

Kern No. 1 Project (FERC Project No. 1930)

Initial Study Report Meeting

March 19, 2025; 9:00 AM – 12:00 PM



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Land Acknowledgement

SCE would like to take a moment and recognize that the Kern River No. 1 Hydroelectric System is located on the Tübatulabal and Yokuts Tribe's traditional lands which they have stewarded for generations.



Kern River No. 1 (KR1) Project Team Introductions

- Southern California Edison (SCE)
 - Meg Richardson, Project Manager*
 - Martin Ostendorf, Sr. Licensing Manager*
 - Dan Keverline, KR1 Area Manager*
 - Audry Williams, Cultural Resources Specialist*
 - Ramon Anzaldo, Sr. Supervisor, Generation/Southwest Kern River
 - Calvin Rossi, Government Relations Manager
 - Gabriela Ornelas, Media Relations Advisor
 - Charles (Chuck) Sensiba, SCE Legal Counsel*
- Kleinschmidt
 - Craig Addley, Water Quality/Water Temperature; Fish; and Erosion and Sedimentation*
- Western Hydrologics
 - Jared Emery, Hydrology
- Janelle Nolan & Associates
 - Sara Reece, Botanical and Wildlife Resources
 - Julie Smith, Relicensing Advisor
- Tiley Research
 - Shelly Tiley, Tribal Resources
- Stantec
 - Kendra Ryan, Project Manager, Environmental Justice*
 - Patricia Sussman, Land and Recreation
 - Dave Martinez, Whitewater Boating*

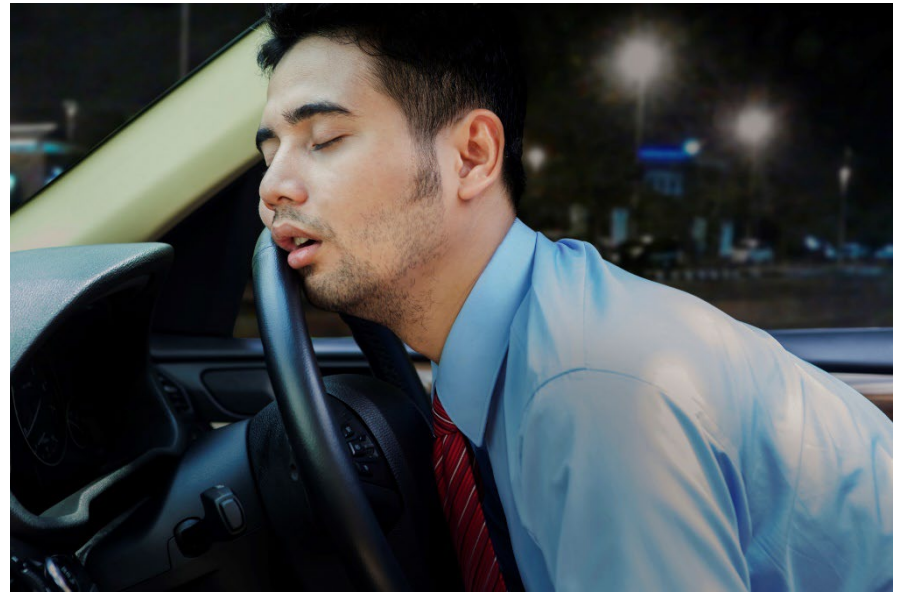
*In-person during meeting

Safety Moment – Fatigued Driving

10% - 20% crashes are fatigue-related

It is preventable:

- Get plenty of rest
- Understand side effects of medications
- Take care of your health
- Coffee helps, but short-term
- Pull over somewhere safe



Initial Study Report (ISR) Meeting Agenda

9:00 – 9:30 AM

- Welcome, Land Acknowledgement and Introductions
- Safety and Meeting Guidelines
- Purpose of Meeting
- Criteria for Modification or Request of a New Study
- Project Overview and Relicensing Schedule

9:30 – 11:50 AM

FERC Approved Study Plan Implementation

- Aquatic Resources
- Cultural and Tribal Resources
- Land Resources
- Recreation Resources
- Botanical and Wildlife Resources
- Environmental Justice

11:50 – 12:00 PM

Next Steps

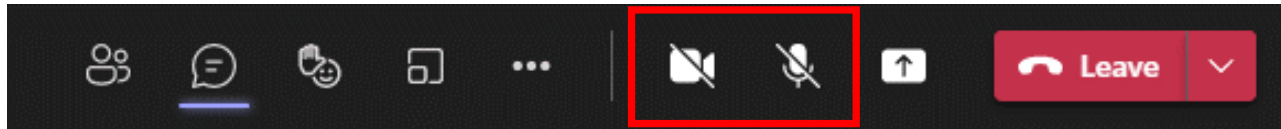
General Meeting Guidelines

- Questions and comments are welcome, but please time your comment or question to the end of the presentation for each agenda topic
 - Additional questions and comments are welcome at the end of the meeting
- Allow each person to speak before speaking a second time on an issue
- Please silence your cell phone
- Refrain from sidebar discussions
- Assume positive intent

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

Meeting Guidelines – Virtual Attendees

- Please remain on mute unless called on
- Turn off camera



- Consider shutting down other background programs for best meeting audio/viewing quality

Meeting Guidelines – Virtual Attendees

To submit a question/ comment in writing:

- Utilize the chat feature during the presentation to submit questions/ comments
- Questions submitted via the chat feature will be answered at the end of each agenda topic, as time allows

Meeting Guidelines

To submit a question/comment verbally:

- Use the “Raise Hand” feature to indicate you would like to ask a question verbally



- Please wait to be called on and then unmute yourself
- Introduce yourself (name and affiliation) prior to speaking

Purpose of Initial Study Report Meeting

- SCE filed an ISR with FERC on March 12, 2025
 - SCE KR1 Relicensing Website: www.sce.com/kr1
 - FERC e-Library: <https://elibrary.ferc.gov/eLibrary/search>
- FERC regulatory meeting to:
 - Discuss the progress of implementing FERC-approved studies
 - Review study plan variances/modifications
- SCE to file meeting summary with FERC by April 14, 2025
- Stakeholder comments must be filed with FERC by May 14, 2025 (FERC encourages e-filing for all comments)

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).

KR1 Project Overview and Relicensing Schedule

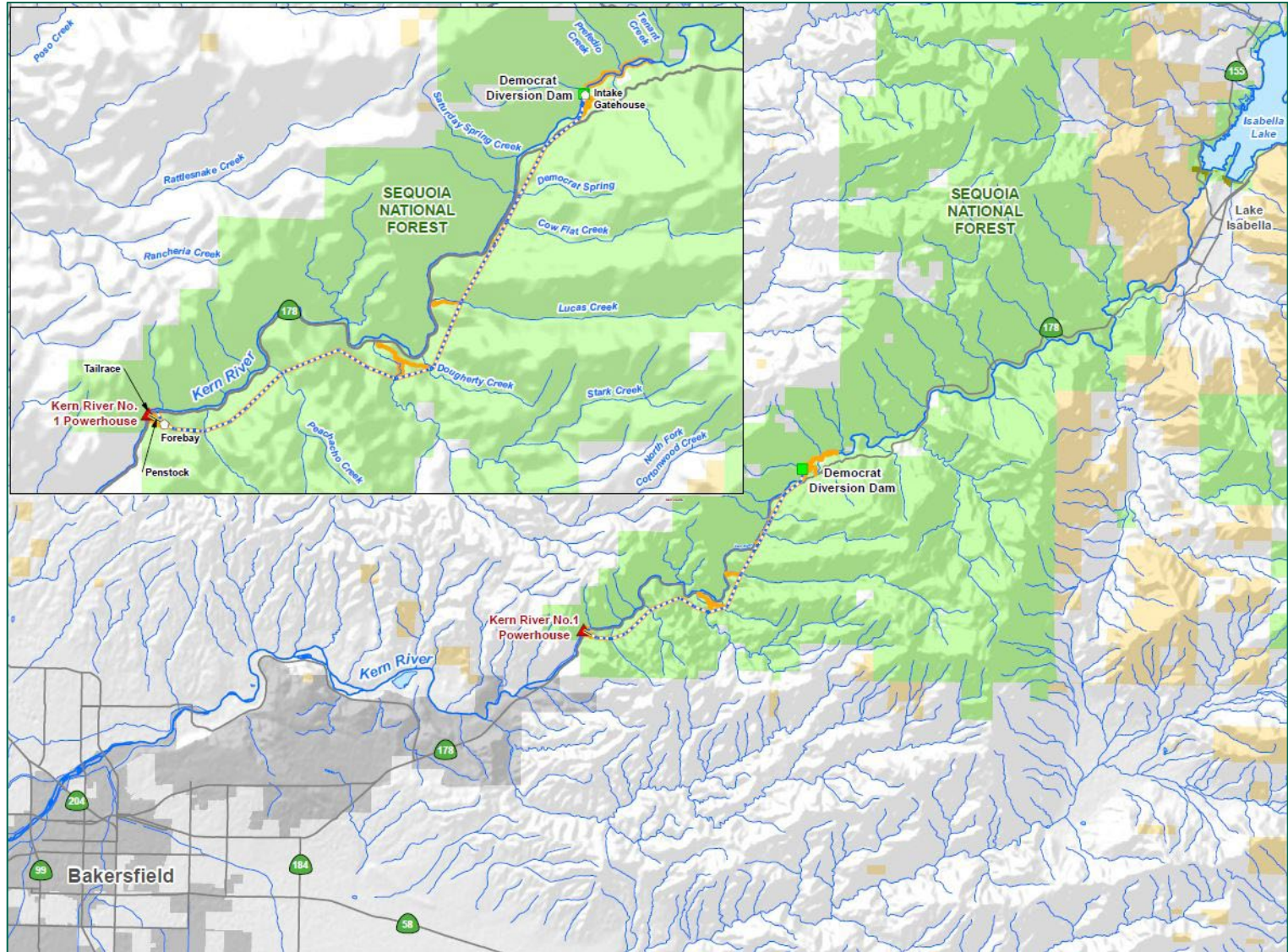
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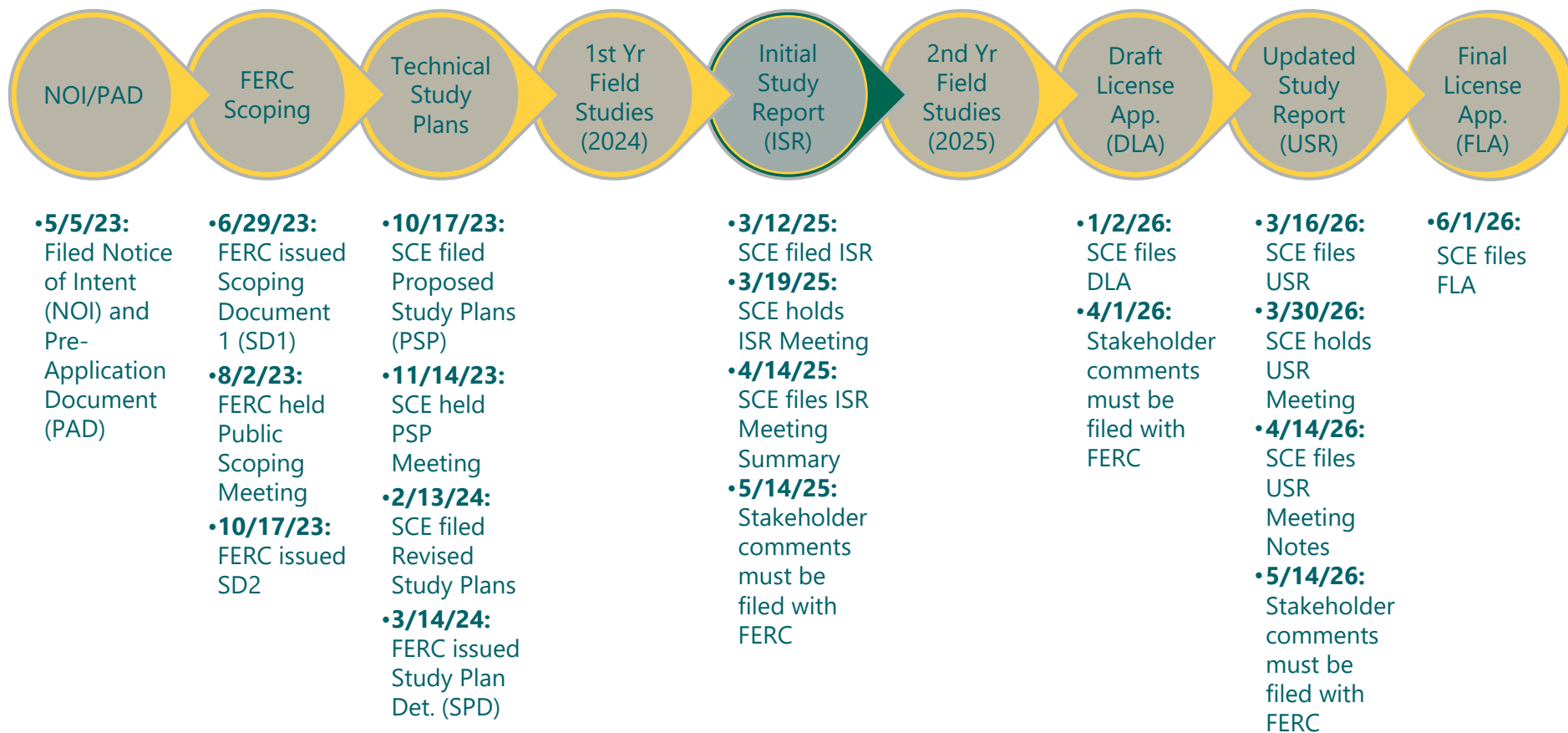
KR1 Project Overview

- Current License Expires on May 31, 2028
- Total Installed Capacity is 26.3 Megawatts
- Located in Kern County on Sequoia National Forest (Forest Service)
- Run-of-River Operations
- Key Project Elements:
 - KR1 Powerhouse and Forebay
 - Democrat Dam Impoundment
 - Gaging Stations
 - Conveyance System
 - Project Access Roads and Trails

KR1 Project Area



Kern River No. 1 Project Integrated Relicensing Process Project Timeline



FERC Relicensing Schedule (Revised 10/2023)

Due Date	Responsible Party	Milestone	FERC Regulation 18 CFR§
3/17/25 (filed 3/12/25)	SCE	File Initial Study Report	5.15(c)(1)
3/31/25 (held 3/19/25)	All Stakeholders	Initial Study Report Meeting	5.15(c)(2)
4/14/25	SCE	File Study Report Meeting Summary	5.15(c)(3)
5/14/25	All Stakeholders	File Disagreements/Requests to Amend Study Plans*	5.15(c)(4)
6/13/25	All Stakeholders	File Responses to Disagreements/Amendment Requests*	5.15(c)(5)
7/14/25	FERC	Issue Director's Determination on Disagreements/Amendments*	5.15(c)(6)
2025	SCE	Conduct Second Study Season	5.15(a)
1/2/26	SCE	File Draft License Application	5.16(a)-(c)
4/1/26	All Stakeholders	File Comments on Draft License Application	5.16(e)
3/16/26	SCE	File Updated Study Report	5.15(f)
3/30/26	All Stakeholders	Updated Study Report Meeting	5.15(f)
4/14/26	SCE	File Study Report Meeting Summary*	5.15(f)
6/1/26	SCE	File Final License Application	5.17

FERC-Approved Study Plan Implementation

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FERC Approved Study Plans

FERC approved or approved with modifications 13
Technical Study Plans and added 1 new study plan

Technical Study Plans

AQ 1 – Hydrology	LAND 2 – Erosion and Sedimentation
AQ 2 – Water Quality and Water Temperature	REC 1 – Recreation Facility Condition Assessment
AQ 3 – Fish Population	REC 2 – Recreation Facility Use Assessment
CUL 1 – Built Environment	REC 3 – Whitewater Boating
CUL 2 – Archaeology	TERR 1 – Botanical Resources
TRI 1 – Tribal Resources	TERR 2 – Wildlife Resources
LAND 1 – Road and Trail Condition Assessment	EJ 1 – Environmental Justice

Technical Memo Distribution

Public Review Period – 1/31/25 to 4/31/25

- AQ 1 – Hydrology Technical Memo
- LAND 1 – Road & Trail Condition Assessment Technical Memo
- CUL 1 – Built Environment Interim Technical Memo
- CUL 2 – Archaeology Interim Technical Memo
- TRI 1 – Tribal Resources Interim Technical Memo
- TERR 1 – Botanical Resources Interim Technical Memo

Public Review Period – 2/28/25 to 5/29/25

- AQ 3 – Fish Population Interim Technical Memo
- LAND 2 – Erosion and Sedimentation Technical Memo
- REC 1 – Recreation Facility Condition Assessment Technical Memo
- REC 2 – Recreation Facility Use Assessment Interim Technical Memo
- REC 3 – Whitewater Boating Interim Technical Memo
- EJ 1 – Environmental Justice Technical Memo

Public Review Period – 3/12/25 to 6/09/25

- AQ 2 – Water Quality and Water Temperature Interim Technical Memo
- TERR 2 – Wildlife Resources Interim Technical Memo

Aquatic Resources

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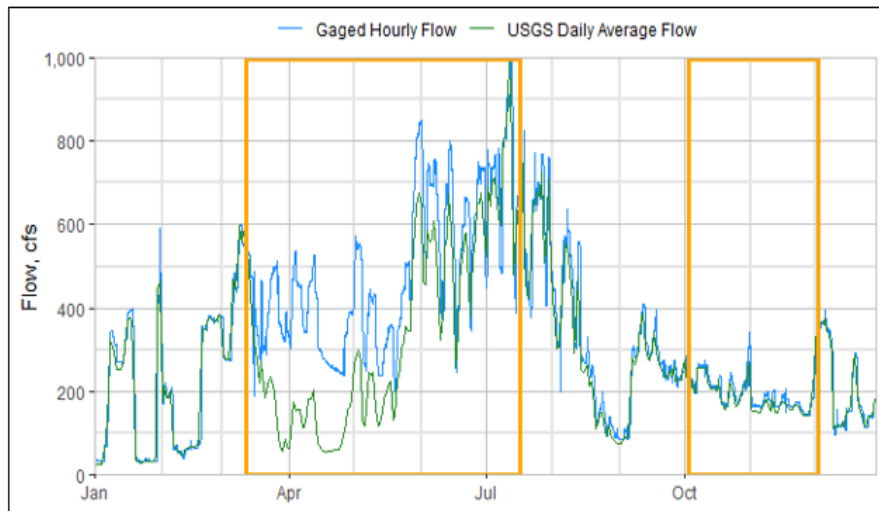


AQ 1 – Hydrology (ISR Att. D)

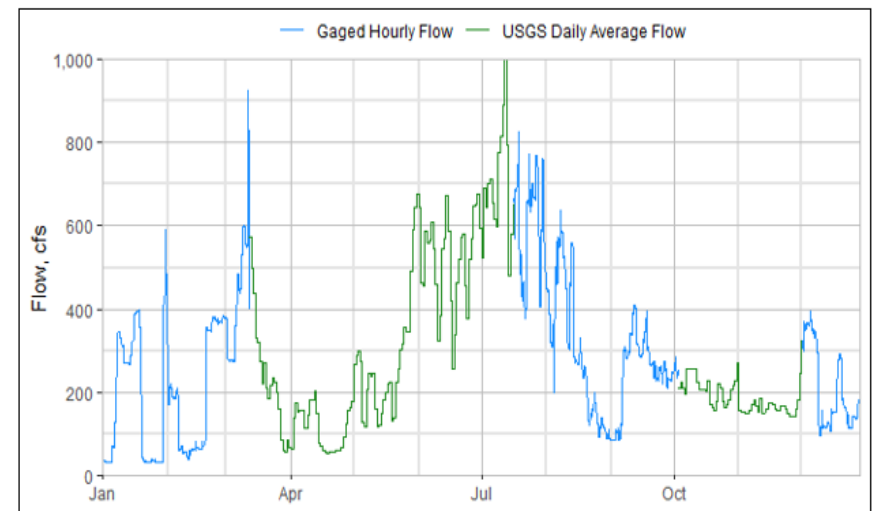
- Study Plan Elements Completed
 - Compiled hourly hydrology data for water years 1999–2023
 - Summarized hydrology and performed hydrologic alteration analysis
 - Built an operations model to characterize Project operations on an hourly time step
- Study Plan Variances
 - Hydrology analysis included water years 1999–2023 rather than the planned 1998–2021
- Ongoing/Outstanding Study Plan Elements
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None

AQ 1 – Hydrology (ISR Att. D)

- Key Study Results – Hydrology Data
 - Generally, hourly flow data was available 1999–2023
 - In a few instances, errant hourly flow was replaced with U.S. Geological Survey gage daily average flow data



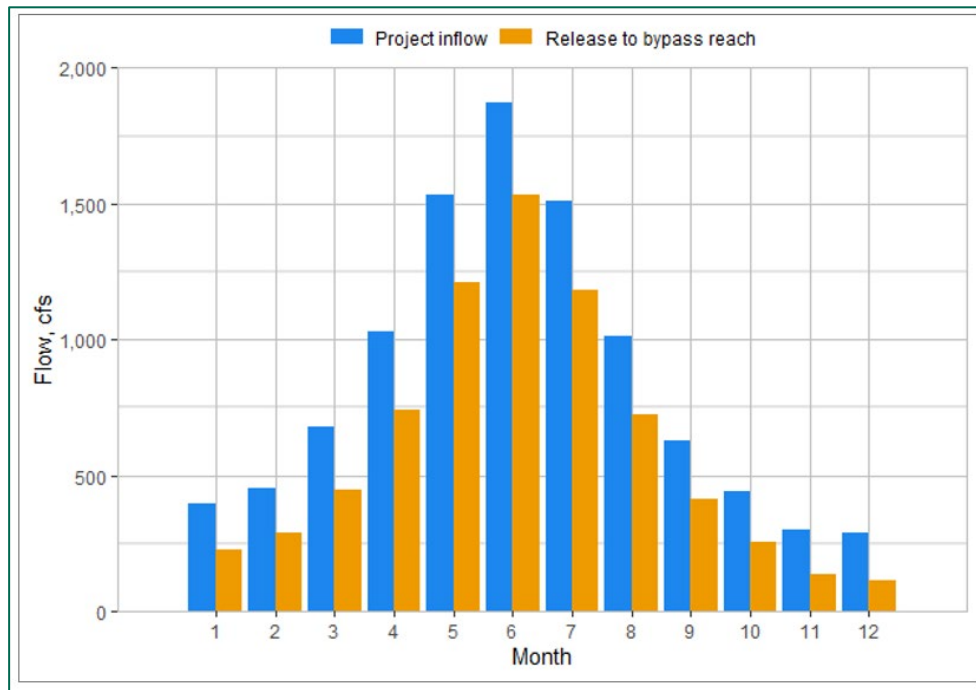
Errant Hourly Flow Data for 2007



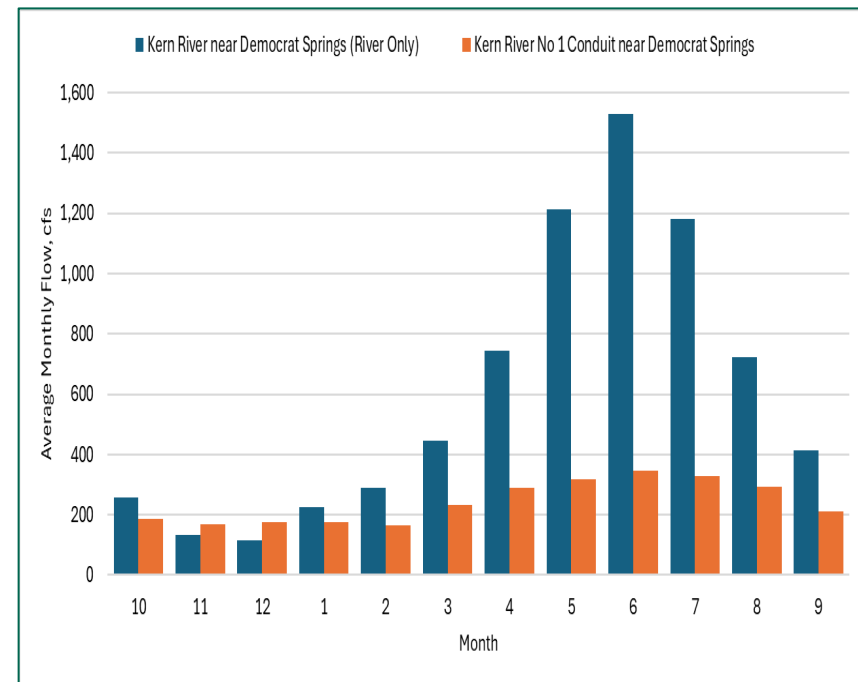
Rebuilt Hourly Flow Data for 2007

AQ 1 – Hydrology (ISR Att. D)

- Key Study Results – Hydrologic Alteration
 - Inflow, Bypass Reach, and KR1 Conduit Flow



Monthly Mean Inflow and Release to River (CY 1999–2023)



Monthly Release to River and Conduit Flow (WY 1999–2023)

AQ 1 – Hydrology (ISR Att. D)

- Key Study Results – Hydrologic Alteration
 - Kern River hydrology for Bypass Reach and KR1 Conduit

Table 5-6. Monthly Mean and Median Flows

Month	Mean Flow (cfs)			Median Flow (cfs)		
	Project Inflow	Release to Bypass Reach	Change	Project Inflow	Release to Bypass Reach	Change
January	398	224	-174	330	113	-216
February	452	288	-163	333	147	-186
March	678	447	-231	409	123	-286
April	1,032	743	-289	509	186	-323
May	1,530	1,212	-318	763	423	-340
June	1,875	1,530	-345	1,227	858	-369
July	1,510	1,182	-328	1,226	892	-334
August	1,013	721	-292	860	555	-305
September	625	413	-212	435	194	-241
October	441	257	-185	271	35	-236
November	302	133	-169	213	30	-183
December	289	115	-174	264	32	-232

Key: cfs = cubic feet per second

AQ 1 – Hydrology (ISR Att. D)

- Key Study Results – Hydrologic Alteration
 - Minimum Flow Requirements

Season	Minimum Instream Flow	Buffer Flow
October 1 through May 31	15 cfs	5 cfs
June 1 through September 30	50 cfs	10 cfs

Key: cfs = cubic feet per second

- Extreme Low and High Flow Events 1999–2023

Duration	Minimum Flow (cfs)			Maximum Flow (cfs)		
	Project Inflow	Release to Bypass Reach	Change	Project Inflow	Release to Bypass Reach	Change
1-day	134	31	-103	2,289	1,990	-300
3-day	141	33	-108	2,243	1,943	-301
7-day	150	35	-115	2,176	1,872	-304
30-day	180	41	-139	2,015	1,697	-317
90-day	233	67	-166	1,745	1,430	-316

Key: cfs = cubic feet per second

AQ 1 – Hydrology (ISR Att. D)

- Key Study Results – Hydrologic Alteration
 - Descending Limb of the Hydrographs

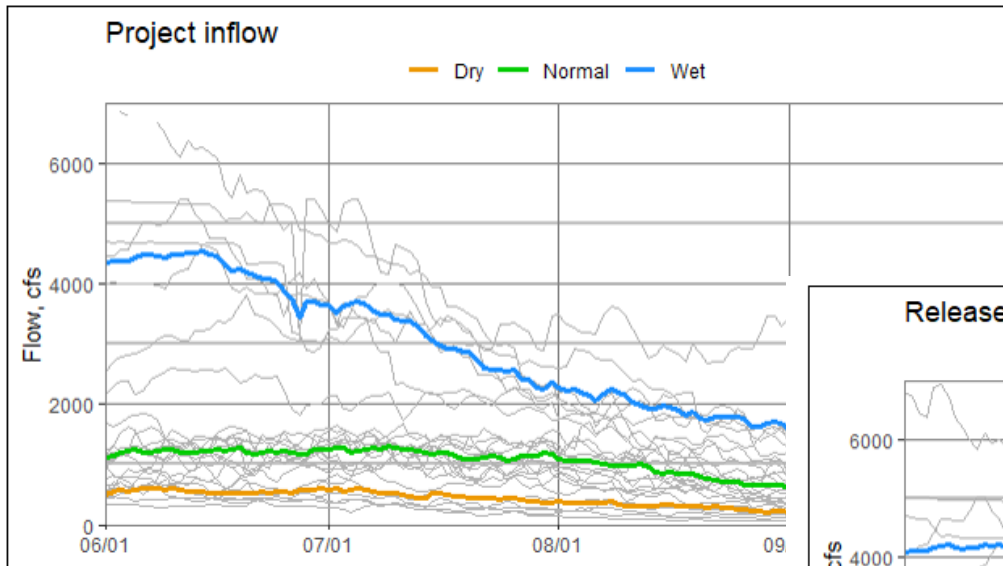


Table 5-10. Minimum Instream Flow Requirements and Buffer Flows

Season	Minimum Instream Flow	Buffer Flow
October 1 through May 31	15 cfs	5 cfs
June 1 through September 30	50 cfs	10 cfs

Key: cfs = cubic feet per second

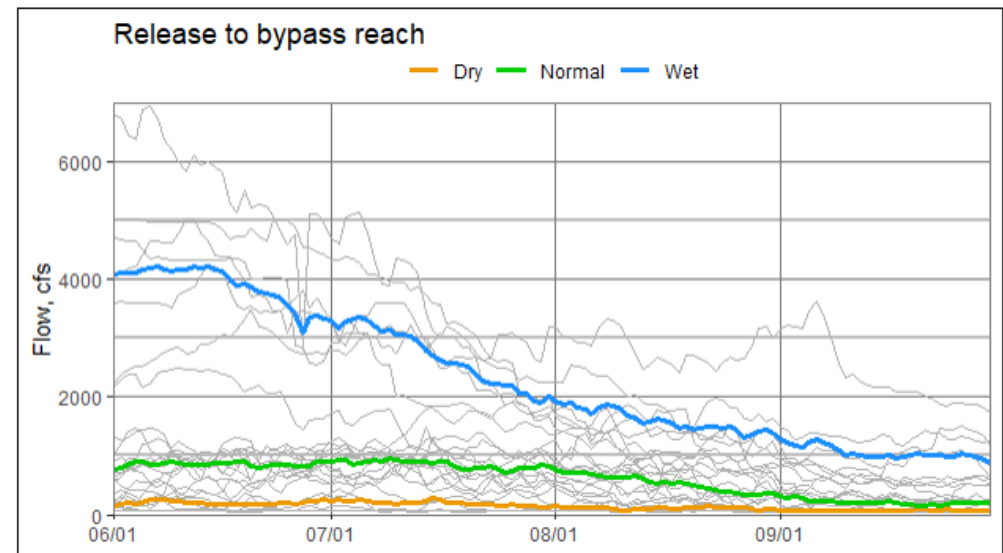


Figure 5-10. Declining Limb Hydrograph for the 1999–2023 Period-of-Record for Project Inflow (top) and Release to Bypass Reach (bottom)

AQ 1 – Hydrology (ISR Att. D)

- Key Study Results – Operations Model
 - Accurate Modeling: Constraints are Minimum Flows, Conduit Capacity (approximately 385 cfs), Powerhouse Units (4 @ approximately 100 cfs each)

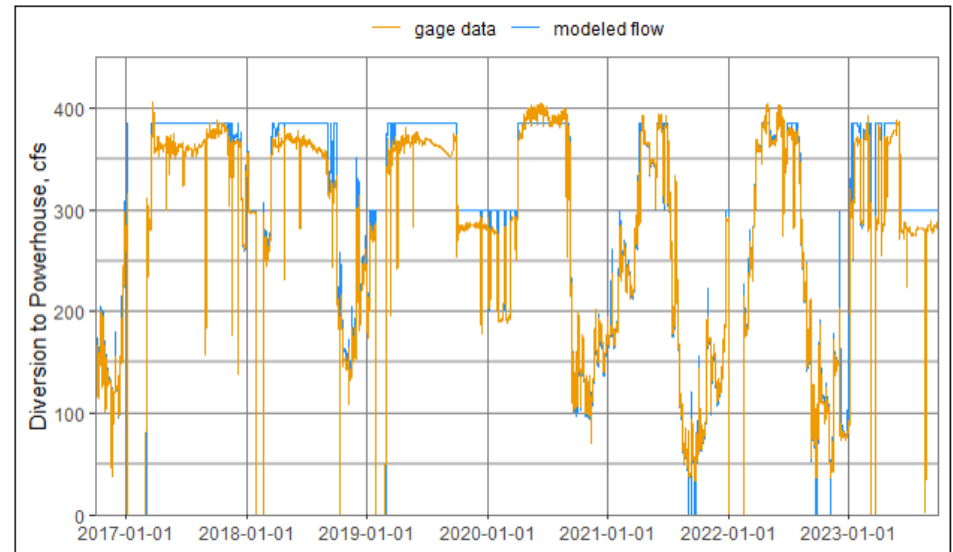
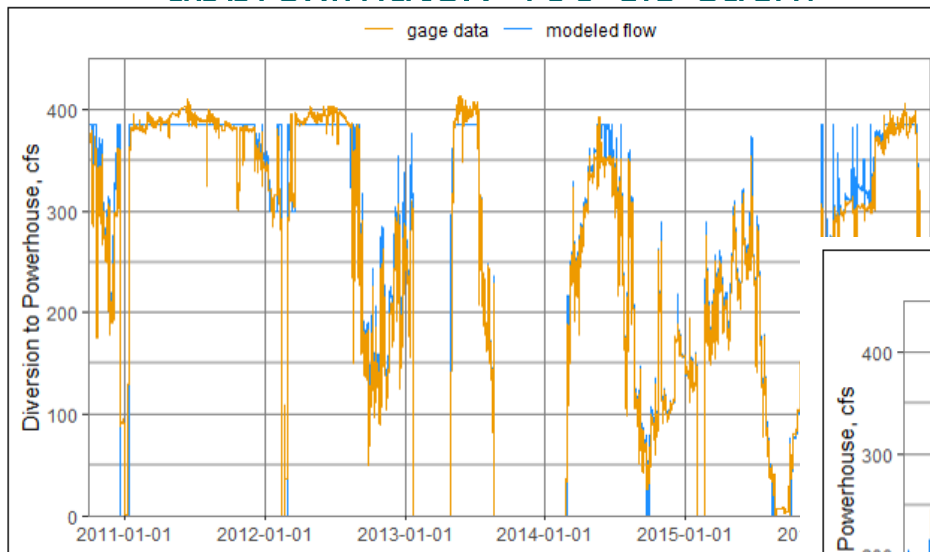


Figure 5-12. Modeled Diversion to KR1 Powerhouse Conduit, Water Years 2011 through 2023

AQ 2 – Water Quality/Water Temperature (ISR Att. E)

- Study Plan Elements Completed

- Seasonal water quality *in-situ* field measurements and water quality grab samples collected (June and October)
- Bacterial Sampling
 - Collected five samples in July/August 2024
- Water temperature loggers installed, maintained, and removed
 - May 15 – October 15, 2024
 - Meteorological conditions obtained from nearby weather stations
- Methylmercury fish tissue sampling
 - Edible-sized sport fish collected in Democrat Dam Impoundment:
 - Largemouth bass (10)
 - Black crappie (3)
 - Bluegill sunfish (5)
 - Brown bullhead catfish (9)
 - Channel catfish (1)
 - White catfish (1)
 - Samples were sent to the Marine Pollution Studies Laboratory for analysis

AQ 2 – Water Quality/Water Temperature (ISR Att. E)

- Study Plan Variances

- Laboratories used equivalent Standard Methods analyses rather than EPA Methods analyses specified in the Technical Study Plan (TSP) for several parameters.
- Turbidity was not recorded during seasonal water quality *in-situ* field measurements due to a discrepancy in the TSP text/table.
- Seasonal water quality grab samples at upstream sites KR 55.6 (impoundment inflow) and KR 55.2 (impoundment) were confused due to the TSP text/table. In the spring, KR 55.6 was sampled (surface flow collection), and in the fall, KR 55.2 was sampled (surface and mid-column collection).
- Methylmercury testing was not performed on water quality samples by the laboratory; only total Mercury was tested. Methylmercury is being sampled in fish tissue.
- Due to the Borel Fire, the 5th bacterial sampling was delayed until August 13 (5 samples in 42 days versus 30 days as specified in the TSP).

AQ 2 – Water Quality/Water Temperature (ISR Att. E)

- Ongoing/Outstanding Study Plan Elements
 - Year 2 (2025) implementation of AQ 2 studies
 - Seasonal water quality *in-situ* field measurements and water quality grab samples during spring runoff and fall base-flow period (spring and fall)
 - Bacterial sampling in July
 - Water temperature monitoring
 - May 15 – October 15, 2025
 - Complete data analysis for methylmercury fish sampling and 2025 study sampling
 - Complete final Technical Memo

AQ 2 – Water Quality/Water Temperature (ISR Att. E)

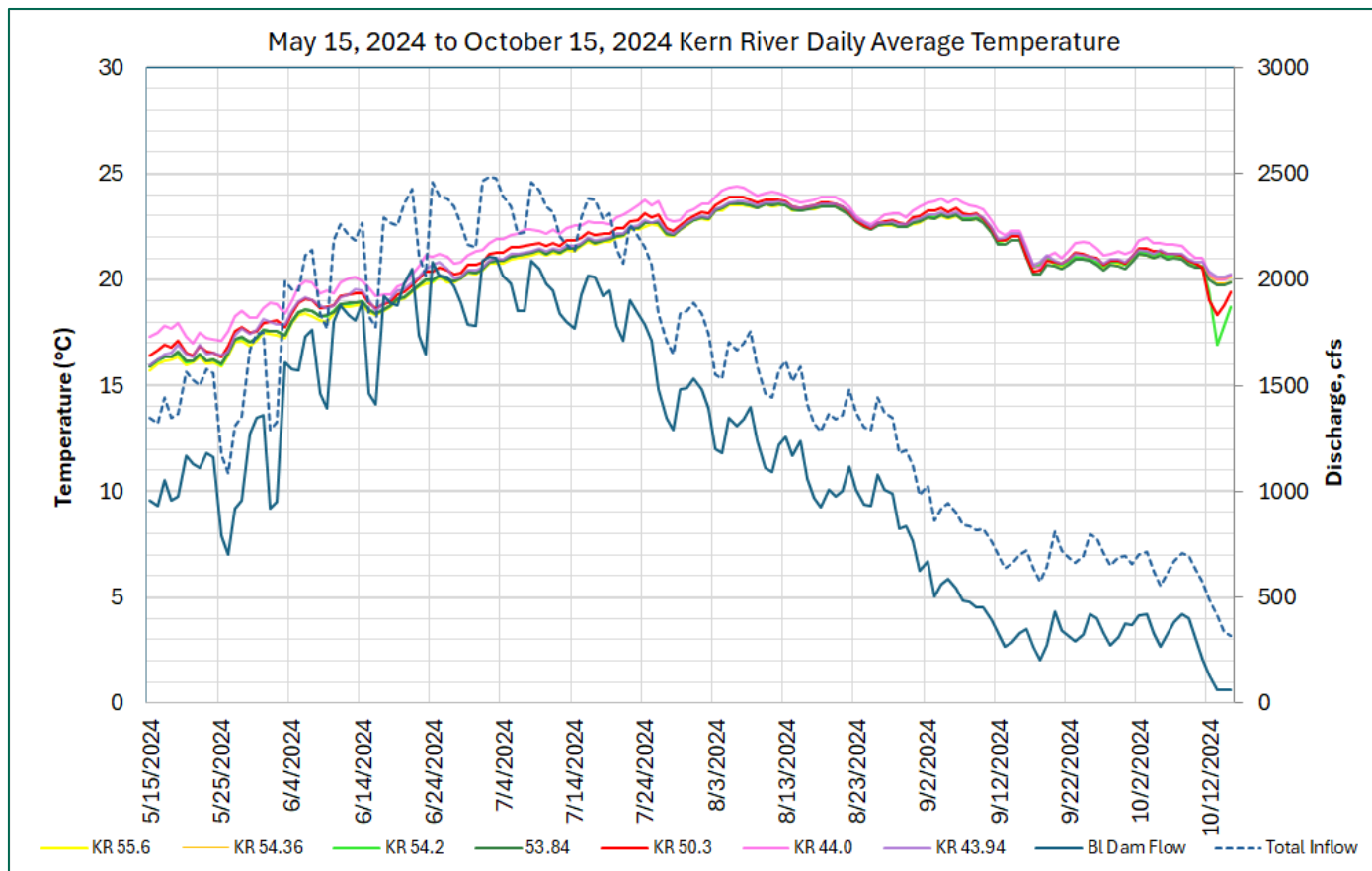
- Modifications to Ongoing Studies
 - Seasonal water quality *in-situ* field measurements
 - Turbidity will be recorded
 - Seasonal water quality grab samples
 - Both KR 55.2 (Impoundment; surface and mid-column) and KR 55.6 (upstream inflow to impoundment) will be sampled
 - TSP did not require Hardness (as calcium carbonate) as a seasonal water quality grab sample parameter. Criteria for some metals, however, are hardness dependent (cadmium, copper, lead, nickel) (non-detect in 2025). Hardness analysis of water quality grab samples will be performed in 2025.
 - Methylmercury testing will be performed on all water quality samples
 - Bacteria Sampling
 - *E. coli* analysis for bacterial sampling will be included due to new Water Board criteria for recreation contact

AQ 2 – Water Quality/Water Temperature (ISR Att. E)

- Preliminary Study Results – Water Quality
 - No water quality parameter thresholds were exceeded for *in-situ* measurements or grab sample lab analyses
 - Bacterial Sampling
 - Low levels of fecal coliform, with no Basin Plan exceedances
 - Methylmercury fish tissue analysis in progress

AQ 2 – Water Quality/Water Temperature (ISR Att. E)

- Preliminary Study Results – Water Temperature
 - $<1^{\circ}\text{C}$ warming of water from upstream to downstream sites
 - Daily Averages: 14.4°C – 24.9°C (WARM water fish species)



AQ 3 – Fish Population (ISR Att. F)

- Study Plan Elements Completed

- Democrat Dam Impoundment electrofishing (3 days)
 - Developed fish species composition and abundance estimates
 - Determined the average condition factors of all species observed in the Impoundment
 - Developed length frequency histograms
- Collected edible-sized sport fish species for methylmercury analysis (see AQ 2 – Water Quality and Water Temperature)
- Recorded western pond turtle and other incidental species found in the impoundment

- Study Plan Variances

- Due to high-flow conditions in the bypass reach fish sampling was not conducted and was deferred to 2025
- Trammel net sampling was not collected in Democrat Impoundment and was deferred to 2025

AQ 3 – Fish Population (ISR Att. F)

- Ongoing/Outstanding Study Plan Elements
 - Fish sampling in the bypass reach
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None



Adult Hardhead Democrat impoundment

AQ 3 – Fish Sampling (ISR Att. F)

- Preliminary Study Results

- 329 fish captured in the Democrat impoundment
- 29 fish preserved for methylmercury laboratory analysis
 - 10 largemouth bass
 - 3 black crappie
 - 5 bluegill sunfish
 - 1 channel catfish
 - 1 white catfish
 - 9 brown bullhead
 - 15.5 to 247 mm
- 2 hardhead minnows (SSC) captured
- 2 northwestern pond turtles (FPT) observed

Species	Total Fish (n)	Length Range (mm)
Brown Bullhead	15	159–251
Black Crappie	7	104–223
Bluegill Sunfish	8	44–169
Common Carp	13	475–610
Channel Catfish	1	545
Hardhead Minnow	2	86–360
Largemouth Bass	131	44–520
Sacramento Sucker	50	81–525
Threadfin Shad	96	43–103
White Catfish	6	150–172

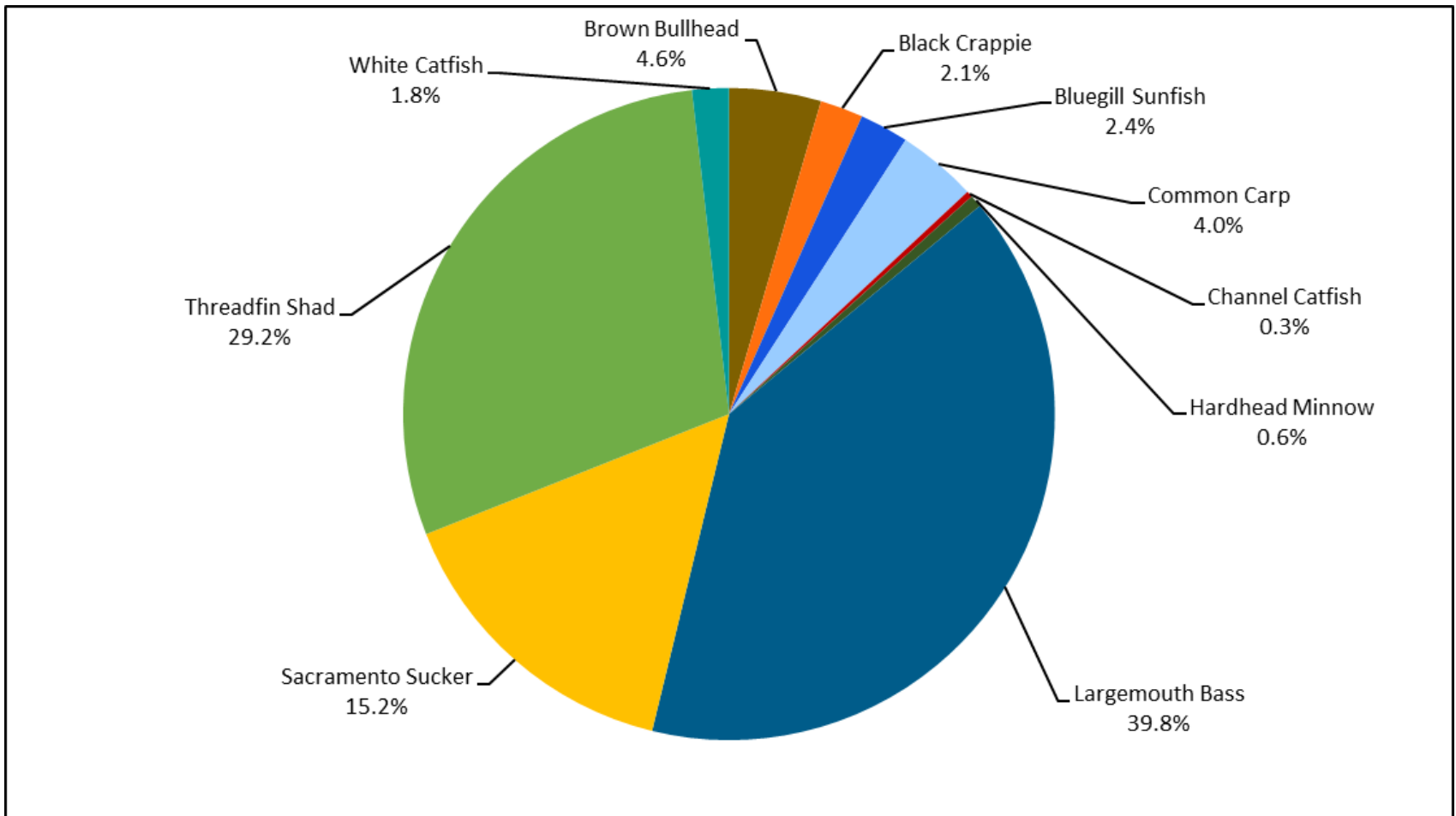


Electrofishing in Democrat Impoundment

SSC = California Species of Special Concern
 FPT = Federally Proposed Threatened

AQ 3 – Fish Sampling (ISR Att. F)

Species Composition



Questions / Comments

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Cultural and Tribal Resources

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CUL 1 – Built Environment (ISR Att. G)

- Study Plan Elements Completed
 - Reviewed previous documentation to develop an appropriate historical context for the Project
 - Completed archival research
 - Completed built environment field survey
- Study Plan Variances / Modifications
 - None



CUL 1 – Built Environment (ISR Att. G)

- Ongoing/Outstanding Study Plan Elements
 - Draft Reports to Agencies and Tribes for Review (June-August)
 - Response to comments Agencies and Tribes on Cultural Reports (Sept.-Nov.)
 - Develop a National Register of Historic Places (NRHP) Evaluation Plan and Historic Properties Management Plan (HPMP) in consultation with consulting parties
 - Develop Draft HPMP/ TWG Meetings (Sept.-Dec.)
- Preliminary Study Results
 - Update documentation of the Kern River No. 1 Hydroelectric System Historic District
 - State Route (SR)178 and associated culverts

CUL 2 – Archaeology (ISR Att. H)

- Study Plan Elements Completed
 - Reviewed previous documentation to develop an appropriate historical context for the Project
 - Completed archival research
 - Conducted archaeology field survey
- Study Plan Variances/Modifications
 - None



CUL 2 – Archaeology (ISR Att. H)

- Ongoing/Outstanding Study Plan Elements
 - Additional Fieldwork- CUL 2 (one week) and update report (April-May)
 - Draft Reports to Agencies and Tribes for Review (June-August)
 - Develop an NRHP Evaluation Plan and HPMP in consultation with consulting parties
 - Response to comments Agencies and Tribes on Cultural Reports (Sept.-November)
 - Develop Draft HPMP/ TWG Meetings (Sept.-Dec.)
- Preliminary Study Results
 - Documentation of 5 precontact and 4 historic period resources
 - Upcoming field survey may result in additional documentation of archaeological resources

TRI 1 – Tribal Resources (ISR Att. I)

- Study Plan Elements Completed
 - Reviewed previous documentation to develop an appropriate ethnographic and historical context for the Project
 - Completed archival research
 - Conducted Tribal site visit
- Study Plan Variances / Modifications
 - None



TRI 1 – Tribal Resources (ISR Att. I)

- Ongoing/Outstanding Study Plan Elements
 - Complete Tribal interviews to identify Tribal resources
 - Complete results of data gathered and evaluate Tribal resources
 - Draft Reports to Agencies and Tribes for Review (June-August)
 - Response to comments Agencies and Tribes on Cultural Reports (Sept.-Nov.)
 - Develop a NRHP and HPMP in consultation with consulting parties
 - Develop Draft HPMP/ TWG Meetings (Sept.-Dec.)
- Preliminary Study Results
 - Pending

Questions / Comments

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Land Resources

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LAND 1 – Road and Trail Condition Assessment (ISR Att. J)

- Study Plan Elements Completed
 - Desktop analysis to characterize roads and trails in terms of use, maintenance, and drainage features
 - Field assessment to characterize road and trail condition, identify and categorize drainage features, identify and categorize locations experiencing erosion, and review sensitive resources
- Study Plan Variances
 - None
- Ongoing/Outstanding Study Plan Elements
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None

LAND 1 – Road and Trail Condition Assessment (ISR Att. J)

- Key Study Results

- 8 roads (2.4 miles) and 11 trails (4.5 miles) were surveyed
- 41 drainage features were mapped and inventoried (15 culverts and 26 other drainage features)
- 91 erosion features were mapped and inventoried (40 features on roads and 51 on trails)
- Condition
 - Roads were mostly in “Fair” condition; 1 was in “Good” condition
 - Most trails were in “Good” condition; 3 were in “Fair” condition, and 1 was in “Poor” condition

Right: Steel slope drains are present throughout Stark Creek Road. This one is in good condition.



LAND 2 – Erosion and Sedimentation (ISR Att. K)

- Study Plan Elements Completed
 - Documented the location and relative volume of historical and existing sediment recruitment to stream channels
 - Significant sediment recruitment, mass wasting, and /or bank erosion sites were mapped (aerial, ground)
 - Identified if the sources were natural or Project-related and/or active or inactive
 - Reviewed and summarized previous storm events in the study area
 - Mapped historical and/or ongoing erosion at the Project facilities
 - Summarized past and current sediment management practices at Democrat Dam

LAND 2 – Erosion and Sedimentation (ISR Att. K)

- Study Plan Variances
 - LAND 2 Technical Memo was released for stakeholder review in February 2025 instead of January 2025
- Ongoing/Outstanding Study Plan Elements
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None
- Key Study Results
 - Natural sediment sources at 19 sites

LAND 2 – Erosion and Sedimentation (ISR Att. K)

- Key Study Results
 - Natural slides and tributary channels



Photo A-15. Rilling/Landslide RB-1 (Google Earth Image, Date: 8/24/23)

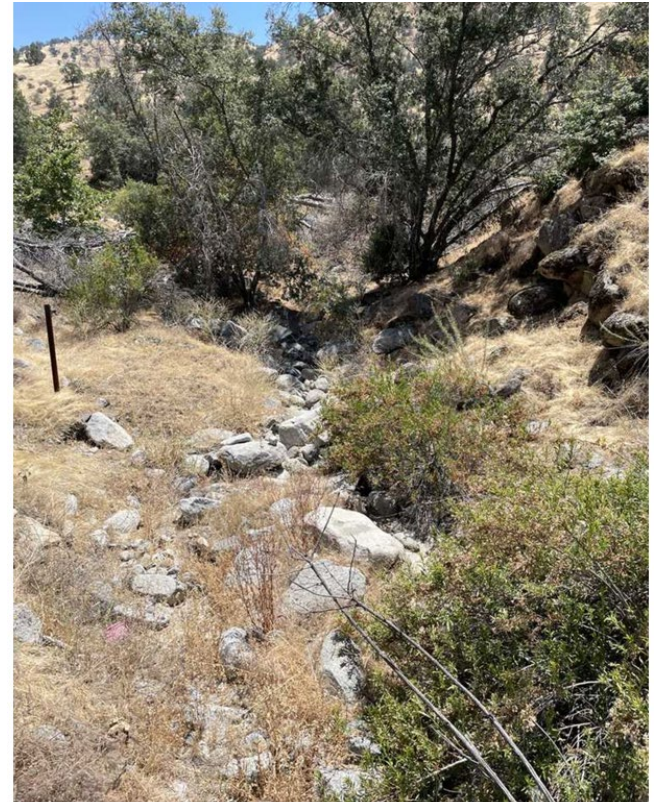


Photo A-13. Stark Creek at SR-178

LAND 2 – Erosion and Sedimentation (ISR Att. K)

- Key Study Results
 - Historical storm events



Photo A-22. KR1 Penstock Erosion and Sediment Deposition in the Kern River Channel After the August 20, 2013, Forebay Spill Event (Google Earth Image, Date: 4/15/2014)

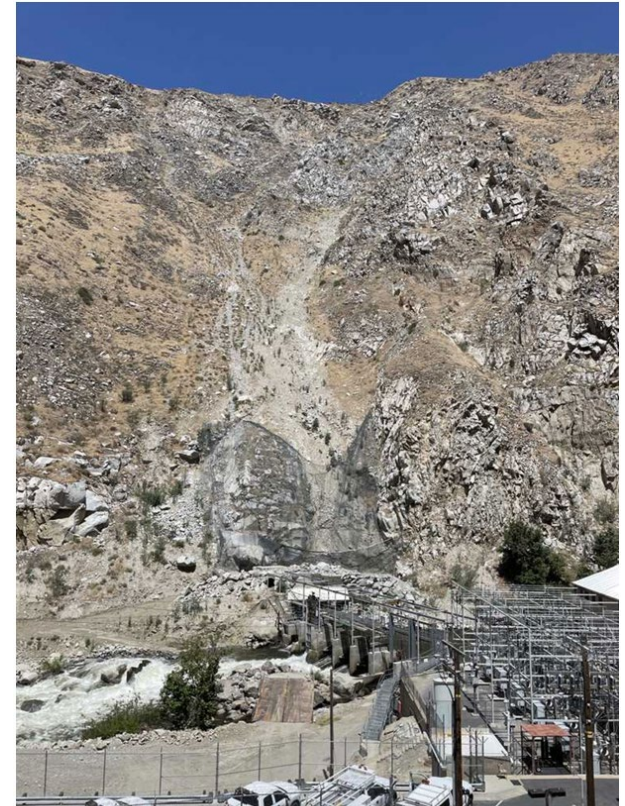


Photo A-17. Natural Rockslide at KR1 Powerhouse

LAND 2 – Erosion and Sedimentation (ISR Att. K)

- Key Study Results
 - Historical storm events

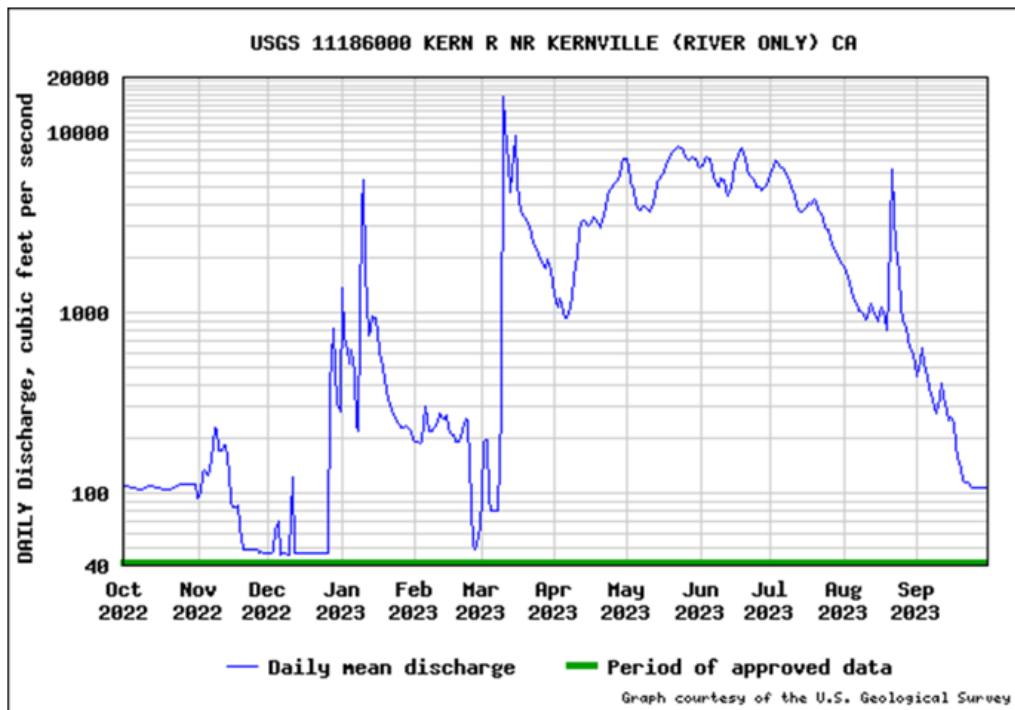


Figure 5-3. USGS Water Year Summary for Site USGS 11186000 at Lake Isabella Dam



Photo A-24. Debris Slide Closing SR-178 on March 15, 2023 (Caltrans 2023)

LAND 2 – Erosion and Sedimentation (ISR Att. K)

- Key Study Results

- Project Facility Erosion

- No active locations. Legacy spoil piles from drilling.



Figure 5-1. Example of Legacy Spoil Piles from Drilling the KR1 Conveyance Flowline.

LAND 2 – Erosion and Sedimentation (ISR Att. K)

- Democrat Dam Sediment Management

- Historical Permits

- U.S. Army Corps Engineers 404, State Water Board 401, California Department of Fish and Wildlife 1600
 - Standard Operations
 - Operational flushing (flow in the bypassed reach >600 cfs from July 1 to March 14, and flow in the bypassed reach >1,200 cfs during the smallmouth bass spawning and rearing period from March 15 to June 30)
 - Peak flow sediment bypass (peak flow, close diversion, spill over dam, lower drain gate open)
 - Full pond drain (flow <800 cfs, July 1 to March 14, excluding March 15 to June 30 during spawning/rearing hardhead)

- Currently

- Standard Operations
 - Operational flushing
 - Peak flow sediment bypass

- Permitting in progress

- Full pond drain (infrequent)

Questions / Comments

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Recreation Resources

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REC 1 – Recreation Facility Condition Assessment (ISR Att. L)

- Study Plan Elements Completed
 - Developed a facility inventory and condition assessment form approved by the Forest Service in August 2024
 - Conducted facility inventory and condition assessment at the four Forest Service day-use areas in September 2024
- Study Plan Variances
 - None
- Ongoing/Outstanding Study Plan Elements
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None

REC 1 – Recreation Facility Condition Assessment (ISR Att. L)

- Key Study Results

- Inventoried and assessed site amenities and parking
 - Typical amenities included formal parking, signboards, pit toilets, picnic tables (some covered), grills
- Evaluated universal accessibility with reference to Forest Service Outdoor Recreation Accessibility Guidelines
 - Mix of compliant and non-compliant amenities



- Evaluated overall site condition
 - Observations included evidence of erosion, vegetation disturbance or overgrown vegetation, and graffiti

REC 2 – Recreation Facility Use Assessment (ISR Att. M)

- Study Plan Elements Completed
 - Characterize recreation use at the four day-use areas and at undeveloped river access points
 - Utilized existing information to characterize likely recreation use activities
 - Confirmed five undeveloped river access points along SR-178 to conduct vehicle counts and opportunistic in-person intercept surveys
 - Developed survey forms for day users at the day-use areas and undeveloped river access points
 - Received approval from the Forest Service to install survey boxes at each of the day-use areas (December 2024)
 - Characterize recreation use at Project trails
 - Developed survey forms for trail users
 - Received approval from the Forest Service to install infrared cameras along Project trails (October 2024)
 - Installed infrared trail cameras

REC 2 – Recreation Facility Use Assessment (ISR Att. M)

- Study Plan Variances

- Extended implementation schedule

- Delayed implementation associated with installation of trail cameras and survey boxes

- Intercept survey form focuses on day users

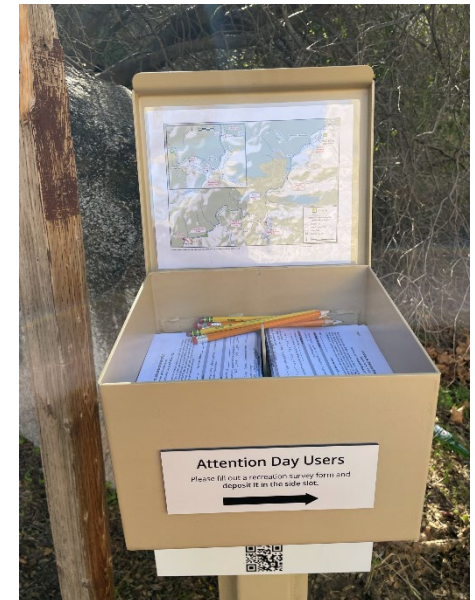
- One question to determine whether the user surveyed is whitewater boating
- Information from boaters is being collected via the REC 3 – Whitewater Boating study

- Vehicle counts and intercept surveys are conducted once per shift (two shifts per day) due to safety and timing

- TSP anticipated a count twice per shift

REC 2 – Recreation Facility Use Assessment (ISR Att. M)

- Ongoing/Outstanding Study Plan Elements
 - Characterize recreation use at the 4 day-use areas and at undeveloped river access points
 - Day Use Vehicle Counts and Intercept Surveys
 - Initiated May 15, 2024 – will run through April 2025 (1 year)
 - Day Use Survey Boxes
 - Installed January 2025 – will be serviced/maintained for 1 year
 - Characterize recreation use at Project trails
 - Trail Cameras
 - Installed November 2024 – will be serviced/maintained for 1 year
 - Trail Survey Boxes
 - Installed January 2025 – will be serviced/maintained for 1 year
 - Interview individuals familiar with the Project area about their impressions of trail use
 - Forest Service personnel, SCE personnel, local recreators



REC 2 – Recreation Facility Use Assessment (ISR Att. M)

- Ongoing/Outstanding Study Plan Elements
 - Estimate future recreation use and demand
 - Document public safety issues and existing programs and measures
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None

REC 2 – Recreation Facility Use Assessment (ISR Att. M)

- Preliminary Study Results

- Vehicle counts and intercept surveys among the 4 day-use areas +5 undeveloped river access points
 - Data collected from 251 survey forms representing 918 individual day users
 - On average, 27 vehicles were counted on a weekend day, 13 vehicles were counted on a weekday, and 60 were counted on a holiday weekend day
 - Average parking space occupancy ranged from 1% to 26%
 - Holidays demonstrated the highest occupancy
 - Peak visitation occurred during the month of July, followed by September
 - All respondents who provided a zip code were from California, 69% from the Bakersfield area
 - Picnicking is the primary recreation activity followed by hiking, walking, and fishing

REC 3 – Whitewater Boating (ISR Att. N)

- Study Plan Elements Completed
 - Completed Level 1 Desktop Review of existing information.
 - Literature Review
 - Hydrology Assessment
 - Description of Facility Capabilities
 - Structured Interviews
 - Structured interviews were conducted with individuals from the whitewater boating community with direct experience boating the bypass reach
 - Two-stage structured interview process:
 - Online survey
 - Follow-up interviews

REC 3 – Whitewater Boating (ISR Att. N)

- Preliminary Study Results

- Three whitewater runs in the 10.2-mile bypass reach:

- Cadillacs Run - Class V
- Richbar Run - Class IV
- Cataracts Run - Class V

- Structured Interviews

- 14 respondents – each a boater with direct experience boating the bypass reach
- All respondents were kayakers
 - 6 boaters provided input about Cadillacs run
 - 8 boaters provided input about Richbar run
 - 11 boaters provide input about Cataracts run

- Minimum and optimum flow preferences varied widely by individual:

- Minimum acceptable flow preferences: 500–3,000 cfs
- Optimum flow preferences: 1,000–3,500 cfs

REC 3 – Whitewater Boating (ISR Att. N)

- Study Plan Variances
 - None
- Ongoing/Outstanding Study Plan Elements
 - Quantify the annual and monthly frequency with which minimum acceptable and optimum whitewater flows occur in the bypass reach under current Project operations and without Project diversion
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None

REC 3 – Whitewater Boating (ISR Att. N)

- SCE has concluded continued assessment through a Level 2 Limited Reconnaissance investigation is unnecessary
 - All data needed to address study plan objectives has been developed from the Level 1 Desktop Assessment or will be developed from data obtained from the Level 1 Desktop Assessment.
 - Whitewater boater consultation conducted during the Level 1 Desktop Review documented a wide variance in minimum acceptable and optimal boating flows depending on a boater's preference.
 - Additional assessment efforts associated with the Level 2 Limited Reconnaissance Site Visit and Level 3 On-water Boating Assessment would be primarily directed at the refinement of boating flow preferences.
 - Reconciliation of flow preferences to single-value thresholds would not accurately represent the preferences of boaters that run the Lower Kern River.
 - Based on the study approach detailed in the approved REC 3 TSP, with the completion of the Level 1 Desktop Review, no further assessment is necessary to address study objectives.

Questions / Comments

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Botanical and Wildlife Resources

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TERR 1 – Botanical Resources (ISR Att. O)

- Study Plan Elements Completed
 - Identified and mapped vegetation alliances in the study area and completed ground-truthing surveys of preliminary vegetation alliance maps in May 2024
 - Sampled 10 representative riparian cross-sections along the bypass reach in September and October 2024
 - Summarized the structure and composition of the riparian community along the bypass reach
 - Developed preliminary lists of known or potential occurrences of special-status plants and Non-Native Invasive Plants (NNIPs) within the study area
 - Conducted early season floristic field surveys for known or potential occurrences of special-status plants and NNIPs in April 2024

TERR 1 – Botanical Resources (ISR Att. O)

- Study Plan Variances
 - TERR 1 TSP requires implementation of both early season and late season botanical surveys. The late season botanical surveys were scheduled to occur in late July 2024; however, due to the Borel Fire, surveys are postponed to July 2025.
- Ongoing/Outstanding Study Plan Elements
 - Complete the riparian vegetation-flow conditions studies. The hydrological analysis incorporating the riparian data was unavailable at the time the Interim Technical Memo was released for stakeholder review.
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None

TERR 1 – Botanical Resources (ISR Att. O)

- Preliminary Study Results
 - 14 CALVEG alliances verified in the study area
 - Annual grassland habitat is the predominant alliance
 - 5 MCV riparian alliances identified adjacent to Project-affected stream segments
 - California sycamore – Pacific coast live oak woodland alliance is present along most of the bypass reach
 - One special-status plant, rose-colored larkspur, was identified in the study area
 - Forest Service Species of Conservation Concern, CRPR 1B.3
 - 9 populations, a total of 434 individuals
 - No ESA-listed plants observed

CALVEG = Classification and Assessment with Landsat of Visible Ecological Groupings

MCV = Manual of California Vegetation

CRPR = California Rare Plant Rank

ESA = Endangered Species Act

TERR 1 – Botanical Resources (ISR Att. O)

- Preliminary Study Results
 - Five target NNIP species identified in the study area
 - Red brome (498 acres)
 - Common mullein (3.5 acres)
 - Scotch thistle (3 acres)
 - Rabbitsfoot grass (0.14 acre)
 - Cheatgrass (0.9 acre)



TERR 2 – Wildlife Resources (ISR Att. P)

- Study Plan Elements Completed
 - Developed preliminary lists and maps of known or potential occurrences of special-status wildlife species and their habitat within the study area and conducted reconnaissance surveys from May 27 to June 1, 2024
 - Completed evaluation of powerline pole configurations and open-air segments of the water conveyance system from May 27 to June 1, 2024
 - Completed special-status salamander habitat assessment in January 2025
 - Completed evaluation of facilities potentially supporting bat roosts and completed bat reproductive use and seasonal use surveys July 7 to 16, 2024

TERR 2 – Wildlife Resources (ISR Att. P)

- Study Plan Variances
 - None
- Ongoing/Outstanding Study Plan Elements
 - Complete special-status salamander visual encounter surveys in February/March 2025 during appropriate weather conditions
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None

TERR 2 – Wildlife Resources (ISR Att. P)

- Preliminary Study Results
 - 11 CWHR wildlife habitats identified in the study area
 - 11 special-status wildlife species observed during reconnaissance surveys or incidentally during other studies
 - Invertebrates: Monarch butterfly, bumblebee
 - Raptors: American peregrine falcon, golden eagle, bald eagle, Swainson's hawk
 - Other birds: white-headed woodpecker, savannah sparrow, oak titmouse, Bullock's oriole (nesting), and Lawrence's goldfinch
 - The monarch butterfly is proposed for listing as threatened
 - No other ESA-listed species were observed

TERR 2 – Wildlife Resources (ISR Att. P)

- Preliminary Study Results

- Two powerlines in the study area (Intake Gatehouse to Flume No. 1 Powerline and Kern River No. 1 Powerhouse to Forebay Communication/Powerline)
- Both include some pole configurations that have the following features that may pose a risk for avian electrocution:
 - Distance between uncovered phase conductors is less than 60 inches with no perch guard;
 - Distance between energized parts and grounded equipment of equipment towers/poles is less than 60 inches; and
 - The tower/pole contains uninsulated or partially insulated metal guy wires, jumper or transformer cables.

TERR 2 – Wildlife Resources (ISR Att. P)

- Preliminary Study Results
 - 12 open-air segments along Project water conveyance systems were evaluated
 - 5 flumes exhibited some potential for wildlife to become entrapped (Flume Nos. 2, 3, 4, 5, and 6)



TERR 2 – Wildlife Resources (ISR Att. P)

- Preliminary Study Results
 - 14 total bat species observed in the study area
 - 12 bat species observed during reproductive season surveys, including 3 special-status bats:
 - Pallid bat
 - Western mastiff bat
 - Western red bat
 - 9 bat species observed during seasonal use surveys, including 4 special-status bats:
 - Pallid bat
 - Western mastiff bat
 - Western red bat
 - Fringed myotis

TERR 2 – Wildlife Resources (ISR Att. P)

- Preliminary Study Results
 - 12 total roosts identified at eight Project facilities, including:
 - 1 maternity roost
 - 8 night roosts
 - 3 day roosts



TERR 2 – Wildlife Resources (ISR Att. P)

- Preliminary Study Results
 - Includes the following special-status roosts:
 - A day/night roost of at least 40 western mastiff bats on the cliff adjacent/connected to the Democrat Dam Access Walkway
 - A night roost of western mastiff bats at Stilling Well No. 2
 - A day/night roost including fringed myotis* at Adit 13 & 14



Photo-Credit-Merlin-D-Tuttle, Bat-Conservation-International¹²

*One of three potential species identified in guano analysis.

Questions / Comments

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Environmental Justice

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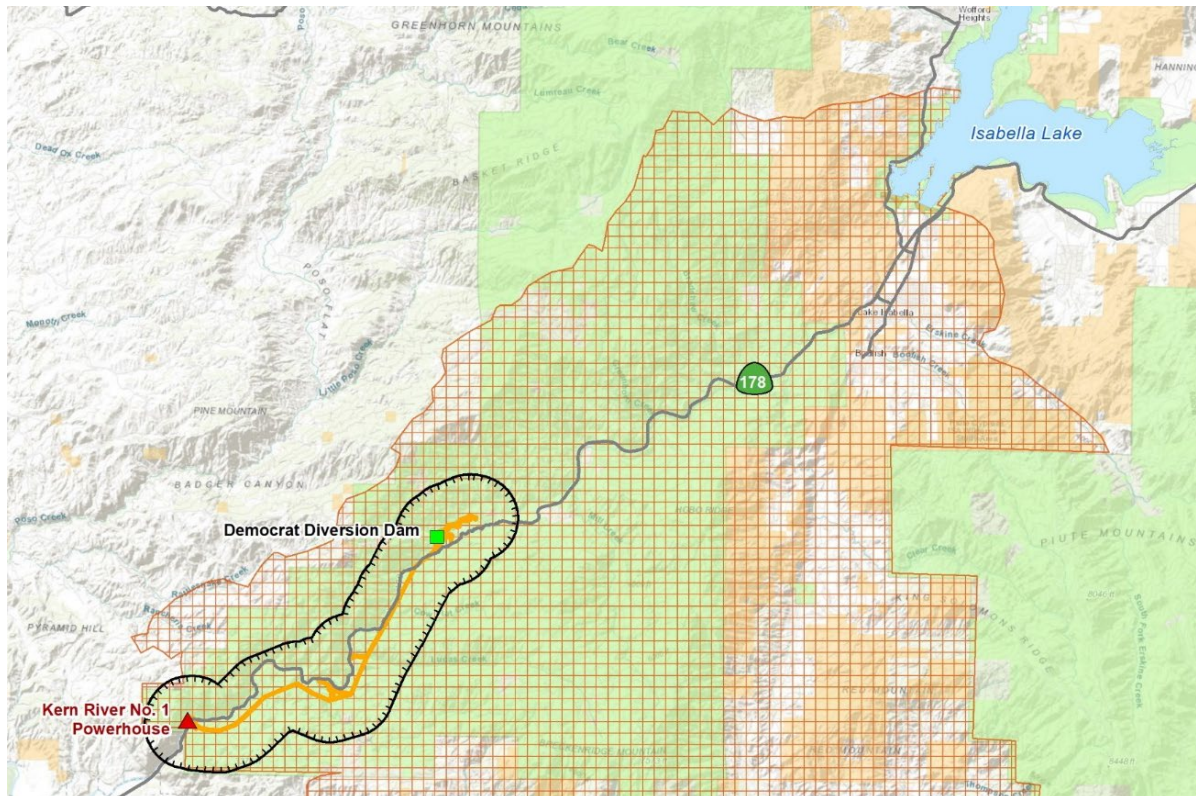
EJ 1 – Environmental Justice (ISR Att. Q)

- Study Plan Elements Completed
 - Evaluated Environmental Justice (EJ) communities within 1 mile of the Project
- Study Plan Variances
 - None
- Ongoing/Outstanding Study Plan Elements
 - 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.
 - Complete final Technical Memo
- Modifications to Ongoing Studies
 - None

EJ 1 – Environmental Justice (cont.)

- Key Study Results

- According to CalEPA, based on pollution and demographic burdens, most of the study area is considered an Environmental Justice community.



Questions / Comments

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Next Steps

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Next Steps

- **April 14, 2025:** SCE files ISR Meeting Summary with FERC
- **May 14, 2025:** Stakeholder comments must be filed with FERC

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