

# Kern River No. 3 Project

## FERC No. 2290

### Aquatic Resources

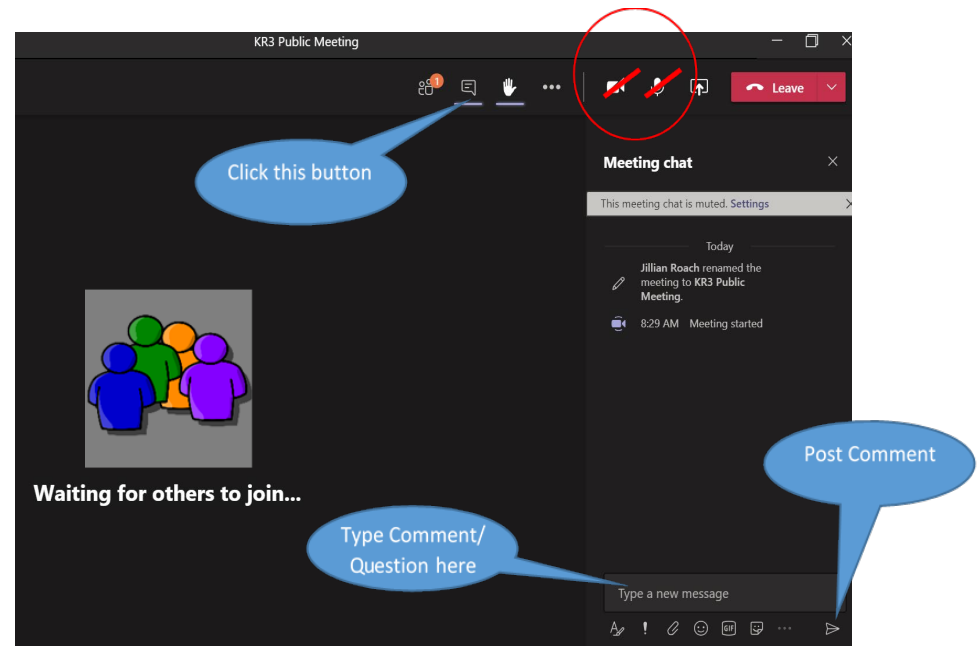
### Technical Working Group Kick-Off Meeting

October 29, 2020  
9:30 am – 12:00 PM

Meeting will start shortly.

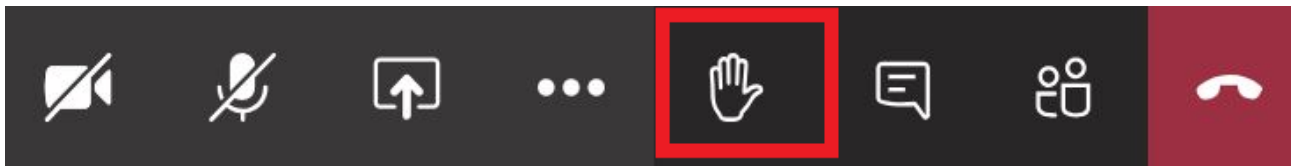
# Virtual Meeting Best Practices

- Presentation is Available on Project Website, [www.sce.com/kr3](http://www.sce.com/kr3)
- Please remain on mute when not talking
- Use of camera is optional
- Consider Shutting Down Unnecessary Background Programs for Best Meeting Audio/Viewing Quality
- Utilize the Chat Box During the Presentation for Questions or Comments



# How to Ask a Question ??

- Use the Chat Box or Ask Question Verbally
- Use the “Raise Hand” Feature to Indicate You Would Like to Ask Your Question Verbally



- Please Wait to be Called on and then Unmute Your Line
  - Introduce yourself (name and affiliation) prior to speaking

# Agenda

## MEETING PURPOSE

- Kick-off Aquatic TWG
- Provide information about the Kern River No. 3 relicensing Project and Project timeline
- Review existing Aquatic Resources information
- Present process for identifying additional information needs and development of study plans

## Welcome & Introductions

- TWG Overview
- TWG Objectives

## Project Overview and Relicensing Schedule

## Aquatic Resources Overview

## Resource Data Gap Identification Process


- Process for identification and discussion of proposed additional information needs
- Review FERC Study Plan Criteria

## TWG Meeting Schedule, Next Steps, and Action Items

# Introductions

- Name
- Affiliation
- Favorite Halloween Candy



The image shows the facade of a large, classical-style building. The top part of the facade is a light-colored stone or concrete with the words "SOUTHERN CALIFORNIA EDISON COMPANY" carved into it. Below this, there are three large, arched windows with multiple panes. The building has a symmetrical design with a central entrance and two side entrances. An American flag is visible on a tall pole to the right of the building. The overall scene is brightly lit, suggesting a sunny day.

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# Technical Working Group

# Meeting Ground Rules

- Participants will communicate with each other and the SCE Relicensing Team using respectful language
- Different points of view and opinions are welcomed
- Airtime will be shared and balanced
- Please listen and respect each other
- Please stay on topic
- Speakers generally will be allowed to finish without interruption
- Participants will honor meeting time limits, discussion timeframes, and the focus of the agenda
- Personal attacks or criticism are unacceptable
- Participants will respect requests from the facilitator related to these ground rules, the agenda, and meeting objectives

# TWG Purpose

- Open to all interested parties
  - public agencies, Native American tribes, nonprofit/not-for-profit organizations, individuals
- TWG participation is voluntary
- Members provide technical expertise and share insight on a specific resource topic in a collaborative forum
- TWGs will use a consensus-based model for decision making on substantive issues



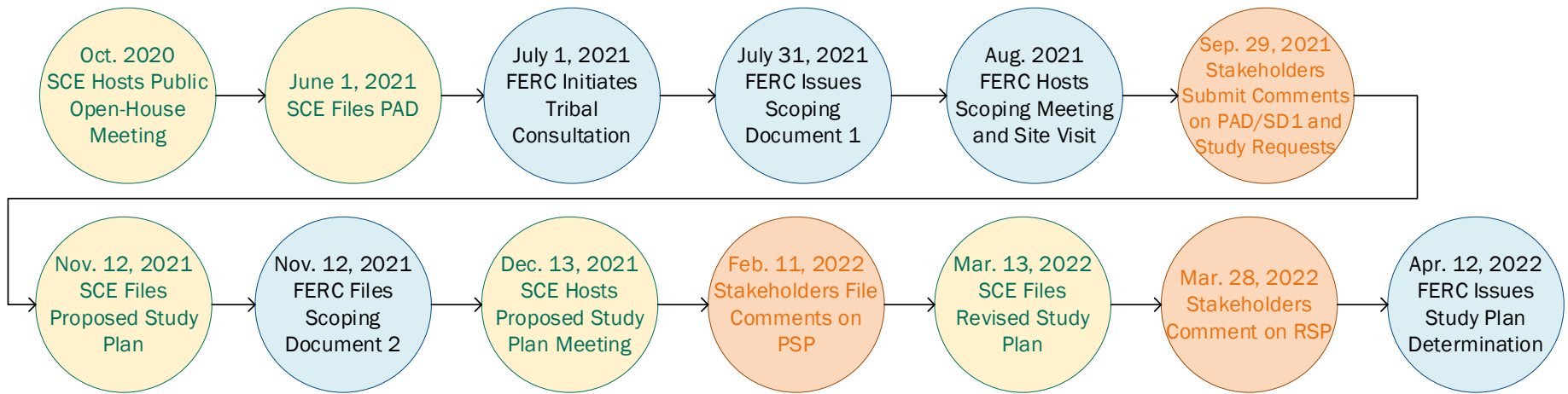
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# Project Overview and Relicensing Schedule

# Basic Steps of Relicensing

- **Notice of Intent (NOI)**
  - SCE notifies FERC of their intent to seek a new license
  - Filed 5 to 5.5 years before the expiration of the license
- **Describe Project and Identify Key Questions**
  - [Preliminary Application Document \(PAD\)](#) summarizes existing Project-related information, potential future operations, and identifies potential resource issues
  - Stakeholders ask questions and request studies for information that doesn't already exist ([Study Plan Development](#))
- **Answer Questions and Develop License Application**
  - Conduct studies for 1-2 years to fill in data gaps
  - Identify [Protection, Mitigation, and Enhancement \(PM&E\)](#) measures for the new license in coordination with stakeholders
  - Submit [license application](#) to FERC
- **FERC Conducts a NEPA review and issues license with term and conditions**
  - Solicits comments from stakeholders
  - Receives terms and conditions from agencies
  - Issues License

# KR3 Proposed ILP Relicensing Dates: PAD Filing through Study Plan Determination



## Legend

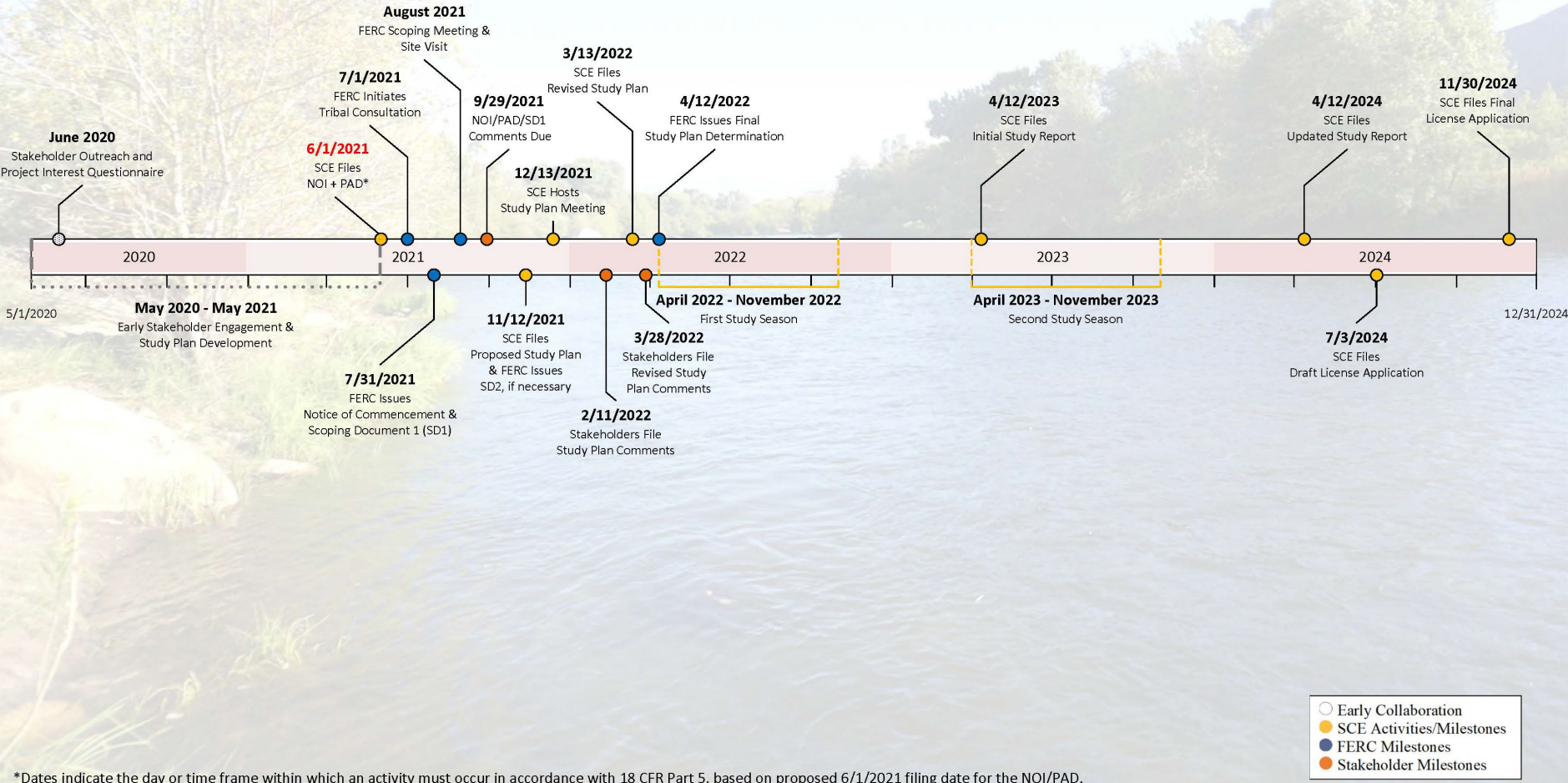
Blue: FERC

Yellow: SCE

Orange: Stakeholders

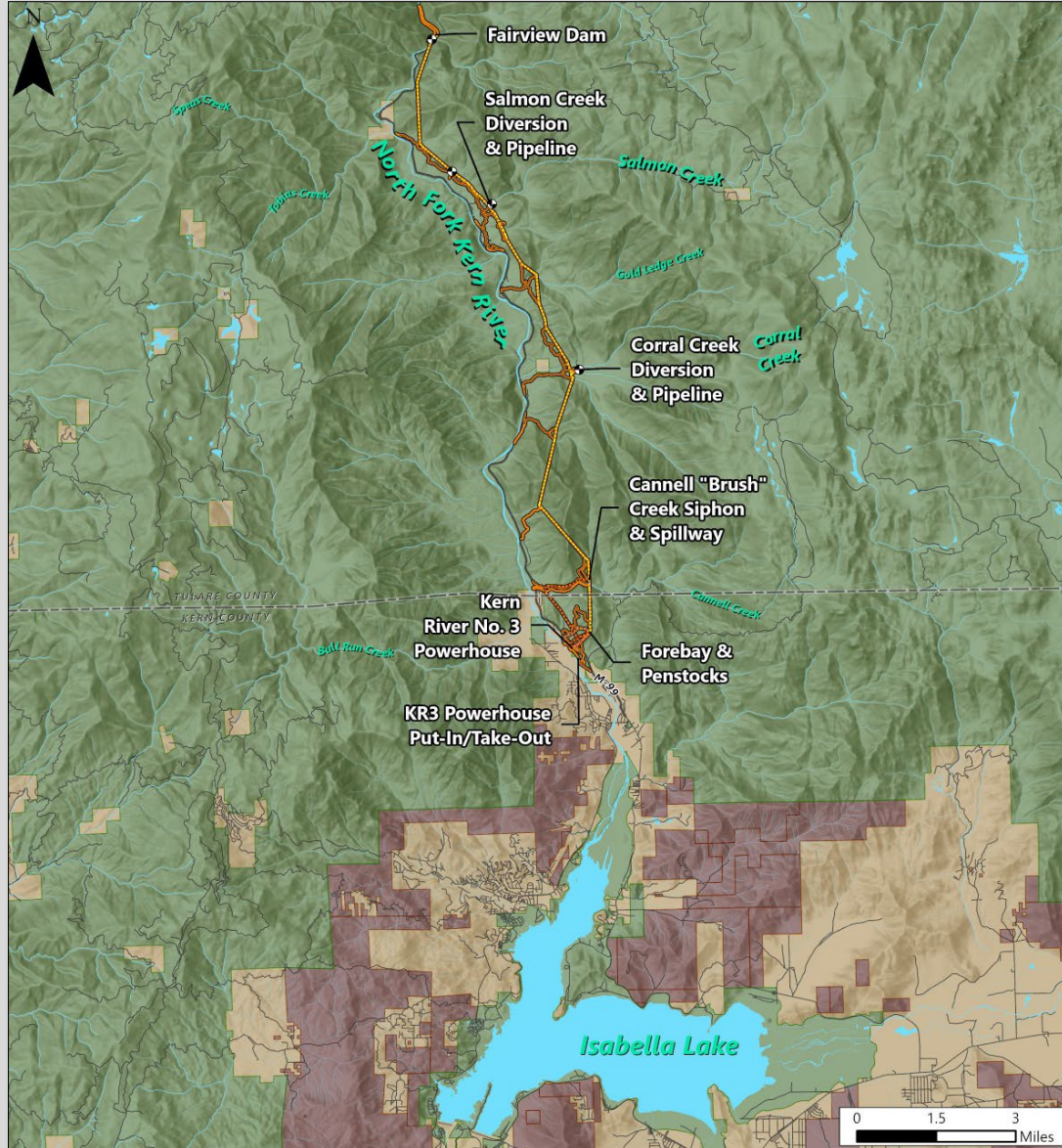
*\*dates based on proposed filing of PAD on June 1, 2021*

## KERN RIVER NO. 3 HYDROELECTRIC PROJECT (FERC PROJECT NO. 2290) PROPOSED ILP RELICENSING TIMELINE



\*Dates indicate the day or time frame within which an activity must occur in accordance with 18 CFR Part 5, based on proposed 6/1/2021 filing date for the NOI/PAD.

- Early Collaboration
- SCE Activities/Milestones
- FERC Milestones
- Stakeholder Milestones

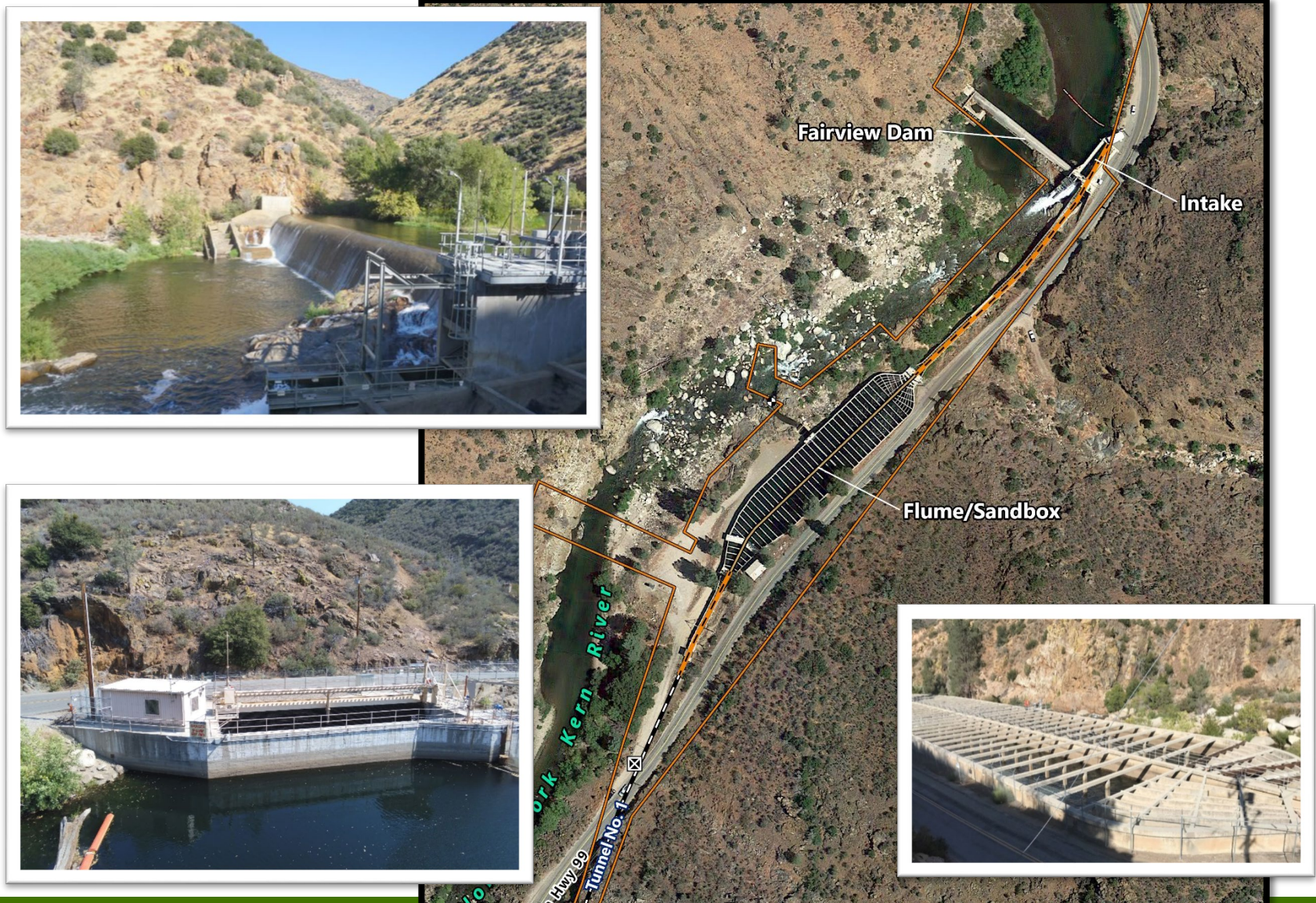


FERC Project Boundary (P-2290)	Gage
Water Conveyance	Sequoia National Forest
Spillway	County Line
Penstock	Non-Federal Lands
Communication/Telephone Line	BLM

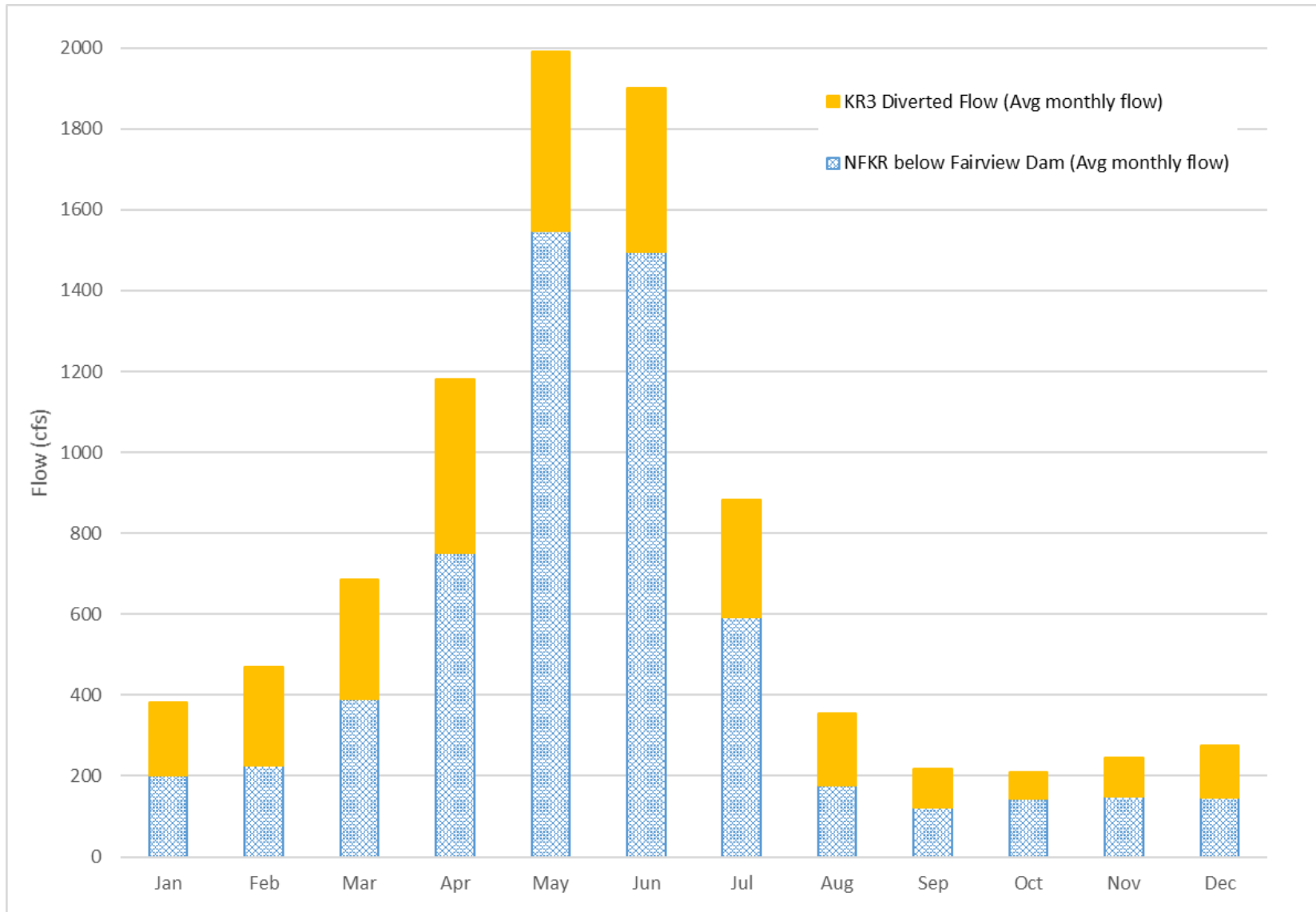
**KERN RIVER NO. 3  
HYDROELECTRIC PROJECT  
FERC PROJECT NO. 2290**

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**EDISON**  
Energy for What's Ahead™

# Project Overview: Fairview Dam



# North Fork Kern River Hydrology (2001-2019)



# Project Overview: Conveyance Flowline





# Project Overview: Small Diversions



Corral Creek Diversion



Salmon Creek Diversion



# Project Overview: Cannel Creek Siphon



Cannell "Brush" Creek Siphon & Spillway

# Project Overview: Spillway Channel, Forebay, & Penstocks



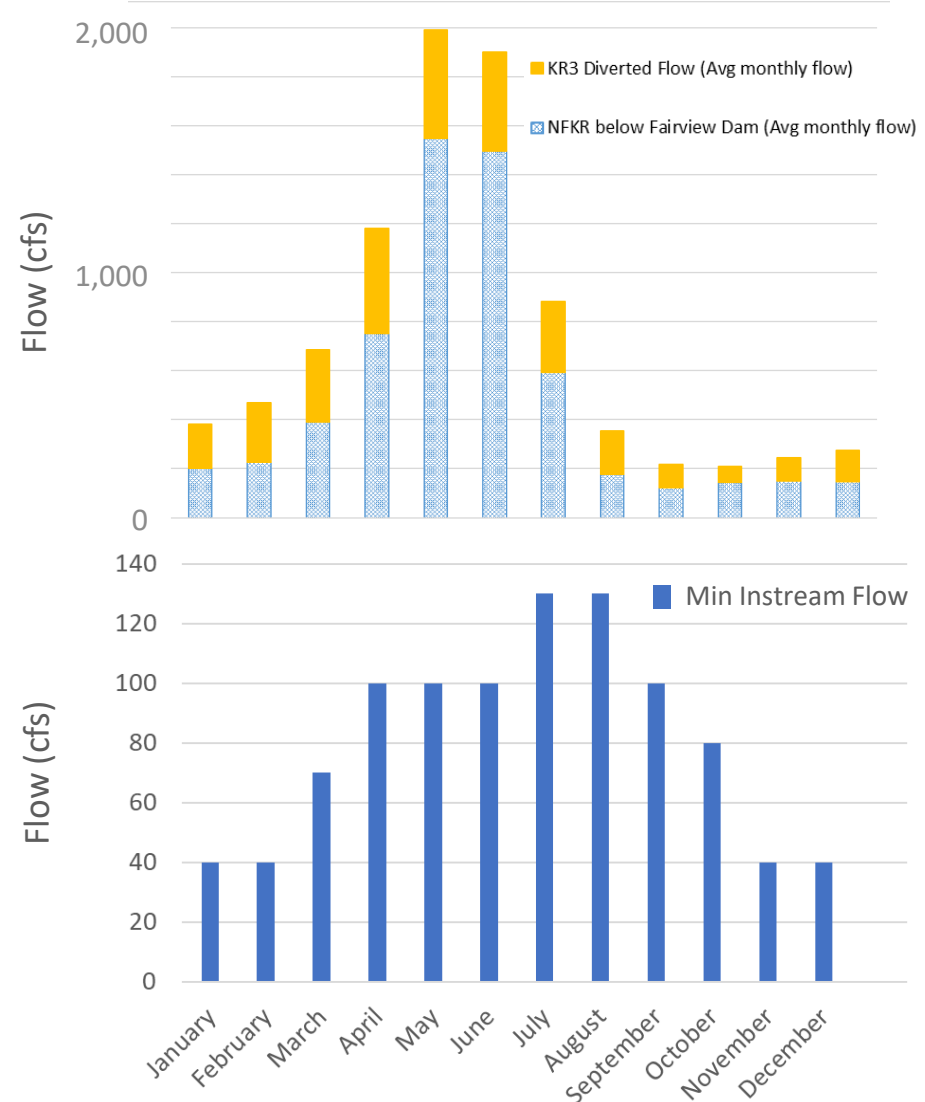
# Project Overview: KR3 Powerhouse





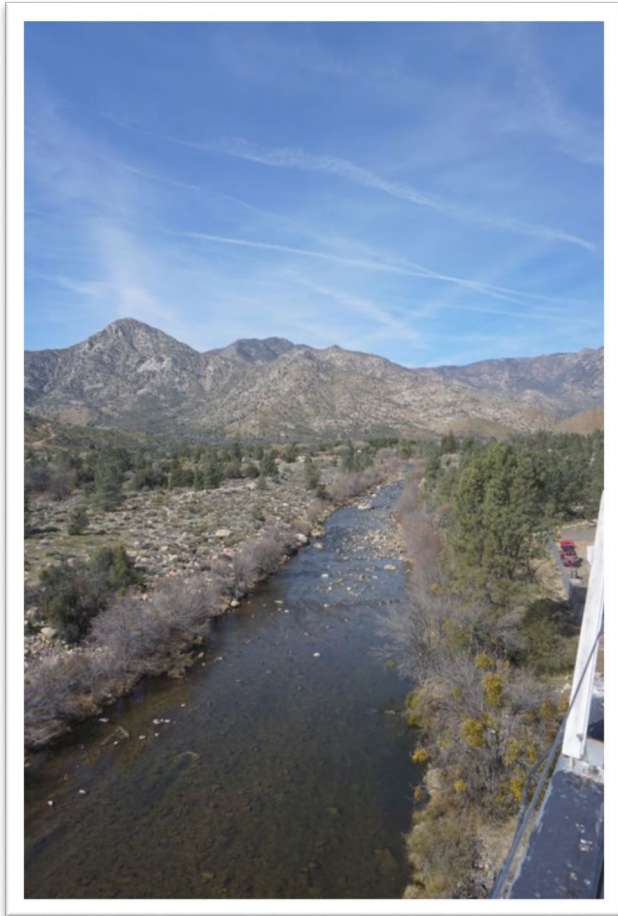
# Current License Requirements: Water Management & Minimum Instream Flows

- NFKR below Fairview Dam
  - Diverts 35 cfs year-round for CDFW's Fish Hatchery
  - MIFs: 40 cfs (winter) – 130 cfs (summer)
  - Includes ramping to minimize water elevation changes when reducing flows
- Salmon Creek Diversion
  - MIFs: 1 cfs (Feb-June) and 4 cfs (July-Jan)
- Corral Creek Diversion
  - MIFs: 0.5 cfs (Feb-June) and 1 cfs (July-Jan)



# Current License Requirements: Water Management & Minimum Instream Flows

## Whitewater Recreation Flows



Looking upstream from Kern River No. 3 Powerhouse

Dates	Boating Days	Unimpaired Flow at Fairview Dam (cfs)	Minimum Whitewater Release (cfs)
April 1 through the weekend prior to Memorial Day weekend	Fridays and Weekends	1,000–1,300	700
		>1,700	1,400
Weekend prior to Memorial Day weekend until July 4	Daily	1,000–1,300	700
		>1,700	1,400
July 5 to July 31	Weekends	1,000–1,300	700
		>1,700	1,400

# Aquatic Resources – Current License Requirements

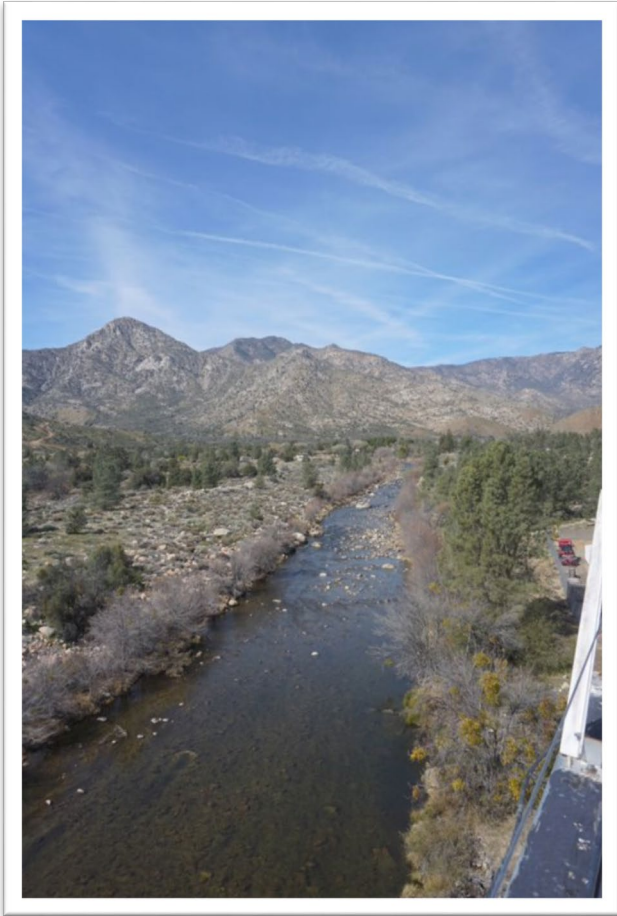
- Existing Minimum Instream Flow (MIF) Schedules
- Ongoing Fish Population Monitoring
- License Implementation Water Temperature Monitoring (first 5 years of License)
- Sandbox operations monitoring (first 2 years of License)





# Aquatic Resources - Hydrology & Water Quality

## Hydrology and Water Quality

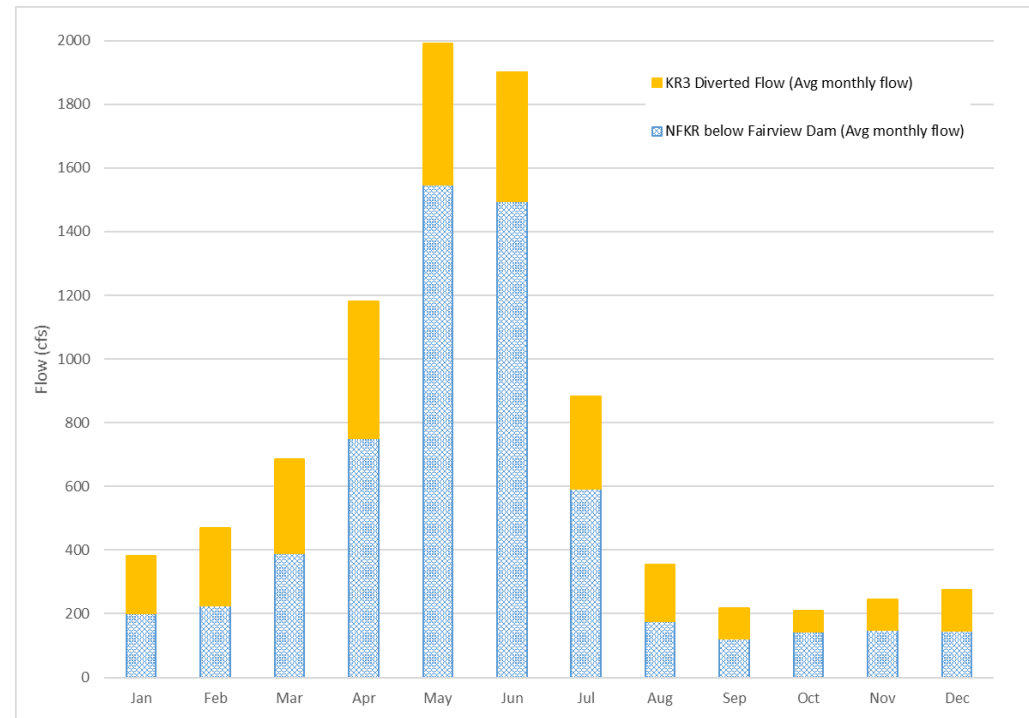


Looking upstream from Kern River  
No. 3 Powerhouse

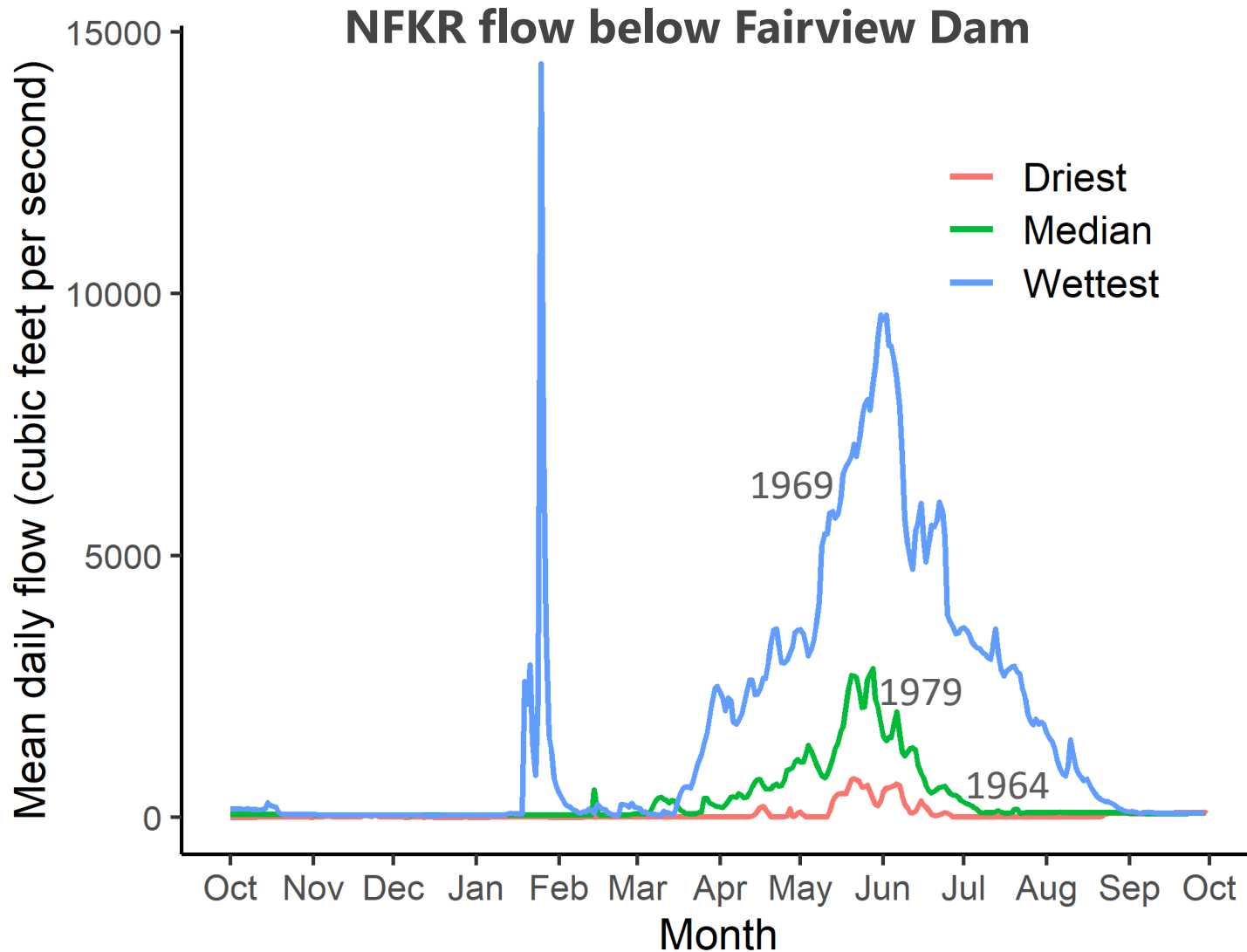
- Wild and Scenic with no water projects upstream of Fairview (water rights limited to small diversions)
- Water quality is typical of mid-elevation west slope Sierra rivers: high dissolved oxygen, low concentrations of minerals & nutrients
- Water temperature: supports coldwater and transitional zone fish assemblages
  - Ranges from lows near 1 °C during snowmelt to highs above 20 °C including upstream of the bypass reach
  - 2002 report found summer MIF of 130 cfs is sufficient to maintain water temperature below 20 °C in bypass reach, where inflow is 17 °C or less

# Aquatic Resources - Hydrology & Water Quality

- Average monthly flow above Fairview Dam:
  - 200 – 400 cfs in fall and winter
  - 1,000 – 2,000 cfs during spring snowmelt
  - Salmon Creek: 2 cfs in summer up to 18 cfs during snowmelt
  - Corral Creek: less than 1 cfs in summer to 3 cfs during snowmelt
- Average monthly flow below Fairview Dam:
  - MIFs (40 – 130 cfs fall to winter)
  - 200 to 1,400 cfs winter to summer



# Aquatic Resources - Hydrology & Water Quality



# Aquatic Resources – Biological Resources

- Water temperature supports coldwater and transitional zone fisheries
  - Rainbow and brown trout, Sacramento pikeminnow, hardhead, Sacramento sucker
  - In lower reaches: common carp, green sunfish, likely from Isabella Lake
- Special Status Fish
  - hardhead within NFKR bypass reach
  - Kern River rainbow trout upstream of Johnsondale Bridge (upstream of Project area), not observed in Project area
- 47,000 pounds of catchable rainbow trout planted annually in bypass reach
- Fish spawning gravel deposits limited both in bypass reach and upstream, due to natural peak storm flood events
- Fish ladder on Fairview Dam closed to prevent upstream migration of non-native trout



Rainbow trout

# Aquatic Resources – Biological Resources

- Mollusks
  - Western pearl shell, observed at Goldledge, Roads End, and above Johnsondale Bridge
  - last observed 2016
- Benthic macroinvertebrates
  - BMI collected in above Project area in Salmon Creek, and in SF Kern River
- Amphibians & Aquatic Reptiles within Project area:
  - California toad, Sierran treefrog, western pond turtle, Sierra garter snake

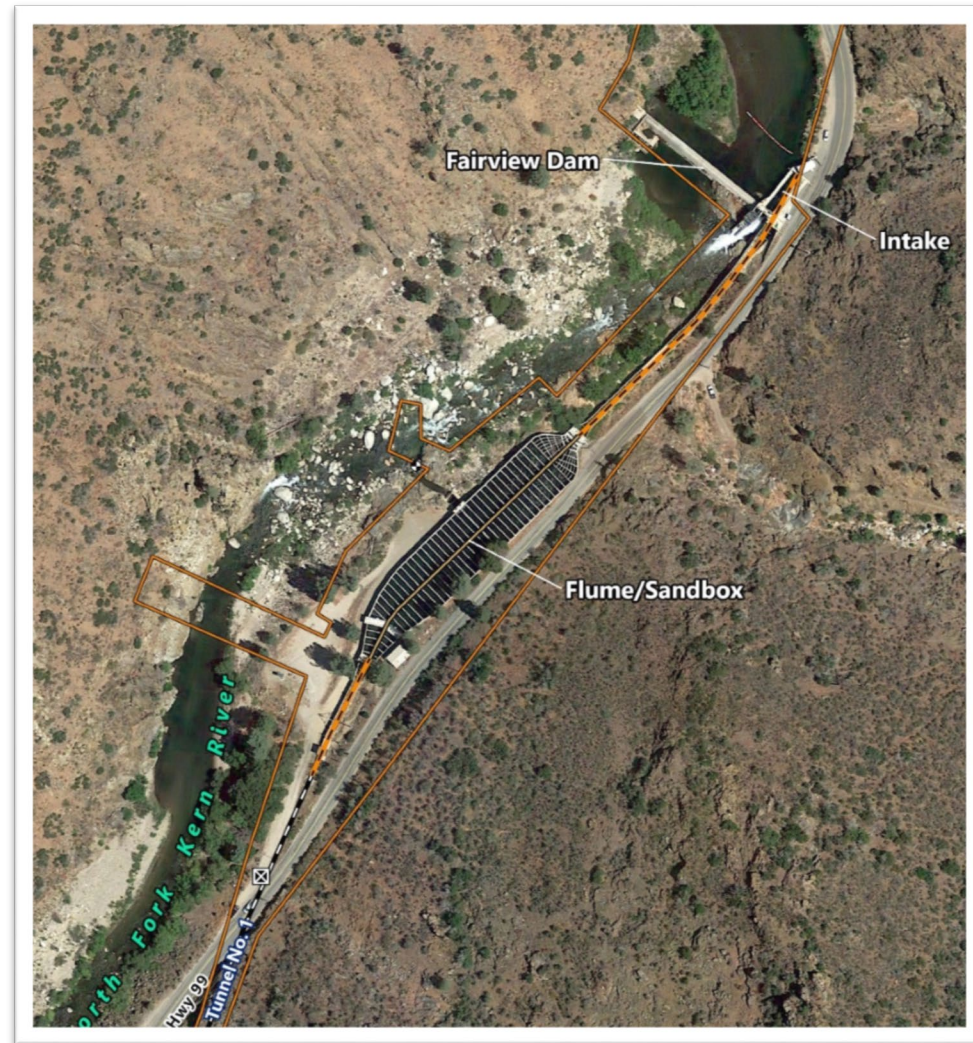


Western pearl shell mussel, Above Johnsondale Br.

Source: Cardno, 2017 fish report

# Aquatic Resources – Geomorphology

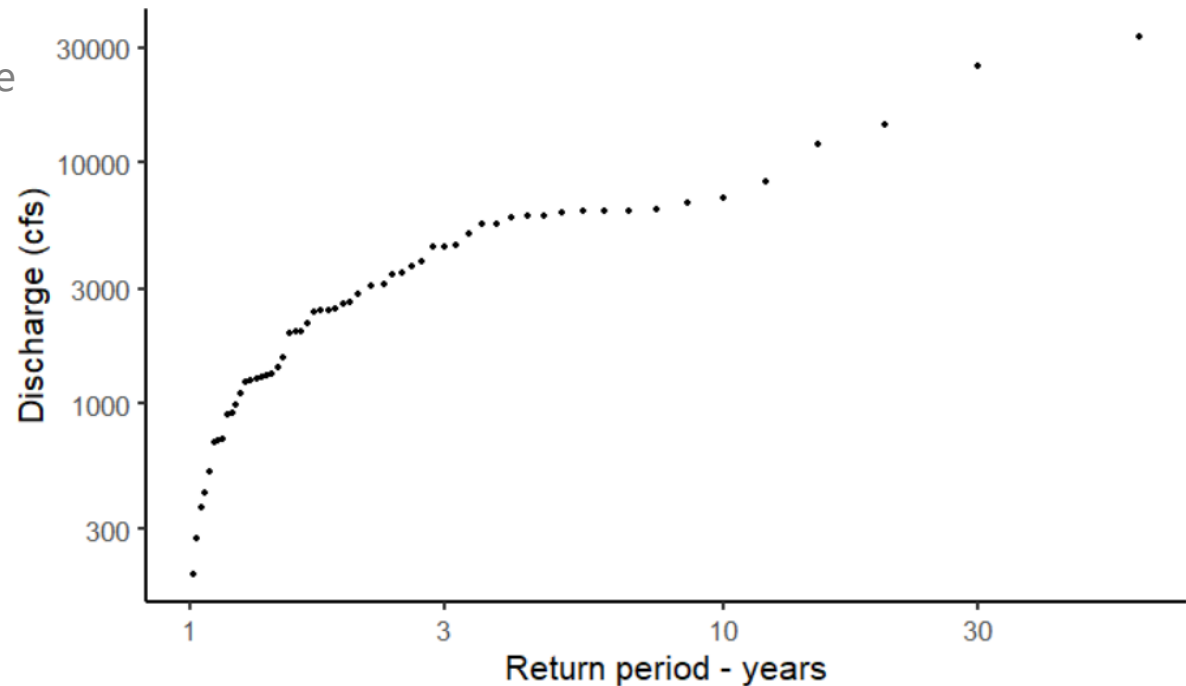
- Most sediment delivered to Fairview Dam is sand or decomposed granite
  - River is naturally gravel-limited
- Sandbox at Fairview Dam captures sediment from upstream before it enters flowline
  - Sediment is returned to river during flows > 350 cfs
  - Flows > 350 cfs found to transport sand downstream without deposition in spawning riffles
- Erosion
  - Channel stabilization along forebay spill channel completed in 1995 under existing License



Sandbox below Fairview Dam

# Aquatic Resources – Geomorphology

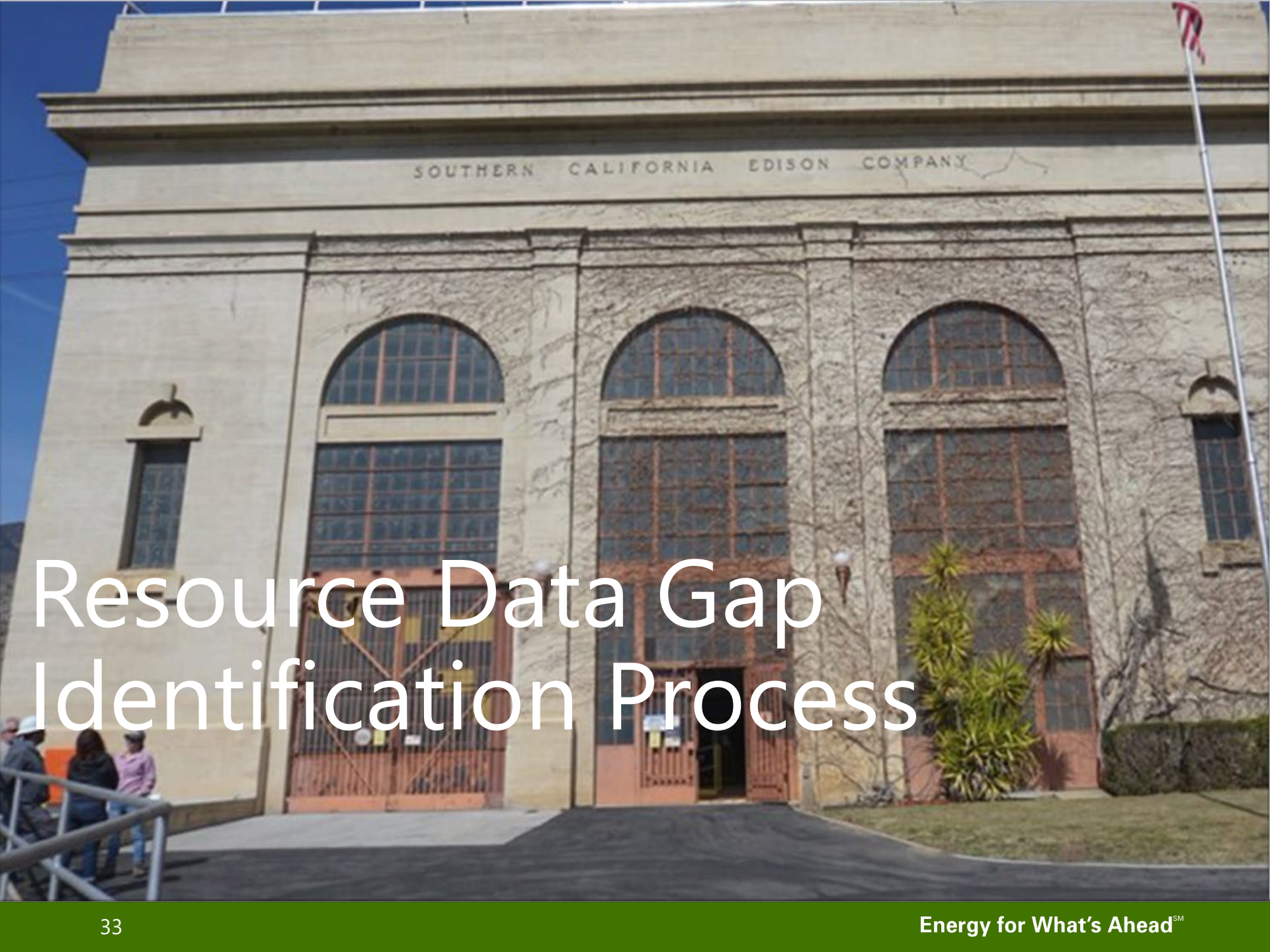
- Channel gradients
  - NFKR mostly (97%) 0-2% gradient
  - Salmon Creek: 73% of reach > 5% slope
  - Corral Creek: 96% of reach > 8% slope
- Annual peak flows mobilize smaller sediments (gravel & sand), rare larger events mobilize boulders
- Flow Frequency
  - Smaller grains (gravel & sand) mobilized in 1.3- to 1.5-year floods (1,220 – 1,560 cfs)
  - Larger grains only mobilized during larger flood events; e.g., 10-year flood; 7,120 cfs



# Questions / Discussion





The image shows the facade of a large, classical-style building made of light-colored stone or concrete. The words "SOUTHERN CALIFORNIA EDISON COMPANY" are carved into a horizontal band above the main entrance. The entrance features three large, arched windows with dark frames and multiple panes. Below the arches are wooden doors. To the right, an American flag flies on a tall pole. In the foreground, a paved walkway leads to the entrance, and a few people are visible on the left side.

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# Resource Data Gap Identification Process

# TWG Data Gap Identification and Study Needs

1. TWG members ID additional information/needs for KR3 Aquatic Resources

2. TWG evaluates information request using FERC study criteria

FERC Study Request Criteria  
18 CFR § 5.9 (b)

(4) does the information already exist?

(5) Is there a nexus to project operations and will the additional information inform development of future license conditions?

(6) Is the study method feasible and accepted by scientific community?

3. TWG Decision

Yes, meets FERC study request criteria. Develop draft study plan

No, does not meet FERC study request criteria

# FERC Study Request Criteria (18 CFR § 5.9 (b))

1. Describe the **goals and objectives of each study proposal** and the **information to be obtained**;
2. If applicable, explain the **relevant resource management goals** of the agencies or Indian tribes with jurisdiction over the resource to be studied;
3. If the requester is a not resource agency, explain any **relevant public interest considerations** in regard to the proposed study;
4. Describe existing information concerning the subject of the study proposal, and the **need for additional information**;

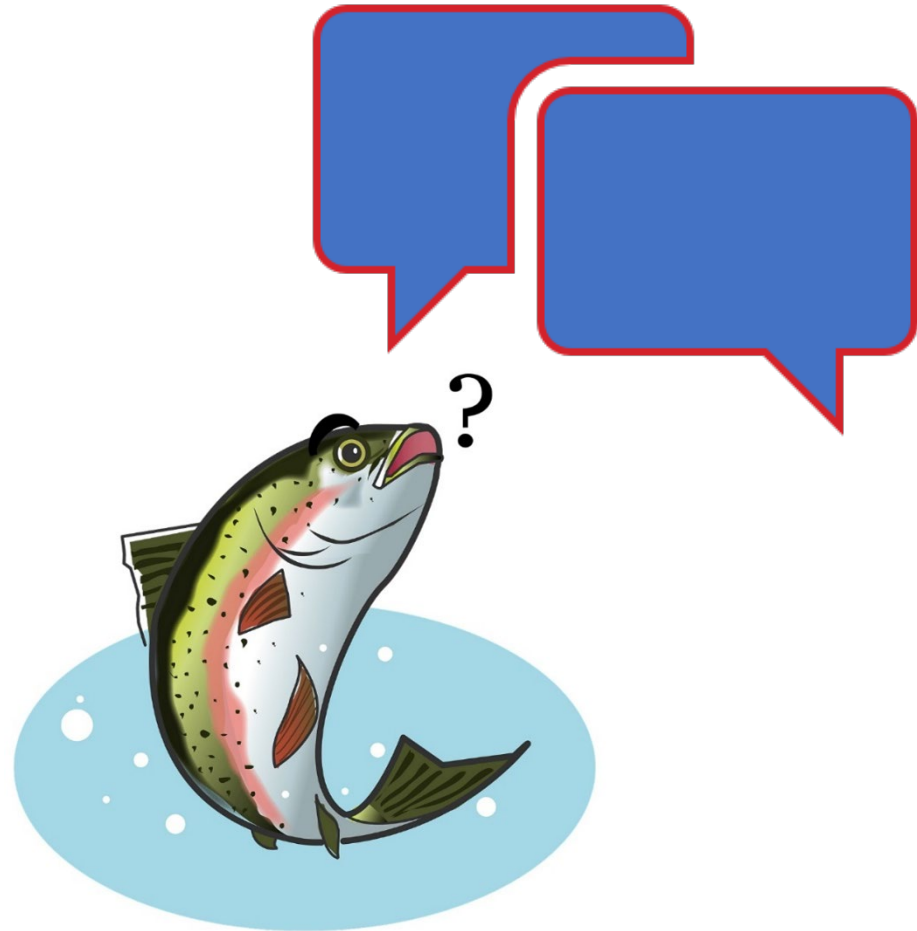
# FERC Study Request Criteria (18 CFR § 5.9 (b))

5. Explain any **nexus between project operations and effects** (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would **inform the development of license requirements**;
6. Explain how any **proposed study methodology** (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate filed season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and
7. Describe considerations of **level of effort and cost**, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

# Additional Information Needs Identification Table

<b>Resource Area</b> (Fish/Aq/Hydro; Terr; Rec/Land; Cult/Tribal)	<b>1. Describe the goals and objectives of the study proposal and the information to be obtained</b> 5.9(b)(1)	<b>2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied</b> 5.9(b)(2).	<b>3. If the requester is a not resource agency, explain any relevant public interest considerations in regard to the proposed study</b> 5.9(b)(3).	<b>4. Describe existing information concerning the subject of the study proposal and the need for additional information</b> 5.9(b)(4)	<b>5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements</b> 5.9(b)(5)	<b>6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate filed season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge</b> 5.9(b)(6)	<b>7. Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.</b> 5.9(b)(7)

# Questions / Discussion



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# TWG Meeting Schedule, Next Steps and Action Items

# Aquatic TWG Meeting Schedule

- Bimonthly: Second Thursday, every other month
- Time: 9:30 am – 12 PM Pacific
- Proposed TWG Meeting Schedule
  - **Dec 10:** Additional Information Needs Form presentations
  - Feb 11: Study Plan presentations for agreed upon additional information needs
  - April 15: Present Study plan comments



# Aquatic TWG Schedule

TWG Activity	2020			2021					
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
TWG kick-off	■								
Stakeholders populate additional Information needs table		■							
TWG review of additional information needs and study plans			■						
SCE develops draft study plans			■						
Present draft study plans to TWG					■				
Stakeholders comment on draft study plans					■				
SCE present stakeholder comments on draft study plans to TWG							■		
SCE finalize study plans								■	
SCE files PAD with study plans									■

# Action Items

- TWG members populate Additional Information Need Identification Table
  - Link to table on website ([www.sce.kr3](http://www.sce.kr3))
- Provide Additional Information Need Identification Table to SCE 10-days before next meeting (Nov. 30)
  - Project email: [kr3@sce.com](mailto:kr3@sce.com)

# Follow Up Questions or Information

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