habitat locations identified during Phase 1 assessment.</li> <li>Two separate surveys will be conducted and seasonally timed to occur during the late winter rainy season, targeting January to March.</li> </ul> </li> </ul>	I DOTENTIALLY STUTANIE NANTAT WAS MANNEN WITHIN THE	<ul> <li>Due to heavy rains and road closures in the Project Vicinity, the second survey was postponed until April 2023 when the survey sites were safe to access.</li> <li>Due to site safety conditions, Cover Object Searches were conducted instead of VESs.</li> <li>A modified time-constraint search was used instead of an areaconstrained search due to topography and site safety concerns.</li> </ul>	• None	• None
BIO-3 General Wildlife Resources (Attachment H)	<ul> <li>Conduct a literature search to determine if any additional special-status wildlife species or USFS Species of Conservation Concern (FSCC), including bat species, have been identified as having the potential to occur within the study area or in the surrounding Project Vicinity.</li> <li>Map known occurrences and potentially suitable nesting or denning habitat in the study area as targeted areas for field surveys.</li> <li>Conducted pedestrian surveys within the study area at appropriate times of the year (e.g., nesting season) to maximize species observations and map their presence, if observed. Include playbacks for yellow-billed cuckoo, southwestern willow flycatcher, and least Bell's vireo.</li> <li>Provide specific information on survey methodology for each list species potentially occurring in the Project Area.</li> <li>Install trail cameras to capture wildlife observations.</li> </ul>	<ul> <li>Identified and mapped potentially suitable nesting or denning habitat in the study area.</li> <li>Field surveys were conducted on October 25–28, 2022, and November 14–16, 2022.</li> <li>Conducted pedestrian surveys at appropriate times of the year to identify and map species presence.</li> <li>Field surveys were conducted on May 15–18, 2023; June 21–23, 2023; and July 10–12, 2023.</li> <li>Installed two trail cameras and reviewed</li> </ul>	Recorded vocalizations for the least Bell's vireo were not used during the surveys because they are not required per survey protocol.	• None	• None
BIO-4 Benthic Macroinvertebrate (Attachment I)	<ul> <li>Conduct an inventory and assessment of benthic macroinvertebrate diversity and abundance in the Fairview Dam Bypass Reach<sup>2</sup> using an aquatic ecosystem health index.</li> <li>Samples will be collected in the NFKR upstream of Fairview Dam (control site) and three locations downstream of the dam.</li> </ul>	• None	Due to the timing of the FERC Study Plan Determination (SPD) (October 12, 2022; FERC, 2022) <sup>3</sup> and high stormflow and turbidity in late October 2022, sampling was postponed until fall 2023.	Conduct an inventory and assessment of benthic macroinvertebrate diversity and abundance at four sampling locations within the NFKR.      Surveys are scheduled for fall 2023 and are dependent on flow in the NFKR.      Data analysis and reporting will be completed following the completion of field surveys.	• None

<sup>&</sup>lt;sup>2</sup> The Fairview Dam Bypass Reach is defined as the approximately 16-mile bypass reach of the NFKR between Fairview Dam and the KR3 Powerhouse tailrace. <sup>3</sup> FERC (Federal Energy Regulatory Commission). 2022. Study Plan Determination for the Kern River No. 3 Hydroelectric Project. 20221012-3024. October 12.

Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
BIO-5 Western Pond Turtle (Attachment J)	<ul> <li>Phase 1: Habitat Assessment         <ul> <li>Conduct literature search to review new occurrences.</li> <li>Identify and map potentially suitable Western pond turtle habitat within the study area.</li> </ul> </li> <li>Phase 2: VESs         <ul> <li>Conduct two Western pond turtle VESs, one early in the breeding season (March to May) and one later in the breeding season (June to August).</li> </ul> </li> </ul>	<ul> <li>Phase 1: Identified and mapped known locations and potentially suitable habitat for northwestern pond turtle<sup>4</sup> in the study area.</li> <li>Field surveys were conducted from October 25–28, 2022, and November 14–16, 2022, to verify suitable habitats.</li> <li>Phase 2: Conducted VESs for northwestern pond turtles in the study area.</li> <li>Field surveys were conducted on May 15–18, 2023, and August 10–11, 2023.</li> </ul>	Due to high flows in NFKR and surrounding creeks, some locations were unsafe to access/cross during early breeding season surveys; when this occurred, potentially suitable habitat locations were viewed using binoculars.	• None	• None
BIO-6 Stream Habitat Typing (Attachment K)	<ul> <li>Conduct reach-scale habitat characterization within the Fairview Dam, Salmon Creek Diversion, and Corral Creek Diversion Bypass Reaches.<sup>5</sup></li> <li>Map macro-habitats within the study area using high-resolution aerial photographs of the Fairview Dam Bypass Reach.</li> <li>Compared current conditions to prior habitat composition surveys.</li> </ul>	<ul> <li>Conducted reach-scale habitat characterization within the Fairview Dam, Salmon Creek Diversion, and Corral Creek Diversion Bypass Reaches.</li> <li>Mapped macro-habitats within the study area using high-resolution aerial photographs of the Fairview Dam Bypass Reach and pedestrian surveys.         <ul> <li>Aerial drone photographs were collected by SCE in September 2022.</li> <li>Field surveys along the NFKR to validate results of aerial photography analysis were conducted March 7–8, 2023.</li> <li>Field surveys along Salmon and Corral Creeks were conducted July 10–11, 2023.</li> </ul> </li> <li>Compared current conditions to prior habitat composition surveys.</li> </ul>	• None	• None	• None

<sup>4</sup> Since the conception, approval, and implementation of the BIO-5 Study Plan, the Western pond turtle was split into two species: the northwestern pond turtle (Actinemys marmorata) and southwestern pond turtle (Actinemys pallida). The species that occurs in the Project Area is now known as the northwestern pond turtle. The updated common name is used throughout the report.

<sup>&</sup>lt;sup>5</sup> The Salmon Creek Diversion Bypass Reach is defined as the 0.4-mile bypass reach from Salmon Creek Diversion downstream to the confluence with the North Fork Kern River (NFKR). The Corral Creek Diversion Bypass Reach is defined as the 1.1-mile bypass reach from Corral Creek Diversion downstream to the confluence with the NFKR.

Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
BOT-1 General Botanical Resources (Attachment L)	<ul> <li>Identify and map potentially suitable habitat for known and likely to occur special-status botanical resources and Non-Native Invasive Plants (NNIPs) in the study area.</li> <li>Conduct floristic field surveys for known or potential occurrences of special-status botanical resources and non-native plants.</li> </ul>	<ul> <li>Identified and mapped potentially suitable habitat for known and likely to occur special-status botanical resources and NNIPs in the study area.</li> <li>Field surveys completed mapping of all habitats October 27, 2022.</li> <li>Conducted floristic field surveys during three botanical survey periods (spring, summer, and late summer/fall) for known or potential occurrences of special-status botanical resources and NNIPs.</li> <li>Field surveys conducted on April 12–20, 2022; June 7–9, 2022; and August 3–11, 2022, along the Cannell Creek Bypass Reach<sup>6</sup> and all aboveground Project facilities.</li> <li>Focused field surveys along the Fairview Dam, Salmon Creek, and Corral Creek Bypass Reaches were conducted August 3–11, 2022; April 17–20, 2023; and May 30–June 2, 2023.</li> </ul>	<ul> <li>High flows and limited safe access along the west bank of the NFKR prohibited a complete survey of the Fairview Dam Bypass Reach during 2023 floristic surveys.</li> <li>Red brome (<i>Bromus madritensis</i> ssp. <i>rubens</i>) and cheatgrass (<i>Bromus tectorum</i>) were found in all survey areas, and no specific geospatial data were recorded.</li> </ul>	• None	• None
REC-1 Whitewater Boating (Attachment M)	<ul> <li>Level 1: Desktop review of existing information:         <ul> <li>Literature review</li> <li>Hydrology summary</li> <li>Project facility evaluation</li> <li>Structured interviews via an online survey</li> </ul> </li> <li>Level 2: Reconnaissance assessment limited to 12         <ul> <li>Stakeholders nominated from the boating community and any interested agency staff.</li> </ul> </li> <li>Level 3: Intensive Study         <ul> <li>Single flow survey</li> <li>Flow comparison survey</li> <li>Whitewater focus group</li> <li>Hydrology analysis</li> </ul> </li> <li>If SCE concludes that a Level 3 study is not necessary based on the Level 1 and 2 study results, then provide a detailed justification for its conclusion in the ISR. In addition, if the results of the Level 1 and Level 2 studies support the need for a Level 3 study but SCE continues to contend that a controlled flow study cannot be conducted, then SCE must provide a detailed justification for its conclusion in the ISR.</li> </ul>	<ul> <li>Level 1: Desktop review of existing information:         <ul> <li>Literature review</li> <li>Hydrology summary</li> <li>Project facility evaluation</li> <li>Structured interview questionnaire was available from May 5 to August 15, 2023.</li> <li>51 responses were received.</li> </ul> </li> <li>Level 2: Limited reconnaissance study.         <ul> <li>Interested public and agencies were nominated and identified in May 2023.</li> <li>Conducted Level 2 site visit on August 25, 2023.</li> </ul> </li> <li>Level 3: Intensive Study         <ul> <li>Single flow survey initiated April 1, 2023, for boaters to evaluate flows for each trip on the NFKR regarding their boating experience at various flow levels. The Level 3 single flow survey will remain open through December 31, 2023.</li> <li>To date, 401 survey responses received.</li> <li>Justification regarding controlled flow study.</li> </ul> </li> </ul>	• None	<ul> <li>Level 1 structured interview questionnaire data analysis.</li> <li>Level 3 is ongoing and will be completed in 2024.</li> <li>Single flow survey available through December 31, 2023.</li> <li>Comparative flow survey scheduled for 2024.</li> <li>Comparative flow focus group discussion scheduled for 2024.</li> </ul>	• None

<sup>&</sup>lt;sup>6</sup> The Cannell Creek Bypass Reach is defined as the 1-mile bypass reach from the spillway to the confluence with the NFKR.

Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
REC-2 Recreation Facilities Use Assessment (Attachment N)	<ul> <li>Conduct visitor intercept surveys twice monthly (1 weekday and 1 weekend day) and 1 day of each holiday weekend from January 2023 through December 2023, as outlined in the SPD.         <ul> <li>Expand survey area to include the 1.9 miles above Fairview Dam.</li> <li>Utilize bilingual English-Spanish speaking surveys.</li> <li>Provide copies of the survey/link to the SQF and other local outfitters.</li> <li>Utilize the bus route method between two survey circuits.</li> <li>Surveys conducted between 7 a.m. and 7 p.m.</li> </ul> </li> <li>Conduct spot counts at each recreation site, concurrently with the visitor intercept surveys.</li> <li>Install trail cameras at each recreation site.         <ul> <li>Provide a list, map, and description via email to the USFS, National Park Service, and Kern River Boaters at least 1 month prior to installation to receive feedback.</li> <li>The final locations and methods of data collection used at the recreation sites, consultation log, and responses to comments should be filed with the Federal Energy Regulatory Commission (FERC) as part of the ISR.</li> </ul> </li> <li>Modify the REC-2 visitor intercept survey questionnaire to include revised and additional questions, as detailed within the SPD.</li> <li>Data analysis to estimate existing and future recreational use, recreation site capacity and use density percentages, and recreation needs.</li> </ul>	and spot counts in April 2023 with teams of bilingual surveyors. Through September 23,	<ul> <li>Visitor Surveys         <ul> <li>Reworded some survey questions for clarity and consistency in question language.</li> <li>Delayed the start date of visitor intercept surveys until April 2023; surveys will be conducted for one full calendar year through March 2024.</li> <li>Start and end times were adjusted to account for seasonality (sunrise to sunset) versus 7 a.m. to 7 p.m.</li> <li>Site data collection approach was revised from two circuits to one circuit, while maintaining the integrity of randomization by continuing to select random starting site time, and direction of travel.</li> </ul> </li> <li>Trail Cameras         <ul> <li>Removed trail cameras and revised methodology to conduct 2-hour calibration and spot counts.</li> </ul> </li> </ul>	following the completion of field surveys.	<ul> <li>Visitor Surveys         <ul> <li>Continue with one circuit site data collection approach and randomizing starting site, time and direction of travel.</li> <li>Through the shoulder and winter season, continue with start and end times to coincide with sunrise and sunset.</li> </ul> </li> <li>Trail Cameras/Calibration Counts         <ul> <li>Continue conducting 2hour calibration and spot counts on additional survey days through the remaining study period (March 2024).</li> </ul> </li> </ul>
REC-3 Recreation Facility Condition Assessment (Attachment O)	<ul> <li>Facility inventory and condition assessment at existing recreation facilities and associated parking areas, including an evaluation of signage and public safety features.</li> <li>Assess the condition and potential for universal accessibility, where feasible.</li> <li>Identify existing dispersed recreation sites, including documentation of existing conditions.</li> </ul>	<ul> <li>Facility inventory and condition assessment at existing recreation facilities and associated parking areas, including an evaluation of signage and public safety features.</li> <li>Field surveys were conducted on October 11–13, 2022.</li> <li>Assessed the condition and potential for universal accessibility, where feasible.</li> <li>Identified existing dispersed recreation sites, including documentation of existing conditions.</li> </ul>	• None	• None	• None
CUL-1 Cultural Resource (Attachment P)	Review previously recorded and identified new archaeological resources, built-environment resources, and Traditional Cultural Properties within the Area of Potential Effects (APE).	<ul> <li>Reviewed previously recorded and identified new archaeological resources, built-environment resources, and Traditional Cultural Properties within the APE.</li> <li>Completed archival research.</li> <li>Archaeological and built-environment field inventory surveys were conducted between March and August 2022.</li> </ul>	• None	<ul> <li>Finalize cultural resource technical study reports and consult with SQF and Tribes.</li> <li>Development of a National Register of Historic Places Evaluation Plan in consultation with SQF and Tribes.</li> <li>Prepare and consult on the development of the Historic Properties Management Plan.</li> </ul>	• None

Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
TRI-1 Tribal Resource (Attachment Q)	<ul> <li>Identify and document Tribal resources identified within or immediately adjacent to the proposed APE.</li> <li>Conduct an American Indian ethnographic/ethnohistoric survey of the proposed APE and Study Area.</li> </ul>	• None	• None	<ul> <li>Document Tribal resources identified within or immediately adjacent to the proposed APE.</li> <li>Conduct an American Indian ethnographic/ethnohistoric survey of the proposed APE and Study Area.</li> <li>Finalize Tribal resources technical study reports and consult with SQF and Tribes.</li> <li>Prepare and consult on the development of the Historic Properties Management Plan.</li> </ul>	• None
LAND-1 Road Condition Assessment (Attachment R)	<ul> <li>Consult with the SQF and SCE staff regarding past studies and/or road maintenance activities.</li> <li>Complete a reconnaissance-level road condition assessment and inventory.</li> <li>Characterize use of Project and Shared Access Roads over 12 months (i.e., spring 2023–2024): <ul> <li>Document SCE's road use through monthly travel logs.</li> <li>Document public road use through spots counts conducted on 1 weekend day (Saturday or Sunday) per month from approximately April 2023 to March 2024, for a total of 12 days throughout the study period.</li> <li>Incorporate public road use data from the REC-2 Study.</li> </ul> </li> </ul>	<ul> <li>Consulted with SQF on list of roads to include as part of the reconnaissance-level inventory and monthly spot counts, including the addition of three road segments.</li> <li>Completed a desktop review and reconnaissance-level inventory of Project and Shared Access Roads within the FERC Project Boundary to document current road conditions.         <ul> <li>Field surveys were conducted June 12–16, 2023.</li> </ul> </li> <li>Characterized SCE's current maintenance practices and frequency of use along Project and Shared Access Roads.</li> <li>Initiated monthly spot counts (June 2023) to record public's use of Project and Shared Access roads.</li> </ul>	Monthly spot counts along Project and Shared Access Roads were delayed due to spring storm events earlier in the year. Surveys were initiated in June 2023 and will continue for 12 months through May 2024.	<ul> <li>Continue monthly spot counts and record incidental public use along Project and Shared Access Roads through May 2024.</li> <li>Incorporate public road use data from the REC-2 Study spot counts.</li> <li>Compile SCE's use of Project roads between spring 2023 and spring 2024.</li> <li>Data analysis and reporting of road use will be completed in 2024.</li> </ul>	• None
GEO-1 Erosion and Sedimentation (Attachment S)	<ul> <li>Conduct a reconnaissance-level inventory and assessment to identify the extent to which Project facilities—including structures—are contributing to local erosion and sedimentation.</li> <li>Inform the assessment of potential effects of erosion and sedimentation caused by Project operations and/or runoff from Project-related facilities and/or other hard surfaces.</li> </ul>	<ul> <li>Conducted a reconnaissance-level inventory and assessment to identify local erosion and sedimentation sources.</li> <li>Completed desktop review and geomorphic interpretation.</li> <li>Field surveys were conducted July 25–26, 2023.</li> </ul>	• None	• None	• None
OPS-1 Water Conveyance Assessment (Attachment T)	<ul> <li>Phase 1: Summarize existing and available information, including any pre-construction documents or plans from previous tunnel rehabilitation projects.</li> <li>Phase 2: Complete an initial hydraulic assessment for a variety of flow ranges ranging from no flow up to full operational flow capacity and a preliminary structural integrity assessment.</li> </ul>	<ul> <li>Phase 1: Reviewed and summarized existing literature and conducted interviews with SCE staff knowledgeable about Project operations.</li> <li>Phase 2:         <ul> <li>Completed engineering review and evaluation of current water conveyance conditions (e.g., hydrostatic pressure, flow depth) under varying flow conditions.</li> </ul> </li> </ul>	• None	Phase 2     Complete the structural integrity assessment, including a list of guidelines and recommendations for long-term Project operations and tunnel cycling.	• None

Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
AES-1 Aesthetic Flows (Attachment U)	Followed the Flows and Aesthetics: A Guide to Concepts and Methods (Whittaker and Shelby, 2017) <sup>7</sup> and Flows and Recreation: A Guide to Studies for River Professionals (Whittaker et al., 2005). <sup>8</sup> • Level 1 Assessment:  - Review and compile existing information through desktop and other publicly available information.  - Conduct interviews via the REC-2 Visitor Intercept Survey Questionnaire regarding users' perception of aesthetics.  • Level 2 Assessment:  - Conduct a limited reconnaissance site visit with a focused group of stakeholders to review and discuss key observation points.  - Site visit to coincide the reconnaissance effort with the REC-1 Study and the reconnaissance team members to be the same for both studies.  • Level 3 Assessment:  - Documentation and assessment at targeted flows utilizing multiple-flow reconnaissance, flow-comparison surveys, or a controlled-flow study.  • Data analysis and report preparation.  • Modify the REC-2 visitor questionnaire to include additional aesthetic-specific questions detailed within the SPD.  • Include the potential for a controlled flow study (Level 3) for enjoyable angling flows unless results of the REC-2 visitor questionnaire related to aesthetics show that such a study is unnecessary.  - Provide a detailed justification for its conclusion in the ISR. In addition, if the results of the survey support the need for a controlled flow study but SCE continues to contend that a such a study cannot be conducted, then SCE must provide a detailed justification for its conclusion in the ISR.	<ul> <li>and objectives</li> <li>USFS Scenery Management System review</li> <li>Modified the aesthetic-related questions for the REC-2 visitor questionnaire.</li> <li>Initiated the visitor intercept surveys (refer to the REC-2 Recreation Facilities Use Assessment row above).</li> </ul>	SCE has not progressed to Leve 2; therefore, the reconnaissance     offert could not spingide with the	<ul> <li>Complete Level 1 desktop study, including evaluation and documentation of existing information (i.e., key observation points) and visitor questionnaire as part of the REC-2 study.</li> <li>Data analysis and reporting of Level 1 information, including justification regarding progression to Level 2.</li> <li>If needed, Level 2 Limited Reconnaissance site visit, including data analysis and justification regarding progression to Level 3.</li> <li>If needed, Level 3</li> <li>Comparative Flow Survey and data analysis.</li> </ul>	If needed, the participants for the Level 2 limited reconnaissance will include a diverse group of Stakeholders, not only those who participated in the REC-1 Study, Level 2 Limited Reconnaissance.  If the study progresses to a Level 2 assessment, SCE will complete an evaluation and justification for a Level 3 assessment, including a proposed study approach if needed, as part of the Updated Study Report filing.

<sup>7</sup> Whittaker, Doug, and Bo Shelby. 2017. *Flows and Aesthetics: A Guide to Concepts and Methods. Hydropower Reform Coalition*. Washington, DC: Hydropower Reform Coalition. Accessed: September 2023. Retrieved from: <a href="https://hydroreform.org/wp-content/uploads/2020/05/Flows-and-aesthetics-A-guide-to-concepts-and-methods-2017\_Final\_web.pdf">https://hydroreform.org/wp-content/uploads/2020/05/Flows-and-aesthetics-A-guide-to-concepts-and-methods-2017\_Final\_web.pdf</a>.

<sup>&</sup>lt;sup>8</sup> Whittaker, Doug, Bo Shelby, and John Gangemi. 2005. *Flows and Recreation: A Guide to Studies for River Professionals*. National Park Service History Electronic Library & Archive. Washington, DC: Hydropower Reform Coalition and National Park Service Hydropower Recreation Assistance Program. Accessed: September 2023. Retrieved from: <a href="http://npshistory.com/publications/rtca/nri/flows-recreation.pdf">http://npshistory.com/publications/rtca/nri/flows-recreation.pdf</a>.

Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
ANG-1 Enjoyable Angling Flows (Attachment V)	Followed the Flows and Recreation: A Guide to Studies for River Professionals (Whittaker et al., 2005).  Level 1 Assessment  Review and compile existing information;  Conduct structured interviews;  Collect information and data on anglers' preferences via the REC-2 Visitor Intercept Survey Questionnaire.  Level 2 Assessment  Level 3 Assessment:  Documentation and assessment at targeted flows utilizing multiple-flow reconnaissance, flow-comparison surveys, or a controlled-flow study.  Data analysis and report preparation.  Modify the REC-2 visitor questionnaire to include additional angling-specific questions detailed within the SPD to collect data on potential Project effects on angling and angler preferences within the Fairview Dam Bypassed Reach.  Include the potential for a controlled flow study (Level 3) for enjoyable angling flows unless results of the REC-2 visitor questionnaire related to angling show that such a study is unnecessary.  Provide a detailed justification for its conclusion in the ISR. In addition, if the results of the survey support the need for an enjoyable angling controlled flow study but SCE continues to contend that a such a study cannot be conducted, then SCE must provide a detailed justification for its conclusion in the ISR.	<ul> <li>Level 1 desktop review of existing information including:         <ul> <li>Literature review to describe river characteristics and angling opportunities within the Fairview Dam Bypass Reach</li> <li>Conducted structured interviews with persons knowledgeable about angling in the Project Area between June–August 2023</li> </ul> </li> <li>Modified the aesthetic-related questions for the REC-2 visitor questionnaire.         <ul> <li>Initiated the visitor intercept surveys (refer to the REC-2 Recreation Facilities Use Assessment row above)</li> </ul> </li> </ul>	<ul> <li>Refer to REC-2 Recreation         Facilities Use Assessment         regarding variances to visitor         questionnaire and survey timing</li> <li>As Level 1 desktop analysis and         the REC-2 visitor questionnaire         is ongoing through spring 2024,         it is premature to conclude the         need for and justification for         progression to a Level 3         assessment.</li> </ul>	0,	If needed upon completion of the Level 2 assessment, complete an evaluation and justification for a Level 3 assessment, including a proposed study approach if needed, as part of the Updated Study Report filing.

Technical Memorandum (ISR Attachment)	FERC-Approved Study Plan Elements	Study Plan Elements Completed	Study Plan Variances	Ongoing/Outstanding Study Plan Elements	Modifications to Ongoing Studies
EJ-1 Environmental Justice (Attachment W)	<ul> <li>Include a table of racial, ethnic, and poverty statistics for each state, county, and census block group within the geographic scope of analysis. For the Project, the geographic scope of analysis is all areas within 1 mile of the FERC Project Boundary.</li> <li>Include information from the U.S. Census Bureau's most recently available American Community Survey 5-Year Estimates.</li> <li>Utilize the most recent American Community Survey files available, using table #B03002 for race and ethnicity data (U.S. Census Bureau, 2021a)<sup>9</sup> and table #B17017 for low-income households (Census, 2021b).<sup>10</sup></li> <li>Identification of environmental justice (EJ) populations by block group.</li> <li>A map showing the FERC Project Boundary and location(s) of any proposed Project-related construction in relation to any identified EJ communities within the geographic scope. Denote on the map if the block group is identified as an EJ community based on the presence of minority population, low-income population, or both.</li> <li>A discussion of anticipated Project-related effects on any EJ communities for all resources where there is a potential nexus between the effect and the EJ community. For any identified effects, please also describe whether or not any of the effects would be disproportionately high and adverse.</li> <li>If EJ communities are present, provide a description of public outreach efforts regarding the Project.</li> <li>A description of any mitigation measures proposed to avoid and/or minimize potential Project effects on EJ communities.</li> <li>Identification of any non-English speaking groups within the geographic scope of analysis that would be affected by the Project (regardless of whether the group is part of an identified EJ community). Describe previous or planned efforts to identify and communicate with these non-English speaking groups and identify and describe any proposed measures to avoid and minimize any Project-related effects to non-English speaking groups.</li> <li>If new construction is pr</li></ul>	<ul> <li>Conducted an evaluation to identify EJ communities near the Project. Summarized information in tables and depicted on figures.</li> <li>Identified the presence of EJ and non-English speaking populations that may be affected by the Project and summarized outreach strategies to engage non-English speaking populations in the relicensing process.</li> <li>Identified sensitive receptor locations within the study area.</li> </ul>	• None	An evaluation of potential Project effects will be discussed in SCE's License Application, as well as the inclusion of mitigation measures to avoid or minimize Project impacts on EJ communities, if applicable.	• None

APE = Area of Potential Effects; DO = dissolved oxygen; eDNA = environmental DNA; EJ = environmental justice; FERC = Federal Energy Regulatory Commission; NFKR = North Fork Kern River; NNIP = Non-Native Invasive Plant; SCE = Southern California Edison; SPD = Study Plan Determination; SQF = Sequoia National Forest; USFS = U.S. Forest Service; VES = Visual Encounter Survey; WY = water year

<sup>&</sup>lt;sup>9</sup> U.S. Census Bureau. 2021a. ACS 5-Year Estimates Detailed Tables. File B03002 Hispanic or Latino Origin by Race. Accessed June 2023. Available online: <a href="https://data.census.gov/table?q=B03002:+HISPANIC+OR+LATINO+ORIGIN+BY+RACE&tid=ACSDT5Y2021.B03002">https://data.census.gov/table?q=B03002:+HISPANIC+OR+LATINO+ORIGIN+BY+RACE&tid=ACSDT5Y2021.B03002</a>

<sup>10</sup> U.S. Census Bureau. 2021b. ACS 5-Year Estimates Detailed Tables. File B17017 Poverty Status in the Past 12 Months by Household Type by Age of Householder. Accessed June 2023. Available online: <a href="https://data.census.gov/table?q=B17017:+POVERTY+STATUS+IN+THE+PAST+12+MONTHS+BY+HOUSEHOLD+TYPE+BY+AGE+OF+HOUSEHOLDER&tid=ACSDT5Y2021.B17017">https://data.census.gov/table?q=B17017:+POVERTY+STATUS+IN+THE+PAST+12+MONTHS+BY+HOUSEHOLD+TYPE+BY+AGE+OF+HOUSEHOLDER&tid=ACSDT5Y2021.B17017</a>

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