APPENDIX F
CONSULTATION RECORD

Page Intentionally Left Blank

Outlook

Kern River No. 3 FERC 2290 SCE/USFS use of cameras

From Johnston, Barbara - FS, CA <Barbara.Johnston@usda.gov>
Date Tue 8/13/2024 9:51 AM
To Jillian Roach <Jillian.Roach@erm.com>; Stephanie Fincher <Stephanie.Fincher@sce.com>
Cc Meg Richardson <mary.m.richardson@sce.com>; Miller, Karen - FS, CA <karen.miller@usda.gov>; Sanchez, Monique - FS, CA <monique.sanchez@usda.gov>; Brown, William - FS, CA <William.Brown2@usda.gov>

Good morning! Billy Brown reviewed the proposed locations for the cameras you are proposing to use to get an idea of the number of boaters using the Kern River for recreational boating. Billy sent me his review:

> *I reviewed locations of all suggested camera placements and don't see any concerns related to privacy issues as they are all in publicly accessible areas that would not have any expectation of privacy. I think the camera locations were well thought out and should be able to capture the desired data.*

Therefore, the Forest Service is approving the use of the cameras at the proposed locations.

Thank you,
Barbara

Barbara Johnston
Affiliate
Sequoia National Forest
220 East Morton Avenue
Porterville, CA 93257
barbara.johnston@usda.gov

Outlook

SCE Kern River No. 3: Recreation Camera Installation

From Jillian Roach <Jillian.Roach@erm.com>

Date Fri 8/16/2024 9:42 AM

Cc Stephanie Fincher <Stephanie.Fincher@sce.com>

Bcc Sanchez, Monique - FS <monique.sanchez@usda.gov>; lilian_jonas@contractor.nps.gov <lilian_jonas@contractor.nps.gov>; stephen_bowes@nps.gov <stephen_bowes@nps.gov>; barbara_rice@nps.gov <barbara_rice@nps.gov>; anna_tamura@nps.gov <anna_tamura@nps.gov>; Susan_Rosebrough@nps.gov <Susan_Rosebrough@nps.gov>; patrick_johnston@nps.gov <patrick_johnston@nps.gov>; alyssa_l_walker@nps.gov <alyssa_l_walker@nps.gov>; catherine_brown@nps.gov <catherine_brown@nps.gov>; Brown, William - FS, CA <William.Brown2@usda.gov>; Aguirre orozco, Victor - FS, CA <victor.aguirreorozco@usda.gov>; Barbara.Johnston@usda.gov <Barbara.Johnston@usda.gov>; Edwards, Anthony - FS, CA <anthony.edwards@usda.gov>; Karen Miller <karen.miller@usda.gov>; NNIKIRK62@GMAIL.COM <NNIKIRK62@GMAIL.COM>; lacey2u@sbcglobal.net <lacey2u@sbcglobal.net>; bethjens@gmail.com <bethjens@gmail.com>; riverlakere@gmail.com <riverlakere@gmail.com>; laceypayne89@gmail.com <laceypayne89@gmail.com>; tsherman91@gmail.com <tsherman91@gmail.com>

Agencies and interested boaters:

Southern California Edison (SCE) has initiated consultation with the Sequoia National Forest (SQF) regarding the installation of cameras at river access locations to support the KR3 relicensing effort. Specifically, this effort is to support the REC-2: Recreation Facilities Use Assessment Study Plan, per direction from the Federal Energy Regulatory Commission's (FERC) May 30, 2024 Determination on Requests for Study Modifications and New Studies.

SCE held discussions with the SQF on June 17 and July 31, 2024 to discuss and review proposed camera installation locations and is currently awaiting formal written approval from SQF.

Before proceeding with the camera installations, SCE would like to share the proposed locations with other agencies and interested boaters. SCE is scheduling a call to review the proposed camera locations along the North Fork Kern River, from Johnsondale Bridge and down along the Fairview Dam bypass reach to the KR3 Powerhouse put-in/take-out location.

Call Details:

- **Date:** Thursday, August 29, 2024
- **Time:** 1:00 PM - 2:00 PM Pacific
- **Meeting Link:** [Teams Meeting Link]
- **Call In:** 213-279-1475 ID: 463 615 051#

If you would like to participate in this call, please use the link provided above to join the Teams meeting.

Following formal approval from SQF, SCE will proceed with camera installation. The cameras will be deployed for one calendar year as stipulated by FERC's Order. A summary of SCE's consultation with SQF, agencies and interested boaters, along with a detailed study approach and methodology, will be included in the Updated Study Report (USR) to be filed with FERC by October 11, 2024.

We look forward to your participation and feedback.

-Stephanie Fincher-DeMillo (SCE KR3 Relicensing Manager)

Sustainability is our business

Jillian Roach
Principal Consultant, Project Manager

980 9th St, Ste 750 Sacramento, CA
M. 916.201.7746
erm.com

Kern River No. 3 Project (P-2290)

REC-2 Recreation Facilities Use Assessment:

Camera Study

August 29, 2024

Purpose of Meeting

- Inform agencies and interested boaters of proposed camera locations

FERC Determination on Study Modifications (May 30, 2024):

SCE should work with Sequoia National Forest to install cameras at all river access locations along the Fairview Dam bypassed reach and above Fairview Dam to Johnsondale Bridge to capture:

(1) use-estimates including percent capacity at all river access locations;

(2) activity-type estimates, specifically commercial vs. non-commercial boaters, including the type of watercrafts used.

The cameras should be deployed for one calendar year and capture use at reasonable intervals to record boating activity, or set to sense motion, depending on camera placement and its ability to detect movement at the river access.

Consultation Update

- June 17 and July 31, 2024
  - SCE and SQF reviewed FERC's Order, discussed proposed camera locations, and provided an overview of the scope of work associated with the cameras
- August 13, 2024
  - SQF-Recreation Officer provided verbal (email) approval of the camera locations
- August 14, 2024
  - SCE provided Forest Supervisor a formal request for approval and Special Use Permit to install the cameras

Camera Installation

- Day-use/dispersed camping locations and 2 river-view locations
  - Put-in/take-outs associated with the ww rapid segments
  - Does not include locations where there is a “reasonable expectation of privacy” (i.e., campground)
  - Includes 10 of the 25 sites of the REC-2 Study
- Attach to SCE power poles, trees, or other inconspicuous locations to minimize the potential for vandalism or theft
- Positioned to capture river/river access locations
  - Where possible includes both instream and land-based use (parking)
  - Collect photos from dawn-dusk every 15 min
- Routinely download photos over the year to reduce potential data loss

Proposed Camera Locations

- 12 Locations (13 cameras)

Camera Site ID	Site Name	Site Type
1	Johnsondale Bridge River Access	Day Use
2	Willow Point Whitewater Take-out	Day Use
3	Roads End Picnic Site and Whitewater Put-in	Day Use
4	Calkins Flat Dispersed Camping	Dispersed Camping
5	NFKR Chamise Gorge Run	NFKR view
6	Ant Canyon Dispersed Camping	Dispersed Camping
7	Corral Creek Picnic Site and Whitewater Take-out	Day Use
8	Thunderbird Group Campground and Whitewater Put-in/Take-out	Day Use portion of site
9	Camp 3 Whitewater Put-in/Take-out	Day Use portion of site
10	Riverkern Beach Picnic Site	Day Use
11	NFKR above KR3 Powerhouse	NFKR view
12 / 13	KR3 Powerhouse Whitewater Put-in/Take-out	Day Use

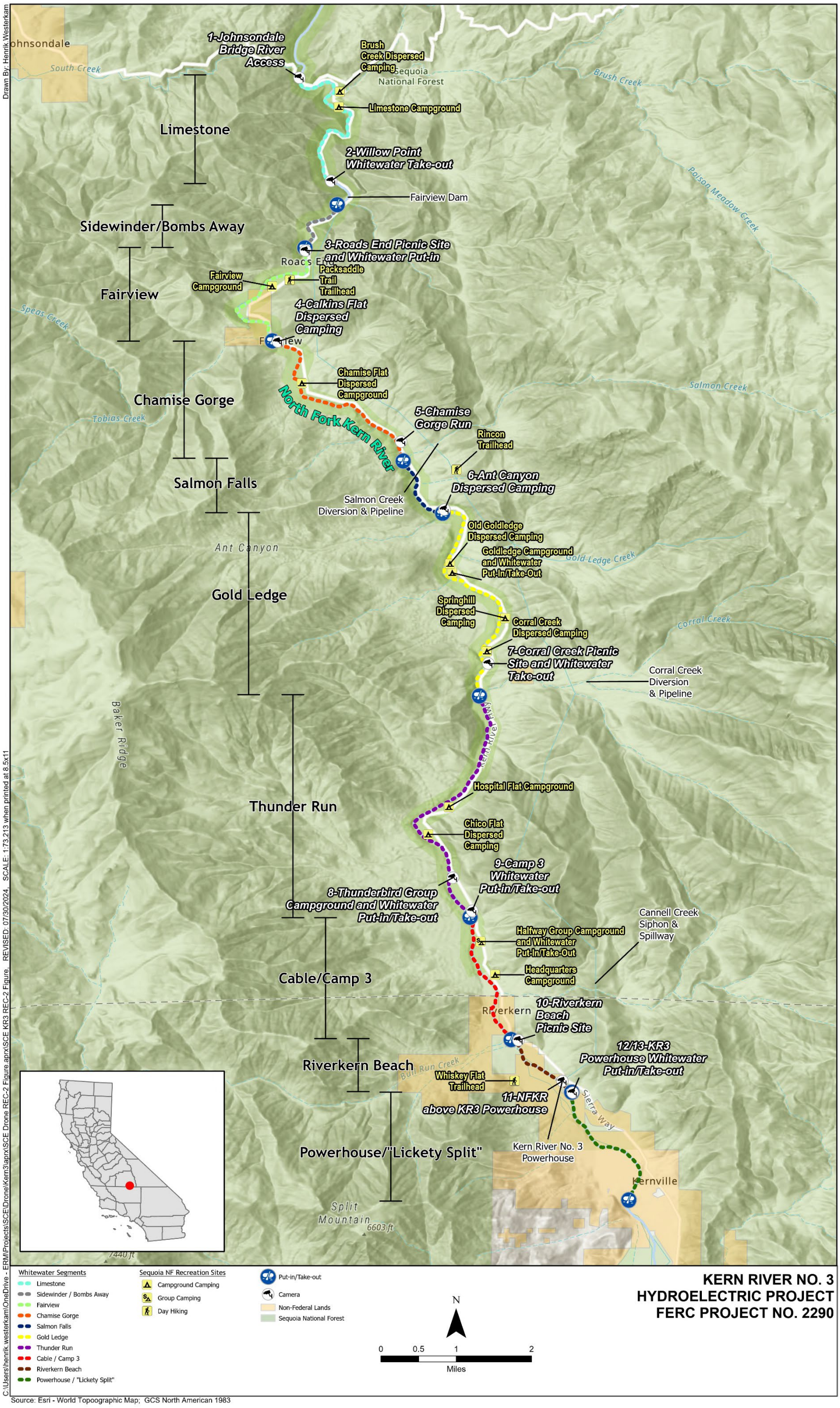


Figure 1. REC-2 Recreation Facility Use Assessment Recreation Study Plan Camera Locations

1-Johnsondale Bridge River Access

Camera mount on tree looking across stream to river/river access location.

2-Willow Point Whitewater Takeout

Mount camera in tree. Orange box denotes the take-out location.

3-Roads End Picnic Area and Whitewater Put-in

Install on tree adjacent to restroom building; view of boater access location and some river views.

T

4-Calkins Flat Dispersed Camping

Install on tree across street from upstream entrance, view of boater access location to river..
Orange box in photos denote boater access point

5-NFKR Chamise Gorge Run

Install along upper roadway on tree looking down/upstream of the-Chamise Gorge whitewater run.

6-Ant Canyon Dispersed Camping

Large tree across street from entrance of parking area.

7-Corral Creek Picnic Site and Whitewater Takeout

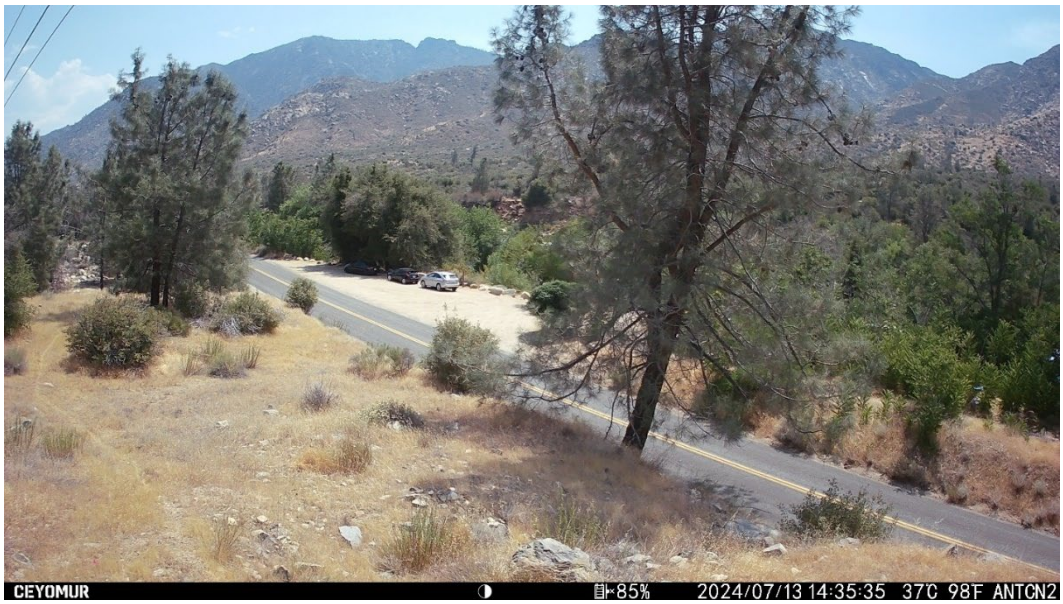
Tree located on picnic/river side above sign/picnic table looking toward parking area.

8-Thunderbird Group Campground and Whitewater Access

Camera on SCE pole facing WW/DU parking on river side and shoulder parking across street. Camera would not capture any of the Group Campground.

9-Camp 3 Whitewater Put-In/Takeout

SCE Pole across street and slightly upstream of parking area. Do best to angle camera to capture parking area and downstream road only. Note, edge of 1 campsite may be in the frame of view, but is mostly blocked by an existing tree.



10-Riverkern Beach Picnic Site

Camera mounted on t-post alongside of cliff. Camera facing south to capture roadside parking and larger parking area across street.

11-NFKR Above KR3 Powerhouse

Mount camera on railing at Powerhouse. View of river upstream.

12/13-KR3 Powerhouse Put-in/Takeout

Two cameras on same pole upstream of garage, capture upstream and downstream parking areas.

Draft Schedule

Date	Activity
July-Sept 2024	-Consult with the USFS on use and installation of cameras; obtain formal concurrence of camera installation locations -Update agencies/boating community with proposed camera locations
October 2024	Include detailed study proposal as part of Updated Study Report (USR) filing to further describe study approach and methodology
Oct* 2024 – Oct 2025	-Install cameras and begin data collection effort; -routinely download data from cameras; conduct monthly QA/QC of data
Fall/Winter 2025	Analyze full data set and prepare Technical Memorandum; File with FERC
Winter 2025+	Consult with Agencies and Stakeholders on data collected and supplemental filing to License Application

*Installation following USFS approval

Next Steps

- Upon USFS written approval, SCE to install cameras (est Oct); initiate one-year study timeframe
- SCE to provide study approach and methodology with the USR filing (file by October 9th)
  - Stakeholders have opportunity to provide formal comments to FERC per the ILP Relicensing Process Plan and Schedule

Outlook

RE: SCE Kern River No. 3: Recreation Camera Installation; Meeting follow-up

From Jillian Roach <Jillian.Roach@erm.com>
Date Mon 9/9/2024 12:39 PM
Cc Stephanie Fincher <stephanie.fincher@sce.com>

2 attachments (8 MB)
KR3 Trail Cameras; KR3 REC-2 Camera Mod_082924.pdf;

Sent on behalf of SCE.

Dear Agencies and interested boaters

Thank you to those that attended the call on August 29th regarding the proposed camera locations to support the REC-2 study plan. For those of you who could not attend, SCE has attached a copy of the information presented during the call which summarized SCE's proposed camera locations.

A few key take-aways from the call include:

- SCE agreed to increase the picture frequency from 15 minutes to every 5 minutes
- Obtained feedback on proposed camera locations (see additional notes below)
- A detailed methodology and analysis for the camera study will be part of the USR filing due in October
    - SCE is finalizing the photo analysis methodology and study approach
    - If SCE has the methodology finalized prior to the filing of the Updated Study Report by October 11th, then SCE will provide it in advance

Additional changes following the call in response to Stakeholder feedback:

- All cameras will be set to record at 5 min intervals (rather than 15 min intervals as originally proposed)
- SCE will add 2-3 new camera locations, pending USFS approval (see below), for a total of 15-16 cameras as part of this study.

During the call and in a follow up email, comments were provided regarding proposed camera locations. Please see email attached. SCE has considered a few revisions to the camera locations, as noted below in blue (reordered upstream to downstream). For locations where additional cameras are proposed, SCE will conduct follow-up consultation with the USFS for final approval.

- Include parking lot activity at Brush Creek
    - SCE will add a camera at this location that focuses on the parking lot, pending USFS approval.
    - Note, the purpose of this location is to evaluate potential overflow parking due to crowding concerns that may occur at Johnsondale Bridge put-in; as such this location may not be analyzed to the same level of detail as the other camera locations.
- Noncommercial Fairview Segment Put In (USFS put in: kiosk/manifest box)
    - SCE will add a camera at this location, pending USFS final approval.
- Calkins Flat, expand coverage not just iron ranger location:
    - The camera is focused on the primary boater access location where the "iron ranger" is located. SCE will attempt to angle to camera to capture as much of the parking lot as possible.

    - Also, camera #5 (Chamise Gorge Run) has a view of the river and boating use along this whitewater run and use can be accounted for from that camera.
- River cam near the Chamise segment takeout, but there are three actual places boaters take out (red boxes at parking areas); each are frequently used depending on personal preference; however, large rafts only use the northernmost one.
    - Comment noted. Camera #5 (Chamise Gorge Run) has a view of this river segment and boating use will be accounted for with that view.
- Ant Canyon, there are five places boaters put in, much of it is personal preference (each has its own trail of varying difficulty and beach of varying size); as a result, their cars could be anywhere in the big lot:
    - Comment noted. When installing the camera, SCE will attempt to angle to camera to capture as much of the parking lot as possible.
    - Also, see response to "Geno creek" takeout below.
- Noncommercial "Geno creek" Ant Canyon Takeout, near MM16 on M99:
    - SCE will conduct a reconnaissance trip to evaluate if there is a suitable location along the Gold Ledge whitewater run to install a camera with a view of the river. Once a location is identified, SCE will consult with the USFS for final approval prior to installation.
- Dispersed camping area at Corral Creek
    - SCE has included the day-use parking site (#7) located just downstream. However, as noted in the bullet above, if a suitable river view location is identified along the Gold Ledge WW run (put in at Ant Canyon-take out at Corral Ck), boaters along this reach will be accounted for.
    - Also, the camera viewshed to capture the Corral Creek dispersed camping site would overlap with the private/paid camping facility located to the north, as such there is a reasonable expectation of privacy at that location.
- Halfway day use lot
    - The configuration of the developed (fee-based) facility and camera viewshed to capture the day use parking lot would overlap, as such this is not an accepted location by the USFS.
- Riverside Park (many who put in at Ant, Thunder, or Cables take out at Riverside Park *[below the project in Kernville]*).
    - Boaters would be captured/counted from the PH river camera (#11) and/or KR3 Powerhouse cameras (#12/13) that capture river views.

Meeting notes and other communication/consultation will be included as part of the Updated Study Report (USR) filing in Oct.

Thank you all for your continued support and interest in the KR3 Relicensing. If you have any questions, please reach out to Stephanie Fincher-DeMillo at stephanie.fincher@sce.com.

ERM
Sustainability is our business

Jillian Roach
Principal Consultant, Project Manager

980 9th St, Ste 750 Sacramento, CA
M. 916.201.7746
erm.com

From: Jillian Roach
Sent: Friday, August 16, 2024 9:43 AM
Cc: Stephanie Fincher <stephanie.fincher@sce.com>
Subject: SCE Kern River No. 3: Recreation Camera Installation

Agencies and interested boaters:

Southern California Edison (SCE) has initiated consultation with the Sequoia National Forest (SQF) regarding the installation of cameras at river access locations to support the KR3 relicensing effort. Specifically, this effort is to support the REC-2: Recreation Facilities Use Assessment Study Plan, per direction from the Federal Energy Regulatory Commission's (FERC) May 30, 2024 Determination on Requests for Study Modifications and New Studies.

SCE held discussions with the SQF on June 17 and July 31, 2024 to discuss and review proposed camera installation locations and is currently awaiting formal written approval from SQF.

Before proceeding with the camera installations, SCE would like to share the proposed locations with other agencies and interested boaters. SCE is scheduling a call to review the proposed camera locations along the North Fork Kern River, from Johnsondale Bridge and down along the Fairview Dam bypass reach to the KR3 Powerhouse put-in/take-out location.

Call Details:

- **Date:** Thursday, August 29, 2024
- **Time:** 1:00 PM - 2:00 PM Pacific
- **Meeting Link:** [Teams Meeting Link]
- **Call In:** 213-279-1475 ID: 463 615 051#

If you would like to participate in this call, please use the link provided above to join the Teams meeting.

Following formal approval from SQF, SCE will proceed with camera installation. The cameras will be deployed for one calendar year as stipulated by FERC's Order. A summary of SCE's consultation with SQF, agencies and interested boaters, along with a detailed study approach and methodology, will be included in the Updated Study Report (USR) to be filed with FERC by October 11, 2024.

We look forward to your participation and feedback.

-Stephanie Fincher-DeMillo (SCE KR3 Relicensing Manager)

ERM
Sustainability is our business

Jillian Roach
Principal Consultant, Project Manager

980 9th St, Ste 750 Sacramento, CA
M. 916.201.7746
erm.com

USDA Forest Service

Sequoia National Forest
Giant Sequoia National Monument

220 East Morton Avenue
Porterville, CA 93257
559-784-1500
TDD: 559-781-6650
FAX: 559-781-4744
www.fs.usda.gov/sequoia/

File Code: 2720
Date: October 16, 2024

Ms. Chung Jordan
Southern California Edison Company
2425 S. Blackstone
Tulare, CA 93274

RE: **Kern River No. 3 Hydroelectric Project (P-2290) Relicensing: REC 2 – Recreation Facility Use Assessment; Trail Camera Proposal**

Dear Ms. Jordan:

I reviewed your proposal to collect data using cameras for commercial and non-commercial boating activities on the North Fork Kern River (NFKR) for a one-year period in order to revise the REC-2, Recreation Facility Use Assessment Study Plan (REC-2) for the Kern River No. 3 (KR3) Hydroelectric Relicensing Project (Project) per direction from the Federal Energy Regulatory Commission (FERC). As you stated in your letter, dated August 14, on May 30, 2024, FERC issued a Determination on Requests for Study Modifications and New Studies to Southern California Edison (SCE).

As a result, SCE proposes the temporary installation of cameras at 10 whitewater boating access locations and two river viewsheds along the NFKR for a total of 12 camera locations. The cameras will be installed on National Forest System lands, excluding one location on the KR3 Powerhouse on SCE-owned lands. Nine of the camera locations are outside of the FERC project boundary and three are within the boundary. Cameras are to be installed for one year (fall 2024-fall 2025) and mounted on either SCE power poles, trees, using straps to attach them, or along a hillside on a T-post.

The primary goal of this study plan modification is to collect additional information on recreation use, specifically commercial and non-commercial whitewater boating, at river access sites above and along the NFKR between Johnsondale Bridge and the KR3 Powerhouse.

The objectives include document and estimate commercial and non-commercial whitewater boating recreation use levels, validate percent capacity at river access sites, and compile estimates of other use characteristics at each study site including other types of river-based activities, and 2) types of watercrafts used.

The study sites along the NFKR include river access sites above (1.9-mile reach above Fairview Dam) and along the Fairview Dam Bypass Reach (NFKR between Fairview Dam and KR3 Powerhouse). In general, the camera locations are at the non-fee day-use/dispersed camping sites and are aligned with the nine whitewater boating runs/segments along the Fairview Dam Bypass Reach section of the NFKR and the associated put-in and/or take-out locations or popular boating segments.

Per the direction of the Forest Service, cameras are not allowed at developed (fee based) campgrounds. You shared proposed camera locations and depictions of the proposed camera installation location as well as the approximate field of view the camera will capture. Those sites were reviewed by the Forest Service and deemed acceptable.

As described, this proposal falls within a category of actions that are normally excluded from documentation in an environmental assessment (EA) or environmental impact statement (EIS) [40 CFR 1501.4 and 36 CFR 220.5(a)]. Decisions may be categorically excluded from documentation in an EIS or EA when they are within one of the categories identified by the U.S. Department of Agriculture in 7 CFR part 1b.3. This proposal falls within category 7 CFR 1b.3(a)(3) which includes inventories, research activities, and studies, such as resource inventories and routine data collection when such actions are clearly limited in context and intensity. Based on an assessment of resource conditions, there are no extraordinary circumstances that would preclude use of a categorical exclusion; therefore, the project is categorically excluded from documentation. A case file or decision memo is not required.

After reviewing your proposal for compliance with regulations found at 36 CFR 251.50(e), I have determined that your proposed use, as you have described, will have nominal effects on the lands, resources, and programs of the National Forest, therefore a special use permit is not required.

If your proposed use changes from what you have described, please contact Special Use Permit Administrator Marie (Angie) Attencio at (760) 549-9978 so that we may determine whether your use continues to qualify for a permit waiver. Likewise, if any factor associated with National Forest System lands, resources, or programs (such as the discovery of an endangered species in the area) changes and there is no longer a basis for the nominal effects determination, I or someone from my office will contact you in writing to rescind the nominal effects determination. If this happens, there may be alternative mechanisms to permit your activity.

If you propose to conduct the same activity next year, please contact my office again to ensure that your use continues to qualify for a permit waiver.

As a reminder, your use must comply with all federal, state, and local laws, regulations, and policies. We ask that you pay special attention to current Kern River Ranger District fire restrictions. I recommend you carry a copy of this letter with you to verify that I have determined that your use, as described above, does not require a special use authorization.

Please contact my office if you have any questions or need additional information.

Sincerely,

ANTHONY EDWARDS
Forest Supervisor

cc: Brian Block/Acting District Ranger, Kern River Ranger District;
Billy Brown; Karen Miller

Outlook

SCE KR3 Project: Initiation of Additional Data Collection on North Fork Kern River

From Jillian Roach <Jillian.Roach@erm.com>
Date Thu 12/5/2024 12:47 PM
Cc Stephanie Fincher <Stephanie.Fincher@sce.com>

On behalf of Southern California Edison (SCE)

KR3 Relicensing Participant,

Southern California Edison (SCE) is pleased to inform you that we have commenced additional data collection efforts regarding commercial and non-commercial boating activities on the North Fork Kern River. This initiative follows the Federal Energy Regulatory Commission's (FERC) May 30, 2024 Determination on Requests for Study Modifications and New Studies associated with the Kern River No. 3 (KR3) relicensing effort. On November 5th, 15th, and 25th, SCE installed 16 cameras at various river access locations and at locations with river views between the Johnsondale Bridge put-in and the KR3 Powerhouse Put-in/Take-out recreation sites. These locations are described in SCE's REC-2 Recreation Facilities Use Assessment: Camera Study Plan, which was filed with the Updated Study Report on October 8, 2024.

The one-year data collection period began on December 1, 2024, and will continue through November 30, 2025, per FERC's Determination. Throughout this period, SCE will regularly download and quality-check the photos collected. SCE will also provide periodic updates to relicensing participants on the data gathered over the course of the year.

If you have any questions, please reach out to Stephanie Fincher-DeMillo, SCE KR3 Project Manager at stephanie.fincher@sce.com.

Thank you,

ERM
Sustainability is our business

Jillian Roach
Principal Consultant, Project Manager

980 9th St, Ste 750 Sacramento, CA
M. 916.201.7746
erm.com

Document Accession #: 20250404-5213 Filed Date: 04/04/2025

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

Wayne P. Allen
Principal Manager
Regulatory Support Services

Filed Electronically

April 4, 2025

Debbie-Anne A. Reese
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: **Kern River No. 3 Hydroelectric Project, FERC Project No. 2290-122; REC-2 Recreation Facilities Use Assessment Camera Study Plan: Study Implementation Update**

Dear Secretary Reese:

Southern California Edison Company (SCE) is the owner and operator of the Kern River No. 3 Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC) Project No. 2290. SCE is providing the enclosed REC-2 Recreation Facilities Use Assessment Camera Study Plan: Study Implementation Update to uphold its commitment in the study plan proposal and as a courtesy to help ensure relicensing participants are informed about study implementation activities.

SCE looks forward to continuing to work with FERC as the relicensing of the Project proceeds. If you have any questions regarding this filing, please feel free to contact Stephanie Fincher-DeMillo, SCE Project Manager, via email at stephanie.fincher@sce.com.

Sincerely,

DocuSigned by:
Wayne Allen
106CF18A73D445F...

Wayne P. Allen
Principal Manager

Enclosures:

Attachment A REC-2 Recreation Facilities Use Assessment Camera Study Plan: Study Implementation Update

2244 Walnut Grove Avenue
Rosemead, CA 91770
626.302.9741
wayne.allen@sce.com

FERC Project No. 2290 Official Service List (retrieved April 2, 2025)

Brett Duxbury Co-Director, Kern River Boater P.O. Box 1938 Kernville, CA 93238 kernville@mac.com	Kern River Fly Fishers James Ahrens 8536 Kern Canyon Road, 201 Bakersfield, CA 93306 jimahrensmt@gmail.com
American Whitewater Kevin Richard Colburn National Stewardship Director PO Box 1540 Cullowhee, NORTH CAROLINA 28723 kevin@amwhitewater.org	Southern California Edison Company Brittany Arnold 1 Pebbly Beach Road Avalon, CA 90704 brittany.arnold@sce.com
Southern California Edison Company Russell Ragsdale Managing Director Generation 2244 Walnut Grove Avenue Rosemead, California 91770 russell.ragsdale@sce.com	American Whitewater/Friends of the River Julie Gantenbein, Staff Attorney 2140 Shattuck Ave, Ste. 801 Berkeley, CA 94704-1229 jgantenbein@waterpowerlaw.com
Southern California Edison Company FERC Case Administration 2244 Walnut Grove Ave Rosemead, CA 91770 ferccaseadmin@sce.com	Southern California Edison Company Kelly Henderson, Attorney P.O. Box 800 Rosemead, CA 91770 kelly.henderson@sce.com
Southern California Edison Company Mary M. Richardson, Senior Advisor, Regulatory Affairs & Compliance 1515 Walnut Grove Ave Rosemead, CA 91770 mary.m.richardson@sce.com	Southern California Edison Company Mary Schickling, Senior Specialist 1 Pebbly Beach Road Avalon, CA 90704 mary.schickling@sce.com
Southern California Edison Company Nicolas von Gersdorff Dam Safety Engineer 1515 Walnut Grove Ave Rosemead, CA 91770 nicolas.von@sce.com	Southern California Edison Company Cornelio Artienda, Senior Advisor 1515 Walnut Grove Ave Rosemead, CA 91770 Cornelio.Artienda@sce.com
Southern California Edison Company Martin Ostendorf, Compliance Manager 54170 Mtn Spruce Road P.O. Box 100 Big Creek, CA 93605 martin.ostendorf@sce.com	Southern California Edison Company Patrick B. Le 1515 Walnut Grove Ave Rosemead, CA 91770 patrick.le@sce.com

Southern California Edison Company Wayne Allen, Licensing & Compliance Principal Manager PO Box 100 Rosemead, CA 93605-0100 wayne.allen@sce.com	Friends of the River Ronald Martin Stork 1418 20th St, Suite 100 Sacramento, CA 95811-5206 rstork@friendsoftheriver.org
U.S. Department of the Interior Kerry O'Hara, Attorney of Record 2800 Cottage Way, RM E-1712 Sacramento, CA 95825-1946 SOL-FERC@sol.doi.gov	Stephen M. Bowes 909 1st Ave Ste 500 Seattle, Washington 98104 stephen_bowes@nps.gov
U.S. Forest Service Dawn Alvarez, Regional Hydropower Assistance USDA Forest Service 1323 Club Dr Vallejo, CA 94592 dawn.alvarez@usda.gov	U.S. Forest Service Kellie Whitton, Fisheries Biologist Program Manager 2150 Centre Ave, Bldg. A, Suite 368 Fort Collins, CO 80526 kellie.whitton@usda.gov
U.S. Forest Service Patrick Redmond, ESQ, Attorney-USDA Office of the General Counsel 1400 Independence Ave SW, Room 3336-B Washington, DC 20250 patrick.redmond@usda.gov	U.S. Forest Service Monique Sanchez, Hydropower Coordinator 1980 Old Mission Dr Solvang, CA 93463 monique.sanchez@usda.gov
American Whitewater Theresa L. Lorejo-Simsiman CA Stewardship Director 12155 Tributary Point Dr Apt 48 Gold River, CA 95670 theresa@americanwhitewater.org	Joshua S. Rider Office of Gen Counsel, USDA U.S. Department of Agriculture 630 SANSOME ST RM 1040 RTS- return to sender SAN FRANCISCO, CALIFORNIA 94111 joshua.rider@usda.gov

Federal Government/Representatives

Advisory Council on Historic Preservation Executive Director 401 F Street NW, Suite 308 Washington, DC 20001 jeddins@achp.gov	U.S. Fish and Wildlife Service Rick Kuyper, Sierra-Cascades Division Supervisor 2800 Cottage Way Room W-2605 Sacramento, CA 95825 richard_kuyper@fws.gov
Bureau of Land Management Alison Lipscomb 3801 Pegasus Dr Bakersfield, CA 93308 alipscomb@blm.gov	National Park Service Lilian Jonas P.O. Box 915 Red Bluff, CA 96080 lilian_jonas@contractor.nps.gov

U.S. Bureau of Indian Affairs Amy Dutschke, Regional Director 2800 Cottage Way Sacramento, CA 95825-1946	U.S. Forest Service—Sequoia National Forest 11380 Kernville Road Kernville, CA 93238-9795
U.S. Geological Survey Don M. Klein, Chief Water Resources Division Placer Hall 6000 J St, Suite 2012 Sacramento, CA 95819-6129	U.S. Forest Service—Sequoia National Forest Tim Kelly 11380 Kernville Road P.O. Box 9 Kernville, CA 93238 Tim.Kelly@usda.gov
U.S. Fish and Wildlife Service Chloe Hansum, Biologist Sierra/Cascades Division Sacramento Fish and Wildlife Office chloe_hansum@fws.gov	U.S. Forest Service—Sequoia National Forest Gretchen Fitzgerald 11380 Kernville Road P.O. Box 9 Kernville, CA 93238 gretchen.fitzgerald2@usda.gov
U.S. Fish and Wildlife Service Rebecca Kirby 2800 Cottage Way, Room W-2605 Sacramento, CA 95825 rebecca_kirby@fws.gov	U.S. Forest Service—Sequoia National Forest Karen Miller, Services Staff Officer/FERC Coordinator 1839 S Newbomb St Porterville, CA 93257 karen.miller@usda.gov
U.S. Forest Service—Sequoia National Forest Jonathan Markovich 11380 Kernville Road P.O. Box 9 Kernville, CA 93238 jonathan.markovich@usda.gov	U.S. Forest Service—Sequoia National Forest Kyle Lane 11380 Kernville Road P.O. Box 9 Kernville, CA 93238 kyle.lane@usda.gov
U.S. Forest Service—Sequoia National Forest Abdurrahim Chafi 11380 Kernville Road P.O. Box 9 Kernville, CA 93238 Abdulrahim.Chafi@usda.gov	U.S. Forest Service—Sequoia National Forest John Gomez 11380 Kernville Road P.O. Box 9 Kernville, CA 93238 john.gomez@usda.gov
U.S. Forest Service—Sequoia National Forest Eric Lundgren 11380 Kernville Road P.O. Box 9 Kernville, CA 93238 Eric.lundgren@usda.gov	U.S. Forest Service—Kern River Ranger District Andy Stone 11380 Kernville Road P.O. Box 9 Kernville, CA 93238 keith.stone@usda.gov
NPS Rivers, Trails, and Conservation and Hydropower Assistance Program Barbara Rice barbara_rice@nps.gov	U.S. Forest Service—Sequoia National Forest Nicole Holland Forest Recreation Program Manager 11380 Kernville Road Kernville, CA 93238 Nicole.Holland@usda.gov

EPA Environmental Review Branch Sarah Samples 415-972-3961 samples.sarah@epa.gov	U.S. Forest Service—Sequoia National Forest Anna Bonnett Anna.Bonnette@usda.gov
U.S. Forest Service—Sequoia National Forest Ronald Rozar Ronald.rozar@usda.gov	FERC Quinn Emmering Quinn.emmering@ferc.gov
FERC Frank Winchell Frank.winchell@ferc.gov	U.S. Forest Service Brian Block Brian.block@usda.gov
FERC Khatoon Melick khatoon.melick@ferc.gov	National Park Service Anna Tamura Planning Portfolio Manager anna_tamura@nps.gov
U.S. Forest Service—Sequoia National Forest Kristen Steel-Watt Kristen.steelewatt@usda.gov	U.S. Forest Service—Sequoia National Forest Barbara Johnston, Resource Specialist-Affiliate Barbara.Johnston@usda.gov
Advisory Council on Historic Preservation John Eddins jeddins@achp.gov 401 F Street NW, Suite 308 Washington, DC 20001	National Park Service Alyssa Walker Alyssa_l_Walker@nps.gov
U.S. Forest Service Victor Aguirre Orozco Victor.orozco@usda.gov	National Park Service Susan Rosebrough, Hydropower Assistance Team Lead Susan_Rosebrough@nps.gov
National Park Service Patrick Johnston, Acting Program Manager Patrick_Johnston@nps.gov	FERC Jessica Fefer FERC Recreation Specialist Jessica.Fefer@ferc.gov
U.S. Forest Service—Sequoia National Forest Ruby Gonzalez Ruby.gonzalez@usda.gov	U.S. Forest Service—Sequoia National Forest Robert (Bob) Frenes Robert.frenes@usda.gov
U.S. Bureau of Indian Affairs Ronald Jaeger, Director 2800 Cottage Way Sacramento, CA 95825-1946	U.S. Forest Service—Sequoia National Forest Becky Blanchard Becky.blanchard@usda.gov
U.S. Forest Service—Sequoia National Forest William (Billy) Brown William.brown2@usda.gov	U.S. Forest Service—Sequoia National Forest Brian Block Brian.block@usda.gov
U.S. Forest Service—Sequoia National Forest Angie (Marie) Attencio Marie.attencio@usda.gov	U.S. Forest Service—Sequoia National Forest Jose Mendoza Farias Jose.mendozafarias@usda.gov

U.S. Forest Service—Sequoia National Forest Michel Brumbaugh Michael.brumbaugh@usda.gov	U.S. Forest Service—Sequoia National Forest Marianne Emmendorfer marianne.emmendorfer@usda.gov
U.S. Forest Service—Sequoia National Forest Heather Swarts Heather.swarts@usda.gov	

State Government/Representatives

California Department of Fish and Wildlife George Nokes, Regional Manager 1234 East Shaw Ave Fresno, CA 93710	Office of Historic Preservation State Historic Preservation Officer P.O. Box 942896 Sacramento, CA 94296-0001
California Department of Fish and Wildlife Abimael Leon 1130 East Shaw Ave Fresno, CA 93710 abimael.leon@wildlife.ca.gov	California Regional Water Resource Control Board William Crooks, Executive Officer 1685 E. Street Fresno, CA 93706-2007
California Department of Fish and Wildlife Brian Beal 1130 East Shaw Ave Fresno, CA 93710 brian.beal@wildlife.ca.gov	California State Water Resource Control Board Andrea Sellers P.O. Box 100 1001 I Street Sacramento, CA 95814 Andrea.Sellers@Waterboards.ca.gov
California Department of Fish and Wildlife Dale Stanton 1130 East Shaw Ave Fresno, CA 93710 Dale.Stanton@wildlife.ca.gov	California State Water Resource Control Board Parker Thaler P.O. Box 100 1001 I Street Sacramento, CA 95814 parker.thaler@waterboards.ca.gov
California State Water Resources Control Board James Noss James.Noss@Waterboards.ca.gov	California State Water Resources Control Board Ann Marie Ore P.O. Box 100 1001 I Street Sacramento, CA 95814 wr401program@waterboards.ca.gov
California Department of Fish and Wildlife—Kern River Hatchery 14415 Sierra Way Kernville, CA. 93238 kernriver@wildlife.ca.gov	California Waterboards Garrett Long P.O. Box 2000 Sacramento, CA 95812 garrett.long@waterboards.ca.gov

California Department of Fish and Wildlife—Central Region Valerie Cook Acting Regional Manager Valerie.Cook@wildlife.ca.gov	California Department of Fish and Wildlife—Central Region Eric Jones 1130 East Shaw Avenue Fresno, CA 93710 Eric.Jones@wildlife.ca.gov

Native American Tribes

Big Pine Paiute Tribe of Owens Valley Cheyenne Stone—Chairperson P.O. Box 700 Big Pine, CA 93513 Cheyenne.stone@bigpinepaiute.org	Kern Valley Indian Community Julie Tunner P. O. Box 1010 Lake Isabella, CA 93240 administrator@kawaiisu.org
Big Pine Paiute Tribe of Owens Valley Jacqueline "Danelle" Gutierrez—THPO P.O. Box 700 Big Pine, CA 93513 d.gutierrez@bigpinepaiute.org	Kern Valley Indian Community Brandy Kendricks 30741 Foxridge Court Tehachapi, CA 93561 krazykendricks@hotmail.com
Big Pine Paiute Tribe of Owens Valley Sally Manning—Environmental Director P.O. Box 700 Big Pine, CA 93513 s.manning@bigpinepaiute.org	Kitanemuk and Yowlumne Tejon Indians Delia Dominguez 115 Radio Street Bakersfield, CA 93305 2deedominguez@gmail.com
Chumash Council of Bakersfield Julio Quair—Chairperson 729 Texas Street Bakersfield, CA 93307 chumashtribe@sbcglobal.net	Lone Pine Paiute-Shoshone Tribe Thomas Swab—Chairperson P.O. Box 747 Lone Pine, CA 93545 chair@lppsr.org
Chumash Council of Bakersfield Amy Flores 4701 Beechwood St. St. 150 Bakersfield, CA 93309 amyflores000@gmail.com	Lone Pine Paiute-Shoshone Tribe Kathy Bancroft—THPO P.O. Box 40 Lone Pine, CA 93545 kathybancroft@gmail.com
Fort Independence Community of Paiute Indians Carl Dahlberg—Chairman P.O. Box 67 Independence, CA 93526 carl@fortindependence.com	Santa Rosa Rancheria Tachi Yokut Leo Sisco—Chairperson P.O. Box 8 Leemore, CA 93245 lsisco@tachi-yokut-nsn.gov
Fort Independence Community of Paiute Indians Sean Scruggs—THPO P.O. Box 67 Independence, CA 93526 thpo@fortindependence.com falconkeeper22@gmail.com	Tejon Indian Tribe Octavio Escobedo—Chairperson P.O. Box 640 Arvin, CA 93203 oescobedo@tejonindiantribe-nsn.gov

Kawaiisu Tribe David Laughing Horse Robinson—Chairman P.O. Box 1547 Kernville, CA 93238 horse.robinson@gmail.com	Tübatulabal Tribe of Kern Valley Robert Gomez—Chairman P.O. Box 226 Lake Isabella, CA 93240 rgomez@tubatulabal.org
Kern Valley Indian Community Bob Robinson - Chairperson P.O. Box 1010 Lake Isabella, CA 93240 bbutterbredt@gmail.com	Tübatulabal Tribe Tina Guerrero P.O. 226 Lake Isabella, CA 93240 tguerrero@tubatulabal.org
Tule River Indian Tribe Kerri Vera P.O. Box 589 Porterville, CA 93258 tuleriverenv@yahoo.com	Wuksache Indian Tribe/Eshom Valley Band Kenneth Woodrow—Chairperson 1179 Rock Haven Court Salinas, CA 93906 kwood8934@aol.com
Tule River Indian Tribe Carmaine McDarment P.O. Box 589 Porterville, CA 93258 CharmaineMcdarment@tulerivertribe-nsn.gov	yak tityu tityu yak ti³hini - Northern Chumash Tribe Mona Olivas Tucker 660 Camino Del Rey Arroyo Grande, CA 93420 olivas.mona@gmail.com
White Blanket Allotment Rocky Stone P.O. Box 376 Onyx, CA 93255 stonz66@hotmail.com	

Local Government/Public Agency

Kern County, CA Admin and Courts Building 1415 Truxtin Bakersfield, CA 93301-5215	North Kern Water Storage District Charles H. William, Engineer P.O. Box 81435 Bakersfield CA 93380
Kernville Chamber of Commerce Bryan Batdorf 119 Spruce Ave (box 1558) Kernville, CA 93238 bryanbatdorf@hotmail.com	Tulare County, CA Board of Supervisors 2800 W. Burrel Ave Visalia, CA 93291
Kernville Chamber of Commerce Lenny Borthick, President 119 Spruce Ave (box 1558) Kernville, CA 93238	Water Association of Kern County-Kern River Watermaster Dana Munn, Kern River Master P.O. Box 1168 Wasco, CA 93280-8068
Kernville Chamber of Commerce Rick Dancing, Coordinator 119 Spruce Ave (box 1558) Kernville, CA 93238	California Electricity Oversight Board v. Sellers of Long-Term Contracts to the California Department of Water Resources, Legal Department 455 Golden Gate Ave, Ste 11000 San Francisco, CA 94102-7004

Other Local Organizations, Businesses, and Public Interest

California Sport Fishing Protection Alliance Bill Jennings 3536 Rainier Ave Stockton, CA 95204 bjennings@calsport.org	Kernville Chamber of Commerce Lanny Borthick, President P.O. Box 397 Kernville, CA 93238
Energy Systems Engineering Karl Hemmila 10861 E Calle Desierto Tucson, AZ 85748 KHemmila@ESEngrs.com	Kern River Outfitters Matt Volpert 6602 Wofford Blvd Wofford Heights, CA 93285 Matt@kernrafting.com
American Whitewater Jeffrey Venturino, Regional Coordinator jeffventurino@americanwhitewater.org	Kennedy/Jenks Consultants Rudolf E. Ohlemutz 32001 32nd Ave S suite 300, Federal Way, WA 98001
HDR Inc. Eric Girardin 2379 Gateway Oaks Dr Sacramento, CA 95818 eric.girardin@hdrinc.com	Kern Valley River Council Katharine "Kat" Edmonson P.O. Box 497, Kernville, CA katharine4@gmail.com
Kayaket Thomas Livingstone P.O. Box 189 Silverton, CO 81433 tlphoto@frontier.net	LA County Beach Commission Anthea Raymond 2600 Jeffries Ave Los Angeles, CA 90065 anthea.raymond@gmail.com lariverbeach@gmail.com
Keepers of the Kern Rex Hinkey, President P.O. Box 655 Kernville, CA 93238 keepersofthekern@gmail.com	Mountain and River Adventures Rhonda Stallone 15775 Sierra Way Kernville, CA 93238 rhondas@mtnriver.com
Kern Community Foundation Louis Medina 3300 Truxtun Ave, Suite 220 Bakersfield, CA 93301 louis@kernfoundation.org	Sierra South Mountain Sports Evan Moore P.O. Box 1909 Kernville, CA 93238 evan@sierrasouth.com
Kern River Boaters Elizabeth “Liz” Duxbury, President 1311 Avenida de la Estrella San Clemente, CA 92672 lizbrackbill@gmail.com	Sierra South Mountain Sports Steven Merrow 11300 Kernville Road Kernville, CA 93238 stevemerrow@gmail.com
Kern River Brewing Company Eric Giddens 13415 Sierra Way Kernville, CA 93238 eric@kernriverbrewing.com	Sierra South Mountain Sports Tom Moore P.O. Box 1909; 11300 Kernville Road Kernville, CA 93238 tom@sierrasouth.com

Spallina & Krase Robert Krase 132 E Morton Ave Porterville, CA 93257-2424	Whitewater Voyages Chris Brown 11252 Kernville Road Kernville, CA 93238 chris@whitewatervoyages.com
Kent Varvel 1401 Bridgeport Lane Bakersfield, CA 93309	Kern River Boaters Box 1938 Kernville, CA 93238 760-376-1905 kernriverboaters@gmail.com
Kern River Conservancy Kristin Pittack, Vice President P.O. Box 1411 Kernville, CA 93238 kristin@kernriverconservancy.org	Kern River Outfitters / California Recreation Foundation Chuck Richards 15729 Sierra Way Kernville, CA 93238 office@kernrafting.com; chuck@chuckrichards.com; fallingwaters@chuckrichards.com
Kern Community Foundation Kristen Beall Watson kristen@kernfoundation.org	Kern River Fly Fishers Council Timothy McNeely 2206 Cedar Bakersfield, CA 93301 tim@lifestoneco.com
Gary Ananian, President and Founder Kern River Conservancy P.O. Box 1042 Kernville, CA 93238 gary@kernriverconservancy.org	Trout Unlimited 1777 N. Kent Street, Suite 100 Arlington, VA 22209
Kern River Fly Fishers James Aherns P.O. Box 686 Bakersfield, CA 93302	Kern River Boaters Jose L. Pino, Vice President P.O. Box 1938 Kernville, CA kernriverboaters@gmail.com
Kern River Conservancy Victoria Ramirez, Vice President P.O. Box 1411 Kernville, CA 93238 victoria@kernriverconservancy.org	

Bennett Sultan ben@usenorm.com David Diller mtndjd@gmail.com Denis Kearns cyclanthera@netscape.net Donette Dunaway dunawayfields@yahoo.com Guy Jeans guyjeans8@gmail.com John Chase chasewhitewater@gmail.com John Pavletich jpavletich@pavelectric.com John Stallone johns@mtnriver.com Jonathan Cizmar jonathan.cizmar@gmail.com Lacey Anderson lacey2u@sbcglobal.net Gabriela G. Ornelas Gabriela.ornelas@sce.com Calvin Rossi Calvin.Rossi@sce.com	Joshua Gordon josh@furface.com Kenny Bushling krbriver@gmail.com Mark Ritchie markritchie101@gmail.com Mark Witsoe witsoem@kerncounty.com Michael Sullivan southlakesully@gmail.com Peter Wiechers brahea22@hotmail.com peterrpm@yahoo.com Steve Merrow stevemerrow@gmail.com Tom Gelder jtgelder@yahoo.com Daniel Keverline Daniel.keverline@sce.com Charles R. Sensiba charles.sensiba@troutman.com Hilde Schweitzer hilde@amriver.us

Document Accession #: 20250404-5213 Filed Date: 04/04/2025

REC-2 RECREATION FACILITIES USE ASSESSMENT CAMERA STUDY PLAN: STUDY IMPLEMENTATION UPDATE

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

PREPARED FOR:

SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead®

KERNVILLE, CALIFORNIA

April 2025

Page Intentionally Left Blank

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

AI	artificial intelligence
CS	Confidence Score
FERC	Federal Energy Regulatory Commission
QA/QC	quality assurance / quality control
SCE	Southern California Edison

1.0 INTRODUCTION

The use of artificial intelligence (AI) assistance in recreation studies is an emerging technology. Southern California Edison (SCE) is using an AI model to help process the photographs captured for the REC-2 Recreation Facilities Use Assessment Camera Study, as noted in the updated study plan (January 2025). Per the updated study plan, SCE is providing this summary to inform relicensing participants on the use of the AI tool and its initial ability (based on the first 3 months of capturing photos – December 2024 to February 2025) to identify images (e.g., vehicles, people, boats) in the photographs. This summary describes the AI process and initial estimates of accuracy, provides example photographs and corresponding AI output, and identifies SCE's next steps in implementing the study.

As noted in the REC-2 Recreation Facilities Use Assessment Camera Study Plan Update (January 2025), SCE deployed 16 cameras at river access sites above and along the Fairview Dam Bypass Reach. Since the Camera Study Plan was filed, SCE deployed two additional cameras in January 2025[1] at the Kern River 3 Powerhouse (in addition to the two existing cameras already deployed at this location). All the cameras are intended to record river-related recreational use at the river access sites above and along the Fairview Dam Bypass Reach to document and estimate the following:

- Commercial and non-commercial whitewater boating use levels and types of watercraft used on the river, and
- River-focused recreation use including validating use estimates and percent capacity at the river access sites.

The cameras are programmed to take one photograph every 5 minutes during daylight hours. This schedule will result in collecting 12 photographs every hour and between 108 and 144 photographs per day per site depending on daylight hours (generally assumed to range from 9 to 12 hours). SCE has deployed staff to routinely download the photographs from the cameras and store them on a cloud-based server for desktop analysis, per the Study Plan.

Given the large number of photographs that will be taken over the year-long study (730,000 or more photographs), SCE is using an AI model to more efficiently analyze photographs than a human review approach. Using the Google Gemini Application Programming Interface, SCE has created a custom AI model (based on other tested Google AI models) to identify and count specific features in the collected photographs, including vehicles, people, and boats.

2.0 AI TOOL AND PROCESS

SCE is using an AI-based image analysis tool to efficiently and accurately process the large volume of photographic data collected from the cameras. The AI tool leverages the capabilities of Google's Gemini 1.5 Pro model, a state-of-the-art large multimodal model, and incorporates supervised fine-tuning calibration to increase the accuracy and precision of the tool.

[1] These cameras were added to potentially provide alternative upstream and downstream views compared to the already deployed cameras in this location due to possible obstruction from surrounding vegetation. In the coming months, SCE will review the photos from each location to determine which views provide the best coverage.

2.1. MODEL ARCHITECTURE AND FINE-TUNING

The Gemini 1.5 Pro model serves as the base foundational architecture for the image analysis (i.e., the process of ingesting, reviewing, and extracting key criteria from the photos). The model's robust visual understanding capabilities provide a strong basis for identifying and classifying objects within the captured images.

SCE data analysts further refined and fine-tuned the Gemini 1.5 Pro model by "training" it using an initial dataset of images from photos captured above and along the Fairview Dam Bypass Reach. This fine-tuning process allows the model to specialize in recognizing and differentiating the specific objects of interest for the camera study, including:

- People: individual human figures;
- Vehicles: including sedans, sport utility vehicles, vans, trucks, and buses; and
- Watercraft: including kayaks, rafts, and other watercraft types.

This refinement process enhances the model's understanding of complex visual patterns, allowing it to better distinguish objects from background noise, adapt to varying lighting conditions, and recognize subtle differences in shape and size. By tailoring the model to specific characteristics of the site, its performance becomes more reliable and precise.

2.2. IMAGE PROCESSING PIPELINE

During the study, SCE will use the AI model to obtain information on targeted objects (e.g., people, vehicles, watercraft) of interest. This will streamline the extraction of target data from each photograph by automating the process to uploading and analyzing photographs. The process is as follows:

1. Image Input: photographs captured by the cameras are uploaded to a cloud-based server, where they are processed by the AI model.
2. Object Detection: the fine-tuned Gemini 1.5 Pro model analyzes each image, detecting the objects of interest (i.e., people, vehicles, and watercrafts).
3. Object Classification: once detected, objects are then classified into their respective categories (e.g., sedan, raft, etc.).
4. Object Counting: the model determines or counts the number of objects in each category present in the image.
5. Data Output: the results, including the counts for each object type, are recorded in a structured format for subsequent analysis and reporting.

SCE will process all photos captured each month through this pipeline. Although the photos are regularly downloaded from the cameras and uploaded to SCE's server, they are only run through the image processing pipeline after photos from an individual month have been collected and uploaded.

2.2.1. Performance Validation

SCE has established a quality assurance/quality control (QA/QC) process to maintain high accuracy and reliability of the AI-based image analysis tool. This rigorous validation process continuously evaluates and fine-tunes the model's performance over time.

The first step of the QA/QC process involves re-running a randomized 2 percent sample of all photos collected during a given month through the image processing pipeline (see Section 2.2). The photos in the random sample are passed through the image processing pipeline five (5) times to check for a consistent output. That is, the output from each of the five additional passes, as well as the original are compared against each other to check for any inconsistencies. Photos with inconsistent outputs are then flagged for additional human validation. Pending human validation, any updates to the output are fed back into the model to help it address these inconsistencies in the future.

Next, the model calculates a Confidence Score (CS), which is a prediction on how confident the model was at detecting, classifying, and counting the objects of interest. CS range from 1 (least confident) to 100 (most confident) percent, with most runs scoring above 95 percent. Similar to the consistency check described above, a random sample of photos is also re-run to check for consistency in CS. If a photo receives a CS of less than 90 percent (original check or resulting from the QA/QC sampling process), it is then subject to additional human validation, described below.

Finally, SCE also manually reviews and validates (by human analysts) a random sample of about 200 photos each month. These photos are randomly drawn from the photos tagged with a CS of less than 90 percent. The photographs are visually compared with the model output and corrections are noted, if needed. The updated information, based on human review of the random sample, was then fed back into the model to further train it and help it improve subsequent outputs.

SCE then re-runs the image processing pipeline (steps 2-5 as noted above) to obtain an updated data output after these QA/QC steps. To date, the model has achieved 99.45 percent accuracy on images processed.

2.2.2. Ongoing Learning

Even though the model has achieved high levels of accuracy in identifying target object types (e.g., people, vehicles, watercraft), SCE will continue using random sampling for image and data validation through the duration of the year-long camera study. This will help ensure that the model is updated and refined during the study. However, the validation process may be targeted to select specific cameras or timeframes if there is a consistent trend in CS below 90 percent observed at specific sites or times. This will help the model to improve at locations and/or times where the object classification is less precise.

Based on the review of the first three months of implementation of the AI tool and use of image processing pipeline with QA/QC validation, SCE has determined that the resulting data set is suitable for analyzing and validating river-related use patterns and trends in alignment with the study plan objectives. If warranted by the above referenced validation process, SCE will also re-run each month of photos through the image processing pipeline once to help ensure a high level of accuracy.

3.0 AI TOOL AND IMAGE PROCESSING PIPELINE ADJUSTMENTS

As outlined in Section 2, SCE continues to refine the AI tool through a rigorous QA/QC process, including human review and adjustments to the AI output. These adjustments are incorporated into the image processing pipeline on an ongoing basis, allowing model refinement on a month-to-month basis. This iterative approach ensures that the AI tool will continue to be effective in extracting objects of interest from each photo.

4.0 CONCLUSION

SCE will continue to train and validate the model to differentiate between different types of boats, including commercial and non-commercial watercraft (per the criteria identified in the study plan). The AI tool has been able to accurately identify different types of watercraft to date. However, given the winter season (December through February) and reduced level of boating during this time, further training of the AI model will be conducted to improve the accuracy of counts of commercial versus non-commercial boats. This testing and training process will continue throughout the spring as more data becomes available. Example photos depicting the AI process pipeline output including performance validation corrections are provided in Appendix A.

SCE remains confident that the AI tool effectively identifies and extracts the number of vehicles, people, and watercraft present in each image with a high degree of accuracy. The resulting model output will thus be used to estimate river-focused recreation trends and use patterns, as well as to derive estimated commercial and non-commercial whitewater boating use levels and types of watercraft used on the river in accordance with the FERC approved study plan.

SCE is providing this summary to uphold its commitment in the study plan proposal and as a courtesy to help ensure relicensing participants are informed about the ongoing application and viability of the AI tool. As noted in their February 19, 2025, Determination on Requests for Study Modifications letter, FERC has accepted SCE's approach to the Camera Study and indicated that "SCE has met the consultation requirements described in the approved study plan."

APPENDIX A: EXAMPLE PHOTOS AND AI OUTPUT

Johnsondale Bridge River Access—1

Summary AI Output

This photo is from the first month of photo captures (December 2024). As such, the model relied on the initial training set of photos to extract key information from the photo. After the initial pass, the AI model correctly identified the 3 kayaks along the river shoreline but missed the people on the bridge and the vehicles in the parking lot. As part of the performance validation, the missed elements were noted by adding in the missing people (2) and vehicles (3) in the photo. Note, the post-processing factors in one person per boat.

Initial Summary AI Output:

	People	**Vehicles**	**Watercraft**
Count	0	0	3

Refined Summary AI Output:

	People	**Vehicles**	**Watercraft**
Count	2	3	3

Johnsondale Bridge River Access—2

Summary AI Output

This photo is from the third month of photo captures (February 2025) and benefits from the previous two months of photos and refinement to the AI model. The AI model correctly identified the 2 kayaks and 2 people (one per kayak) on the river, as well as the vehicles in this photo.

	People	Vehicles	Watercraft
Count	2	5	2

Willow Point Whitewater Takeout—3

Summary AI Output

This photo is from the third month of photo captures (February 2025) and benefits from the two previous months of photos and refinement to the AI model. The AI model correctly identified the 1 kayak on the river (blue circle) and 2 vehicles parked at the access site.

	People	Vehicles	Watercraft
Count	0	2	1

Roads End Picnic Area and Whitewater Put-In—4

Summary AI Output

This photo is from the first month of photo captures (December 2024). As such, the model relied on the initial small training set of photos to extract key information from the photo. After the initial pass, the AI model correctly identified the 1 inflatable kayak, 2 vehicles, and 2 of the 3 people in the parking area. The validation process corrected the missed elements by adding in the missing person (1).

Initial Summary AI Output:

	People	**Vehicles**	**Watercraft**
Count	2	2	1

Refined Summary AI Output:

	People	**Vehicles**	**Watercraft**
Count	3	2	1

Chamise Gorge Run—Example Photo—5

Summary AI Output

This photo is from the second month of photo captures (January 2025). After the initial pass, the AI model identified 1 person and 1 vehicle in the photo. As part of the performance validation, the mis-identified elements were noted by adding in the missing people (1) and removing the vehicle (1) from the photo output.

Initial Summary AI Output:

	People	**Vehicles**	**Watercraft**
Count	1	1	0

Refined Summary AI Output:

	People	**Vehicles**	**Watercraft**
Count	2	0	0

Ant Canyon Dispersed Camping—6

Summary AI Output

This photo is from the second month of photo captures (January 2025) and benefits from the previous month of photos and refinement to the AI model. The AI model identified 2 people and 2 vehicles at this site. The refinement process reduced the number of parked vehicles to 1 as the AI model initially mischaracterized the dumpster as a vehicle. Also, the AI model has been trained to focus on the parking area at this site, although it may still occasionally identify and extract a vehicle traveling along Mountain Highway 99.

Initial Summary of AI Output:

	People	**Vehicles**	**Watercraft**
Count	2	2	0

Refined Summary of AI Output:

	People	**Vehicles**	**Watercraft**
Count	2	1	0

Thunderbird Group Campground and Whitewater Access—7

Summary AI Output

This photo is from the third month of photo captures (February 2025). The AI model correctly identified 2 people and 2 vehicles, but only 2 watercraft instead of 3 at the access area (1 in the vehicle, 2 on the ground near the tree). The performance validation corrected for the missed watercraft.

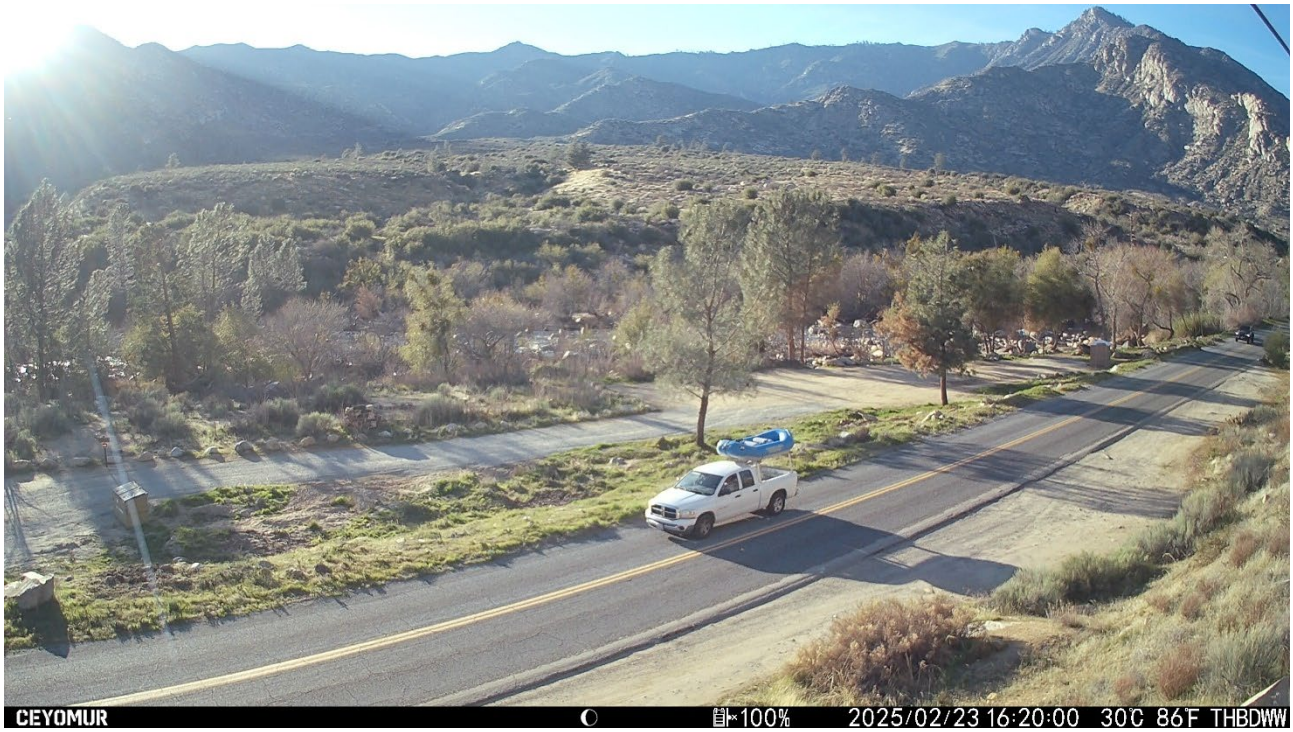
Initial Summary of AI Output:

	People	**Vehicles**	**Watercraft**
Count	2	2	2

Refined Summary of AI Output:

	People	**Vehicles**	**Watercraft**
Count	2	2	3

Thunderbird Group Campground and Whitewater Access—8



Summary AI Output

This photo is from the third month of photo captures (February 2025). The AI model captured the pickup truck with the raft but missed the second vehicle traveling along Mountain Highway 99. As neither of these vehicles are at the river access site, the AI model is being trained to better focus on the river access site (either in the designated parking area or on the road shoulder) and to disregard any vehicles traveling along the highway.

Initial Summary of AI Output:

	People	**Vehicles**	**Watercraft**
Count	0	1	1

Refined Summary of AI Output:

	People	**Vehicles**	**Watercraft**
Count	0	0	0

Fairview Dam Bypass Reach Above the Kern River No. 3 Powerhouse—9

Summary AI Output

This photo is from the first days following camera installation of photo captures (November 2024) and relied on the training set of photos only to extract key information from the photo. Even so, the AI model correctly identified the 1 kayak on the river after the initial pass through the image processing pipeline. These early photographs (prior to December 1st start date) were also used to help train the AI model.

Initial Summary of AI Output:

	People	**Vehicles**	**Watercraft**
Count	0	0	1

Kern River 3 Powerhouse Put-in/Takeout—10

Summary AI Output

This photo is from the third month of photo captures (February 2025) and benefits from the two previous months of photos and refinement to the AI model. The AI model identified 4 people and only 1 vehicle and 1 watercraft. During the refinement/QC process, the output was updated to correct for the additional 2 vehicles and 2 watercraft (2 kayaks on the roof of a car) that were initially not captured by the AI tool.

Initial Summary AI Output:

	People	**Vehicles**	**Watercraft**
Count	4	1	1

Refined Summary AI Output:

	People	**Vehicles**	**Watercraft**
Count	4	3	3

Document Content(s)

Kern River No. 3 Project (P-2290)

REC-2 Recreation Facilities Use Assessment
Camera Modification – Q1 Summary

May 2025

Introduction

Per FERC's Determination on Requests for Study Modifications (February 2025), SCE is conducting a camera study to:

(1) Record and estimate commercial and non-commercial whitewater boating use levels and types of watercraft; and

(2) Document and validate river (boating)-focused recreation use estimates and percent capacity (use patterns and trends) at river access sites.

The cameras will be deployed at the primary river access sites above and along the Fairview Dam Bypass Reach for 1 year (December 2024 – November 2025).

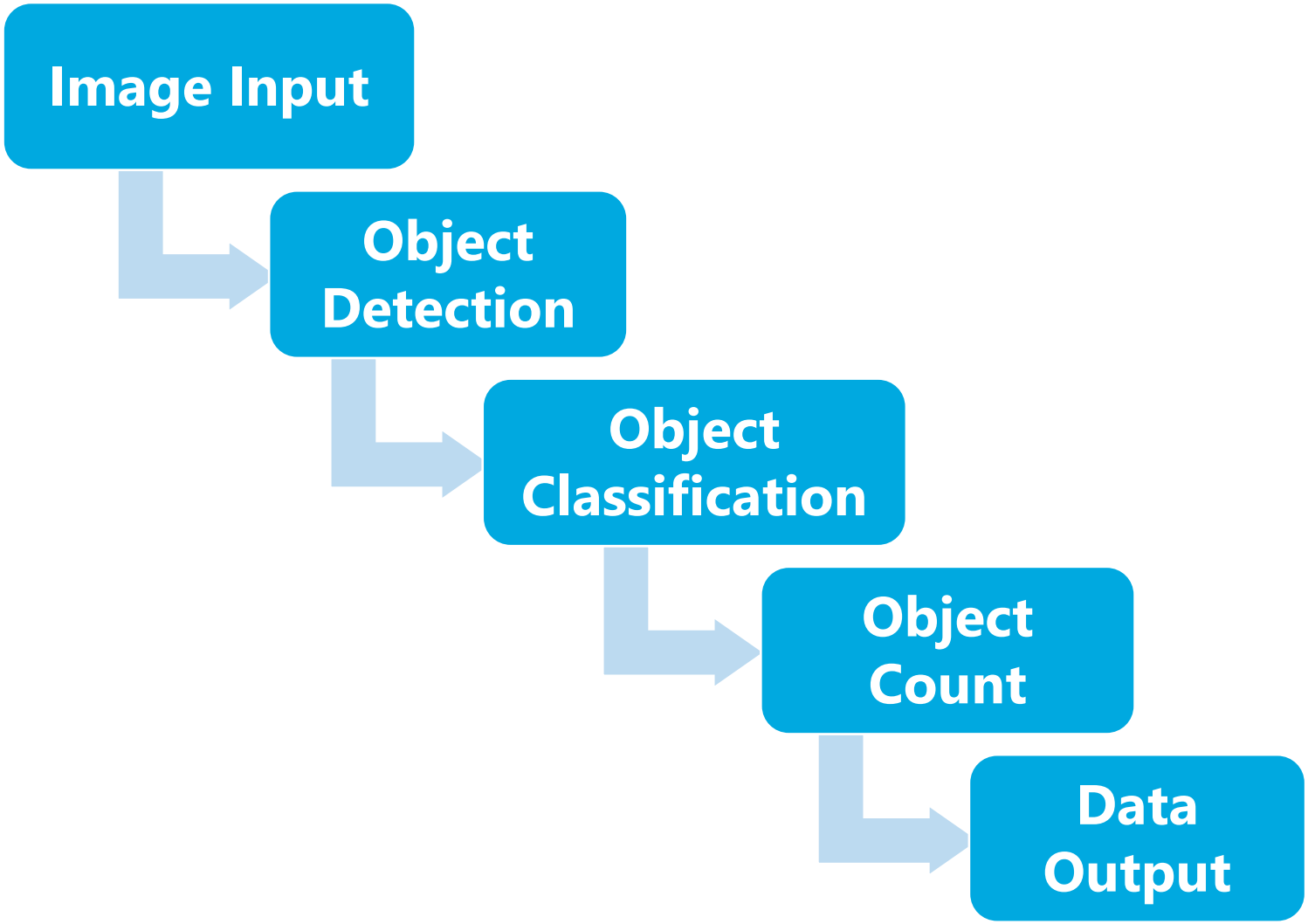
Photos and AI

- Cameras programmed to take 1 photo every 5 minutes (12 photos per hour)
- Large number of resulting photos (750,000+)
- Use of artificial intelligence (AI) to help efficiently analyze photos
  - Identify and extract counts of specific features in each photo (vehicles, people, watercraft)

AI Tool

- Customized version of Google Gemini Application Programming Interface (Google Gemini 1.5 Pro Model)
- Trained on initial data set of images
- Refined during initial months of implementation
- Current accuracy = 99.45%

Image Processing Pipeline



Performance Validation

- Random sample of 2% of all photos per month re-run 5 times through image processing pipeline
- Confidence score (1-100) calculated that captures how confident the modal was in detecting, classifying and counting objects of interest
- Two scenarios to focus on for human validation:
    1. Inconsistent outputs in photo re-runs
    2. Confidence scores of less than 90
- About 200 random photos also selected for human validation (QA/QC) each month

Example 1

Example 2

Example 3

Example 4

Next Steps

1. Continue to collect photos and process them with the AI tool (through November 2025)
2. Data analysis – focused on primary study goals and objectives (Winter 2025/26)
3. Rec-2 Technical Memorandum Addendum (April 2026)
4. Stakeholder consultation (Spring 2026)

Page Intentionally Left Blank

