UNITED STATES OF AMERICA

BEFORE THE

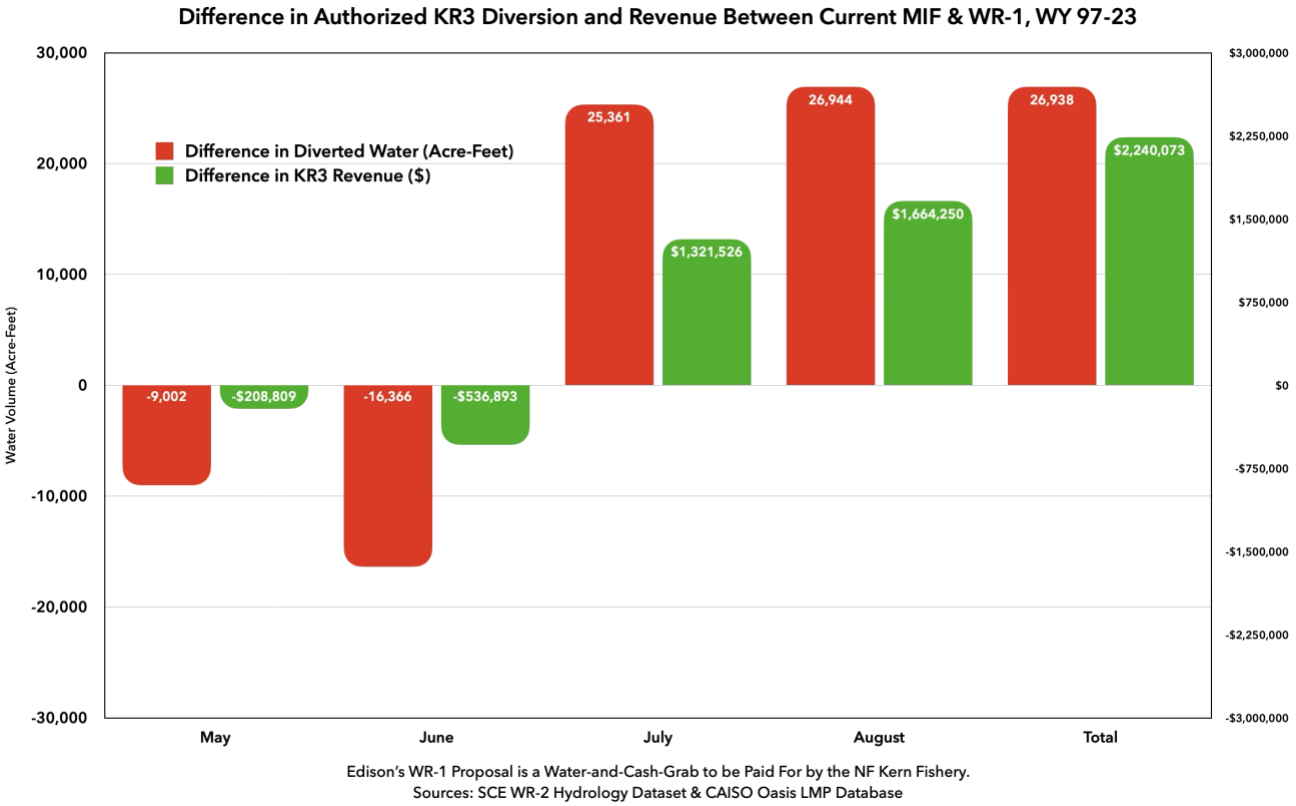
FEDERAL ENERGY REGULATORY COMMISSION

IN RE

SOUTHERN CALIFORNIA EDISON
KERN RIVER NO. 3 HYDROPROJECT

DOCKET NO. P-2290-122

KERN RIVER BOATERS' RESPONSE TO SCE'S DRAFT LICENSE APPLICATION



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INTRODUCTION

Along with Trout Unlimited and the Kern River Fly Fishers' Council, Kern River Boaters[1] respectfully submits the following license condition proposals and comments in response to SCE's KR3 Draft License Application (DLA).

Our license condition proposals will be updated as SCE reports further study results and in response to comments from stakeholders, which we welcome at kernriverboaters@gmail.com.

KRB has attempted to be fully transparent in identifying and sharing the factual bases, including spreadsheet analyses, behind its proposals and comments. We understand the seriousness of this proceeding governing the encumbrance of Southern California's most important river, the Wild & Scenic North Fork Kern.

We are committed to making evidence-based claims and welcome any inquiries on our methods and meanings; our intent is to communicate well and show our work. We remain available to further share & explain to stakeholders, agencies, news outlets, and the public outside this formal process.

Our spreadsheets and accompanying charts and graphs were created using Apple's MacOS Numbers.app. We are hosting them in that format along with an exported MS Excel format for reader compatibility to encourage independent analysis and scrutiny. Please bring any errors to our attention so we may correct them and improve our product.

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[1] Kern River Boaters is a California Public Benefit Corporation with federal 501(c)3 status representing the interests of noncommercial whitewater recreators on the NFKR. See our work and community at kernriverboaters.com & fb.com/groups/kernriverboaters, respectively. Contact us at kernriverboaters@gmail.com.

KRB LICENSE CONDITION PROPOSALS

KRB-LC01-MIF
KR3 MIF PROPOSAL

OBJECTIVE:

The objective of this condition is to establish minimum instream flow (MIF) requirements based on the California Environmental Flows Framework (CEFF), ensuring adequate water flow to sustain ecological functions and enhance the environmental health of the North Fork Kern River. This proposal seeks to replace the outdated and insufficient flow regime currently in place, reducing ecological degradation caused by the KR3 diversion, and balancing SCE's hydropower interests with the river's long-term health.

LICENSE CONDITION PROPOSAL:

> *During the operation of the facilities authorized by this license, the Licensee shall allow below Fairview Dam the following continuous, instantaneous, minimum instream flows, or the natural inflows to that dam, whichever are less, as measured at USGS gauges 11185500 & 11186000 or their successors:*

Month	***Flow (cfs)***
January	*195*
February	*195*
March	*335*
April	*335*
May	*335*
June	*300*
July	*265*
August	*230*
September	*195*
October	*195*
November	*195*
December	*195*

RATIONALE:

The Kern River No. 3 run-of-river hydroproject (KR3) diverts 605 cfs out of the North Fork Kern River (NFKR) at Fairview Dam into an artificial conveyance and does not return that water to the river until it reaches the KR3 Powerhouse just north of Kernville. The result is that 16 miles of river are dewatered — 15 miles of which have been federally designated as Wild & Scenic due to their outstandingly remarkable values in aesthetics, recreation, and wildlife.[2]

Since KR3 lacks any water storage, it contributes nothing to our society's needs for flood control, agriculture, recreation, or the environment, and it cannot target its generation for peak demand. Rather, it just constantly takes water out of the river — whether we need the small amount of energy it produces or not.

The current Federal Energy Regulatory Commission (FERC) license that authorizes KR3's to take water out of the North Fork Kern dewaters the river below Fairview Dam to an extent that it is unrecognizable in comparison with natural inflows, severely degrading the health of the river's ecology — impairing the habitat of all fish, reptiles, birds, insects, mammals, plants, trees, and every other living thing that depends on this river's water to live and thrive.

Investor-owned utility Southern California Edison (SCE) is presently seeking a new license from FERC to encumber the North Fork Kern with KR3's diversion at Fairview Dam for the next 40 years. In response, Kern River Boaters, in association with the Kern River Fly Fishers' Council[3], look at the current minimum instream flow (MIF) regime in the KR3 license, evaluate that regime's effects on the river, and propose a more effective regime based on the best contemporary science available. We urge the public, the managing agencies, and SCE itself to support the implementation of this proposal to protect and enhance the health of our river and the life it supports over the next 40 years.

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[2] The Forest Service has noted "the variety of opportunities [the river below Fairview Dam] offers to a vast majority of citizens who live within a short distance of this major river (3-4 hours driving distance from the Southern California basin)." North & South Forks Kern River Wild and Scenic River Record of Decision, USFS (1994) at 10. The only closer perennial major river is the main Kern, which is not Wild & Scenic, has limited roadside access, is a warm water fishery fed from a stagnant storage pool, and has a dangerous riverbed filled with boulders made from large, jagged roadblast.

[3] Kern River Fly Fishers' Council, also a California Public Interest Corporation with federal 501(c)3 status, is the oldest club organized around angling in the Kern River watershed.

THE CALIFORNIA ENVIRONMENTAL FLOWS FRAMEWORK

The California Environmental Flows Framework (CEFF) is a collaborative effort by environmental scientists at California Department of Fish and Wildlife (CDFW), the State Water Resources Control Board, and other academic and advocacy groups, hosted out of the University of California at Davis, to better proscribe environmental flow regimes.[4] The CEFF offers a consistent statewide approach to minimum instream flow analysis based on the best available science to "improve the scale and pacing at which environmental flow protections can be extended to rivers and streams across the state."[5] The CEFF has been used by CDFW to issue flow recommendation in previous FERC and other proceedings.[6]

The CEFF uses readily available data to the characterize natural instream flows of a watershed based upon five functional flow components: fall pulse flow, wet-season base flow, wet-season peak flows, spring recession flow, dry-season base flow. Ecological flow criteria are developed that correspond to these components, and minimum flow recommendations adhering to the proscribed functional metrics are environmentally sound.

Instream flow data above and below the KR3 diversion point at Fairview Dam is readily available from SCE and USGS; flows above the dam are natural, flows below are impaired by the diversion.[7] Applying that data to the CEFF framework reveals that the diversion "likely alters" the fall pulse and wet- and dry-season baseflow metrics[8]:

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[4] https://ceff.ucdavis.edu.

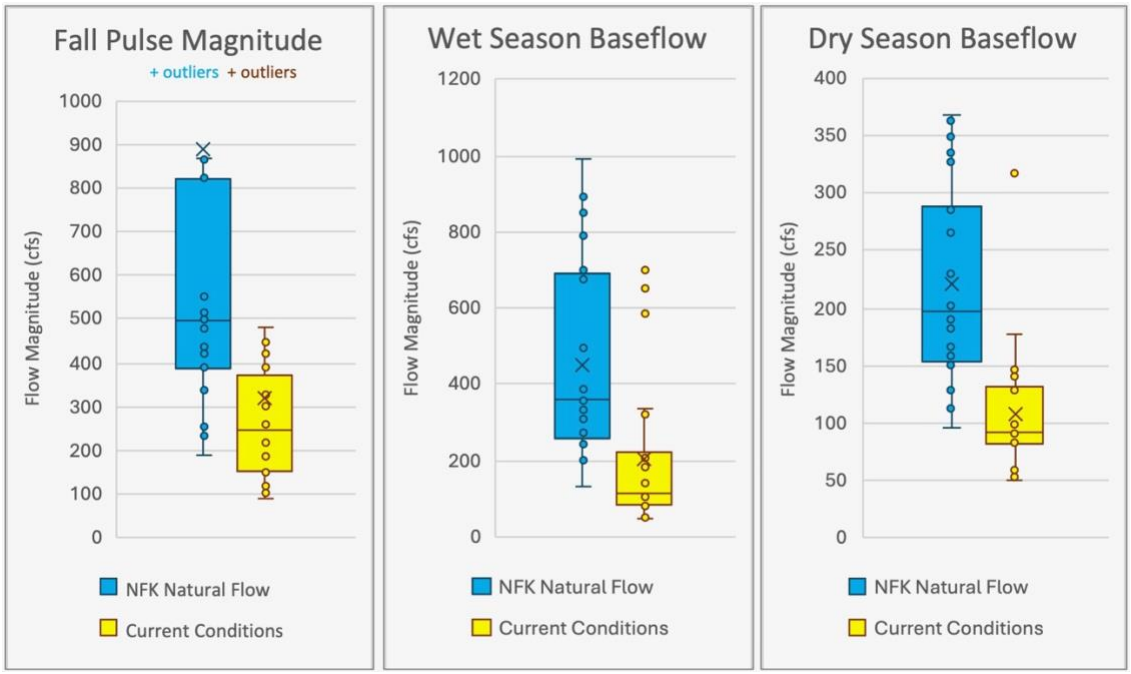
[5] California Environmental Flows Framework Version 1.0 Technical Report, California Environmental Flows Working Group (2021) at 1.

[6] See, *e.g.*, Devil Canyon Project in the Mojave River watershed (FERC Project No. 14797, FERC Accession No. 20210909-5090).

[7] See: SCE & USGS Gauges 11185500 & 11186000.

[8] NFKR Functional Flows Assessment Under CEFF, E Duxbury (2024); See also, Environmental Flow Analysis on the NF KERN, E. Duxbury (2021).

Figure 1: KR3 "Likely Alters" CEFF Metrics



CEFF baseflows are the flows at which key ecosystem functions are maintained — such as sediment movement, water quality maintenance, and environmental cues for species migration and reproduction. Those functions are necessary to maintain ecosystem health and are broadly supportive of native freshwater plants and animals.[9] Baseflow metrics "are used as the starting point for defining ecological flow criteria."[10]

Using the functional flow metrics (including these baseflows along with the seasonal timing, duration, and recessional metrics) a schedule of baseflows for the NF Kern at Fairview dam are as follows, according to the CEFF tool:

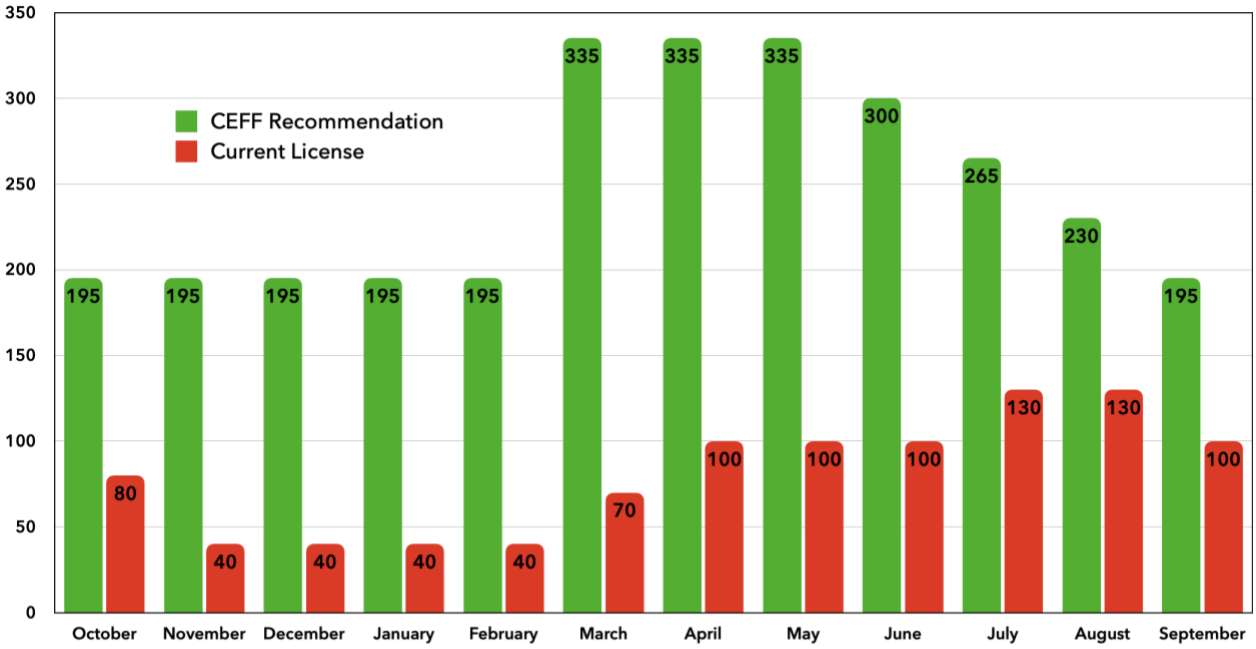
Month	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Flow (cfs)	195	195	195	195	195	335	335	335	300	265	230	195

The following chart compares the current KR3 MIF regime with the baseflows identified by the CEFF:

[9] California Environmental Flows Framework Version 1.0 Technical Report, California Environmental Flows Working Group (2021) at 3.

[10] California Environmental Flows Framework Version 1.0 Technical Report, California Environmental Flows Working Group (2021) at 4.

Figure 2: Current KR3 Current MIF v. CEFF Recommendation (cfs)[11]



*Required minimum flows are typically the target denoted or the available natural flow, whichever is less. Note that the current regime is frequently not met due to the precedence of the environmentally damaging "hatchery flow" during the hottest times of the driest years. Methodology at https://ceff.ucdavis.edu/tools-products.

Environmental prescriptions from contemporary river science in Europe and Canada for the North Fork Kern below Fairview Dam are broadly supportive of the recommendations from the CEFF.[12]

The CEFF allows for the modification of baseflows on ecological grounds when non-flow impairments such as altered physical habitat, poor water quality, or invasive species require further consideration. None of those special cases appear to exist in the North Fork Kern below Fairview Dam. As such, the ecological management goals of each relevant agency — USFS, CDFW, USFWS & SWRCB — should start *and end* with the baseflow prescriptions from the CEFF; those baseflows should form the basis of their minimum instream flow recommendations.[13] Again, when CEFF refers to "baseflows," it

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11 KRB-DLA-MIF, Sheet 15

12 Duxbury 2024; See generally, EA Guidance for run-of-river hydropower development (2017) Environment Agency, Technical Report, LIT 4122, 747_12, Version 6; DFO. (2013) Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2013/017.

13 The CEFF explains: Where "non-flow limiting factors are not a concern, the user may only need to implement the steps in Section A [foundational functional flow metrics] to obtain ecological flow criteria for their study area. The Section A ecological flow criteria can be readily translated into environmental flow recommendations in

is with the understanding that those flows are critical to maintaining the minimum ecological function of the river, and should accordingly be adhered to except under exceptional circumstances not present in this river. Although the CEFF baseflows framework focuses on ecologically viable flow levels, it is *not* equivalent to natural flows — far from it — and thus the framework permits robust hydropower generation while at the same time sustaining scientific and ecologically sound minimum flow prescriptions.

KRB sought the inclusion of CEFF analysis in the KR3 relicensing proceeding, and SCE's conclusions are strongly consistent with KRB's. SCE concedes that "the diversion at Fairview Dam reduces the summer and winter base flows relative to modeled flows, as well as the magnitude of some smaller fall-pulse flows (described in more detail below)."[14] "Current Project operations affect the magnitude of flow in the Fairview Dam Bypass Reach, and consequently likely alter baseflows during the wet and dry seasons and the timing of the dry season."[15] SCE has verified KRB's CEFF model and calculated baseflows as 195 cfs for the dry season and 335 cfs for the wet season.[16] Since there is no controversy on CEFF methods or outcomes, those baseflows should form the basis for this project's MIF, as they did in the recent Devils' Canyon Project[17] relicensing.

CDFW PRESUMPTIVE STANDARD APPROACH

The CEFF's baseflow prescriptions for the North Fork Kern below Fairview Dam are in alignment with those of the California Department of Fish and Wildlife's (CDFW) Presumptive Standard Approach (PSA)[18] to framing minimum instream flow issues.

The PSA uses a percentage of a watershed's mean annual discharge to evaluate the adequacy of instream flows on a seasonal level[19]:

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section C and, in many cases, will help avoid resource-intensive, site-specific flow studies."

14 DLA Vol.2 P1 at 7-111

15 DLA Vol.2 P1 at 7-112

16 DLA Appendix E.2, WR-2 at 21-22

17 FERC Accession No. 20210909-5090

18 Assessing Aquatic Habitat Connectivity and Low-flow Ecological Thresholds, Robert Holmes (2014) California Department of Fish and Wildlife

19 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=93597 at p. 20

Figure 3: CDFW PSA Metric

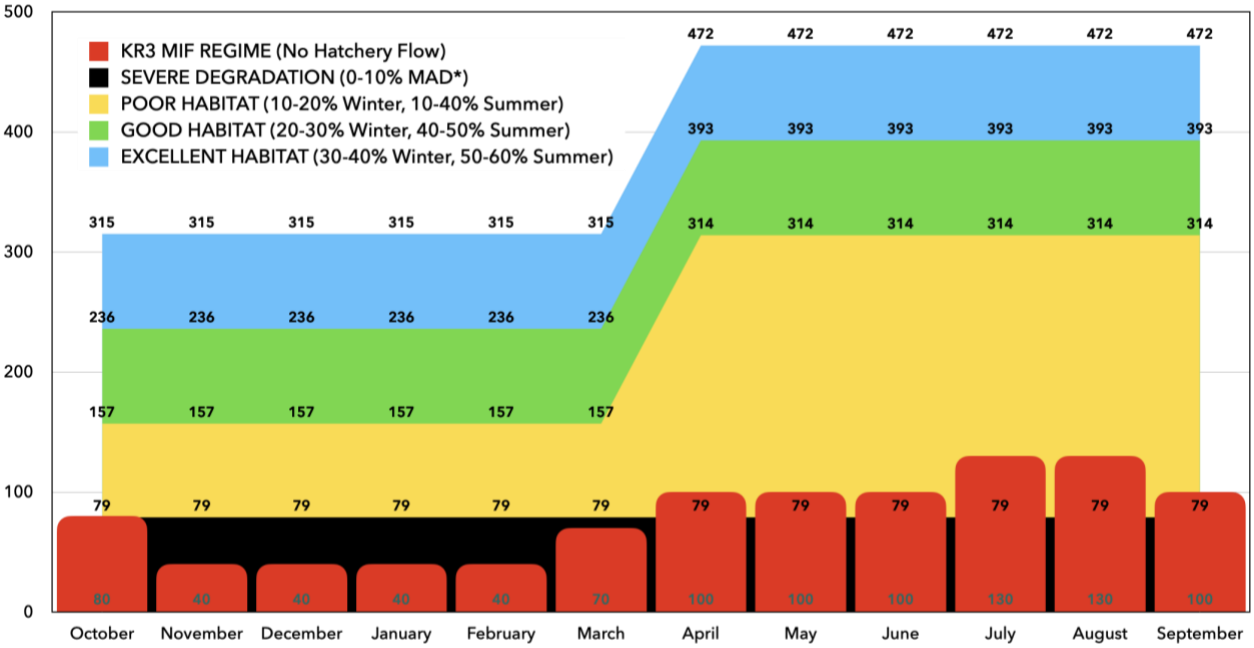
Department of Fish and Wildlife Water Branch Instream Flow Program

Tennant Method

Narrative Description of Flow	April to September	October to March
Flushing or maximum flow	200% from 48 to 72 hours	
Optimum range of flow	60-100%	60-100%
Outstanding habitat	60%	40%
Excellent habitat	50%	30%
Good habitat	40%	20%
Fair or degrading habitat	30%	10%
Poor or minimum habitat	10%	10%
Severe degradation	<10%	<10%

The Mean Annual Discharge above Fairview Dam is 787 cfs for the current license term (WY 1997-2023). Applying the PSA methodology to this figure, the current minimum instream flow regime below Fairview Dam is characterized by “Poor Habitat” (Yellow) from April to October and “Severe Degradation” (Black) of habitat from November to March:

Figure 4: Current KR3 MIF as Characterized by CDFW PSA (cfs)[20]



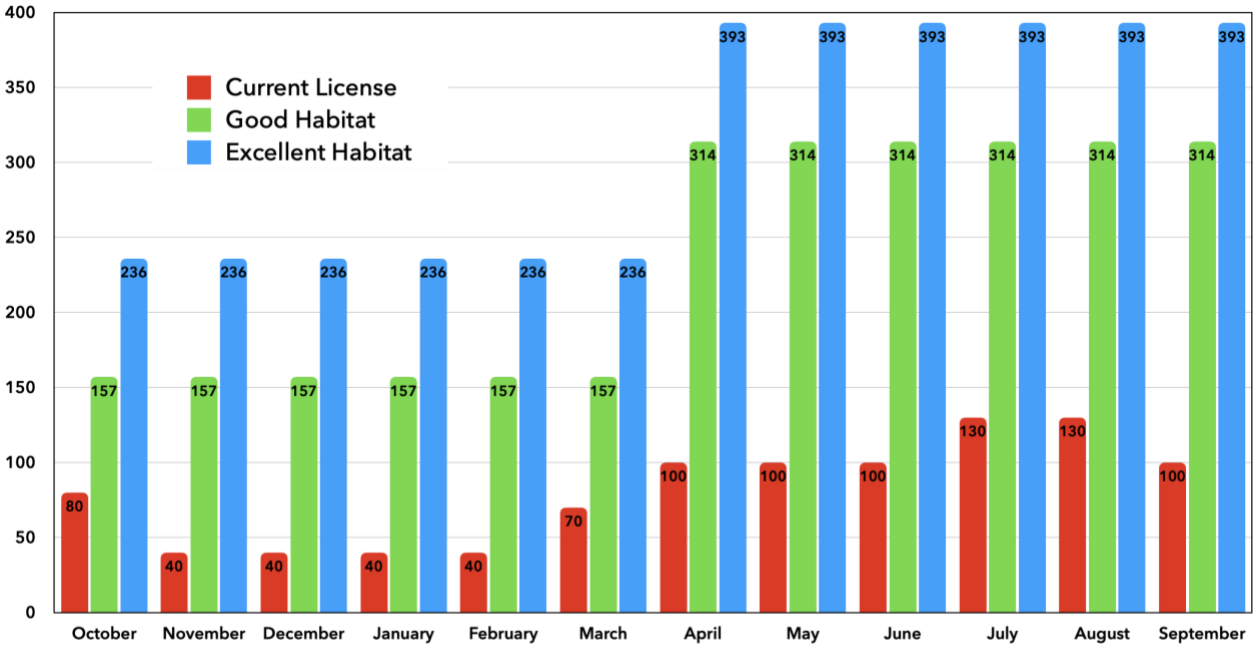
The current KR3 MIF regime leads to poor riverine habitat seven months of the year and severe degradation the other five according to the CDFW presumptive standard approach. This does not account for further reduction of the MIF in dry year summers when the precedence of the Hatchery Flow also drops flows to the level of severe degradation. *MAD is the "mean annual discharge" of the NF Kern river at Fairview Dam. Source: SCE WR-2 Hydrology Dataset.

To provide "Excellent Habitat" over the course of a water year, the PSA calls for a minimum flow regime of at least 236 cfs starting in October rising to 393 cfs in April. Aiming for excellent habitat is consistent with the federal Wild and Scenic River status afforded our river. But as seen in the above chart, the present regime fails to come close to providing "good" habitat let alone excellent.

The following chart compares the CDFW framework for excellent and good habitat recommendations with the current regime:

[20] KRB-DLA-MIF, Sheet 6.

Figure 5: Current KR3 MIF v. CDFW PSA Recommendations[21]



* Required minimum flows are typically the flow denoted or the available natural flow, whichever is less. Note that the current regime is frequently lowered by the precedence of the environmentally damaging "hatchery flow" during the hottest times of the driest years.

As demonstrated by the methodologies of both the CEFF and CDFW, the current minimum instream flow regime for the KR3 diversion at Fairview Dam falls woefully short of satisfying the most basic requirements of contemporary environmental science. The results of that failure on the 16 miles of the North Fork Kern below the diversion point are well known to managing agencies and recreationists: regular water quality violations, an unhealthy fishery, poor fishing conditions, degraded special species habitat, unsafe bacterial concentrations, and poor aesthetics. All these issues can be greatly improved for the next 40 years by implementing a modern MIF based on contemporary environmental science — namely, the CEFF recommendations.

[21] KRB-DLA-MIF, Sheet 6.

BENEFITS OF OUR PROPOSAL OVER THE CURRENT MIF REGIME

1. *Fewer, and Less Severe, Water Quality Violations*. As a result of the diversion of water out of the North Fork Kern at Fairview Dam, the waters below routinely violate state water quality standards. Diverting water out of a river reduces the amount of thermal mass available to resist high environmental temperatures, and thus the water that remains increases in temperature above its unimpaired state. Increased water temperatures entail a second negative environmental effect: higher water temperatures tend to lower concentrations of dissolved oxygen (DO). SCE has conceded that its diversion increases temperatures and lowers DO concentrations in the waters below Fairview Dam.[22] The diversion also impairs sediment transport at low flows, damaging the trout habitat.[23]

Waters that routinely violate these water quality standards stress fish and contribute to mortality; they cause mortality when the violations are pronounced. When tested, the waters below Fairview Dam have been routinely found to violate both temperature and DO standards and are frequently pronounced — exceeding 22C (up to 26C), when the specter of imminent trout mortality appears.[24] Further, although there are (fewer) times when the incoming water at Fairview Dam naturally exceeds these standards (usually during the warmest parts of the driest years), the diversion exacerbates the degree of the violation, adding fuel to the fire by further increasing temperatures and lowering concentrations of DO when the fishery is most at risk. Substantially higher minimum instream flows over the next KR3 license term would go a long way towards eliminating the water quality violations caused by the diversion and tempering the diversion's exacerbation of the violations that naturally occur.

2. *A Healthier Fishery in Low and Moderate Water Years*. According to the United States Forest Service, the National Parks Service, and CDFW, the North Fork Kern below Fairview Dam "is capable of producing a self-sustaining wild trout fishery," but does not do so because of the diminished flows and high temperatures caused by the KR3 diversion.[25] Those agencies explained:

The water diversion that has the greatest impact on the trout fishery occurs in [the project's dewatered reach]. Water is diverted by Southern California Edison Company at

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22 KR3 Pre-Application Document, SCE (2021) at 5-43 through 5-45.

23 Sandbox Flushing Study, Entrix & SCE (2002), at 3-69.

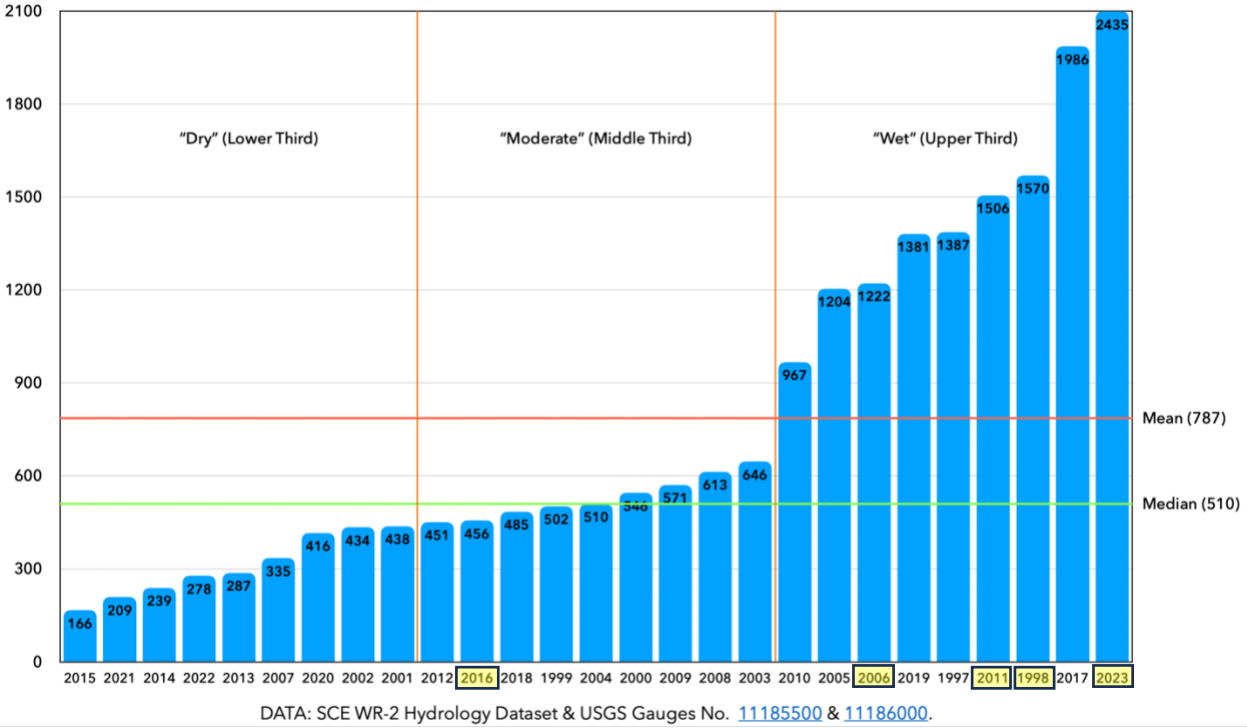
24 See KR3 Application for New License, SCE (1991) at E-2-41 through E-2-62; SCE Response to Request for Additional Information (1993) at 4-43; Water Monitoring Report, SCE (2003) at 3-1 through 4-12.

25 Upper Kern Basin Fisheries Management Plan, USFS, NPS & CDFW (1995) at IV-4.

Fairview Dam for hydroelectric power generation at Kern River Number 3 Powerhouse. There is potential for improving habitat for trout during low flow periods by reducing water temperatures by increasing flow releases from Fairview Dam. The various agencies and the public should work through the relicensing process, or other methods if practical, to obtain these water allocations during this critical low flow period.[26] The Forest has also recognized that the KR3 diversion constitutes one of the "greatest impacts on fish habitat" in the North Fork Kern.[27]

During the present license term, Edison has conducted five fish monitoring studies. All but one of those studies occurred during a high-water year. Indeed, those conducted in 1998, 2006, 2011 & 2023 occurred in four of the seven highest water years (study years highlighted in yellow)[28]:

Figure 6: Mean Inflow at Fairview Dam (cfs), WY 1997-2023[29]



[26] *Id.*, at V-3.

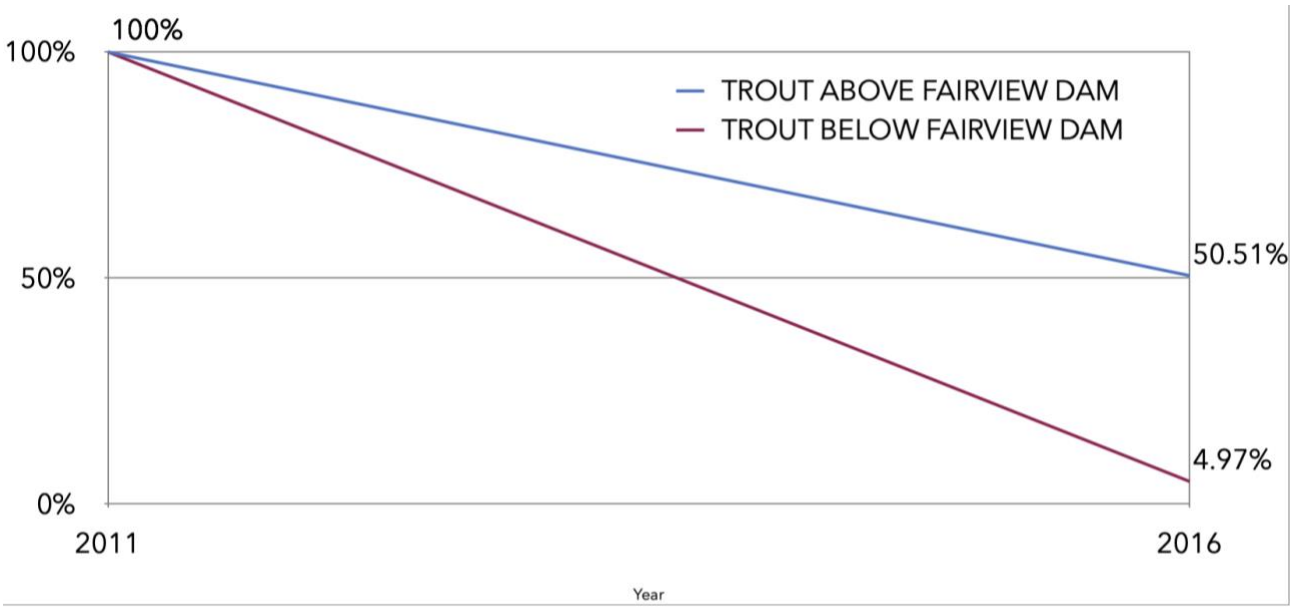
[27] North & South Forks Kern River Wild and Scenic River Comprehensive Management Plan (1994) at 24, 48-49 [directing USFS to "maintain or enhance viable populations of native wildlife and fish species," conduct an "active program of stream habitat improvement," maintain a "riffle to pool ratio [of] approximately 1:1," and manage the area to "maintain or achieve adequate user safety and experience levels."

[28] Chart, methodology, and supporting data available at KRB's Apple website (Sheet 5, "NFKR Water Year Types, 97-23")

[29] KRB-DLA-MIF, Sheet 3

2016 was not a low water year; it was a moderate year, with about 90% of the median mean flow. Nevertheless, the conclusion of that study was shocking:

Figure 7: NF Kern Trout Decline, 2011 (Wet) —> 2016 (Moderate)[30]

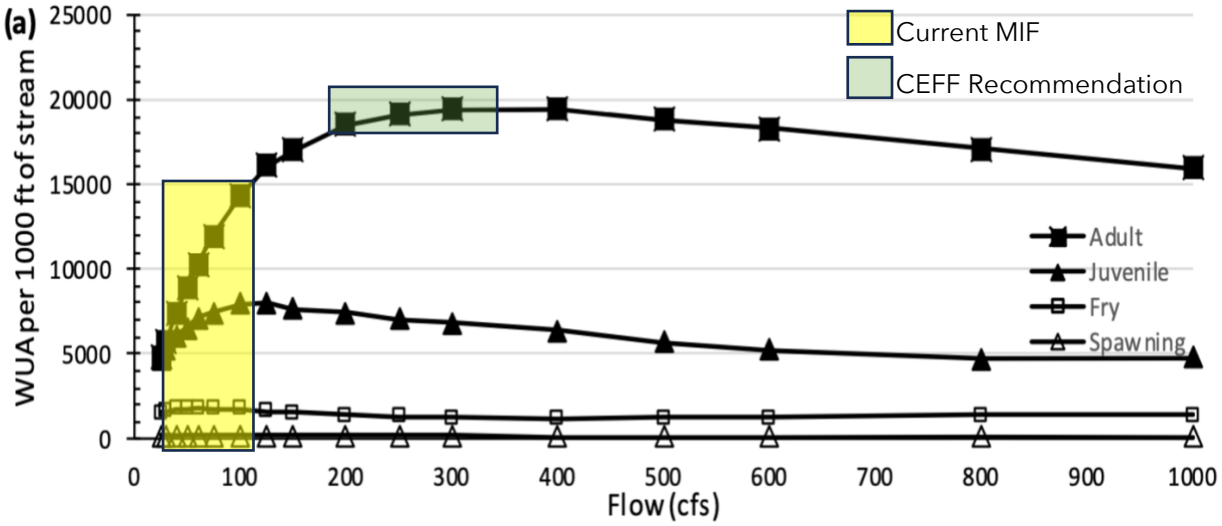


TROUT POPULATION FIGURES NORMALIZED TO 2011 (100%)

The 2016 study showed that the project's dewatering of the river below Fairview Dam resulted in an extreme reduction of the trout population by more than 95% below the dam — compared with a reduction of just 50% above the dam. That eye-opening result is completely consistent with SCE's 1991 IFIM study. It shows a steep and significant drop-off in adult trout habitability below Fairview Dam at flows below 200 cfs, with that decrease accelerating radically when flows fall below 100 cfs, as they did in 2016:

[30] KRB-DLA-MIF, Sheet 7.

Figure 8: 1991 IFIM NFKR Habitat Study[31]



Through a series of postponements, Edison cancelled scheduled studies that could have provided further devastating results of its project's effects in 2021 & 2022 — low water years when conditions were at their least favorable to the fishery. The most reasonable inference from the record is that the diversion disproportionately kills trout in the reach below Fairview Dam in moderate and low water years. Increasing minimum flows can improve the health of the fishery and riverine environment below Fairview Dam.

3. *Better Angling Conditions*. Dewatering the river at Fairview Dam narrows the waters below, reduces water speeds, lowers pool heights, enables increased predation, eliminates many riffle sections, increases the incidence of silt and algae, raises temperatures, and lowers DO concentrations to levels that stress and kill fish. That makes for poor fishing — an observation that has been seconded both by the members of the Kern River Fly Fishing Club[32] — the oldest club focused on angling in the Kern watershed — and its most analytical member and frequent blogger, Rich Arner.

Mr. Arner has repeatedly written[33] that low flows imposed by the project are inadequate for enjoyable fishing: "Flows (50 cfs) are very low… the extremely low flows have given natural predators a distinct advantage over unwary rainbows." (November 20, 2019.) "Section 5 is flowing very low (just 85 cfs) . . . shallower water is giving herons a distinct advantage in spotting unwary planters. (October 22, 2019.) "The water

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31 KR3 Application for New License, SCE (December 1991) at E-3-74 [.pdf p. 655] [accelerated decline at current MIF levels highlighted].

32 See FERC Accession No. 20220531-5308.

33 http://www.kernriverflyfishers.com/fishreports.htm.

on section 5 is too low to sustain trout for long… there is very little holding water more than 3' deep with these very low flows around 50 cfs." (November 8, 2018.) The complaints of Mr. Arner and his fellow anglers are entirely flow-related. Increasing minimum flows below Fairview Dam can improve angling enjoyment.

4. *Improved Habitat for Special Status Species.* The health of habitat for the western pearlshell, foothill yellow-legged frogs, northwestern pond turtle, and Fairview slender salamander are all flow-dependent. Increased flows in accordance with CEFF baseflows designed to maintain ecological functioning will lower temperatures, increase DO, improve sediment transport, and contribute to ecosystem health (such as salmonids necessary for larvae) required for these species' survival. Indeed, those flows can restore natural habitat conditions critical for species like the FYLF who have been extirpated by cumulative project operations. The CEFF emphasizes adequate flows that support all ecological functions, including species-specific needs, and implementing those as the MIF will provide more stable and protective conditions for these sensitive species, particularly during critical life stages such as nesting and juvenile development.

5. *Safer Bacterial Conditions*. According to USFS, NPS, and CDFW, there is an "environmental concern" about concentrations of coliform bacteria in the dewatered reach below Fairview Dam: "At certain times of the year when the flow in the river are low, there appears to be a health concern due to high levels of coliform bacteria."[34] According to the state water board, concentrations become elevated due to the diversion at Fairview Dam and could be solved through dilution *via* a reduced diversion: "increased fecal coliform levels and potential solutions to the problem were flow-related."[35] USFS and FERC agree that dilution is a solution to the problem: "Flows in the bypassed reach can influence bacteria counts through dilution."[36] Increasing the minimum flows below Fairview Dam can contribute to the dilution of dangerous bacterial concentrations.

6. *Better Aesthetics*. The North Fork Kern below Fairview Dam was designated Wild and Scenic, in part, for its aesthetics. "The outstandingly remarkable values for [the diverted reach] include fishing, camping, picnicking, Whitewater boating, hiking, driving for

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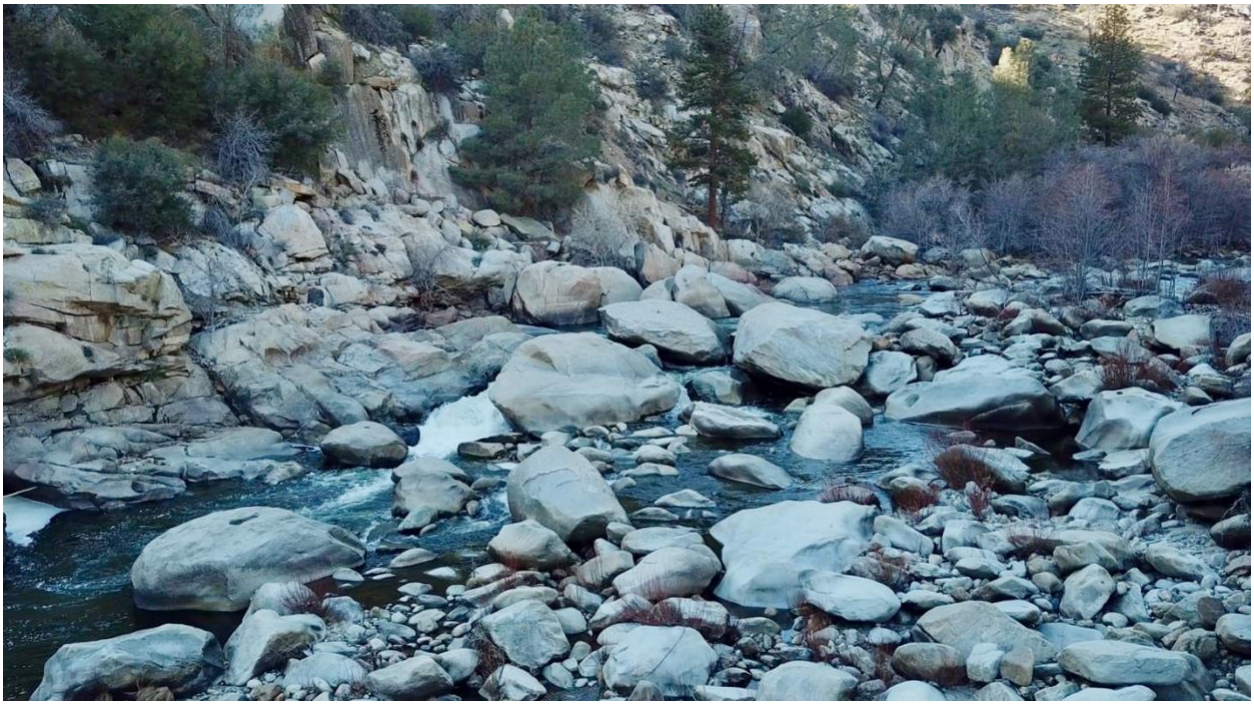
34 Upper Kern Basin Fisheries Management Plan, USFS, NPS & CDFW (1995) at V-3.
35 KR3 Environmental Analysis, FERC & USFS (1996) at 26.
36 *Ibid*.

pleasure, and enjoying the scenic beauty."[37] Many times, however, the river's aesthetics are degraded due to inadequate flows. Dewatering the river at Fairview Dam narrows the waters below, dries the riverbanks, exposes rocks that would otherwise be covered, reduces water speeds, lowers pool heights, eliminates many riffle sections, and increases areas covered with algae and silt. Natural flows above Fairview Dam fall below 125 cfs about 5% of the time. Flows that low are objectively rare for this river corridor. But flows *below* Fairview Dam fall below 125 cfs a whopping 44% of the time due to the KR3 diversion. It is reasonable to expect such profound dewatering to have a negative effect on the river aesthetics: the river was formed under natural flows; flows radically impaired by the KR3 diversion render that formation aesthetically displeasing, making the river appears to be small, slow, stunted, and sad.

Figure 9: The Dewatered Kern; 600 cfs Above Fairview, Only 50 Below (Pictured)



Increasing minimum flows below Fairview Dam can help improve river aesthetics in the 16 miles below for campers, hikers, anglers, sightseers, boaters, and all whose lives take them to the North Fork Kern River.

[37] North & South Forks Kern River Wild and Scenic River Final Environmental Impact Study, USFS (1994) "Affected Environment" at 61 [.pdf 113]; see also "Affected Environment" at 2 [.pdf 50] [ORVs: "Scenic, Recreation, Wildlife"].

CONCLUSION

The North Fork Kern below Fairview Dam deserves a minimum instream flow regime supported by the best contemporary science available. Raising the MIF to levels supported by the CEFF will greatly improve the current problems of water quality, fishery health, angling enjoyment, bacteria, and aesthetics on the North Fork Kern. Our KRB-LC01-MIF proposal was developed in conjunction with the Kern River Fly Fishers' Council, has received sponsorship from the Kern River Conservancy and Trout Unlimited, and a change.org petition for the adoption of our proposal has received 336 signatures as of late September 2024. Accordingly, we propose that it be included in the next license to operate KR3.

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KRB-LC02-INFO
KR3 Flow Information Proposal

OBJECTIVE:

The Kern River No. 3 (KR3) Hydroelectric Project has significant implications for both recreational whitewater boating and ecological health along the North Fork Kern River (NFKR). The project's operations, particularly flow management, play a central role in determining the availability, safety, and quality of recreational boating opportunities, especially during winter storm events when natural spill flows create potentially navigable water levels. While Southern California Edison (SCE) asserts they provide "real-time flow information," the reality is that their current reporting system offers only hourly averages of the previous hour's flow conditions. This system is insufficient for ensuring public safety and supporting optimal recreational experiences, particularly for the whitewater boating community, who rely on accurate and timely data to plan trips in a highly dynamic and potentially hazardous river environment. Moreover, the existing system does not provide the transparency and compliance accountability required to ensure that the public and stakeholders can independently verify the accuracy and consistency of the flows provided. Therefore, we propose that FERC impose a license condition requiring SCE to provide real-time flow data, updated in 15-minute increments, for both above and below Fairview Dam, along with an online, publicly accessible repository of flow data for compliance and transparency purposes.

Existing Flow Reporting Deficiencies

SCE's current system provides an hourly summary of the previous hour's average flow, which does not meet the needs of whitewater boaters or ensure public safety. This is particularly problematic during winter storm events, where river flows can change rapidly due to unpredictable weather patterns, snowmelt, or upstream releases. The following points outline the key deficiencies of the current system:

1. Time Delay: The current system only reports the average flow from the previous hour, meaning boaters are relying on outdated information that may not reflect present river conditions, especially in rapidly changing environments.
2. Safety Risk: River flows during storm events can rise or fall significantly within short periods. Relying on an hourly summary increases the potential for boaters to underestimate the real-time hazards, potentially leading to dangerous or life-threatening situations.
3. Confusion and Misinterpretation: Many boaters mistakenly interpret the hourly averages as real-time data in the manner SCE suggests, which can lead to poorly informed decisions about river conditions, particularly when river flows are fluctuating.

This confusion can result in boaters entering the river during unsafe conditions or missing ideal windows of opportunity for boating.

4. Inadequate Support for Trip Planning: Boaters, particularly commercial outfitters and those involved in more advanced trips, require precise and up-to-date information to plan their activities. The difference between a one-hour average and real-time conditions can be substantial, especially during storm surges or sudden releases.

Proposal: Real-Time Flow Monitoring in 15-Minute Increments

To address these deficiencies, we propose a license condition requiring SCE provide real time flow data in 15-minute increments for flows both above and below Fairview Dam. This system would serve multiple critical purposes:

1. Improved Public Safety: Providing real-time flow information allows boaters to make informed decisions about whether to enter or exit the river based on current conditions. This is particularly important during storm events when river levels may rise unpredictably and quickly.

2. Enhanced Recreation Planning: The whitewater community — both recreational users and commercial outfitters — will benefit from accurate, timely data. This will allow them to optimize their trips by aligning river access with ideal flow conditions, enhancing the recreational experience.

3. Increased Transparency and Accountability: Having real-time data readily available online promotes transparency, as all stakeholders can independently monitor flows. This ensures public trust in SCE's operations and compliance with FERC license conditions.

Proposal: Online Repository for Compliance and Transparency

We also propose that SCE be required to host an online repository of flow data for both above and below Fairview Dam. This repository should maintain a historical record of real-time flow data, with the following key features:

1. Public Accessibility: The flow data should be publicly accessible in real-time and stored in an easily navigable online platform. The public should be able to download historical data for analysis and verification purposes.

2. Verification of Compliance: By maintaining an online record of flow data, SCE ensures that compliance with FERC's minimum instream flow (MIF) requirements and other flow-related conditions can be independently verified by regulators, stakeholders, and the public. This level of transparency is critical for maintaining accountability.

Supporting Precedents and Justification

1. Public Safety Concerns: Rivers controlled by dams can pose serious hazards, especially during rapid flow changes resulting from storm events, flash floods, or unplanned releases. The Kern River, as a popular recreational destination, sees a high volume of boaters during periods of high flow, and real-time monitoring can significantly mitigate the risks associated with sudden changes in water levels. In other hydropower licensing cases, real-time flow monitoring has been implemented as a safety and recreational enhancement measure.

2. Analogous Systems in Other Regions: Real-time flow monitoring systems are increasingly common in major river systems across the United States, particularly in areas where recreation and hydropower interests overlap. The Upper American River Project, for example, offers 15-minute flow updates for whitewater boating purposes, with real-time data made available online for boaters to plan safe and optimal river trips.

3. Alignment with CEFF Principles: The implementation of a real-time flow system aligns with the California Environmental Flows Framework (CEFF), which promotes transparency and evidence-based management of river systems. Accurate, real-time flow data will allow stakeholders to assess how well the project aligns with CEFF's ecological flow requirements.

4. FERC's Mandate to Balance Resource Objectives: Under Section 10(a)(1) of the Federal Power Act, FERC is required to ensure that licensed projects are consistent with the public interest, which includes balancing power generation with environmental protection and recreational use. By requiring SCE to provide real-time flow data and maintain an online record, FERC ensures that the KR3 project is more effectively managed in the public interest.

KRB-LC03-CREEK
KR3 Creek Retirement Proposal

Objective:

The objective of this license condition is to mandate the retirement and decommissioning of the Salmon and Corral Creek diversions, as part of the KR3 relicensing process, to restore natural hydrological patterns, enhance riparian and aquatic habitats, improve conditions for special-status species, and support the long-term ecological and recreational sustainability of the North Fork Kern River watershed.

License Condition Proposal:

As a condition of the new license for the KR3 Project, the Licensee shall permanently retire the Salmon and Corral Creek diversions. The Licensee shall return the natural flows to these creeks by removing all diversion infrastructure and implementing habitat restoration efforts to support species recovery, water quality improvements, and sediment transport stabilization.

The Licensee shall adhere to the following specific measures during the retirement of the diversions:

1. Permanent Retirement and Decommissioning of Diversion Infrastructure:
    - The Licensee shall cease diverting water from Salmon and Corral Creeks within six (6) months of the license issuance.
    - All diversion structures, including intakes and conveyance infrastructure, shall be decommissioned and removed. The Licensee shall restore the natural creek channels in consultation with the California Department of Fish and Wildlife (CDFW), the United States Forest Service (USFS), and the United States Fish and Wildlife Service (USFWS).
    - A detailed decommissioning and restoration plan shall be submitted to FERC for approval within one (1) year of the license issuance, outlining timelines, methods, and standards for restoration activities.
2. Ecological Restoration Requirements:
    - The Licensee shall reestablish natural flows in Salmon and Corral Creeks to support ecological functions, including sediment transport, riparian vegetation recovery, and water quality improvements.
    - The Licensee shall conduct habitat restoration activities, such as replanting native riparian species and removing non-native vegetation, to enhance conditions for foothill yellow-legged frog, western pond turtle, and other species.
    - The Licensee shall install flow monitoring equipment to track the return of natural flows and submit annual reports to FERC, CDFW, USFS, and USFWS.

3. Monitoring and Reporting:

- Post-decommissioning, the Licensee shall monitor water quality, species recolonization, and habitat recovery in the affected creeks and submit annual reports for a period of five (5) years, with additional monitoring to be determined based on results.
- Monitoring shall include water temperature, dissolved oxygen (DO) levels, sediment transport patterns, and the presence of special-status species such as the foothill yellow-legged frog and western pond turtle. The results shall be used to assess the success of the restoration efforts and to determine if further mitigation measures are needed.

4. Species-Specific Measures:

- Foothill Yellow-Legged Frog: The Licensee shall implement targeted habitat improvements to support the reintroduction of foothill yellow-legged frog populations. These efforts shall include the reestablishment of riparian vegetation and cold-water refugia necessary for the species' breeding, egg-laying, and larval development.
- Western Pond Turtle: The Licensee shall restore riparian vegetation along the creeks to provide suitable nesting and foraging habitat for the western pond turtle. Habitat improvements shall include the creation of seasonal pools and basking areas.

5. Sediment Transport and Water Quality Improvements:

- The Licensee shall restore natural sediment transport processes by removing diversion infrastructure and implementing bank stabilization measures where necessary to prevent erosion.
- The Licensee shall work with local water quality agencies to ensure that water quality improvements are maintained through natural flow restoration, reducing elevated water temperatures and improving DO levels in Salmon and Corral Creeks.

6. Recreational and Aesthetic Enhancements:

- The Licensee shall ensure that restoration efforts enhance the recreational potential of the North Fork Kern River and its tributaries by improving conditions for angling, hiking, and wildlife observation.

- The removal of diversion structures and restoration of natural flow regimes shall improve aesthetic values in the project area, particularly in Wild and Scenic designated sections of the river.

Justification:

The retirement of the Salmon and Corral Creek diversions is essential to restore the natural hydrological and ecological conditions in these tributaries, which have been severely degraded by ongoing diversion operations. The negligible contribution of these diversions to KR3's overall energy output does not justify the significant harm inflicted on aquatic habitats, riparian ecosystems, and species reliant on these waterways.

1. Environmental Impact: The diversions of Salmon and Corral Creeks have caused the extirpation of the foothill yellow-legged frog and jeopardized the long-term survival of the western pond turtle, both of which are highly dependent on healthy aquatic and riparian habitats. The diversion of water has also reduced suitable spawning grounds for fish, disrupted sediment transport, and degraded water quality in the North Fork Kern River.
2. Species Recovery: The restoration of natural flows is necessary to provide the cold-water refugia and riparian cover needed for the recovery of special-status species. Given the proximity of foothill yellow-legged frog populations in adjacent tributaries, the restored habitat in Salmon and Corral Creeks could serve as vital recolonization sites.

Once present in the North Fork Kern River Basin, the foothill yellow-legged frog has suffered from the long-term reduction in flows and increased water temperatures caused by the diversion of water from Salmon and Corral Creeks. This amphibian requires streams with cold water and ample riparian cover for breeding, egg-laying, and larval development. With flows diverted and habitats disrupted by diversion and sediment maintenance, the dewatered creeks have become unsuitable for these life stages, leaving the species without critical habitat. Historical surveys have documented the foothill yellow-legged frog within the FERC Project Boundary, but recent observations and environmental DNA (eDNA) testing confirm that the frog is now extirpated from the area, particularly in the downstream sections affected by KR3 operations. Restoration of these creek flows could provide an opportunity for recolonization, especially given the proximity of small populations in adjacent tributaries. Reestablishing natural hydrological patterns in Salmon and Corral Creeks is an essential step in reversing the extirpation of this endangered species — a step towards restoration that SCE and the governing agencies should already be considering given that legal status.

That step could also benefit the western pond turtle, which has been observed in the project area, though its long-term survival is similarly jeopardized by the ongoing reduction in suitable habitat. Improved riparian growth from increased water availability would support the species' foraging and nesting requirements. Seasonal pools would provide foraging and basking opportunities. However, with the current diversion regime, water levels are reduced during critical periods, leading to habitat shrinkage and degradation. Retiring the diversions would allow these seasonal habitats to function naturally, improving conditions for the turtle. Needless to say, the improvements in aquatic and riparian habitat entailed by our proposal would also be enjoyed by non-special status species — as well as by special status species who, though not present in the project area, might encounter its environment during migration.

3. Recreational Value: The North Fork Kern watershed is a significant recreational resource, and restoring natural flow regimes will enhance angling, wildlife viewing, and aesthetic experiences in the area. The removal of diversion structures will allow these creeks to function more naturally, improving connectivity with the river and supporting fish populations. These creeks connect with the North Fork Kern River. By improving conditions in these tributaries — allowing natural flows to support cooler water and increased successful sediment transport, along with ending the practice of sediment dumping from the diversion points into the river — fish habitat in the river would improve. Healthier tributaries, even if intermittent, can also provide crucial spawning grounds and refuge during higher flows, supporting fish populations in the mainstem river, which benefits anglers. Conditions would improve for fish populations in the creeks themselves, as temperatures, DO levels, and sediment transport would be greatly improved, along with the restoration of natural connectivity with the unencumbered portions of the creeks. The North Fork Kern watershed is an important recreational resource for the local economy, and restoring these tributaries would contribute to its long-term sustainability.

4. Negligible Energy Contribution: Given the small size of these tributaries and the limited flow they contribute, the diversions do not increase the output of the KR3 facility to an extent that justifies their continuation. Moreover, these creeks flow to capacity during the spring melt, a period of high renewable energy production when solar and wind generation is abundant and often curtailed — forced offline. This means the already-marginal gains from these diversions are even less likely to displace fossil fuel generation. The water diverted from these creeks contributes little to the overall energy grid and renewable goals while causing significant harm to the local environment. Given the broader context of California's energy mix, which calls for continuing an absolutely massive deployment of wind, solar, and energy storage, the retirement of these small-scale diversions would not impact California's overall energy

goals. The small-scale energy gains from these diversions are not sufficient to offset the substantial environmental harm they cause.

5. Compliance with FERC's Mandate: Under the Federal Power Act, FERC is required to balance power development with the protection of environmental and recreational resources. The North Fork Kern River and its tributaries are a critical public resource, and the cumulative environmental harms caused by these diversions cannot be ignored another two generations. By restoring natural flow regimes to these creeks, FERC can help reverse decades of habitat degradation, allowing for the recovery of critical species and riparian vegetation, the improvement of water quality, and the stabilization of sediment transport, creating a healthier and more resilient ecosystem there and in the greater watershed. The retirement of these diversions is not only a necessary corrective for past environmental harm but also a forward-looking measure that will benefit future generations of wildlife and people who depend on the North Fork Kern River and its tributaries. Given the limited contribution of these diversions to power generation and the significant environmental degradation they cause, retiring these diversions aligns with FERC's statutory mandate to protect public resources and improve environmental conditions.

Implementation Timeline:

- Within 6 Months: Cessation of water diversions from Salmon and Corral Creeks.
- Within 12 Months: Submission of a detailed decommissioning and restoration plan to FERC.
- Within 18 Months: Completion of diversion structure removal and initial habitat restoration efforts.
- Ongoing (5-Year Post-Decommissioning): Annual monitoring of water quality, habitat recovery, and species recolonization, with reporting to FERC and relevant agencies.

Conclusion:

The retirement of the Salmon and Corral Creek diversions is a necessary and overdue measure to mitigate past environmental harm and restore critical habitats within the North Fork Kern River watershed. By adopting this license condition, FERC can ensure the long-term sustainability of these tributaries, protect special-status species, and enhance the recreational and aesthetic value of the region, all while imposing minimal impact on California's renewable energy goals.

KRB-LC04-REC
KR3 Recreational Flows Proposal

OBJECTIVE

The Kern River No. 3 run-of-river hydroproject (KR3) diverts 605 cfs out of the North Fork Kern River (NFKR) at Fairview Dam into an artificial conveyance and does not return that water to the river until it reaches the KR3 Powerhouse just north of Kernville. The result is that 16 miles of river are dewatered — 15 of which have been federally designated with Wild & Scenic River status due to their outstandingly remarkable value in aesthetics, recreation, and wildlife. Since KR3 lacks any water storage, the project contributes nothing to our society's needs for flood control, agriculture, recreation, or the environment, and cannot target its generation for peak demand; it just constantly takes water out of the river.

This is by far the closest river to Southern California that offers the potential for perennially enjoyable flows of exceptional quality. As an additional benefit, this river is roadside, making for easy public access and widespread recreational use. The whitewater it hosts is world-class — when there's water. The North Fork Kern is a publicly owned treasure.

As shown in *Figure 10*, the Federal Energy Regulatory Commission (FERC) license that authorizes KR3 to divert water out of the NFKR creates a hydrograph below Fairview Dam that is unrecognizable in comparison to the natural inflows above the dam, damaging the health of the river's ecology and decimating the recreational opportunities it would otherwise afford the public.

Investor-owned utility Southern California Edison (SCE) is presently seeking a new license from FERC to encumber the North Fork Kern with its diversion at Fairview Dam for the next 40 years. FERC is charged with formulating the new license so as to balance the need for this source of electrical power against our society's needs for recreation and a healthy environment. In short, FERC must decide the highest and best use of this river in the public interest.

Kern River Boaters believes the highest use is to leave flows in the riverbed during times when electrical demand is low, wholesale electrical prices are cheap, and our grid has massive unused capacity from renewable generators. These times form the belly of the so-called "duck curve" (see Figure 25), when the glut of solar energy in our state is so great that renewable generators are "curtailed" — forced to stand down and stop generating — and are readily available to replace energy from KR3. CAISO reports an average curtailment of more than 1,600 MW during these hours that is available to replace KR3's average of just 19MW, as shown in Figure 22. At these times — daylight hours during the low-demand seasons of late winter and spring — the water at Fairview

Dam is far more valuable to Southern Californians being left in the river rather than being diverted into KR3's pipes; we just don't need excess power from KR3 at those times with other renewable generators standing by idle.

In light of these facts, Kern River Boaters has developed the following recreational flows proposal for the next KR3 license.

LICENSE CONDITION PROPOSAL

Recreational Flows: Between 6 a.m. and noon on the following days, SCE shall limit its diversion of water at Fairview Dam to no more than 45 cfs:

- "Long Weekends" (Friday, Saturday & Sunday) in February and March;
- Every Day in April, May & June;
- July 01 through July 05; and
- Weekends (Saturday & Sunday) in October & November.

Exceptions: SCE need not limit its diversion any day where the 6 a.m. hourly inflow reading at Fairview Dam two days prior is less than 400 cfs. SCE may divert all incoming flows at Fairview Dam over 2,000 cfs. Edison need not limit its diversion during an Emergency Energy Alert of Restricted Maintenance Operations or greater declared by the governing ISO.

RATIONALE

Scope. The current recreation regime affords boaters a small amount of extra water (150 cfs on average) on a small number of days (less than 8 a year on average). That is flatly inconsistent with the quality of the dewatered reach below Fairview Dam (world-class whitewater, roadside access, Wild & Scenic status) and the vast population it serves (Southern California). As Figure 11 shows, our proposal offers near-natural flows (all but 45 cfs) on an average of 63 days a year — a scope worthy of our community and our river.

Planning. Under the current regime, boaters cannot tell whether additional water will be afforded until midnight the day of the potential release, leaving most with no effective notice of the release. Such extremely late notice is anathema to planning. Our proposal offers two full days notice that additional water will be available. This will drastically improve the ability of Southern Californians to schedule and book commercial rafting trips and greatly benefit local businesses.

Timing. The additional water provided by the current recreational regime doesn't get to the popular Cables run until very late in the afternoon. Under our proposal, the full river

will be boatable by late morning and Cables will be runnable late into the afternoon. Our six-hour "bubble" of recreational flows is twice as long as that afforded at the South Fork American — the most popular and successful recreational regime in California, if not the entire country.

Peak Focus. Our proposal is focused on providing near-natural flows during the peak of the runoff season — every day in April, May, and June, when flows are historically at their highest, regardless of water year type. That maximizes all boaters' ability to enjoy this river, whether in rafts, kayaks, duckies, or innertubes. Nature sets the unique water level — low, moderate, or high — and boaters of all craft the opportunity to use it on their choice(s) of runs as they see fit. See our proposal's positive effects on hydrographs representative of varying water year types in Figure 13, Figure 14, Figure 15, Figure 16, Figure 17 & Figure 18.

Shoulder Season Boating. Our proposal provides for shoulder season boating opportunities on long weekends (Friday through Sunday) in February and March, and weekends in October and November. This affords this generation of Southern California boaters — and the next generation, and the one after that — the opportunity to hone their whitewater skills and grow the sport almost year-round.

Valuable Flows: Since the early 1990s, the NF Kern boating community, and local businesses, and American Whitewater have all seen strong value in providing lower flow whitewater recreation, when those are the only flows available, due to the unique geomorphic composition of the river as well as its heightened importance for Southern Californian boaters. In some years, low flows are all we get, and they're usually all we have during the shoulder seasons. Our proposal regains that lost value by providing additional water whenever flows reach 400 cfs, opening valuable opportunities for recreation in low water years and the shoulder seasons of others. It also recognizes that, as flows increase, the effects of KR3's diversion, which is capped at around 600 cfs, are less strongly felt. Our proposal accordingly permits Edison to divert flows below 400 cfs and above 2,000 cfs — though we continue to urge them not to divert water from the Upper Kern when wholesale prices are negligible and other renewable generators are available.

Targeted Energy Markets. As shown in Figure 19, Figure 22 & Figure 25, our energy market is characterized by the "duck curve," renewable curtailment, and times of low-to-negative wholesale energy prices — all of which are a consequence of the explosion of renewable generators in our grid footprint. CAISO explains that these phenomena — and

the opportunity they provide for keeping water in the Kern River — will only grow over time. Our proposal reduces KR3 output at times of the day and months of the year when energy demand and energy prices are at their lowest. In fact, as shown in Figure 12, implementing our proposal would cost Edison less than 4% of the wholesale revenue KR3 generates. The public interest is best served by leaving the water in the river when energy prices are that low.

Green Replacement Energy. Since our proposal is targeted at times when there is heavy curtailment (forced outages) of substantial renewable generators (daylight hours of low demand months), the energy needed to replace that lost by KR3 will likely be sourced from modern, green, sustainable generators. KR3 historically generates at an average rate of just 19 MW per hour during these times, while more than 1,600 MW of renewable generation sit offline, ready to backfill losses from KR3. The quantity of renewable generators ready for backfill will only grow over the next 40 years, according to CAISO.

Responsible Government Oversight. Kern River Boaters recognizes the historical importance of KR3 in our state's energy production. At its commissioning in 1921, the powerhouse was a symbol of innovation and new technology. But now, more than 100 years later, KR3's contribution has greatly decreased in importance and today contributes less than .04% of the state's energy, as shown in Figure 23, at great cost to the natural and social environments. Further, as shown in Figure 24, KR3 generates mostly in late winter and spring, when demand is low and modern renewables are forced to shut down for lack of demand. In 1921, little consideration was given the environment, whether for its contribution to society as place to "re-connect" with nature, or as a place for recreation. FERC should craft a 40-year license that recognizes these massive technological and cultural changes and not just fiddle around the edges of the *status quo*.

Stable Electric Bills. KR3 is not essential for dependable electrical service in the Kern River Valley. KR3 went offline for 16 consecutive months during the current term and electrical service was not disrupted since replacement energy was easily sourced from Delano through the Vestal transmission line. Nor did local bills go up, even though KR3 and its local sister plant (Borel) were offline at the same time. During the times our proposal asks for reduced generation, KR3 is usually *exporting* power out of the Kern River Valley. Our proposal permits Edison to continuously divert 45 cfs for power production to limit the need for imports. And at a wholesale revenue cost of less than 4% from this small generator and only minor increased transmission costs (see Figure 23 & Figure 24), our proposal offers no basis for Edison to seek higher electrical bills. Our

proposal ensures that the Kern River — and the local and regional communities it supports — thrive for the next 40 years.

No Blackouts. As Figure 20 shows, our proposal is focused on leaving water in the river at times when electrical demand is low and excess renewable generation capacity is available. We value electricity, so our proposal asks for no water when demand and/or the threat of loss-of-load (blackouts) are at their highest: mid-July through the end of September. Nor does it ever ask for water during the all-important evening net energy ramp. And our proposal allows SCE to divert all the water it can during any power warning or emergency. Our proposal focuses on times when our grid is threatened by the risk of over-generation (as reflected in low market prices and curtailments); it never impacts times of under-generation.

Corporate Responsibility. The heart and soul of the Kern River Valley is the river itself, not only for boaters, but also for families to camp on, fish on, swim in, hike along, or simply sit on its banks and enjoy its natural beauty. It is also a major economic resource to the local community. More visitors would come and enjoy the community if its river was not so exceedingly dewatered by KR3 as it is today. Indeed, most people who love this valley support returning this river to its natural state. Sadly, due to (in our opinion) antiquated FERC regulations, that dream is not presently on the table. KRB nevertheless encourages SCE to give meaning to its stated Environmental Mission goals of "protecting natural and cultural resources." We hope the company "protects biological and cultural resources and restores and preserves habitats" while seeking this license. In its Community Mission Statement, SCE claims it uses "shareholder funds from our parent company, Edison International, [to] support local organizations that help our communities shine bright." Supporting our proposed recreational flows would show Southern California and the Kern River community that SCE stands behind what it says.

Community Development. The Kern River brings life to the Kern River Valley. It provides an incredible setting in which to live and is the heartbeat of the local economy. Kernville in particular touts itself as the "Whitewater Capital of the West." There is a hunger in Southern California for more boating opportunities on the Upper Kern — meaning more dollars spent locally and more jobs for residents. Unlocking our river's potential will lead to local prosperity that is currently locked away in a diversion for midday energy we don't need.

Feasibility. Our proposal is eminently feasible. The current regime results in a "bubble" of flow; our proposal has one as well, but better timed and triggered. Ours allows the

public and SCE 48 hours notification to plan accordingly. Our proposal is targeted at times of the solar glut when wholesale electrical prices are low or negative and replacement energy would come from curtailed renewables. The water of the Kern is more valuable to society in the river than in Edison's tunnels at these times. Our proposal permits Edison to always divert 45 cfs to permit continuous generation and mitigate small losses from the transmission of imports. (Of course, although our proposal does not require it, we urge Edison not to divert this water if other renewable generators are available.) Finally, our proposal reduces the wholesale revenue generated by KR3 by less than 4% to radically increase this river's recreational potential in the public interest. We ask the managing agencies and SCE itself to support and implement our proposal for the next 40 years of KR3 operation.

Our KRB-LC04-REC proposal was developed in conjunction with the boaters of the NF Kern, has received the support of the Kern River Conservancy, Whitewater Voyages, and Momentum River Expeditions, and a change.org petition for the adoption of our proposal has received 622 signatures as of late September 2024.

Figure 10. Project Effects, Median Water Year

This graph depicts flows above & below Fairview Dam for the median water year of the SCE dataset, 2018. The difference in flows is wholly attributable to the diversion of water into the KR3 hydroproject, dewatering 16 miles of river below the dam. Source: SCE WR-2 Hydrology Hourly Dataset (2023). KRB-DLA-ISR, Sheet 10.

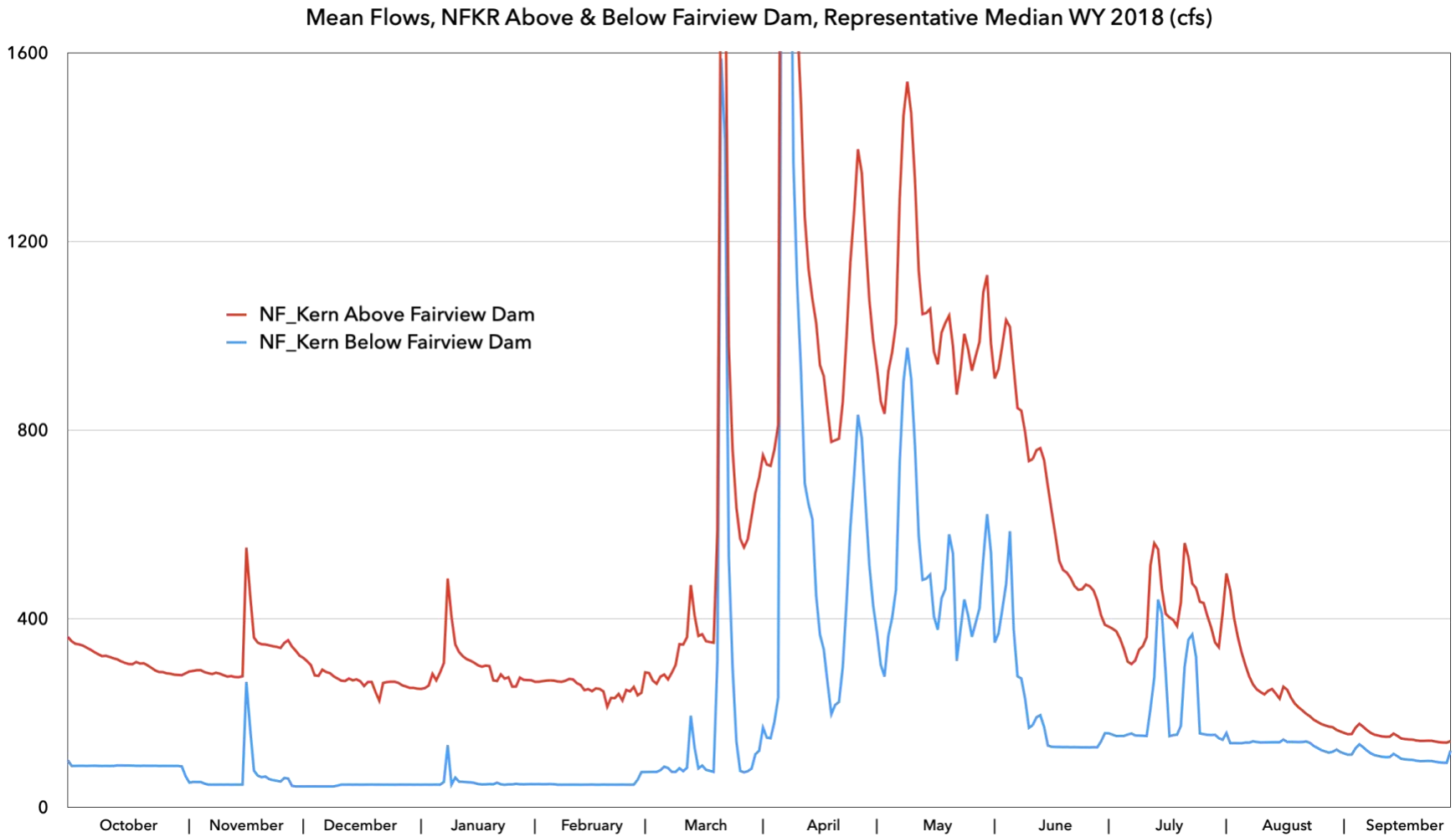


Figure 11. Proposal: Days With Additional Water

This chart depicts the average numbers of days per month the KRB Rec Flows proposal would provide additional water for recreation. Source: SCE KR3 Hydrology Dataset (2023). KRB-DLA-REC, Sheet 2.

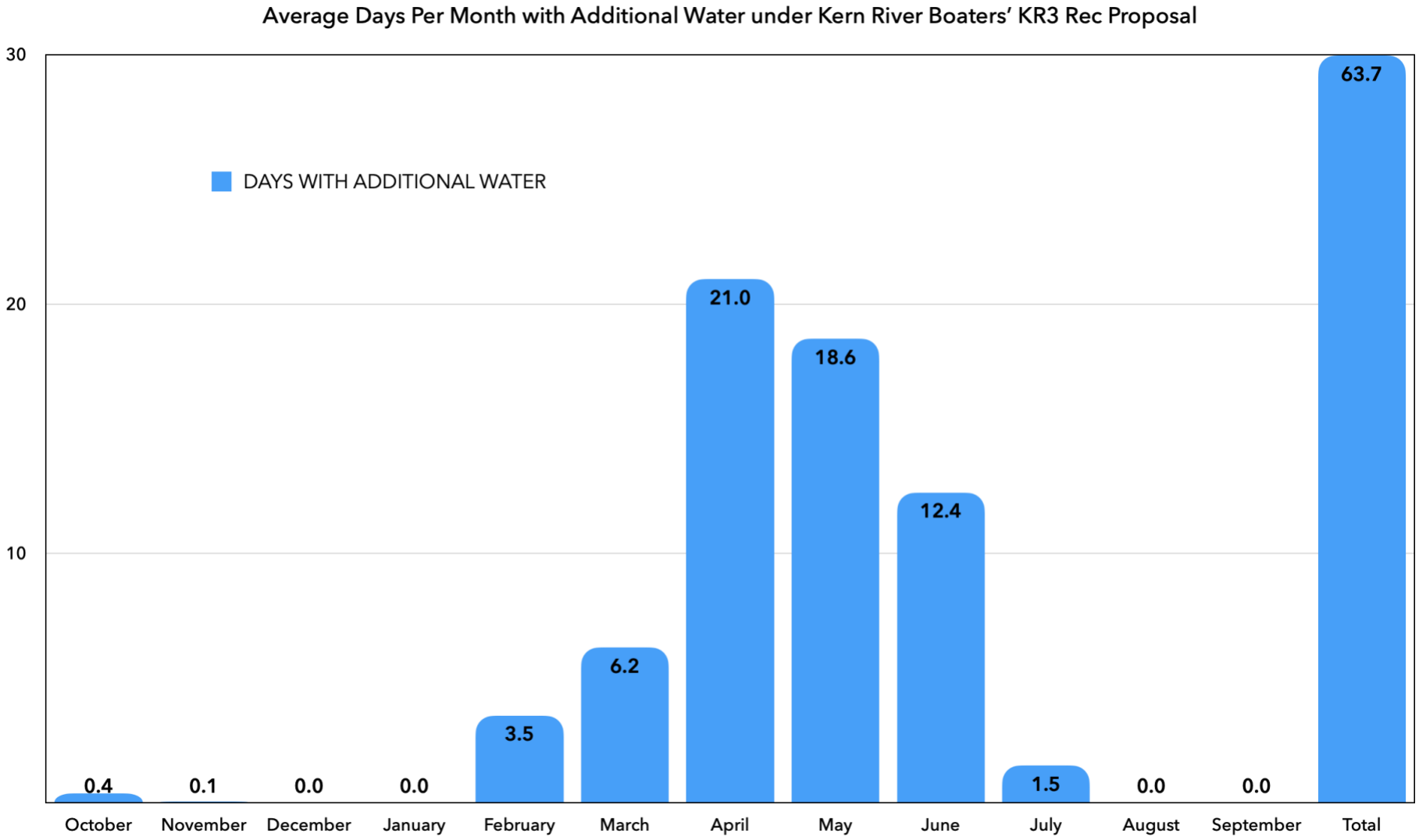


Figure 12. Proposal Energy Cost

Our proposal provides an annual average of 67 Rec Day releases (additional water) at near-natural flows (all but 45 cfs) during times when energy prices are low and replacement energy is likely to be provided by otherwise-curtailed renewable generators at a cost of less than *4*% of revenue. Source: CAISO (http://oasis.caiso.com/mrioasis/logon.do) & SCE KR3 Hydrology Dataset (2023). KRB-DLA-REC, Sheet 2.

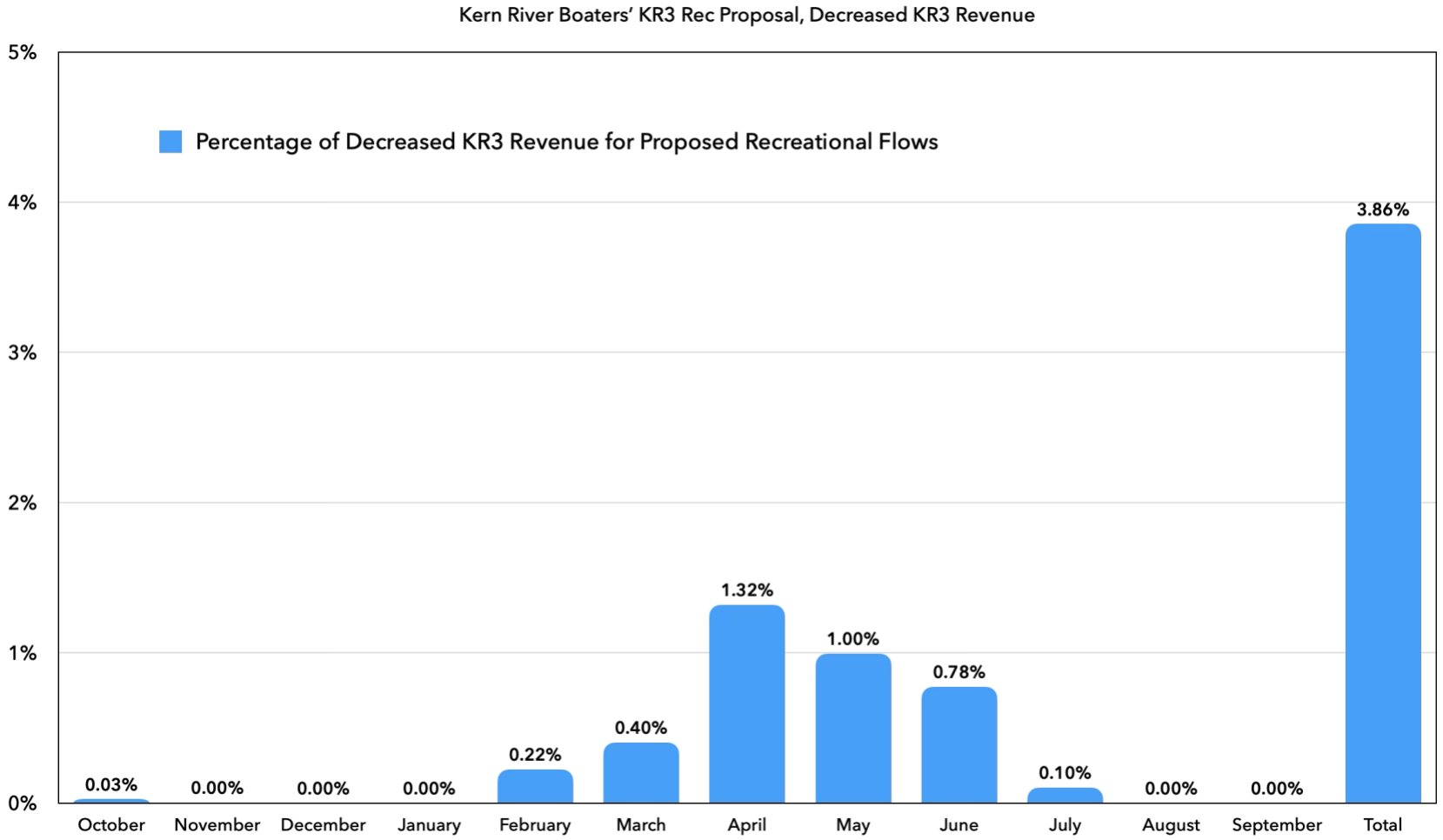
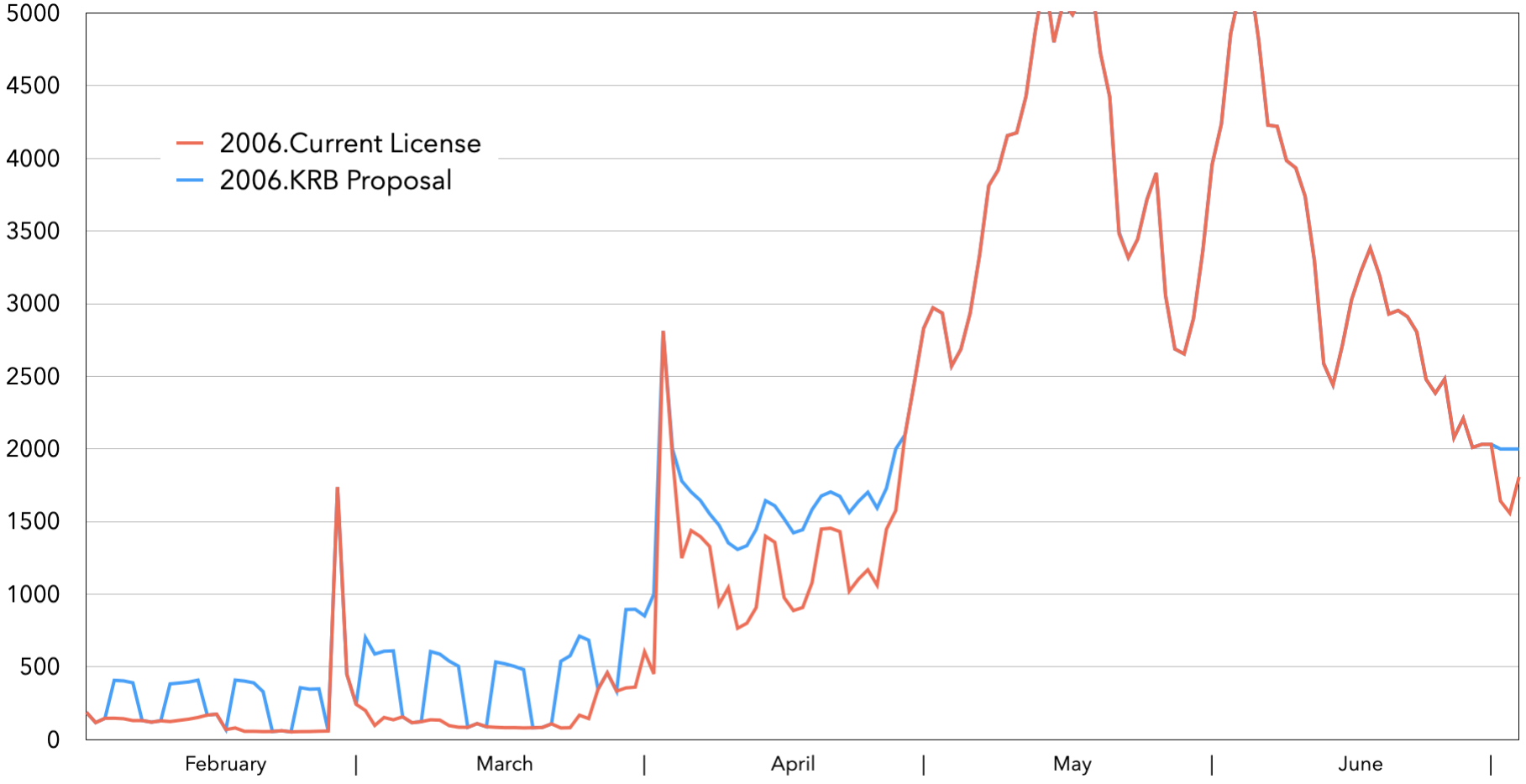


Figure 13. Flow Comparison, Wet Year 2019
This chart compares flows below Fairview Dam under the current license against those our proposal would provide, using the representative "Wet" water year of 2019. KRB-DLA-REC, Sheet 1.

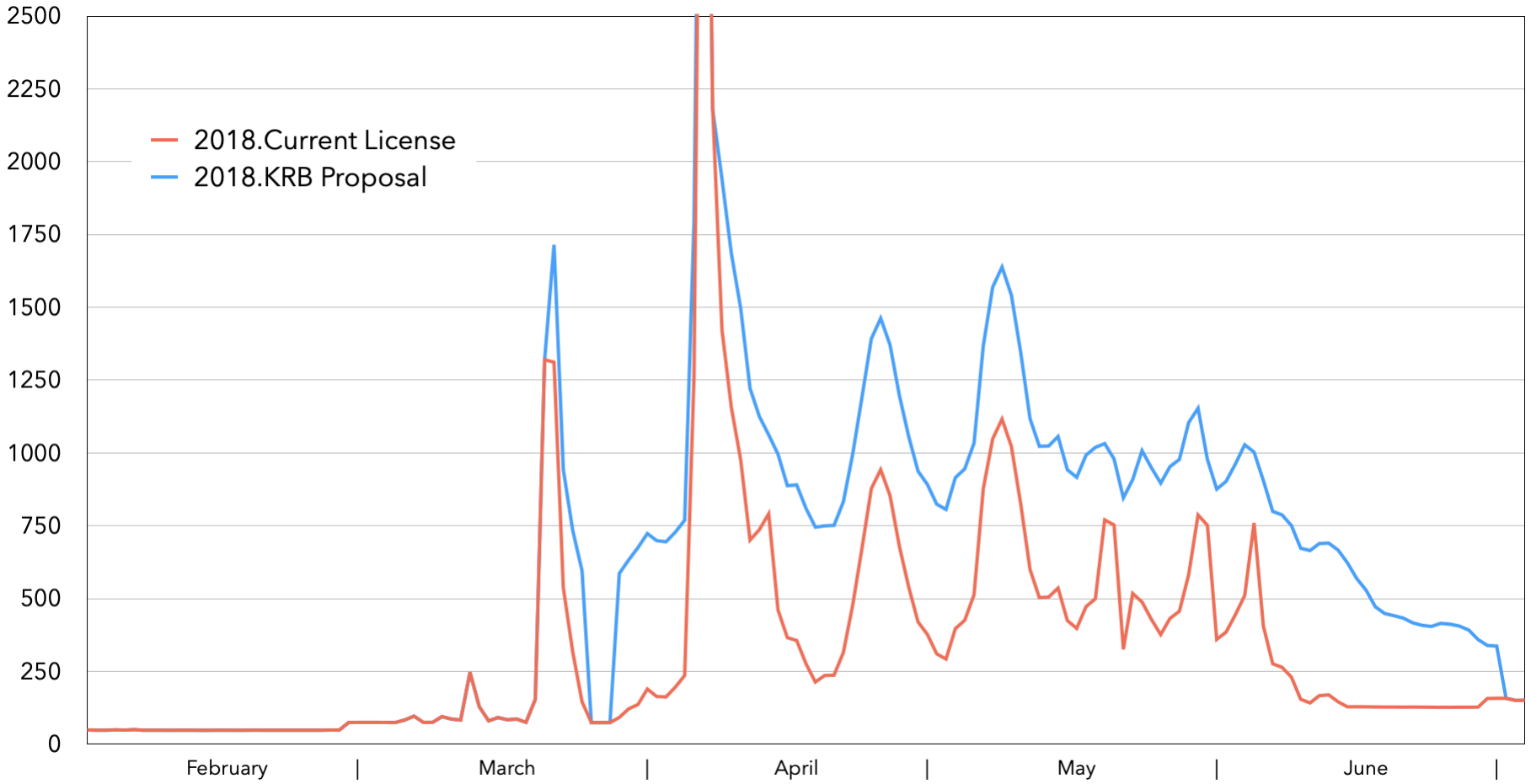
Source: SCE KR3 Hydrology Dataset (2023), KR3 License

Figure 14. Flow Comparison, Wet Year 2006
This chart compares flows below Fairview Dam under the current license against those our proposal would provide, using the representative "Wet" water year of 2006. KRB-DLA-REC, Sheet 1.



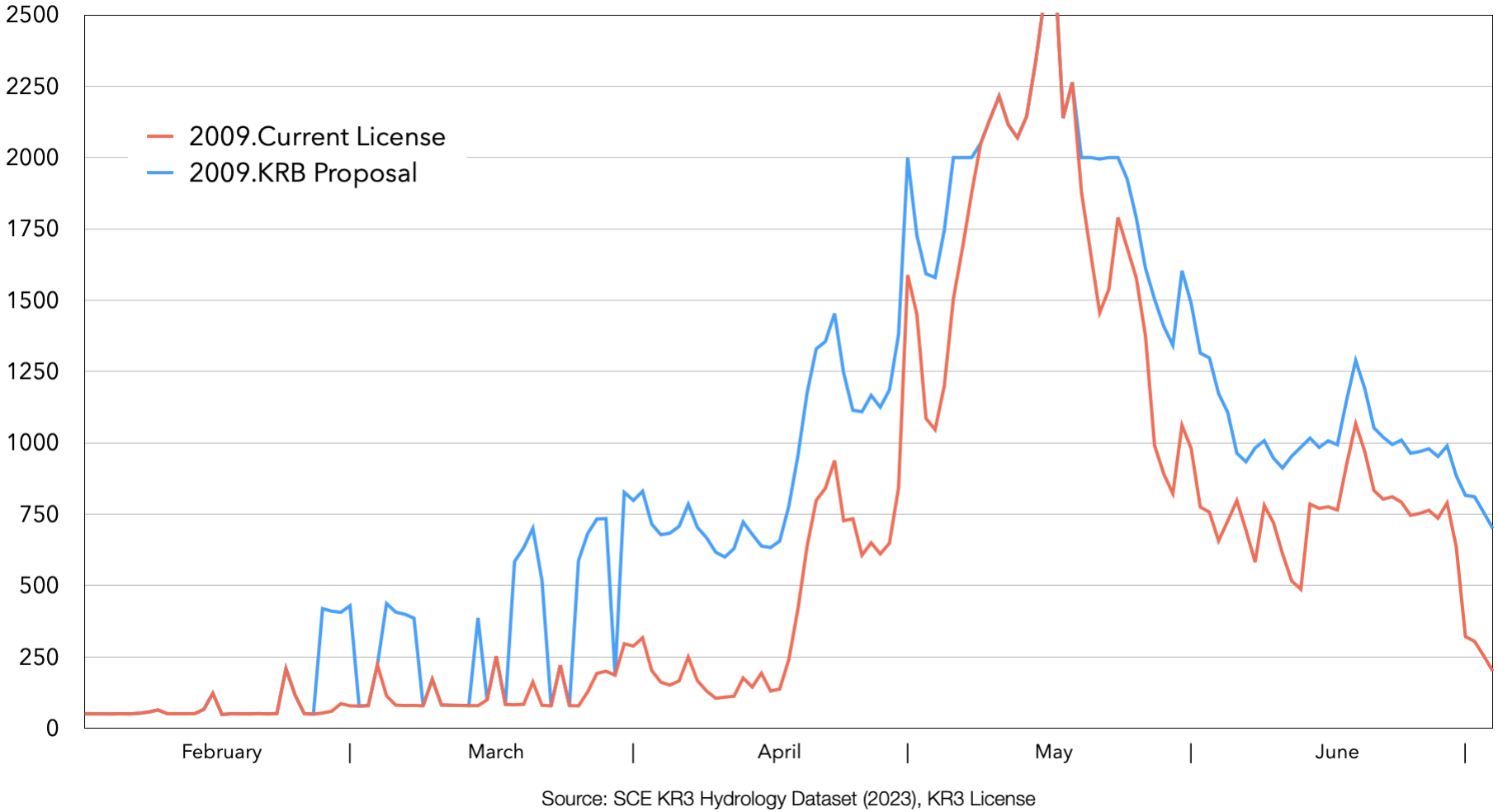
Source: SCE KR3 Hydrology Dataset (2023), KR3 License

Figure 15. Flow Comparison, Moderate Year 2018
This chart compares flows below Fairview Dam under the current license against those our proposal would provide, using the representative "Moderate" water year of 2018. KRB-DLA-REC, Sheet 1.



Source: SCE KR3 Hydrology Dataset (2023), KR3 License

Figure 16. Flow Comparison, Moderate Year 2009
This chart compares flows below Fairview Dam under the current license against those our proposal would provide, using the representative "Moderate" water year of 2009. KRB-DLA-REC, Sheet 1.



Source: SCE KR3 Hydrology Dataset (2023), KR3 License

Figure 17. Flow Comparison, Dry Year 2013
This chart compares flows below Fairview Dam under the current license against those our proposal would provide, using the representative "Dry" water year of 2013. KRB-DLA-REC, Sheet 1.

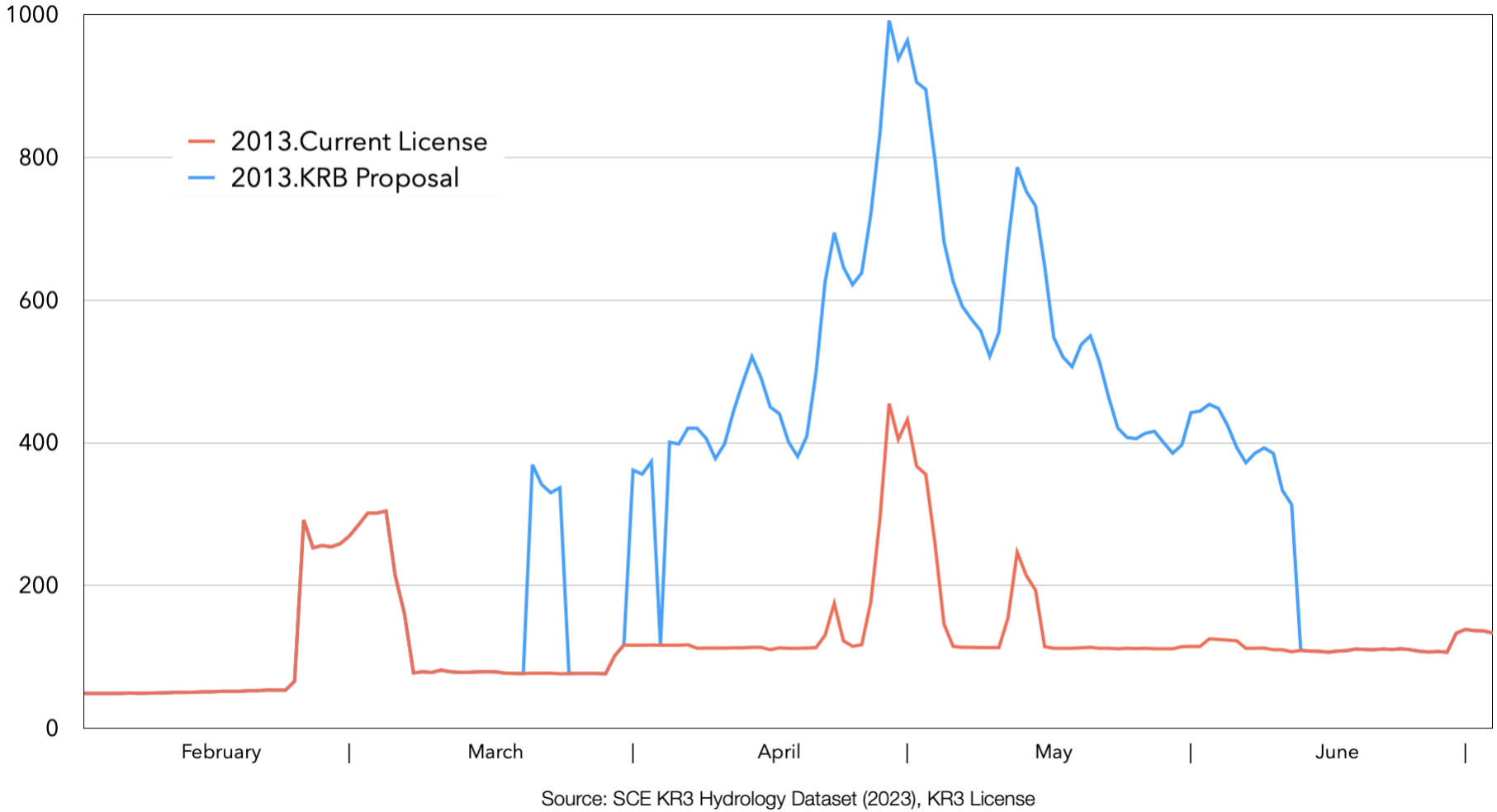


Figure 18. Flow Comparison, Dry Year 2007
This chart compares flows below Fairview Dam under the current license against those our proposal would provide, using the representative "Dry" water year of 2007. KRB-DLA-REC, Sheet 1.

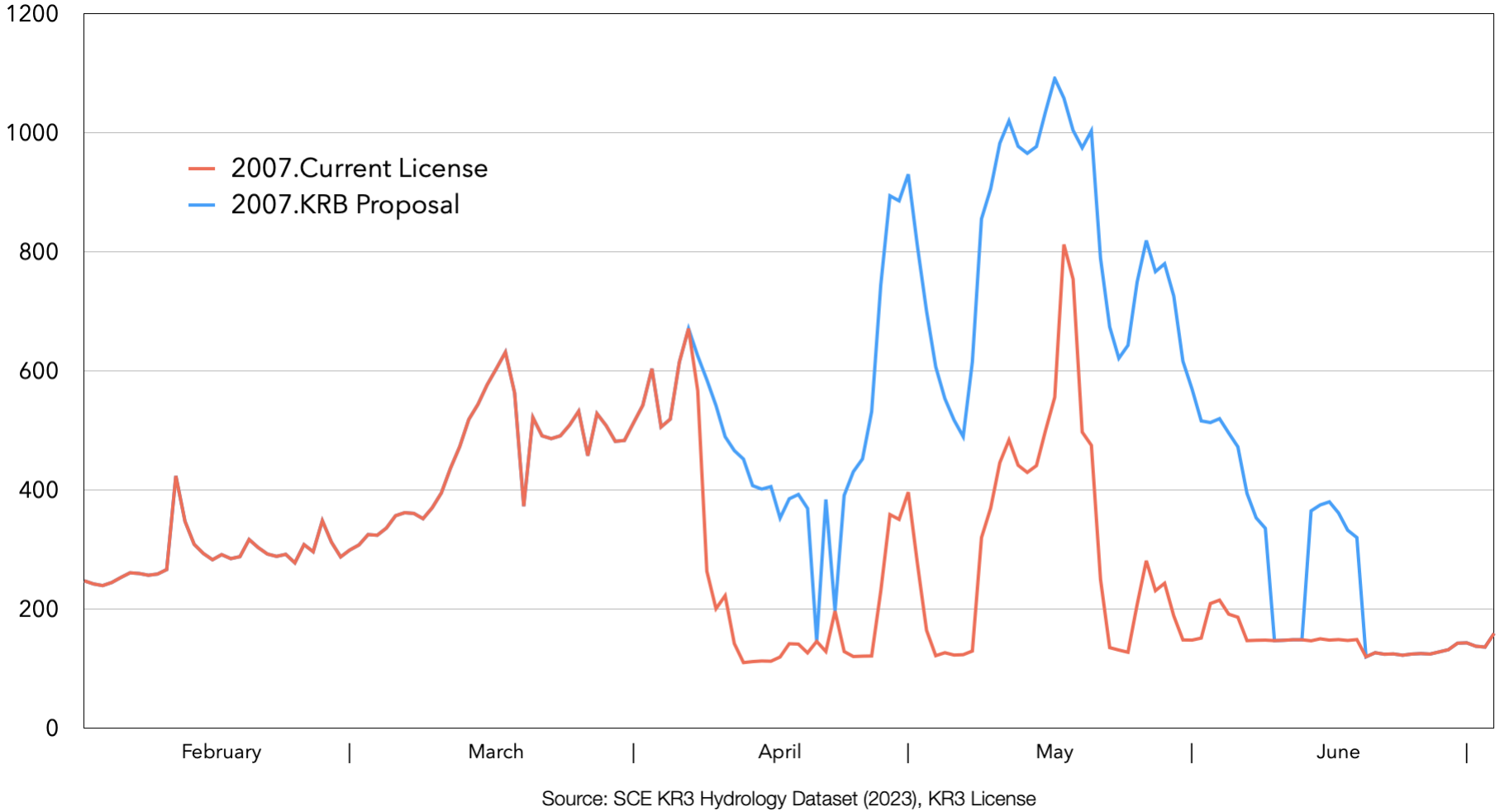


Figure 19. Peak Solar Hours (9a-3p) Electricity Pricing
This graph depicts the average price per Megawatt-hour of electricity at the CAISO node closest to KR3 over the last three full years, broken out by times of curtailment (9a-3p) against all other hours and by weekends against weekdays. Source: CAISO (http://oasis.caiso.com/mrioasis/logon.do). KRB-DLA-REC, Sheet 3.

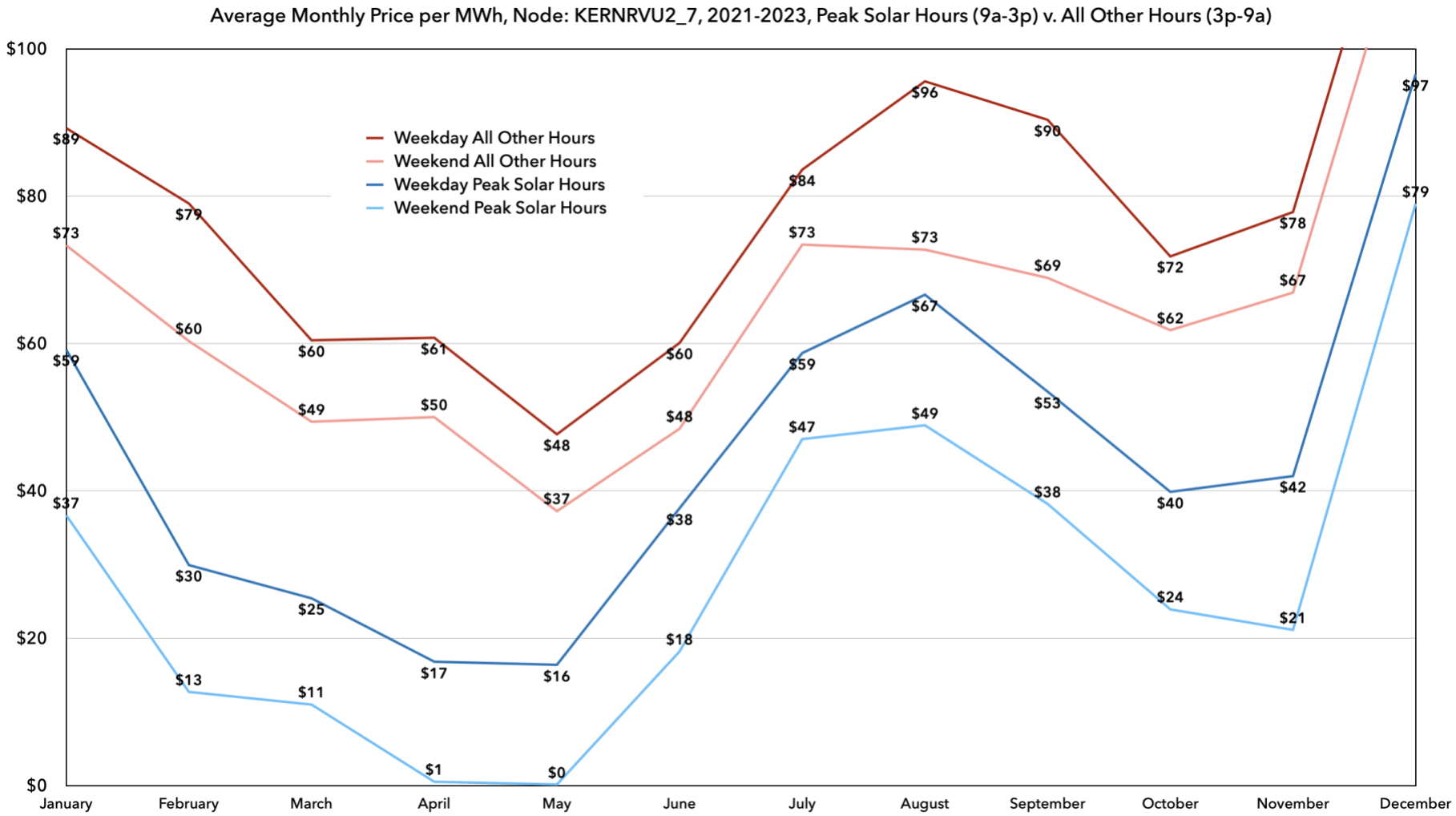


Figure 20. KRB Rec Proposal Targets Low Energy Prices
This graph, using the same data as Figure 10, shows the times of day and year the KRB Rec Proposal asks for a reduction in the KR3 diversion at Fairview Dam. KRB-DLA-REC, Sheet 3.

Figure 21. "Renewable Curtailment" (Shutting Down Solar + Wind) Is Increasing

This graph depicts the average hourly curtailment of renewable generators in the CAISO footprint by month. According to CAISO: "Curtailment is the reduction of output of a renewable resource below what it could have otherwise produced. . . . [T]he issue is expected to intensify in the coming years . . . . [We should] explore policies to reduce minimum operating levels for existing generators, thus making room for more renewable production." KRB-DLA-NRG, Sheet 1.

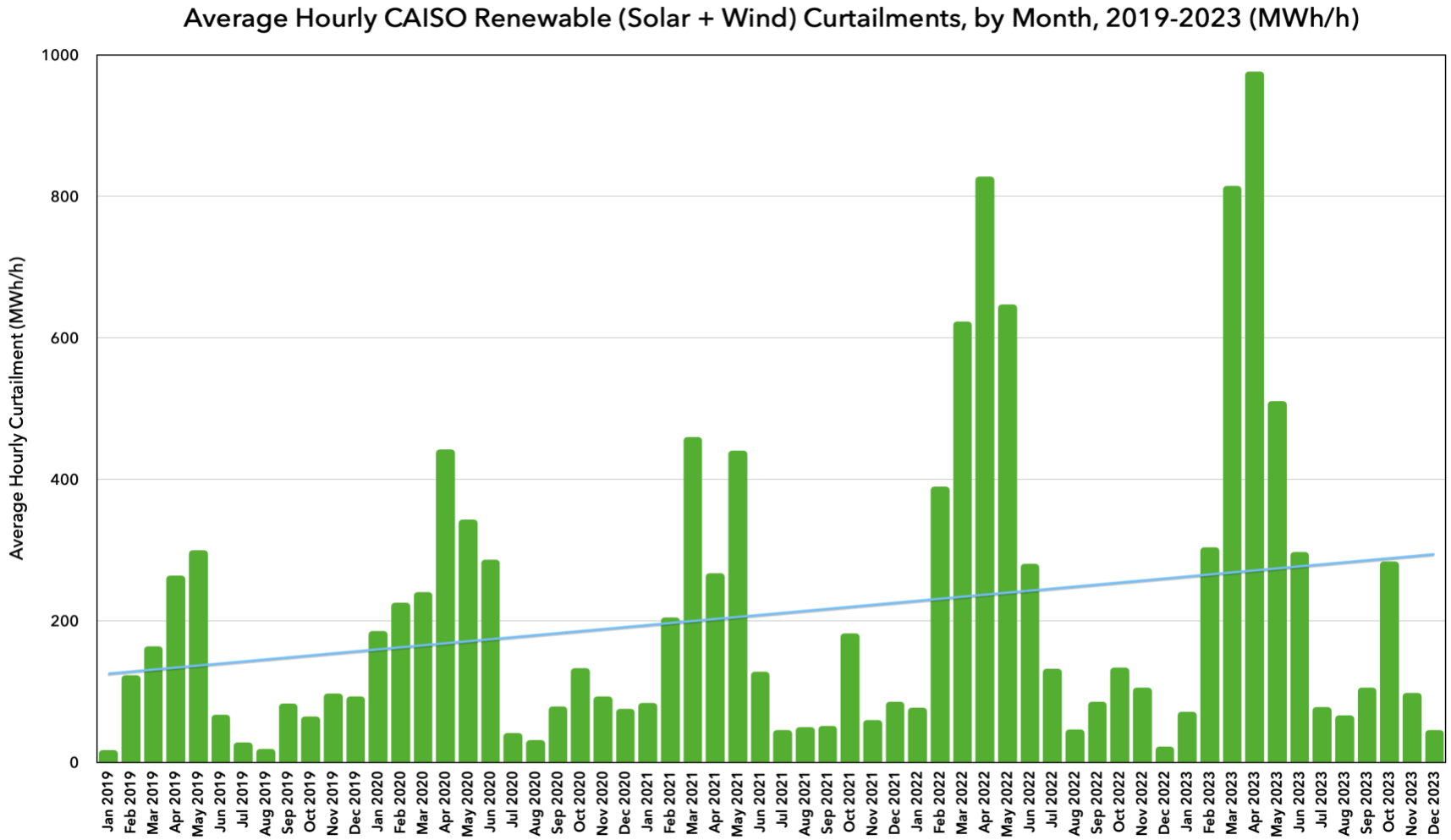


Figure 22. 9a-3p, February to June, Renewable Curtailments Dwarf KR3 Generation
This Chart depicts the hourly average of renewable curtailment in the CAISO grid for FEB-JUNE of the year 2023. It shows a vast excess in generation potential during daylight hours (9a-3p) due to wind and solar generators, who are forced to go offline, and who dwarf the average generation of KR3. The scale of renewable curtailments— but not the average rate of KR3 generation during these months (19.1 MW) — will keep increasing into the future. KRB-DLA-NRG, Sheet 1.

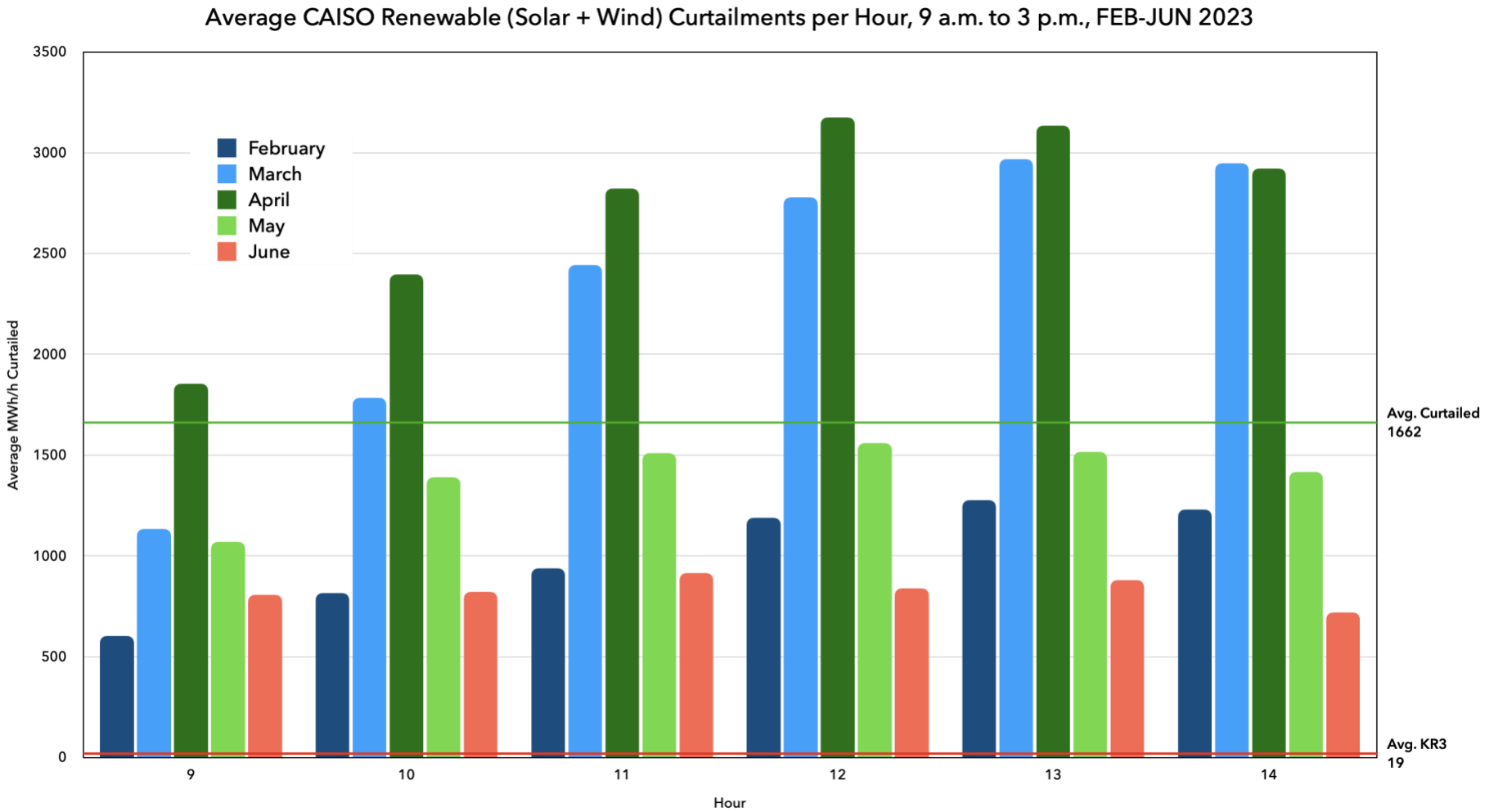
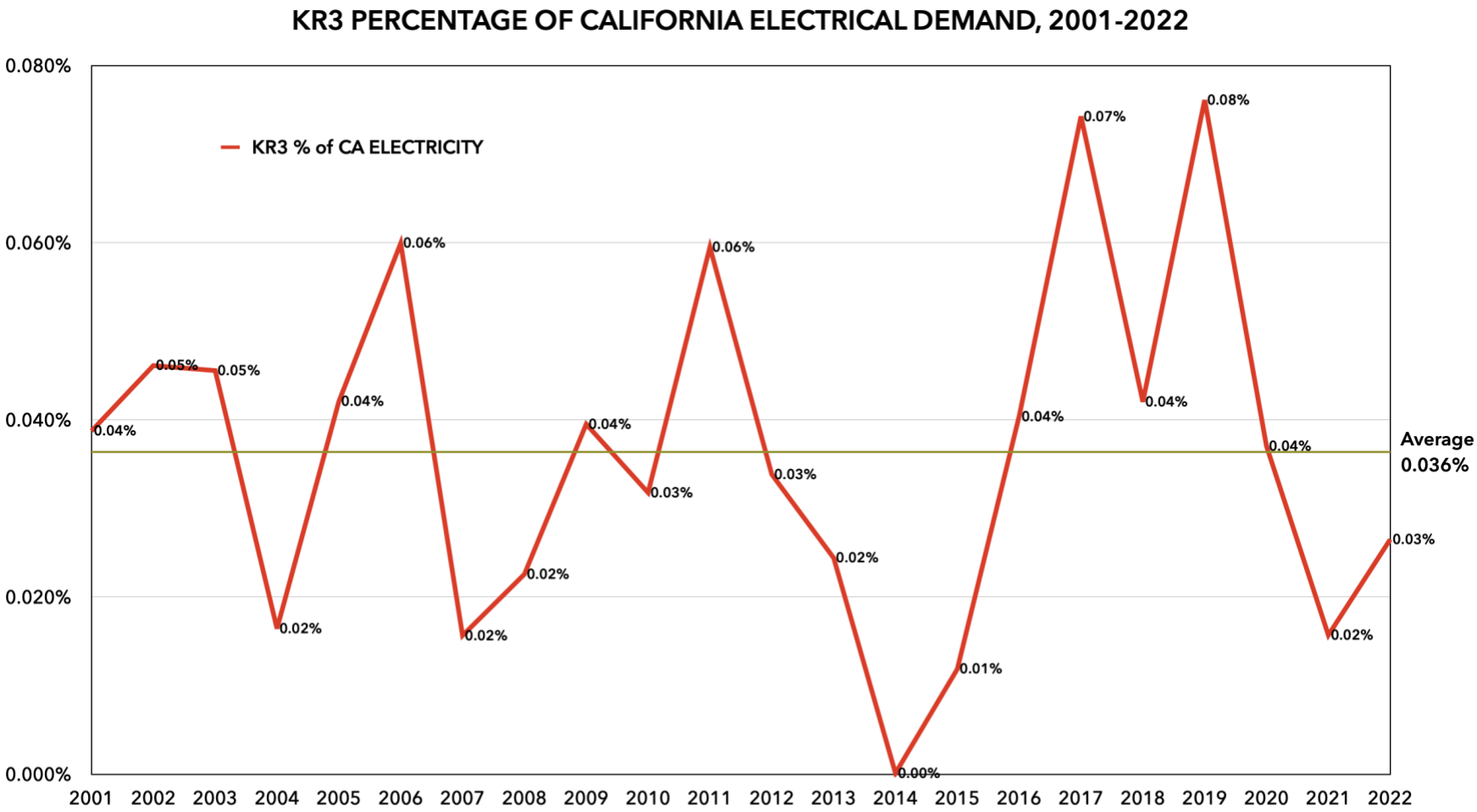


Figure 23. KR3's Annual Contribution to the California Grid

The following graph illustrates KR3's share of contribution to the California grid the last several decades, amounting to just under 1-part-in 3000. Note: As shown below, KR3 generated nothing in 2014, and electrical service in the Kern River Valley was unaffected.



SOURCE: CALIFORNIA ENERGY COMMISSION (https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/california-electrical-energy-generation)

Figure 24. KR3's Monthly Contributions to the Grid
This graph depicts the fact that KR3 generates the bulk of its electricity in spring — when demand is low and more modern renewable generators (wind + solar) are being curtailed — because KR3's "fuel" is snowmelt. KRB-DLA-NRG, Sheet 2.

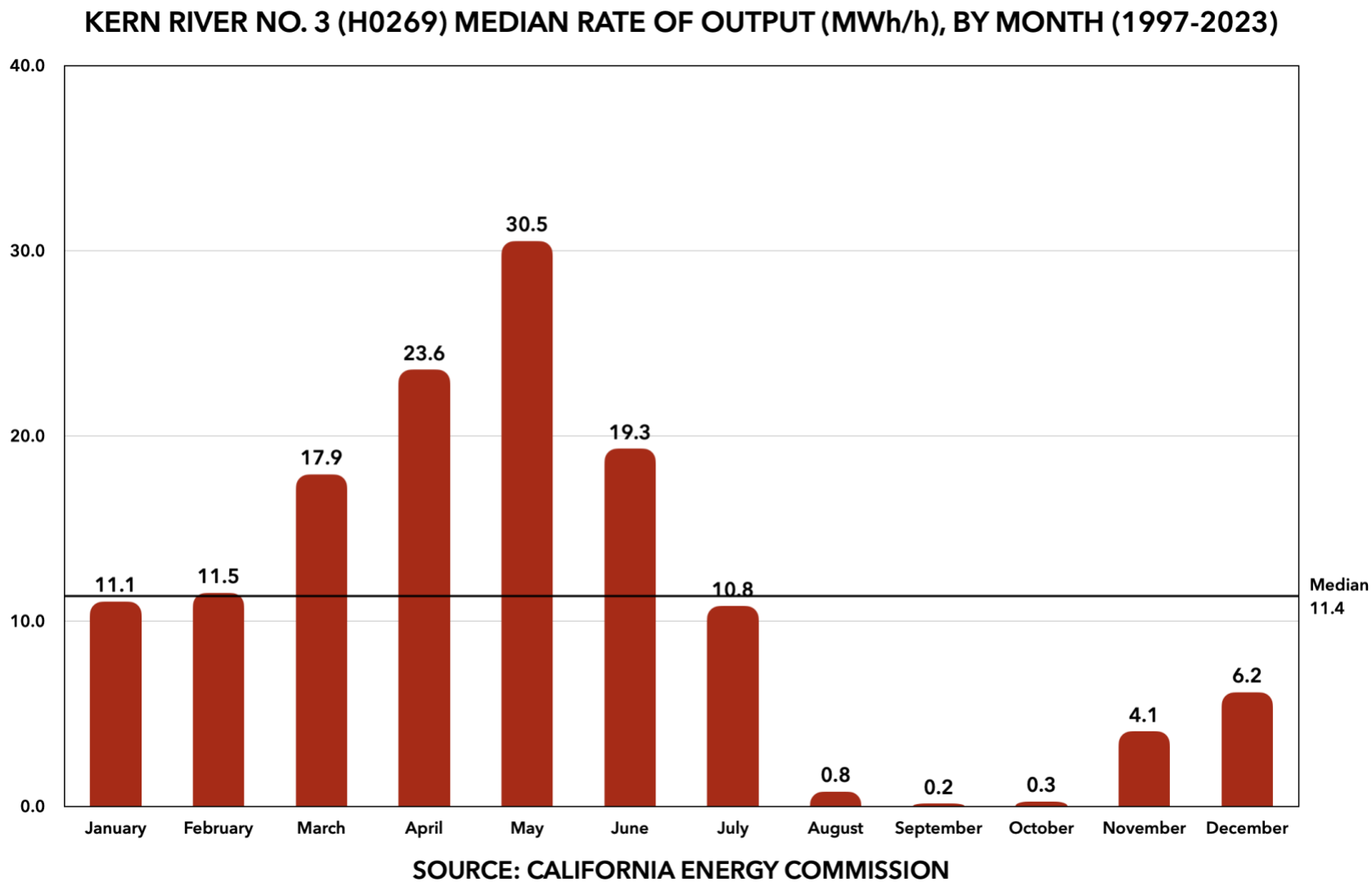
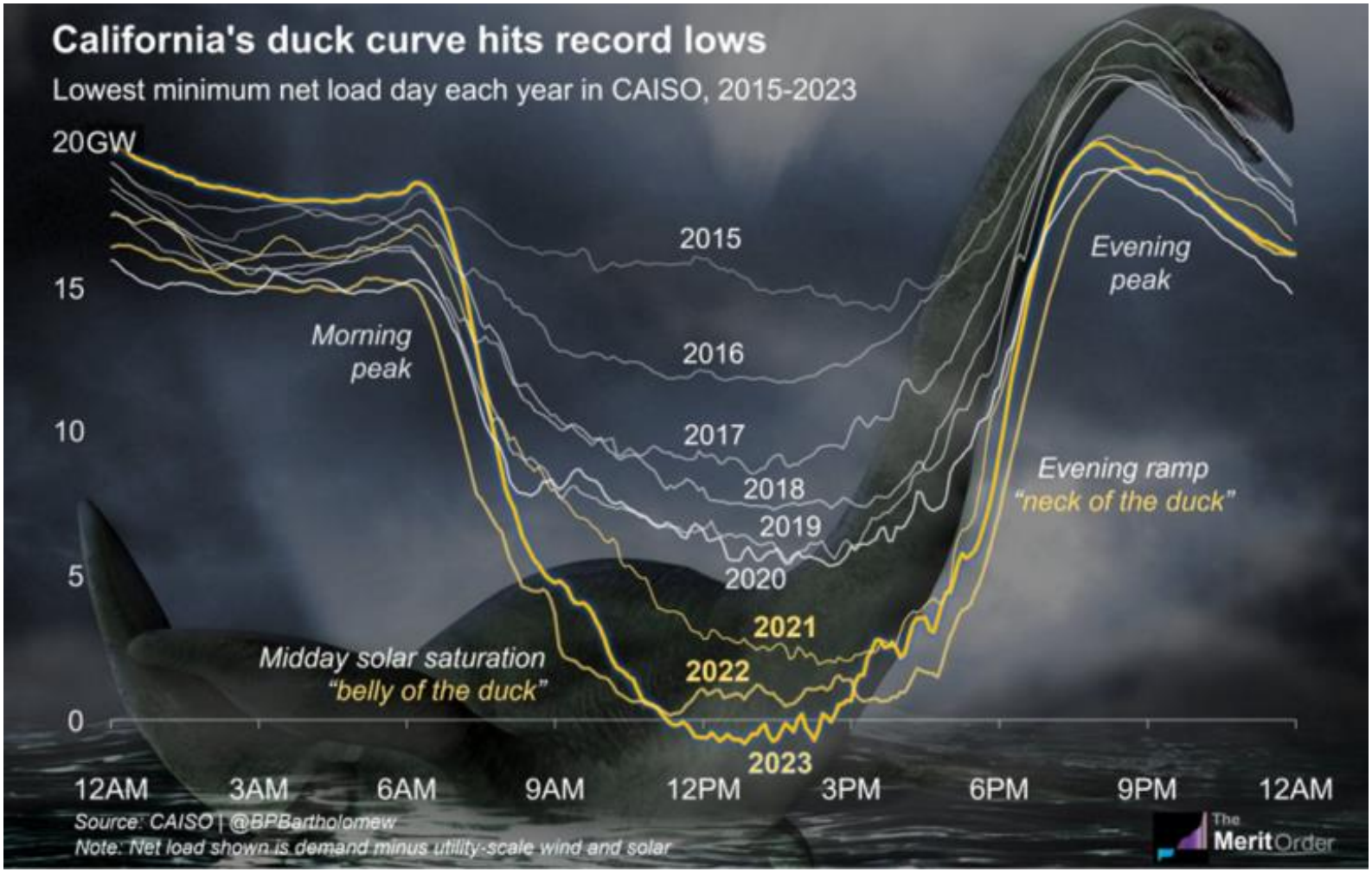


Figure 25. The "Duck Curve."

The “duck curve” is driven by the ever-increasing deployment of renewables, resulting in low (sometimes negative) wholesale energy prices and the threat of overgeneration. Source: Caiso.com; Illustration: Masterresource.org.



KRB-LC05-FUND
KR3 Decommissioning Fund

KRB puts forward the following License Condition Proposal: Establishing a Decommissioning Fund for Southern California Edison's Kern River No. 3 (KR3) Hydroelectric Project.

Rationale for a Decommissioning Fund

The Kern River No. 3 (KR3) project, originally constructed in 1921, continues to operate under an increasingly outdated infrastructure. While it has provided electricity and economic benefits in the past, the project now faces mounting environmental and operational challenges, compounded by the diminishing returns of its energy contribution to California's power grid. SCE itself has acknowledged the high costs associated with decommissioning the project, which introduces a bias in favor of continued operation, even when it may no longer align with public and environmental interests. Given these concerns, this proposal calls for a decommissioning fund as a condition for any new license issued to SCE by the Federal Energy Regulatory Commission (FERC).

The purpose of this decommissioning fund is to remove financial disincentives for Southern California Edison (SCE) to continue operating the project when decommissioning may better serve public and environmental interests. By requiring SCE to establish and maintain such a fund, the financial burden of decommissioning can be addressed proactively, ensuring that any decisions about the future of KR3 are made based on ecological sustainability, operational feasibility, and public benefit, rather than cost avoidance.

Legal Basis for Decommissioning Fund Under FERC's Authority

Under the Federal Power Act (FPA) and subsequent FERC regulations, hydropower licenses must serve the public interest by balancing energy production with environmental protections. FERC has the authority to impose conditions on license renewals, including those designed to mitigate environmental harm, protect public resources, and ensure the long-term sustainability of project operations. The decommissioning of projects that are no longer viable or whose environmental impacts outweigh their benefits falls within FERC's purview, as seen in PacifiCorp's Condit Dam case and the Edwards Dam decommissioning precedent.

In *Southern California Edison v. FERC*, it was established that FERC's primary responsibility is to ensure public benefit, even when this conflicts with the licensee's financial concerns. A decommissioning fund condition is consistent with this obligation, as it ensures that SCE cannot indefinitely defer decommissioning purely to avoid financial costs while continuing

to operate an environmentally harmful or economically nonviable project. FERC's decisions must balance SCE's operational capacity with the protection of natural resources, community health, and environmental justice.

Proposed License Condition:

The Licensee shall establish and maintain a decommissioning fund as a precondition for license renewal. This fund will ensure that adequate financial resources are available to cover all costs associated with the future decommissioning of the KR3 project, including but not limited to physical removal, environmental restoration, mitigation of social and economic impacts, and regulatory compliance. The purpose is to remove any financial disincentive to decommissioning and to ensure that project operations are weighed solely based on environmental, operational, and public interest factors.

Amount of the Fund:

1. Initial Calculation:

The decommissioning fund shall be calculated based on an independent, third-party audit of decommissioning costs, including physical dismantling, environmental remediation, restoration of affected river ecosystems, and regulatory compliance. The audit must take into account:

- Costs of Physical Removal: Removal of KR3 infrastructure, including the Fairview Dam, associated pipelines, turbines, and any other structures related to the project.
- Environmental Restoration: Costs of restoring the North Fork Kern River (NFKR) and surrounding riparian areas to pre-dam conditions, including sediment management, flow restoration, and habitat reconstitution for native species (e.g., the Kern River rainbow trout).
- Socioeconomic Mitigation: Consideration of the economic impact on the local community, including costs of worker retraining, recreation restoration, and other community investments.
- Regulatory Compliance: Compliance with all federal, state, and local environmental and safety regulations governing decommissioning, as well as mitigation measures as defined by the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA).
- Inflation and Risk Adjustment: A financial adjustment shall be made to account for inflation, uncertainties, and potential cost overruns. An additional 20-25% contingency buffer is recommended to cover unforeseen circumstances.

2. Review and Adjustment:

- The amount of the decommissioning fund shall be subject to review every five years by FERC to account for inflation, regulatory changes, and any adjustments in the

scope of decommissioning efforts. This review must be based on updated cost assessments and market conditions.

- Any shortfall identified during these reviews must be rectified by SCE within 90 days of notice from FERC.

Mechanism of Fund Maintenance:

1. Trust Fund Setup:
   - SCE shall establish a third-party managed trust dedicated to decommissioning KR3. This ensures that the funds are segregated from SCE's operational finances and cannot be accessed for other purposes.
   - The third-party trustee shall be an independent financial institution with experience managing environmental or utility decommissioning funds. The trustee shall act under FERC's oversight and ensure that all withdrawals from the fund are used solely for decommissioning purposes.
2. Contributions and Timing:
   - SCE shall make an initial contribution equal to 50% of the estimated decommissioning cost (as determined by the independent audit) at the time of license renewal.
   - SCE shall then make annual contributions for the duration of the license term, equal to 5% of the remaining decommissioning cost each year, to ensure that the fund is fully established before the project reaches its end of life.
3. Penalties for Non-Compliance:
   - Should SCE fail to make its required annual contributions, FERC reserves the right to impose financial penalties or revoke the project license.
4. Disbursement:
   - Funds may only be disbursed upon a formal decommissioning order from FERC or other regulatory agencies. The release of funds must follow an established decommissioning plan that ensures compliance with environmental, economic, and social mitigation measures.

Triggers for Decommissioning Review:

The condition shall also specify that FERC must initiate a decommissioning review process if any of the following triggers occur:

1. Economic Viability:

If SCE's annual reports to FERC indicate that KR3 is no longer economically viable (*e.g.*, operational costs exceed revenue generation, or energy contribution becomes negligible within the CAISO grid), a formal review of decommissioning must be initiated. This includes recalculating whether continuing operations serves the public interest.

2. Environmental Harm:
Any substantial ecological harm demonstrated through monitoring programs (*e.g.*, fish mortality, increased water temperatures, significant sediment build-up) shall trigger FERC to evaluate whether continued operation is justified, or if decommissioning would better serve environmental goals.

3. Changes in Regulatory Frameworks:
Should state or federal environmental standards become more stringent (e.g., requiring higher minimum instream flows, stricter water quality standards), and KR3 is unable to comply cost-effectively, FERC must review the option of decommissioning.

Reporting Requirements:
SCE shall submit annual reports to FERC detailing the status of the decommissioning fund, including:

- Current fund balance.
- Adjustments made for inflation or other financial changes.
- Progress on meeting any conditions that may require decommissioning.

Rationale for the Fund:
The KR3 project is approaching the end of its useful life. Operational and environmental costs now outweigh the benefits, as evidenced by:

- Marginal energy contribution to California"s renewable energy grid, as seen in the variability and decreasing reliability of KR3 output.
- Ecological damage caused by reduced minimum instream flows, negative impacts on fish populations, sedimentation, and water temperature increases in the North Fork Kern River.
- Socioeconomic and environmental justice concerns, with disproportionate impacts on marginalized communities and outdoor recreation opportunities for low-income families.

The decommissioning fund ensures that SCE does not prioritize cost avoidance over the public interest and environmental sustainability, particularly if the project's viability diminishes further. A well-funded decommissioning trust secures the ability to transition away from KR3 while restoring river health and providing just transitions for affected communities.

Conclusion:

The establishment of a decommissioning fund as a license condition is consistent with FERC's statutory mandate to protect public and environmental interests under the Federal Power Act. It aligns with precedent set in other decommissioning cases and ensures that Southern California Edison bears the appropriate financial responsibility for the future of the KR3 project. This proactive step will prevent SCE from using decommissioning costs as an internal rationale for continued operation, instead enabling responsible decision-making that prioritizes ecological integrity and the public interest.

KRB-LC06-HATCH
KR3 Hatchery Flow Proposal

Purpose:
This condition mandates that the MIF be fully met before any water is diverted for hatchery flow or power generation. This ensures the protection of the river ecosystem, particularly in periods of low inflow, ensuring that the North Fork Kern River (NFKR) below Fairview Dam receives adequate water to maintain aquatic health and sustain riparian habitats.

Hatchery Flow vs. Minimum Instream Flow (MIF)

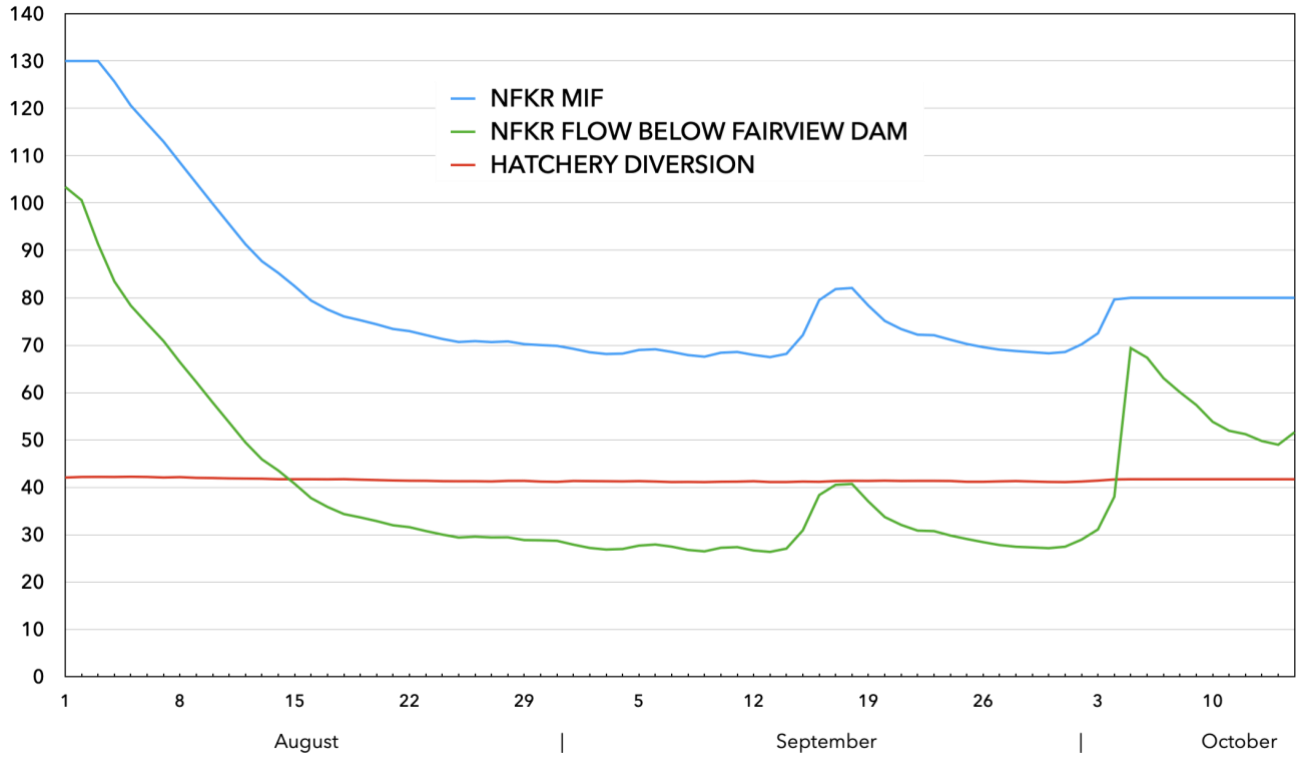
1. Current Hatchery Flow:

- The hatchery flow at KR3 is set at 45 cfs when SCE's operational buffer is included, ostensibly to provide water to the Kernville Hatchery and meet the minimum power generation requirements of the KR3 powerhouse.
- However, data from CDFW (California Department of Fish and Wildlife) indicate that the hatchery's operational needs are significantly lower — closer to 20 cfs during critical periods. The additional flow above that amount is used for power generation, not for the needs of the hatchery.

2. Minimum Instream Flow (MIF):

- The MIF is designed to protect the aquatic ecosystem, maintain habitat for fish populations, control water temperature, and ensure adequate DO levels, particularly during low-flow years.
- Unlike every other river in America, the "M" in the KR3 MIF isn't a true minimum; it can be reduced by the "hatchery flow" diversion. Since the MIF is subordinated to the hatchery flow, it can cause flow reductions to ecologically dangerous levels, especially during peak summer months, as evidenced by 2021 flow data.[38]

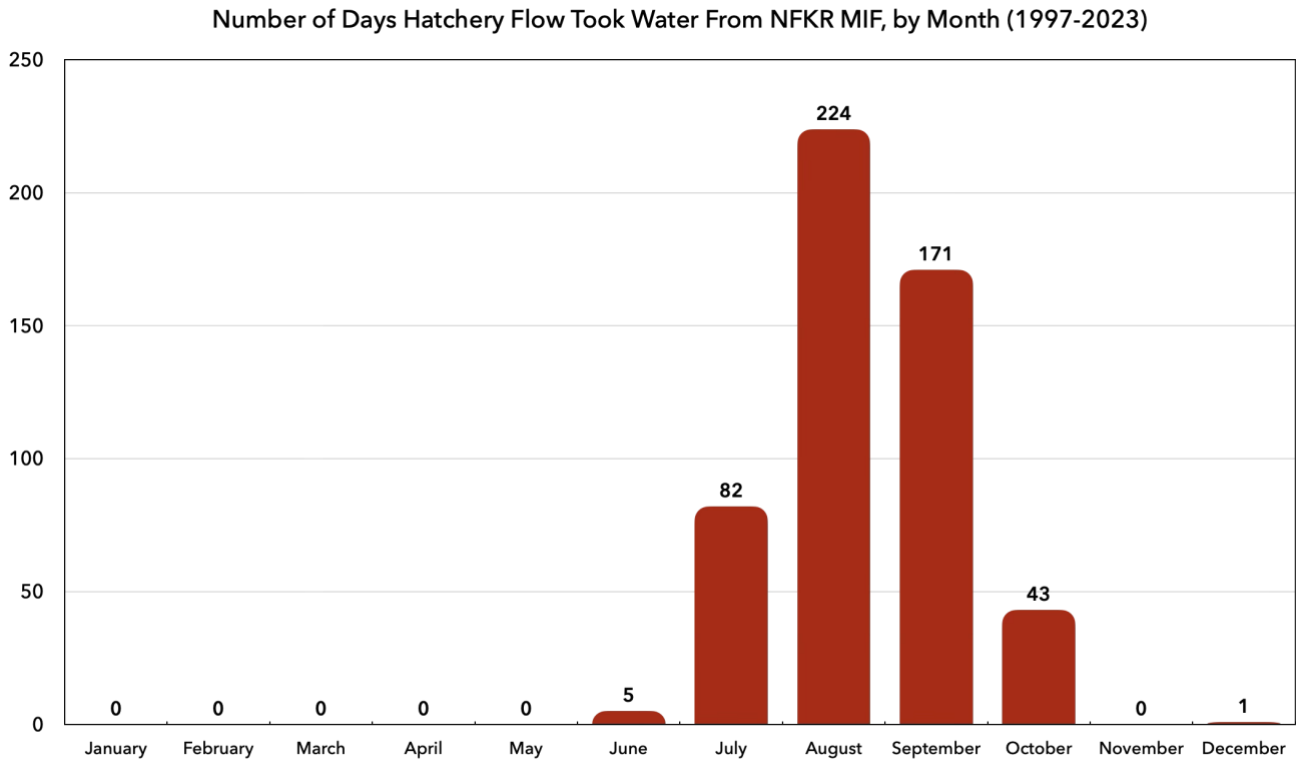
[38] KRB-DLA-MIF, Sheet 17.



SOURCE: SCE KR3 HYDROLOGY DATASET (2023)

The hatchery flow takes from the river's Minimum Instream Flow during the hottest months of the year, often leaving the river with flows below ecologically sustainable levels. This is particularly harmful during late summer and early fall (July-October), as shown in the data SCE provided, which demonstrates how often and for how long the hatchery flow undermines the MIF[39]:

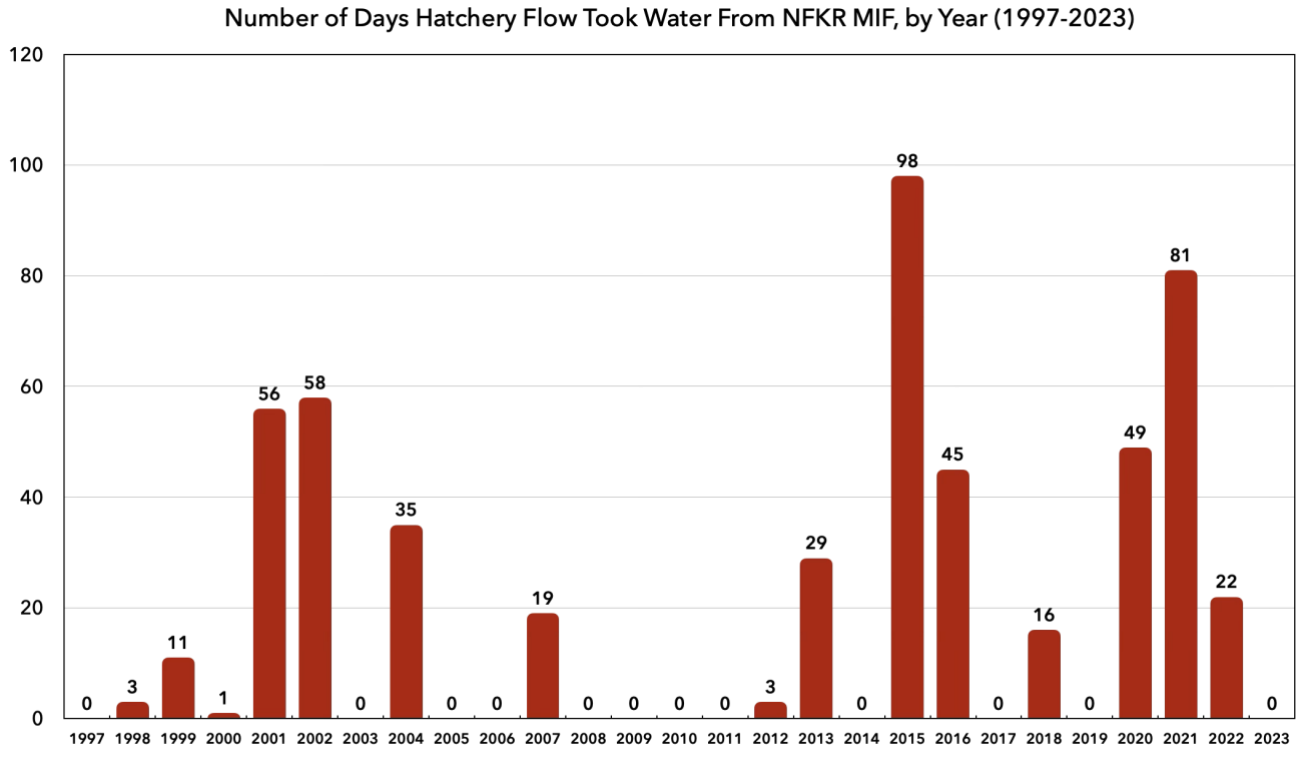
[39] KRB-DLA-MIF, Sheet 17.



The Precedence of the Hatchery Flow Over the MIF Depletes the River's MIF During the Hottest Months of the Year
SOURCE: SCE KR3 HYDROLOGY DATASET (2023)

The hatchery flow takes from the MIF not just during dry years, but moderate years as well, affecting 16 of the 27 years, 12 of them significantly[40]:

[40] KRB-DLA-MIF, Sheet 17.



The Precedence of the Hatchery Flow Over the MIF Depletes the River's MIF During All but the Wettest Years
SOURCE: SCE KR3 HYDROLOGY DATASET (2023)

Proposed Condition:

Water Allocation Priority:

- First Priority: The MIF shall take precedence over the hatchery flow and power generation. No water shall be diverted for the hatchery flow until the MIF is fully satisfied.
- Second Priority: Once the MIF is met, water can be allocated to the hatchery flow and power generation needs. If inflows to the system are insufficient to meet both the MIF and hatchery flow, the shortfall will be borne by the hatchery or generation flows, not the MIF.

Rationale

1. Ecological Integrity:

- The MIF is intended to protect the river's aquatic environment, which has been severely compromised by the current prioritization of the hatchery/minimum power flow. In recent years, flow data has demonstrated that, during critical summer months, the river below Fairview Dam has been reduced to dangerously low levels, with more water diverted for hatchery flow (and power generation) than is left in the river (see Figure 1

above). This has resulted in water temperatures exceeding the thresholds for fish survival, as well as critically low DO levels.

- A reordering of priorities is necessary to protect species that are already under stress from habitat degradation and climate change. Ensuring that the MIF is fully met before any water is diverted for hatchery purposes is essential to the long-term sustainability of the river's ecosystem.

2. Hydropower and Public Interest:

- The Federal Power Act and FERC's regulations prioritize the balancing of energy generation with environmental stewardship. While hydropower is an important renewable energy resource, it must be managed in a way that minimizes ecological harm. In the case of KR3, the current license structure disproportionately benefits minimum power generation at the expense of the river's ecological health.
- By prioritizing the MIF over the hatchery flow and minimum power generation, SCE can still meet its energy generation goals while ensuring that the environmental impacts of the project are minimized.

3. Public and Recreational Interests:

- The Kern River is a Wild and Scenic River, and its recreational and aesthetic values are vital to the local community. Prioritizing the MIF ensures that the river remains a viable destination for recreation, including fishing, hiking, camping, and wildlife observation. This condition is not only an environmental necessity but also supports the socioeconomic interests of the region.

4. Best Available Science:

- The California Environmental Flows Framework (CEFF) and other environmental flow science tools recommend that flow regimes should prioritize ecological needs, particularly during periods of environmental stress. Current flow regimes at KR3 are incompatible with these guidelines, especially during dry years. The proposed MIF priority condition aligns with contemporary scientific understanding of riverine health and flow management.

<u>Conclusion</u>

Reordering the water allocation priorities at the KR3 project to place the MIF above the hatchery flow is a necessary condition to protect the environmental health of the North Fork Kern River. It aligns with FERC's responsibilities under the Federal Power Act to protect environmental resources, ensures the long-term viability of threatened species such as the Kern River rainbow trout, and supports the public interest in maintaining a healthy, functioning river ecosystem. The proposed condition provides a clear and enforceable structure for ensuring that the river's ecological needs are met while allowing for continued hydropower generation and hatchery operations.

COMMENTS ON THE DLA

3.1 Need for Power

SCE: *SCE serves all customers through a diverse transmission system that includes a generation mix of gas, nuclear, wind, solar, geothermal, biomass, energy storage and hydroelectric resources. SCE* ***also purchases power*** *from other utilities or non-utility power producers.* (DLA Vol.2, P1 at 3-1.)

KRB: This portrayal is misleading. SCE does not simply purchase all the energy it needs but is unable to generate; SCE purchases *all* the power it supplies to customers from the California Independent System Operator (CAISO).[41] To offset procurement costs, SCE bids its own generation into the CAISO market, but this accounts for less than 20% of the electricity it delivers.[42] SCE's generation portfolio includes 32 small hydroelectric plants, five gas-fired peaking units, rooftop and ground-based solar installations, and a few other minor facilities.[43] These assets, while diverse, contribute a small fraction to the overall energy mix that SCE manages. As a utility primarily focused on transmission and distribution — a "wires" company[44], in its own words — SCE is reliant on the broader CAISO market to meet customer demand. These facts must be considered as FERC balances developmental values against our proposed environmental and recreational license conditions.

SCE: *The Project would provide hydroelectric generation to* ***meet part*** *of SCE's power requirements, resource diversity, and capacity needs. The Project would have an installed capacity of 40.2 MW (36.8 MW estimated dependable capacity) and generate approximately 118,497 MWh (annual average from 1997 to 2023) per year.* (DLA Vol.2, P1 at 3-1.)

KRB: KR3's contribution to SCE's "power requirements" is minuscule. KR3 accounts for just 3.45% of SCE's total hydro nameplate capacity, just 3.15% of its average annual hydroelectric generation, and an even smaller fraction of its combined generation portfolio.[45] Compared with the total energy SCE delivers its customers, the project's

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[41] SCE 2025 General Rate Case, SCE-05 Vol. 02, "Energy Procurement" (2023) at 3 ["SCE purchases the electricity supplied to customers from the CAISO, a non-profit public benefit corporation that operates a transparent, accessible wholesale energy market to ensure safe and reliable delivery of electricity on California's power grid. To serve customers, SCE bids all of its utility-owned resources and contracted resources into the CAISO markets to offset its energy procurement expenses"].

[42] 2023 Sustainability Report, SCE (2024) at 55 ["SCE is wires-focused, with less than 20% of electricity sales coming from our own generation"].

[43] SCE 2025 General Rate Case, SCE-05 Vol. 01 (2023) at 12-13.

[44] 2023 Sustainability Report, SCE (2024) at 55.

[45] *Id.*, at 44.

generation is negligible: less that two-thirds a percentage point. Given the vast encumbrance this project imposes on a 16-mile stretch of the North Fork Kern River, the conditions for continuing this impact another 40 years demands a far more critical evaluation of the project's small and often unneeded (during times of widespread renewable curtailment) energy contribution. Understanding the small scale of KR3's social utility is vitally important to a proper balancing of the potential uses for this encumbered resource (NFKR) including those entailed our proposed environmental and recreational license conditions.

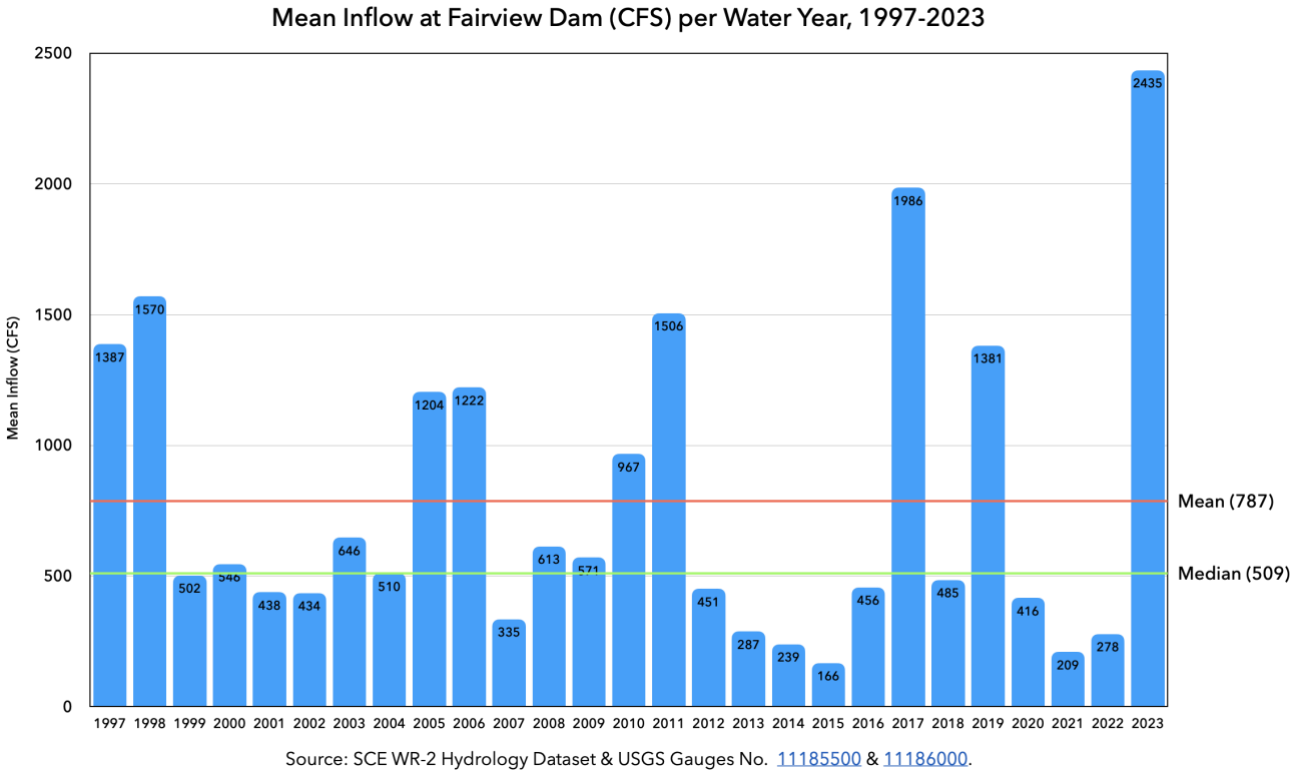
3.2 Power Demand

SCE: *According to WECC forecasts for the Western Interconnection, demand is projected to increase by approximately 7 percent from 2020 to 2029. The summer peak demand is expected to increase by 9 percent during that same period (WECC, 2021). The region has a need for power over the near term, and power from the Project would continue to* ***help meet that need*** *in the future.* (DLA Vol.2, P1 at 3-2.)

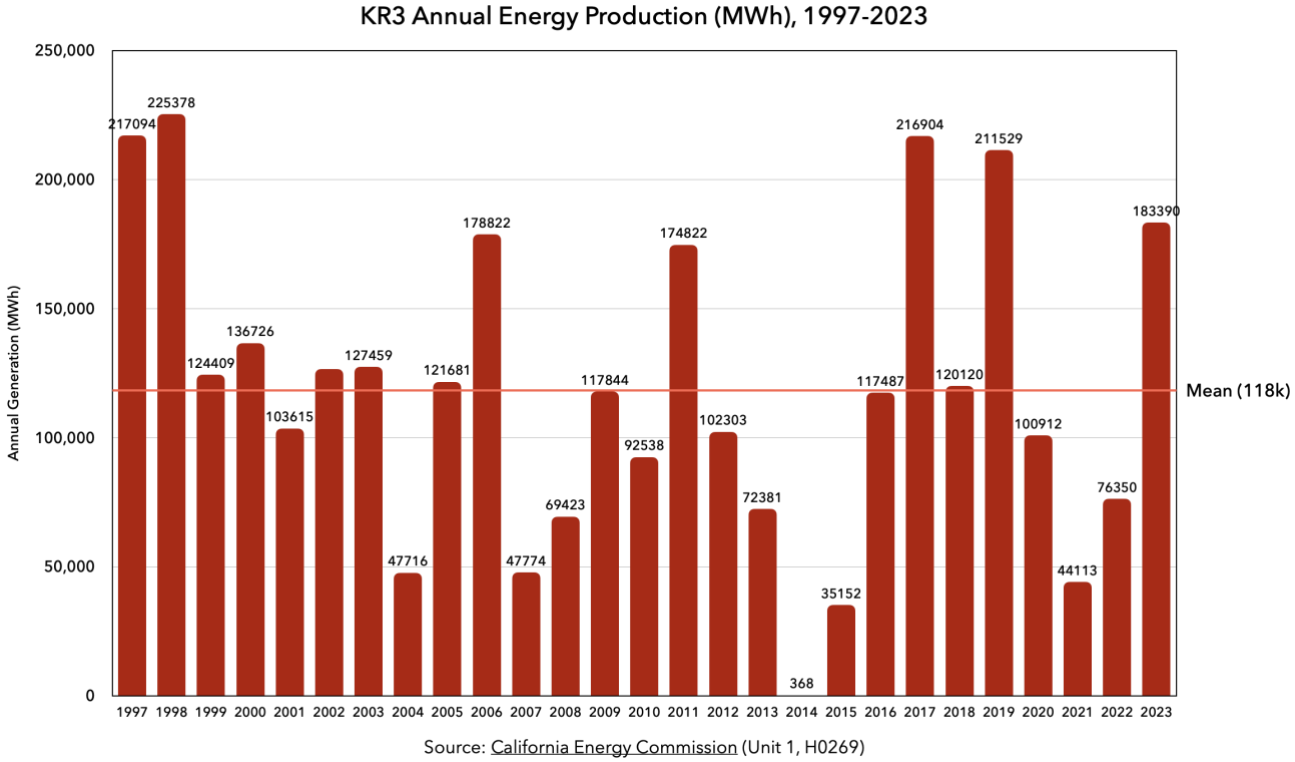
KRB: KR3 does not make a noticeable contribution to the Western Interconnection. The annual demand for 2021 in the Western Interconnection was 892 million MWh.[46] KR3's average annual generation of 118,000 MWh amounts to only 0.013% of that total. Its contribution in 2021 (44,113 MWh) was even smaller — just 0.0049% of the total.[47] Indeed, SCE's *own analysis* shows that the "annual dependable generating capacity" of this project is at a rate of just 4.0 MW.[48]

The discrepancy between KR3's dependable capacity and its annual average highlights a critical point: KR3 is an erratic contributor to the grid. As a run-of-river hydro project, KR3's fuel source — snowpack — is inherently variable and subject to wide fluctuations from year to year, making its generation unreliable. The next two charts[49] — the first of annual inflow, the second of annual generation — illustrate this variability; note how the two align:

[46] State of the Interconnection, WECC (2023), at .pdf p. 5.
[47] California Energy Commission (Unit 1, H0269).
[48] DLA Volume I, Exh. B, p. 4 ["annual dependable" generation of 35,152 MWh / (365*24) = 4.0 MW rate].
[49] KRB-DLA-NRG, Sheet 2.



Source: SCE WR-2 Hydrology Dataset & USGS Gauges No. 11185500 & 11186000.

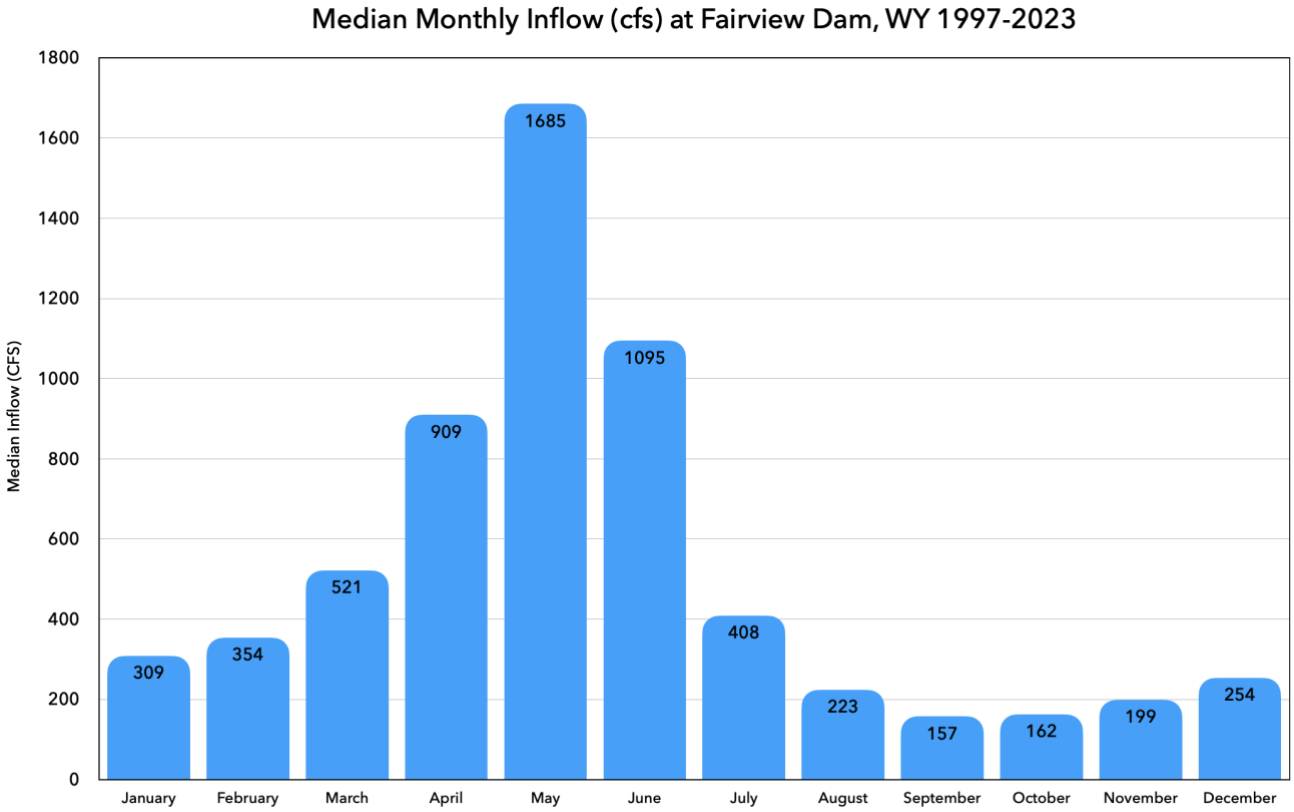


Source: California Energy Commission (Unit 1, H0269)

As shown, SCE and the grid cannot rely on KR3 for consistent generation up to its average rate, and in about a quarter of the years, KR3 falls far short of this already low benchmark.

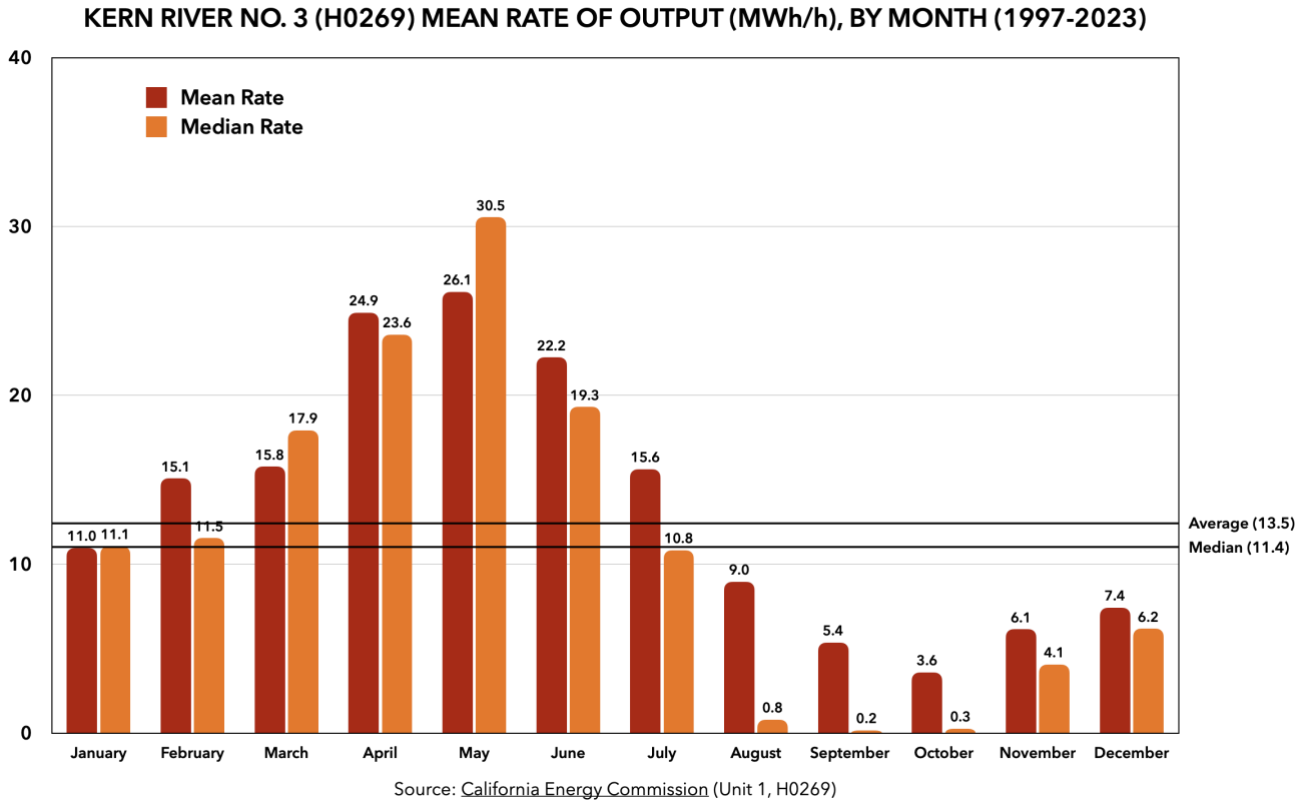
In 2021, for instance, KR3 generated less than 40% of its annual average. In 2014, it generated zero percent — yes, zero. If existing generation resources didn't already cover these deficiencies, we would have seen service disruptions or outages, yet none occurred. This underscores the fact that KR3's contribution is so small that its fluctuations are practically unfelt by the grid. SCE itself estimates the "annual dependable generating capacity" of this system to be at a lowly rate of just 4.0 MW[50] — a rate arguably incommensurate with encumbering 16 miles of Southern California's most important river. If it weren't for the decommissioning costs, SCE corporate would likely agree.

KR3's monthly fluctuations in generation are equally problematic. Because its fuel — river water — is driven by natural seasonal processes, KR3's production varies wildly throughout the year, peaking during the spring snowmelt and tapering off to almost nothing during the late summer, when grid demand is at its highest and, as SCE concedes, is increasing[51]:



[50] DLA Volume I, Exh. B, p. 4 [annual reliable generation of 35,152 MWh / (365*24) = 4.0 MW rate].

[51] KRB-DLA-NRG, Sheet 3.



Again, these sets of data align. They show that KR3 generates most of its electricity during spring, when demand is at its lowest and renewable energy curtailment is at its highest. Conversely, during late summer, when wholesale market prices and demand peak, KR3 generates a small fraction of its potential for lack of adequate fuel. This further demonstrates that KR3's contribution to our need for power is not only small but also that its small amount is poorly aligned with social need. The grid must already rely on other generating capacity to compensate for KR3's predictably minimal production late summer onward. Looking ahead, the rapid massive deployment of modern renewable generators at a scale that absolutely dwarf KR3's inconsistent, unreliable production offers an opportunity to reconsider the value of small, older generators like KR3 that encumber important watersheds while providing trifling benefits to the grid. Modern generators are far better suited to meet increasing energy needs without causing significant environmental harm. The only things stopping such a reconsideration here are decommissioning costs feared by SCE and outdated agency policies that defy the congressional mandate to reconsider *whether* to recommit and encumber this treasured natural resource for such minute developmental benefits. Nevertheless, those fears and policies should not influence a fearless balancing of the project's small developmental benefits against the project's harms to the natural and social environments in formulating license conditions such as we have proposed.

SCE: *If the Project were to shut down or significantly change operations, SCE would need to build new, incremental resources to* ***fill the energy, capacity, and clean attribute gaps****.* (DLA Vol.2, P1 at 3-2.)

KRB: This statement is demonstrably false regarding both energy and capacity. As shown in the previous comment, KR3's output fluctuates dramatically from year to year and month to month, due to its dependence on the unpredictable fuel source of river water. If replacement capacity *did not already exist* in the grid, service disruptions would occur frequently during the valleys of project fluctuations in generation — yet they do not. In fact, KR3 was completely offline for 16 consecutive months from late 2013 through 2014, with zero generation during that 480-day period. Despite this extremely long outage, there were no negative outcomes for the grid or customer service during that time, proving that sufficient capacity already exists to cover any shortfall from KR3's variable production. The argument that new capacity would need to be built to compensate for the loss of energy from KR3 is further undermined by the fact that KR3's inconsistent contribution is already backed up by other resources. The valleys in KR3 output, which are inherent to its configuration and reliance on seasonal water availability, demand that existing capacity already be available to compensate for its shortfalls. The idea that shutting down or altering KR3's operations would require new resources is unsupported by the operational history of the project. This must be considered as FERC balances developmental values against our proposed environmental and recreational license conditions. As for the claim about "clean attribute gaps," we will address that in the following comments.

SCE: *SB 350, Clean Energy and Pollution Reduction Act of 2015, increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. In 2019, SB 100, The 100 Percent Clean Energy Act of 2018, set the California 2030* ***Renewables Portfolio Standard (RPS) requirement to 60 percent*** . . . . (DLA Vol.2, P1 at 3-2.)

KRB: SCE invokes the RPS but conveniently neglects to inform its readers that KR3 is *categorically ineligible* for California's Renewable Portfolio Standard.

KR3 is capable of generating at a rate over 30 MW (36.8 MW, to be exact). According to California's RPS legislation, only hydroelectric facilities with a peak capacity of *30 MW or less* count towards that portfolio.[52] SCE's citation to the RPS is accordingly inapt and misleading. This must be considered as FERC balances developmental values against our proposed environmental and recreational license conditions.

[52] Cal. Pub. Util. Code, § 399.12, subd. (e)(1)(A).

SCE: *SCE has developed a plan called Pathway 2045 that outlines how SCE will meet carbon neutrality by 2045, which includes* ***the continued operation of SCE's existing hydroelectric fleet*** *(SCE, 2019).* (DLA Vol.2, P1 at 3-2.)
KRB: This, again, is false. Far from continuing to operate its "existing hydropower fleet," SCE is *actively seeking to retire* many of the smaller members of that fleet through decommissioning or divestiture. This shift demonstrates that as these run-of-river projects have aged into the modern grid, their value to society has decreased, even when considering their clean energy contributions. In SCE's own words:

> *Due to the age of the existing infrastructure (much of it exceeding 100 years), changes in the California energy market resulting in lower wholesale energy revenues, and increasing costs to license and operate the facilities, some of SCE's small Hydro projects may be retired or divested in the coming years. . . .* ***The limited reservoir storage and run-of-the-river nature of the small Hydro projects decrease their ability to be optimized for market revenue****. . . .The increased penetration and decreasing cost of solar generation in the market has placed downward pressure on wholesale energy prices and renewable energy credits, further challenging the economic value of small Hydro.*[53]

KR3 faces these same economic challenges. As a run-of-river system, it cannot be optimized for market revenue in the same way as other generators. This, coupled with the softening of the wholesale energy market and increased renewable energy penetration, has significantly reduced its value. While KR3 is a low carbon project, that benefit is vanishingly small for both SCE and the grid. To put this into context: SCE delivered 77,507,000 MWh of energy to retail customers last year.[54] Of that, 52% was carbon-free.[55] That amounts to 40,304,000 MWh of green energy. KR3's mean annual generation of 118,497 MWh amounts to just 0.29% of that figure, and much of that energy is generated during periods of renewable curtailment when the grid is already oversupplied with renewable energy. Like the other small hydro facilities SCE is considering retiring, KR3's economic and environmental contributions have diminished and are continuing so as newer, more efficient renewable sources become increasingly prevalent and cost-effective. SCE corporate likely agrees but

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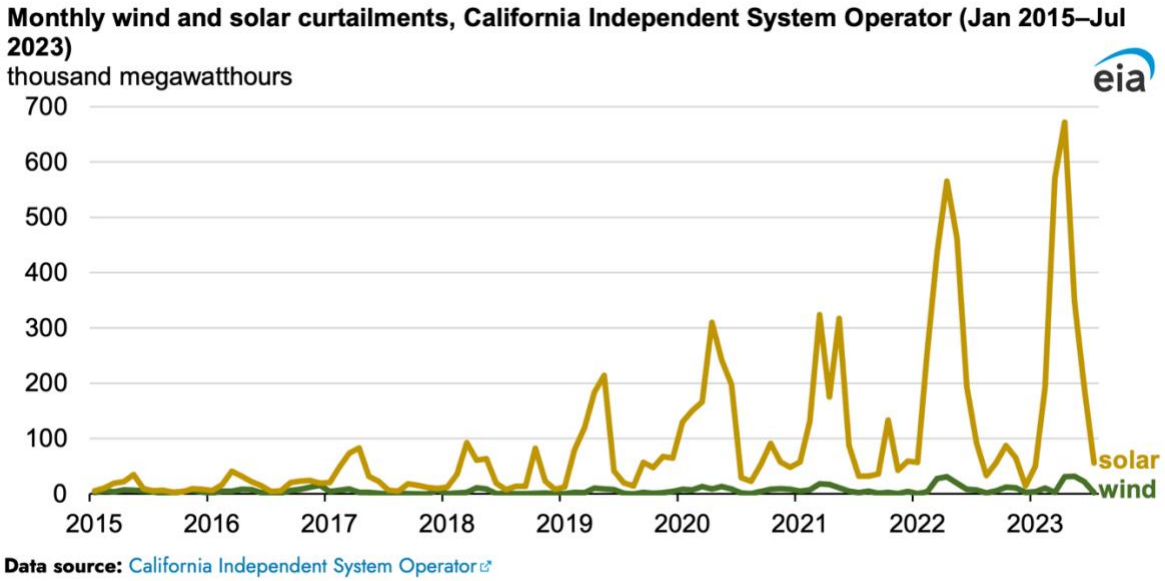
[53] SCE 2025 General Rate Case, SCE-05 Vol. 01 (2023) at 17. See also *id*., at 138 ["While a small portion of these 22 small Hydro powerhouses have reservoir storage, most are run-of-the-river systems, which decreases their ability to be optimized for market revenue that reduces customer costs. The increased penetration and decreasing cost of solar has placed downward pressure on wholesale energy prices and renewable energy credits, further challenging the economic value of small Hydro"].)
[54] 2023 Sustainability Report, SCE (2024) at 104.
[55] *Id*., at 5.

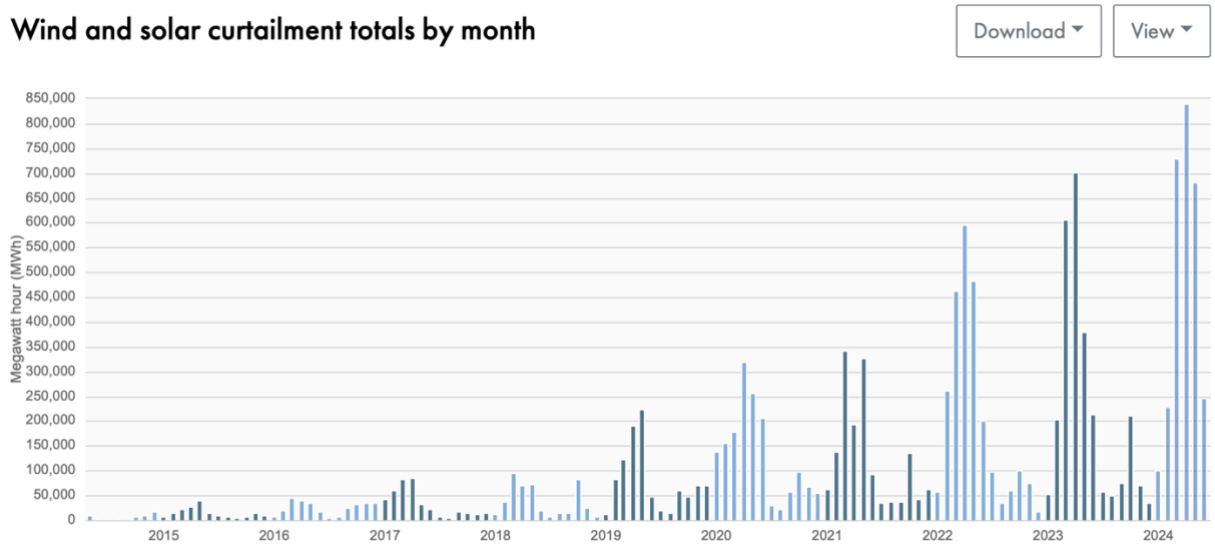
goes forward because, as SCE notes, decommissioning costs are "extremely" high for the smallest projects and are unquestionably higher for this one.[56] These facts must be considered as FERC evaluates our proposed environmental and recreational license conditions for adequate balance with developmental values.

SCE: *Energy generated by the Project reduces GHG emissions in California by displacing energy and other services that would* ***otherwise be provided by gas-fired units****.* (DLA Vol.2, P1 at 3-3.)
KRB: This claim is completely untrue. Not all energy generated by KR3 displaces gas-fired generators. As noted by the EIA, the phenomenon of renewable curtailment[57] — where renewable generators are forced offline to prevent over-generation on the grid — occurs at rates that far exceed KR3's generation during daylight hours in late winter and spring:



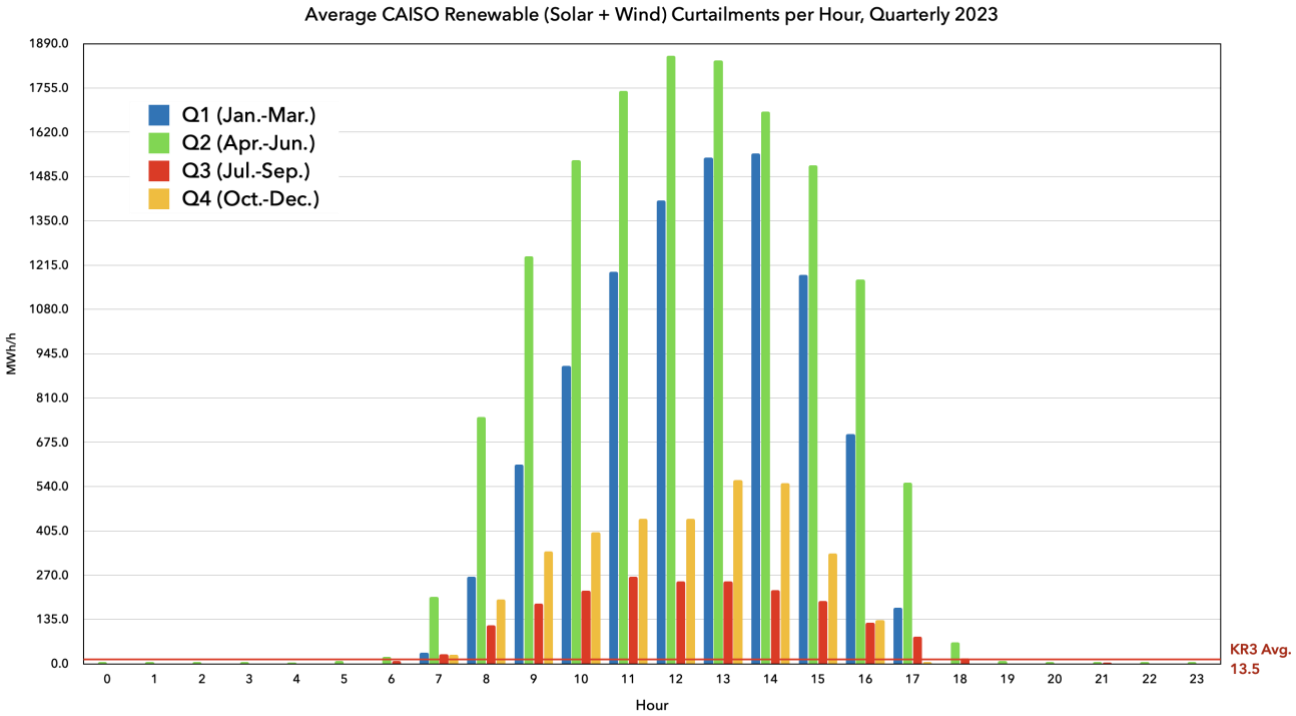
These curtailments affect wind and solar generators, which are readily available to backfill any energy KR3 loses to new licensing conditions during these periods. According to CAISO[58], as renewable energy capacity continues to grow renewable curtailments will continue to sharply increase each year:

[56] SCE 2025 General Rate Case, SCE-05 Vol. 01 (2023) at 17.
[57] https://www.eia.gov/todayinenergy/detail.php?id=60822 [accessed September 11, 2024].
[58] https://www.caiso.com/about/our-business/managing-the-evolving-grid#renewable-curtailment [accessed August 06, 2024]



KR3's contribution to reducing greenhouse gas emissions is marginal and regularly occurs during periods of renewable oversupply, when curtailed wind and solar generation could easily replace any lost output. While KR3 does provide a green energy benefit, it does so in a limited capacity — similar to other small hydro projects SCE is already seeking to retire — and often during times when renewable energy is already being curtailed. The following graph charts average renewable curtailments by quarter of the year and hour of the day against KR3's average rate of generation[59]:

[59] KRB-DLA-NRG, Sheet 1.



This Chart depicts the quarterly daily average of renewable curtailment by hour for the year 2023 in the CAISO grid. It shows a vast excess in generation potential during daylight hours in Q1 & Q2 due to wind and solar production. The scale of these figures will only increase in the future, according to CAISO. Source: http://www.caiso.com/Documents/ProductionAndCurtailmentsData_2023.xlsx

These facts must be considered as FERC evaluates our proposed environmental and recreational license conditions for adequate balance with developmental values.

SCE: *If the Project is not relicensed, SCE would need to obtain replacement from zero-emitting, firm (i.e., can generate power 24 hours per day / 7 days per week, when needed), RPS-eligible energy sources,* ***which would require new facilities.*** (DLA Vol.2, P1 at 3-3.)
KRB: This statement completely ignores the facts that (1) SCE purchases all the energy it delivers from the CAISO market and (2) new zero-emission generators and storage facilities are being deployed at a rapid pace and massive scale, vastly exceeding the capacity of KR3 and thereby diminishing its already marginal green energy contribution. The broader trend of California's clean energy transition further marginalizes KR3's role in the state's energy landscape, making its environmental trade-offs even more difficult to justify. According to the California Energy Commission, more than 16,000 MW of new energy resources have been brought online since 2020, and an additional 18,000 MW are expected by 2028.[60] To put this in perspective, these new energy projects represent 940 times the *maximum theoretical* output of KR3, over 2,500 times its *mean* output, and over 8,500 times its *dependable* output. Given the scale and speed of this renewable energy deployment, KR3's contribution to the grid has and will continue to become increasingly insignificant. The

[60] https://www.energy.ca.gov/news/2024-05/new-data-shows-investments-build-californias-clean-energy-grid-future-are-paying [accessed August 06, 2024].

availability of such vast new renewable energy capacity presents the perfect opportunity to comply with the mandate of the FPA, reassess KR3's environmental impacts, and impose meaningful license conditions to achieve the highest social use of this encumbered resource (NFKR), even if those conditions result in significant operational changes.

4.0 Statutory and Regulatory Requirements and Applicable Laws

SCE: *"**Nothing in this chapter shall affect the continued operation and maintenance of the existing diversion project**, owned by Southern California Edison on the North Fork of the Kern River, including reconstruction or replacement of facilities to the same extent as existed on November 24, 1987." 16 USC § 1274(a)(64)(C).* (DLA Vol.2, P1 at 4-4.)

KRB: This citation is potentially misleading to the detriment of the public interest. Although the Wild and Scenic Rivers Act grandfathered certain aspects of the project's operation as of 1987, it did not diminish the obligations under the Federal Power Act (FPA) for FERC and USFS to ensure that the public interest is prioritized in the management of this invaluable public resource. Neither the 1968 Act nor the 1987 legislation that designated portions of the Kern River as wild and scenic exempt KR3 from FPA oversight or weaken the applicability of modern environmental standards. Under the FPA, power development is not given absolute priority. Congress clearly intended for FERC to consider all environmental aspects of hydropower projects, even to the point of denying a license on environmental grounds if necessary. As stated in the legislative history: "Power development is not to be considered an absolute priority under the Act or given undue weight. It is intended that the Commission give significant attention to, and demonstrate a high level of concern for all environmental aspects of hydropower development, even, if necessary, to the point of denying an application on environmental grounds."[61] Furthermore, relicensing a project under the FPA was not intended to be a simplistic referendum on the *status quo*. Rather, Congress mandated that it be akin to issuing an entirely new license, making a fresh commitment of the public resource for up to 40 years. As the courts have clarified: "Simply because the same resource has been committed in the past does not make relicensing a phase in a continuous activity. Relicensing involves a new commitment of the resource, which in this case lasts for forty years."[62] The fact that KR3 was grandfathered under the Wild and Scenic Rivers Act merely authorized its otherwise-doomed existence under that law. It did not exempt KR3 from the FPA, which demands the scrutiny of today's values and modern environmental law. It is crucial that the relicensing process reflects these contemporary standards, ensuring that the North Fork Kern River is protected as an outstanding public resource and afforded its highest social use *as Congress intended*.

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[61] H.R. Conf. Rep. No. 934, 99th Cong., 2d. Sess. at p. 21-25 (italics added).
[62] *Yakima v. FERC*, 746. F.2d 466, 476-477 (9th Cir. 1984).

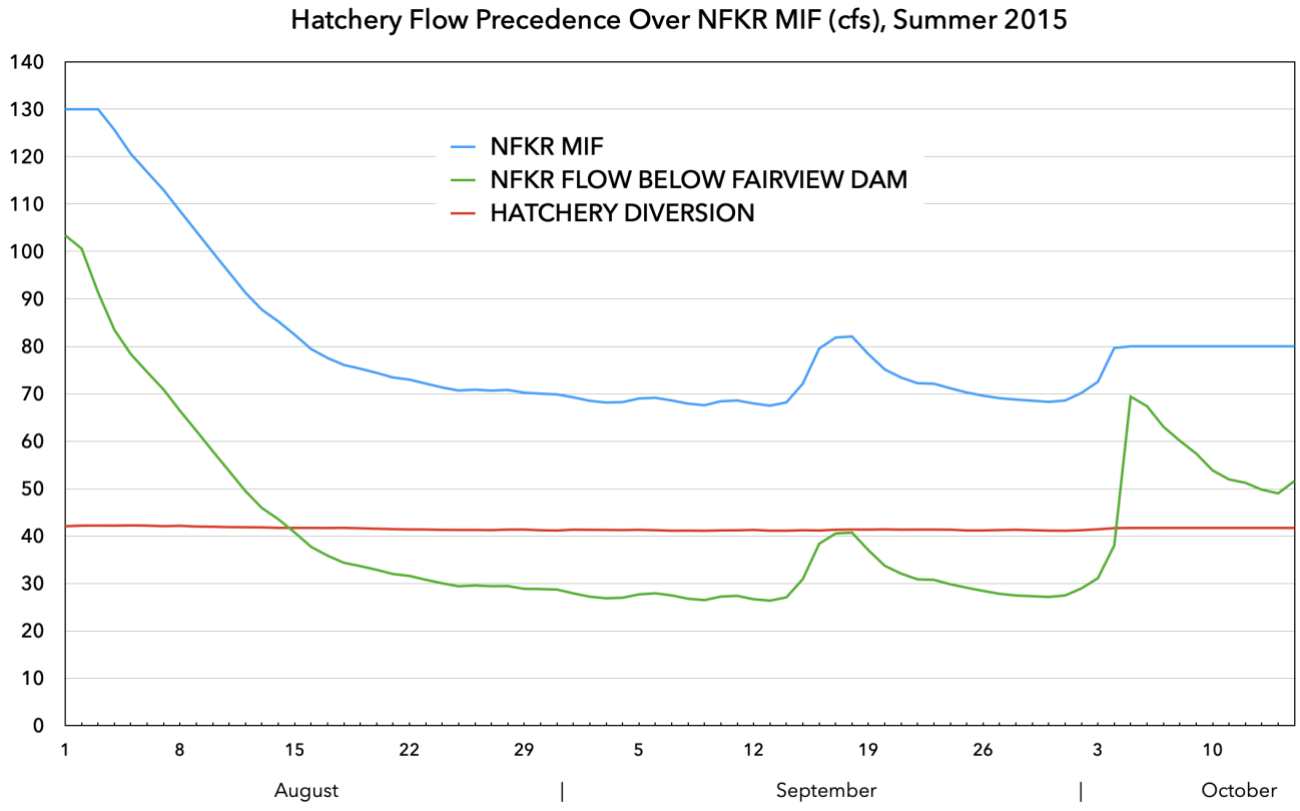
5.1 No-Action Alternative

SCE: *SCE provides 35 cfs year-round to California Department of Fish and Wildlife (CDFW's) Kern River* ***Planting Base Hatchery*** *via the Project water conveyance system and the KR3 Powerhouse tailrace.* (DLA Vol.2, P1 at 5-35.)

KRB: This statement is false. The 35 cfs is not provided for the hatchery's needs, but rather for power generation. Article 36 of the 1964 KR3 license required SCE to provide "not less than 20 cfs" to the hatchery.[63] In its 1993 application for capacity amendment, SCE again stated that the hatchery receives "20 cfs of cool water" through a special valve when the project is offline.[64] CDFW has stated categorically that 27 to 28 cfs is "well above" the hatchery's operational needs.[65] The decision to divert 35 cfs was made, as the 1996 KR3 Environmental Assessment explains, not to benefit the hatchery, but to "allow Edison to generate power" since "the minimum flow for generation at the powerhouse is 35 cfs."[66] The purpose of this magnitude of flow, then, is to enable SCE to generate power, not to support hatchery operations.

At some point in 2004, SCE added an extra 5-10 cfs "buffer" to this minimum generation flow to ensure 35 cfs was always available for its turbine — again, for power generation, not the hatchery, and, worse yet, at the expense of the MIF during the hottest months of the year when inflows are not sufficient to satisfy both the hatchery flow and the MIF. That is exactly when the 16-mile fishery and riverine ecology need the water promised by the MIF most. Consider this example from 2015, when more water was diverted as SCE would have you believe "for the hatchery" *than was left in the river* for months at a time[67]:

[63] KR3 Application for New License, SCE (December 1991) at E-3-7.
[64] FERC Accession No. 19930408-0186, Exh. M at 5 (.pdf p. 14.)
[65] FERC Accession No. 20040916-0026 (unpaginated) at .pdf 3.
[66] 1996 EA at 34; see also 1996 EA at 58.
[67] KRB-DLA-MIF, Sheet 17.



SOURCE: SCE KR3 HYDROLOGY DATASET (2023)

Justifying the diversion of the first 45 cfs at Fairview Dam on grounds that it is delivered to the CDFW fish planting hatchery is an offensive fiction. While the hatchery should be able to use cold water from the project tailrace — even when the project is offline — the magnitude of this diversion was never set by the hatchery, it was set by SCE, and power generation should *never* take precedence over the MIF. The MIF exists to protect the river's ecological integrity, and it should be preserved as a hands-off minimum flow.

We also note that SCE has increased the minimum flow required for power generation since its last relicensing effort — when that figure was 35 cfs — to 40 cfs in the present application. The fact that the project's minimum hydraulic capacity increased might truthfully explain SCE's sudden need in 2004 to provide a "buffer" to deliver the 35 cfs it was afforded in the 1996 license for minimum power generation. SCE has not proffered such an explanation at any time, nor has it explained why the minimum hydraulic capacity of its turbines increased to the 40 cfs figure in the current DLA[68]:

[68] DLA Vol. II, Part 1 at 5-26.

Manufacturer	Francis reaction-type
Rated Output	• 28,700 hp / 600 rpm, each • Total: 57,400 hp
License Nameplate Capacity	28,700 hp
Static Head	821 feet
Hydraulic Capacity (min/max)	40 cfs per unit / 605 cfs

SCE: *Under the Settlement, SCE agreed to establish the $2.5 million Fund to finance studies and enhancement* ***efforts to further the objectives of the Upper Kern River Plan***. (DLA Vol.2, P1 at 5-38.)

KRB: The establishment of the Fund, while well-intentioned, has failed to meet its primary goals. The MOU that established the Fund[69] clearly outlined the criteria for funding projects, prioritizing the improvement of the Kern River Rainbow Trout (KRRT) status and contributing to its habitat, genetics, and restoration. The vision of the Fund was to prevent KRRT from being designated a species of concern and to restore pure native KRRT populations to the Upper Kern Basin by 2020, but the reality over the last 20 years falls far short of that objective.

A Failed Mission:

- The primary goal was to protect and restore the KRRT.[70] This goal failed.
- The KRRT has been classified as a candidate species for Endangered Species Act listing and is now listed as a Species of Special Concern by CDFW.
- Despite the Fund's existence, no significant progress has been made towards restoring the species.
- Of the $1.7 million distributed, only $299,855 (17.5%) was spent on KRRT restoration. Worse yet, none of the funds were allocated to breeding, stocking, or monitoring activities — core components of the KRRT recovery plan.

Poor Allocation of Funds:

- Only 3 out of 34 proposals (8.8%) were directly related to KRRT restoration.

[69] Upper Kern Basin Fishery Resource Enhancement Measures Implementation Memorandum of Understanding, Multiagency Agreement (2005) ["MOU"].
[70] https://www.kernfoundation.org/wp-content/uploads/2023/01/Upper-Kern-Fisheries-Enhancement-Fund-Grant-Recipients-Updated-1-19-23-1.pdf [accessed August 06, 2024].

- A significant portion of the fund was spent on tertiary projects not directly related to KRRT or the health of the North Fork Kern River fishery.
- $315,400 (18%) was spent on the Kern River hatchery, which remains inoperable.
- Over 51% of the funds were allocated to habitat improvements that did not specifically address the KRRT restoration efforts.[71]

Fund Outcomes:

- Primary endpoint of Fund was restoration of KRRT to tributaries of North Fork Kern.
  - Endpoint not reached.
  - Only 3 proposals out of 34 (8.8%) dealt directly with the restoration of KRRT to the Upper Kern Basin.
  - Only $299,855.00 out of $1,715,874.56 (17.5%) was spent directly towards the restoration of KRRT.
  - 0 proposals and 0 dollars were awarded to proposals involving breeding, stocking or monitoring activities. 0 KRRT have been restored to the Upper Kern Basin.
- KRRT restoration projects
  - 2007-8: Genetic Assessment of Kern River Rainbow Trout (UC Davis).
  - 2011: Hatchery and Genetic Mgmt. Plan for Kern River Rainbow Trout (UC Davis).
  - 2016: Collect genetically pure KRRT from Sequoia NP (CDFW).
  - No direct restoration efforts have been undertaken since 2016.
  - $ 315,400 (18% of fund awards) has been spent on the Kern River hatchery, which continues to be inoperable.
  - If any KRRT were actually collected, it remains unclear where or how they are intended to be bred and reintroduced to the North Fork Kern.

Funds distributed, by project sponsor:

Sponsor	**Total Awarded**
California Trout	$359,860.00
UC Davis	$254,855.00
USFS/SQF	$229,895.69
Southern Sierra Fly Fishers Club	$192,000.00

[71] Data and analysis available in the KRB Position Paper on the KR3 Fishery Trust Fund (2024).

Plumas Corporation	$193,576.00
Trout Unlimited	$125,000.00
CDFW	$179,516.65
Sequoia and Kings Canyon National Park	$79,671.22
Kern River Conservancy	$48,100.00
Friends of the Hatchery	$43,400.00
Kern Community Foundation	$10,000.00

Funds distributed, by criteria:

- Criteria were assigned manually from descriptions of projects and proposals as presented to the Kern Community Foundation.
- Over half (51%) of the funds were used for habitat improvements.
- Infrastructure improvements were included under Water quality (USFS-sponsored vault toilet installation) as well as Other (KRC-sponsored staircase reconstruction at Johnsondale bridge).

Funding Criteria	**Number of awards**	**Total awarded**	**Percent of total award dollars**
Habitat improvement	17	$874,833.56	51.0
Hatchery	7	$315,400.00	18.4
Water quality	2	$167,686.00	9.8
KRR Genetics	1	$165,810.00	9.7
KRR Breeding Plan	1	$89,045.00	5.2
KRR Collection	1	$45,000.00	2.6
Publicity	4	$33,100.00	1.9
Other	1	$25,000.00	1.5
KRR Breeding Program	0	$0.00	0.0
KRR Stocking	0	$0.00	0.0
KRR Monitoring	0	$0.00	0.0
Fish ladder monitor	0	$0.00	0.0

A Broken Exchange:
The Trust Fund was established in lieu of more impactful measures, such as entrainment mitigation and increased minimum flows in the 16 miles of fishery between Fairview Dam and the KR3 Powerhouse. Monitoring has shown that the excessive diversion of water for KR3 has caused extreme fish mortality, not just in low-water years but in median water years as well. This mortality is in direct contrast to the healthier, free-flowing fishery above Fairview Dam. The Fund's failure to protect and restore the KRRT demonstrates that it did not serve the public interest, and it should not be used as a precedent for future mitigation efforts. The exchange of decreased flows for an underperforming Fund has been a failure and should not be repeated.

SCE: *Both the Settlement and MOU provide that the Fund will continue* ***beyond the current license term and even beyond the expiration of the Settlement and MOU themselves***. (DLA Vol.2, P1 at 5-38.)
KRB: The Trust Fund should have no bearing on this relicensing proceeding. It was established to mitigate project effects specifically during the current license term (1996-2026). As the MOU states:

> *Each resource agency expressed concern regarding [the 1964 Project License] instream flows and fish entrainment associated with operation of the Project. The new instream flows and the funding set out in the Settlement Agreement and the Measures set out in this MOU are intended to resolve each resource agency's concern by providing for a net benefit to the fishery resources of the Upper Kern Basin.*[72]

The purpose of the Fund was to provide a temporary solution to concerns about fishery impacts during this license term, not to replace the need for long-term, sustainable measures in the upcoming license. The existence of the Fund during the current term should not prevent the agencies or FERC from demanding better minimum instream flows and fish protection measures based on modern science and today's ecological standards. Unfortunately, the signatory agencies have restricted their own participation in the current relicensing process by agreeing to a non-advocacy clause within the MOU:

> *Prior to both the termination of this MOU and the termination of the [1996 Project License], no Party shall advocate or support the imposition of instream flows and/or fish entrainment measures on Edison that are not in accord with the [1996 Project License] articles or are different from or in addition to those required by this MOU.*[73]

[72] Amended Upper Kern Fishery Settlement (2005) at 3.
[73] *Id.*, at 11.

This clause effectively ties the hands of the resource agencies, preventing them from advocating for an improved instream flow regime based on contemporary science, such as the California Environmental Flows Framework (CEFF). The agencies are held hostage by the threat of losing the Trust Fund altogether. As the MOU states:

> *If the MOU is terminated by Edison in accordance with Subsection I(B)(2)(iv) [withdrawal], the instream flows shall be returned to [1964 Project License] conditions and the funds in the Funding Account and the Interest Account shall be returned to Edison.*[74]

This creates a conflict of interest for the agencies, where their ability to demand environmental improvements for the Kern River is compromised by financial incentives tied to the Trust Fund. In this relicensing process, it is imperative that FERC and the public interest take precedence, and that a modern, science-based MIF regime is implemented — one that prioritizes river health over financial agreements made under outdated conditions.

SCE: *The existing Project dam and diversions are classified as a "low hazard" since* ***no reasonably foreseeable Project emergency would endanger life, health, or property.*** (DLA Vol.2, P1 at 5-40.)

KRB: The assertion of no foreseeable risk is false and untenable. Given the catastrophic failure[75] at the KR1 sister project, it is reasonably foreseeable that an emergency at KR3 could endanger life, health, and property. Several key points highlight this risk:

1. KR1 also had a "low hazard" rating prior to its catastrophic failure in 2013.
2. Despite this rating, KR1 caused two massive mudslides that crossed Highway 178, closing the highway for 10 days.
3. Only timing and luck prevented a tragedy. Public property sustained $500,000 in damage, and human life was only spared due to fortunate circumstances.[76]
4. The Commission acted swiftly and appropriately by raising KR1's hazard rating from "low" to "significant" after the failure.
5. KR3 shares many features with KR1, particularly the fact that it conveys 50% more water than KR1 through penstocks positioned above a highway.

There is no substantive reasoning to suggest that a similar failure at KR3 is unforeseeable. Models that did not predict the failure at KR1 are unlikely to predict failure at KR3, given the similarities. Additionally, the proximity of the project to fault lines, such

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[74] *Id.*, at 4.
[75] See FERC Accession Nos. 20131007-0307, 20131104-5010 & 20140325-0159
[76] See Lois Henry, "Mother Nature got help shutting down Hwy 178," Bakersfield Californian, March 29, 2014.

as the Kern Canyon Fault[77], presents a credible risk of a seismic event that could trigger a failure. Despite this, SCE has acknowledged that a flowline failure is possible, stating only that, “In the event of a flowline failure, flow would be shut off as soon as possible” (DLA Vol.2, P1 at 7-34). This minimal response offers little reassurance considering the potential for widespread damage and loss of life, as seen with the KR1 failure. Given these similarities and risks, it is imperative to reevaluate KR3’s hazard classification and ensure that safety measures are adequate to protect against the potential consequences of such a failure.

5.2 Proposed Action Alternative

SCE: *SCE would continue to operate the proposed Project to* ***generate power for SCE customers*** *consistent with regulatory requirements.* (DLA Vol.2, P1 at 5-42.)

[77] See: https://pubs.geoscienceworld.org/gsa/geosphere/article/8/3/581/132511/Map-of-the-late-Quaternary-active-Kern-Canyon-and

KRB: This statement is inaccurate. As SCE has explained elsewhere, the company purchases *all* the power it delivers to its customers from CAISO. The electricity generated by SCE, including KR3, is sold into the CAISO wholesale market, where it may or may not be delivered to SCE customers. This electricity is used to offset purchase costs, not as a direct source of customer power. SCE's 2025 General Rate Case explicitly states:

> *SCE purchases the electricity supplied to customers from the CAISO, a non-profit public benefit corporation that operates a transparent, accessible wholesale energy market to ensure safe and reliable delivery of electricity on California's power grid. To serve customers, SCE bids all of its utility-owned resources and contracted resources into the CAISO markets to offset its energy procurement expenses.*[78]

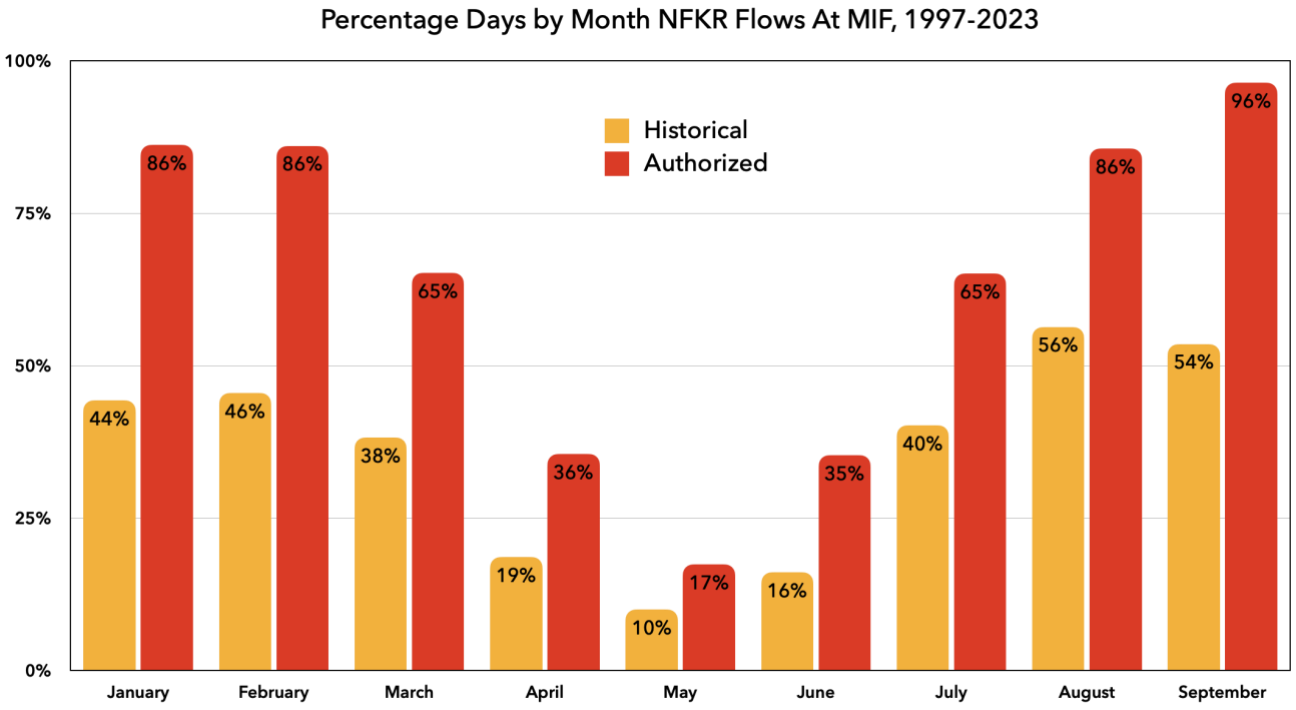
SCE proudly characterizes itself as a "wires-focused" company, with its generation sources bid into the CAISO market.[79]

SCE: *Implementation of the new environmental measures* ***may change Project generation*** *at the KR3 Powerhouse under the Proposed Action compared with the No-Action Alternative.* (DLA Vol.2, P1 at 5-42.)

KRB: This is disingenuous. SCE is fully aware that its proposed changes to the MIF will provide it a windfall of additional generation and revenue — at the expense to the health of the fishery — because SCE is far more likely to have to provide the MIF out of its diversion in July and August as opposed to May and June.

The chart below shows the percentages of time over the current license term flows below Fairview Dam are constrained at current MIF levels, both by historical operations (plagued with outages) and by license authorization[80]:

[78] SCE 2025 General Rate Case, SCE-05 Vol. 02 (2023), at 3.
[79] 2023 Sustainability Report, SCE (2024) at 55 ["SCE is wires-focused, with less than 20% of electricity sales coming from our own generation"].
[80] KRB-DLA-MIF, Sheet 4.

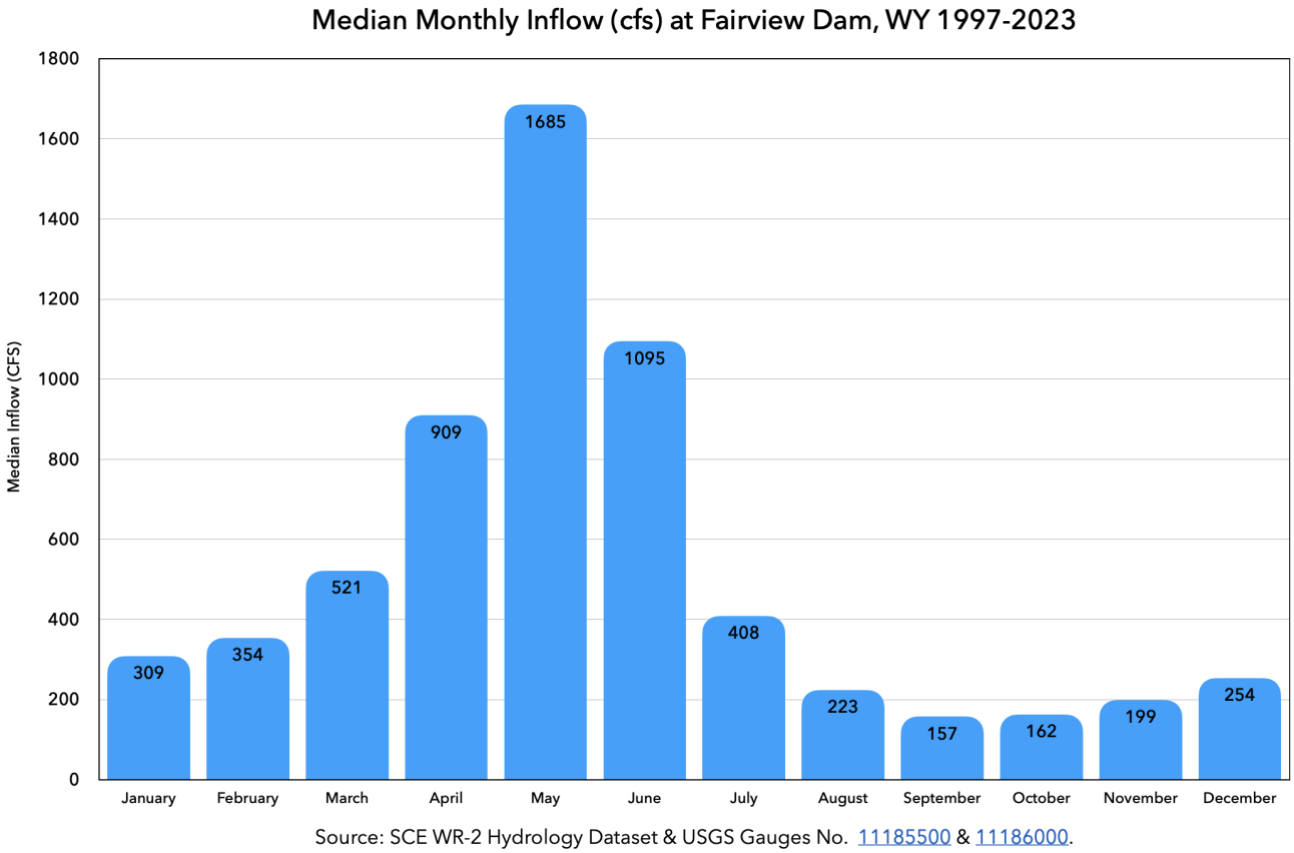


SOURCE: SCE KR3 HYDROLOGY DATASET (2023)

When flows are at the MIF, they are typically at the expense of SCE's diversion. Moving the 130 cfs MIF months from July and August to May and June thus increases the likelihood that the MIF will not cut into SCE's diversion but will instead be provided by natural inflows.

KR3 is capped at diverting 600 cfs at Fairview Dam. When natural inflows are above that maximum diversion rate plus the MIF, the MIF costs SCE nothing. But whenever inflows are *below* that combined figure (maximum diversion rate plus the MIF), the MIF takes away from potential diversion and accompanying revenue. The latter is far more likely to happen in July and August than May and June. As shown below, natural inflows at Fairview Dam vary significantly by month[81]:

[81] KRB-DLA-NRG, Sheet 3.

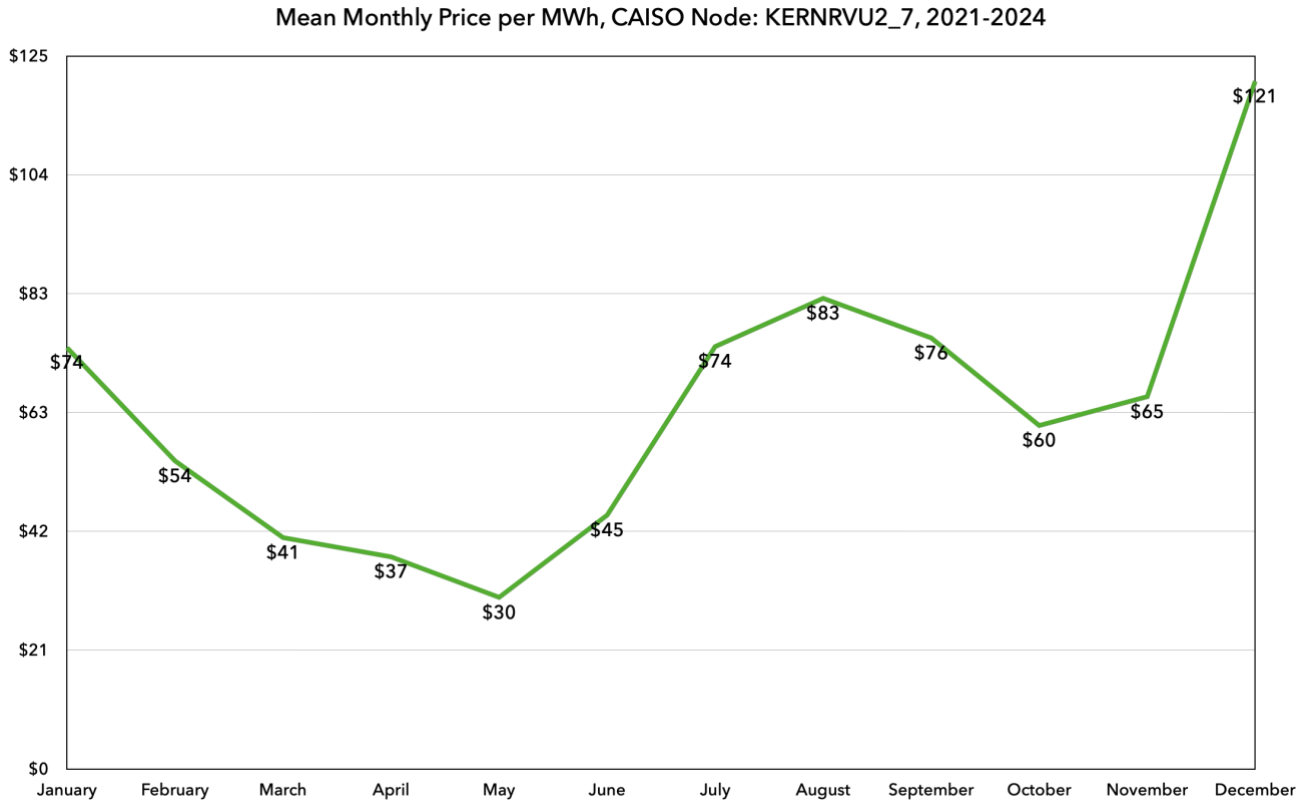


These figures show that mean inflows during the months of July and August are well below 730 cfs, which is below the max diversion (600 cfs) plus the MIF (130 cfs). That means the 130 cfs MIF typically decreases the KR3 diversion during those months.

By contrast, median flows in May and June are well above 730 cfs, and thus a 130 cfs MIF in those months would not typically impact the KR3 maximum diversion. The result, then, of moving the 130 cfs MIF months from July and August to May and June, is a windfall for SCE: KR3 would be authorized to divert *far more water* than under the current MIF regime. And there's more: SCE would also be securing a revenue multiplier on top of this additional diversion. Wholesale market pricing for electricity is much higher in July and August than in May and June, so the increased diversions will also come at times of increased market pricing.

We gathered market pricing at the KR3 node from CAISO's OASIS data repository starting in January 2021 through August 2024 (we will update those figures with the full 2024 data when available). Here are the average monthly prices for a megawatt-hour of electricity in the day-ahead market at that node[82]:

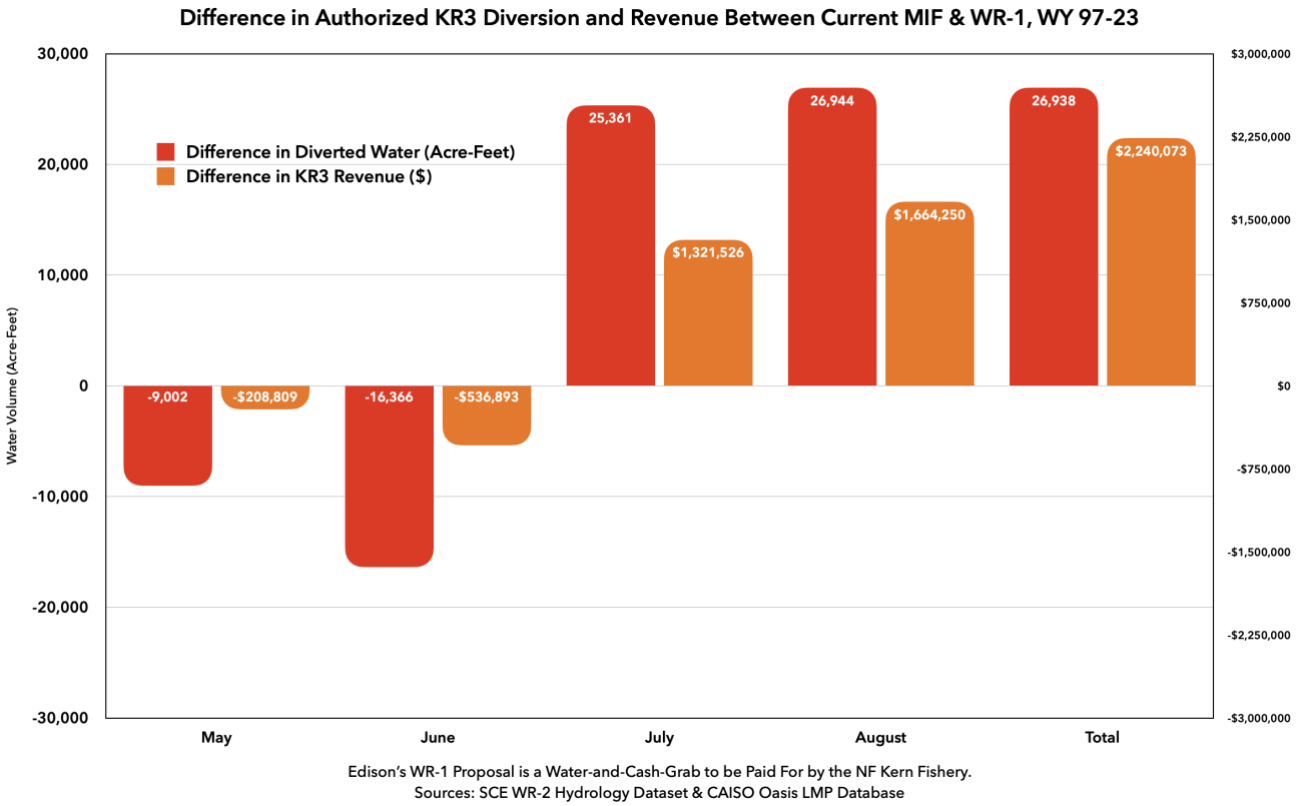
[82] KRB-DLA-MIF, Sheet 13.



As can be seen, average wholesale prices for electricity are $30-45 in May and June but rise substantially to $74-$83 in July and August. That means not only does SCE's new "environmental" proposal result in much greater generation through net additional diversions; that greater generation also comes at times (July and August) when wholesale electricity prices are much higher than the much smaller amount of diversion it would be giving up in May and June.

We created two models of flows below Fairview Dam and applied them to natural inflows over the current license term (1997-2023). Both models account for the hatchery flow, the tunnel maintenance flow, the recreational regime, tunnel travel times (OPS-1), and hourly market prices. One model uses the current MIF, the second uses SCE's proposed WR-1 MIF regime. The result is not surprising. SCE's WR-1 proposal authorizes KR3 to divert *an additional 27,000 acre-feet of water* for an increase in revenue of *two-and-a-quarter million dollars* over that term[83]:

[83] KRB-DLA-MIF, Sheet 10.



We remind the managing agents that the current MIF was designed to somewhat ameliorate poor conditions in the river caused by the Fairview Dam diversion during two of the hottest months of the year: July and August. As the State Water Resources Control Board wrote prior to its implementation,

> *Based on our analysis of data presented to date, project operation has increased North Fork Kern River water temperatures in some sections of the projection reach* ***during July and August of normal flow years*** *irregardless [sic] of the ambient air conditions. This increase in water temperature appears to be at least one factor that has led to the decline in populations of the Kern River rainbow.*[84]

In the 1996 joint KR3 environmental analysis, the Commission and the Forest agreed with the water board:

> *Interior [USFWS] originally recommended that Edison release flows, up to the entire natural streamflow, to maintain temperatures at or below 20°C for a distance of 6 km downstream from the dam. Under the Settlement Agreement, a minimum flow of 130 cfs would be provided during the* ***months of July and August*** *for the enhancement of fishery resources. We evaluated the effect this flow would have on temperatures in the bypassed reach based on Edison's*

[84] Letter to Edison, SWRCB (1993), FERC Accession No. 19930127-0376 at .pf p. 33.

> *temperature modeling. The 130-cfs minimum flow* ***during July and August*** *would maintain temperatures at less than 20°C for a distance of 6 km downstream from the dam under all but the most adverse conditions of low runoff and unusually hot weather. Thus, a minimum flow of 130 cfs in the bypassed reach would improve compliance with the Section 401 WQC's recommended temperature of 20°C for "cold" streams to the extent practical in the upper 6 km of the bypassed reach and would enhance summer stream temperatures for trout species.*[85]

The agencies wrote further in the EA:

> *Warm water temperature is a problem* ***primarily during July and August****. Flow increases during the late summer could provide benefits to trout populations in the upper bypassed reach by reducing temperature impacts and maintaining adequate quality trout habitat throughout the summer. The proposed* ***130-cfs minimum flows during July and August*** *would provide exactly this enhancement.*[86]

Contrary to its obligation under the fishery settlement to not advocate for changes in the MIF while the settlement is in force[87], SCE is now seeking to turn back the clock and undermine the small gains obtained by the settlement at the hottest times of the year when the fishery below Fairview Dam needs all the water it can get (to keep temperatures and DO concentrations from reaching destructively high and low levels, respectively). It is doing so for money, pure and simple, and it is utterly disingenuous for SCE to submit an application to this Commission *professing uncertainty* about the effects its WR-1 proposal would have on the KR3 diversion and SCE revenue.

Reducing the MIF to 100 cfs in July and August, while increasing it to 130 cfs in May and June, is not supported by the historical temperature data, ecological needs, or CEFF baseflow recommendations. Such a change would exacerbate thermal stress on trout during the hottest months of the year, leading to higher mortality rates and degraded water quality. Furthermore, it contradicts the USFS's statement that the dewatered reach can support a cold-water fishery provided adequate flows are maintained. Instead, increasing minimum flows during all months of the year, as recommended by the CEFF baseflows for minimum ecological function, is essential for ensuring the health and sustainability of the North Fork Kern River ecosystem.

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[85] 1996 EA at 24-25.
[86] *Id.*, at 33-34.
[87] Amended Upper Kern Fishery Settlement (2005) at 11 ["no Party [Edison is a Party] shall advocate or support the imposition of instream flows [that] are different from or in addition to those required by this [settlement] MOU"].

SCE: *This modified release schedule* ***is intended to enhance water temperatures*** *for native cyprinids, including hardhead, by slightly increasing water temperatures into more suitable ranges in the lower portions of the Fairview Dam Bypass Reach during the summer months. However, native cyprinids are generally not targeted by anglers. Rainbow trout, which are heavily stocked in the Fairview Dam Bypass Reach and targeted by anglers, generally prefer colder waters. Rainbow trout can tolerate water temperatures from 0°C to 27°C, although long-term exposure to water temperatures greater than 24°C can be lethal (Moyle, 2002).* (DLA Vol.2, P1 at 7-258 to 7-259)

KRB: This proposal from SCE amounts to a fundamental and unilateral alteration in settled river management strategy below Fairview Dam. It proposes to destroy what is left of the cold-water trout fishery. That is not the intent of any agency or management plan involved. In addition to the agency feedback noted in the comment directly above, SCE acknowledges in their own review of "*overarching* ecological management goals" that management objectives include:

> • *Protect and restore cold-water ecosystems.*
> • *Protect and enhance native fish populations and their habitats.*
> • *Identify trout fisheries impaired by dams that could benefit from revised flow regimes and more natural flow regimes.*[88]

And yet, even with those acknowledgements, SCE brazenly proposes that *their* environmental goal is to INCREASE water temperatures above and beyond the current inadequate riverine environment. It does so purportedly to benefit hardhead and not its bottom line. It is a misguided effort. While hardhead are "Native to the Sacramento and San Joaquin River drainages" and are a Species of Special Concern (SSC)[89], it is also the case that "Hardhead . . . prefer large, warm streams . . . . This species prefers warmer temperatures (greater than 20 °C for growth, 24 °C to 28 °C for optimal physiological performance) and most often occurs in streams with temperatures greater than 20 °C."[90] It is no surprise, then, that "no hardhead were observed at any monitoring site in 2023 and *have not been observed at monitoring sites in the NFKR since 1998*."[91] The dewatered reach of the NFKR is a natural cold-water fishery and has been managed as one for decades, so these datapoints are unsurprising; the hardhead is more suited to warm fisheries such as those encumbered by KR1 on the main Kern. SCE's contention that hardhead have "Moderate potential to occur year-round"[92] in the river below Fairview Dam

[88] DLA Vol.2, P1 at 7-109.
[89] DLA Vol.2, P1 at 7-81 & 7-89.
[90] DLA Vol.2, P1 at 7-90.
[91] DLA Vol.2, P2, Appendix E.3 at page 17.
[92] DLA 7-89.

is a conclusion motivated by financial interest in deepening the encumbrance of the NF Kern.

The dewatered reach below Fairview Dam was designed by nature as a cold-water ecosystem and, as multiple agencies have pointed out, could have harbored a self-sustaining cold-water trout population 13.5km below the dam, had the dam not been built. Supporting a native and stocked trout fishery under the extreme pressure of negative project effects has been the direct objective of multiple managing agencies. SCE's unilateral proposal to change these objectives — and, indeed, the makeup of the fishery and riparian ecosystem below Fairview Dam — by *increasing* its temperatures as an "environmental" measure is absurd. Rather, it is a bald-faced money play against nature and managing precedent to reframe pervasive, harmful project effects as positives in service of its crass economic interests. The fact that SCE floats this proposal and pretends it does not know that the effect would be to increase its diversions and line its pockets with summer wholesale market pricing is contemptible and cause for generalized skepticism of its claims.

6.0 Other Alternatives

SCE: *SCE is not proposing to decommission the Project, and the record to date does not demonstrate any serious resource concerns that cannot be mitigated if the Project is relicensed. As such, there is* ***no reason to include decommissioning*** *as a reasonable alternative to be evaluated and studied.* (DLA Vol.2, P1 at 6-1.)

KRB: SCE's reluctance to propose decommissioning is not driven by a lack of serious resource concerns, but by the cost of decommissioning, which SCE itself has conceded is prohibitively high. As SCE has informed the California Public Utilities Commission,

> *Costs to decommission projects are* ***extremely high*** *since the Hydro facilities (powerhouses, dams, stream diversion, and water conveyance systems) must be removed and the project lands may need to be restored to pre-project conditions. Even if only a small number of SCE's small Hydro projects are decommissioned, costs will likely reach into the* ***hundreds of millions of dollars****.*[93]

This admission highlights that SCE's primary incentive in continuing to operate the KR3 Project is economic — specifically, the high costs associated with decommissioning. Indeed, at the beginning of this process SCE manager Martin Ostendorf was unable to state that the project "penciled out" financially.[94] SCE has also acknowledged that "[t]he increased penetration and decreasing cost of solar has placed downward pressure on wholesale

[93] SCE 2025 General Rate Case, SCE05 Vol.01 (2023) at 17-18

[94] FERC eLibrary No. 20220103-4000 (PM session) at 15-16; December 01, 2021 American Whitewater KR3 Meeting (recorded).

energy prices and renewable energy credits, further challenging the economic value of small Hydro."[95] Those market forces place pressure on all generators, especially those like KR3 who are in the penumbra of small hydro, with a maximum capacity of 36.8 MW and an average annual rate of output of just 13.5 MW. It is misleading to suggest that no serious resource concerns exist when the reality is that the financial burden of decommissioning creates a powerful motivation for SCE to push for relicensing — even when the public interest, social utility, and economic viability of the project's continued operation are in doubt.

The Federal Power Act (FPA), as amended, is supposed to ensure that hydropower projects serve the public interest, and it requires the Commission to consider the best and highest use of natural resources affected by hydropower development. The NFKR is one of the nation's most significant public treasures and is certainly such for Southern California. Any relicensing decision should evaluate whether the continued operation of KR3 is truly compatible with the best use of the river's resources.

SCE's refusal to consider decommissioning ignores the long-term environmental impacts of this aging and environmentally harmful project. Under the FPA, decommissioning costs should not impact the honest assessment of whether a project like KR3 continues to offer benefits that outweigh its ecological harms. When economic pressures, such as decommissioning costs, drive the decision to relicensed outdated infrastructure, the public interest is shortchanged and undermined.

To ensure that economic pressures do not unduly influence SCE's decisions now or going forward, we have urged it to require SCE to establish a decommissioning fund for KR3. Such a fund would remove the artificial and perverse incentive for SCE to keep the KR3 project in operation simply to avoid the considerable cost of decommissioning. The public interest and the environment should not be held hostage to corporate financial concerns, particularly when the project's ecological impacts are so pronounced and its benefits so marginal. Establishing a decommissioning fund would align with precedent in cases where aging infrastructure no longer serves the public good, but the costs of removal present a barrier to making the best decision for the environment and public resources. By setting aside funds for decommissioning, SCE would be forced to honestly weigh the costs and benefits of continuing to operate KR3 without allowing the fear of financial loss to dictate its actions.

[95] SCE 2025 General Rate Case, SCE05 Vol.01 (2023) at 138.

7.1 General Description of the River Basin

SCE: *[A]ll bypassed flows are returned to the NFKR at the KR3 Powerhouse.* (DLA Vol.2, P1 at 7-4.)

KRB: This statement is factually incorrect. During this proceeding, the KR3 conveyance has been shown to be leaking water along its entire visible length. Its siphon, as well. The images provided show visible cracks and water seeping through the structure, clearly indicating that a significant portion of the diverted flows is not returned to the North Fork Kern. These leaks represent a persistent loss of water that never reaches the powerhouse, undermining SCE's claim that all water is ultimately returned to the river. The magnitude of these losses may reasonably be inferred from SCE's practice of appropriating a 5-10 cfs buffer to ensure minimum power generation. This buffer compensates for water lost through leaks and seepage. The condition of the KR3 conveyance is a clear indication that systemic issues exist, leading to water losses throughout the system.


KEEP OFF

SCE: *The Gilbert Ditch is a pre-1914 water right claim with the diversion point located along the east side of the NFKR approximately 1 river mile downstream from the KR3 Powerhouse and* ***diverts up to 35 cfs from the NFKR*** *for domestic use agricultural uses and excess flow, including the hatchery discharge, is returned to the NFKR downstream of Kernville. The Gilbert Ditch can receive water from two locations: (1) an enclosed pipe connected to the outflow from CDFW's Kern River Planting Base Hatchery, and (2) directly from the NFKR via a manual slide gate.* (DLA Vol.2, P1 at 7-7.)

KRB: SCE's description of the Gilbert Ditch's water rights and diversions is incomplete and, at best, misleading. While SCE claims that the ditch can divert up to 35 cfs from the North Fork Kern, historical records show that actual diversions have been significantly lower. According to the USFS Final Environmental Impact Statement for the designation of the Wild & Scenic NFKR, the Gilbert Ditch was diverting just 7 cfs.[96] This discrepancy in reported diversions raises questions about the accuracy of SCE's claim and the volume of water used. The increase suspiciously is to the same amount of water required for minimum power generation, suggesting it was set — like the ill-named "hatchery flow" — to provide cover for minimum power diversion. Further, the water measurement device used to track the diversion to the Gilbert Ditch was designed and last calibrated by SCE employee Derrick Tito, according to records from the SWRCB.[97] While this is not necessarily problematic, it underscores the need for independent verification. The fact that an employee of the KR3 Project has a role in monitoring the ditch's water intake introduces a potential conflict of interest and raises concerns about the reliability and transparency of the diversion claim.

7.2 Geologic and Soils Resources

SCE: *The spillway* ***has channelized a course*** *through hillslope sediment and now exhibits a bedrock substrate.* (DLA Vol.2, P1 at 7-28.)

KRB: The operation of KR3 under prior regulation has caused a significant and unnatural gash in the natural hillside below the forebay, eroding the landscape down to bedrock. This erosive damage is clearly visible in the aerial imagery provided. The contours of the hillside in the upper-right portion of the drainage remain relatively undisturbed, with smooth and natural slopes typical of the region. In stark contrast, the area indicated with red shows the effects of the channelized spillway, where the hill has been severely torn and eroded, resulting in sharp, unnatural walls leading down to the penstocks.

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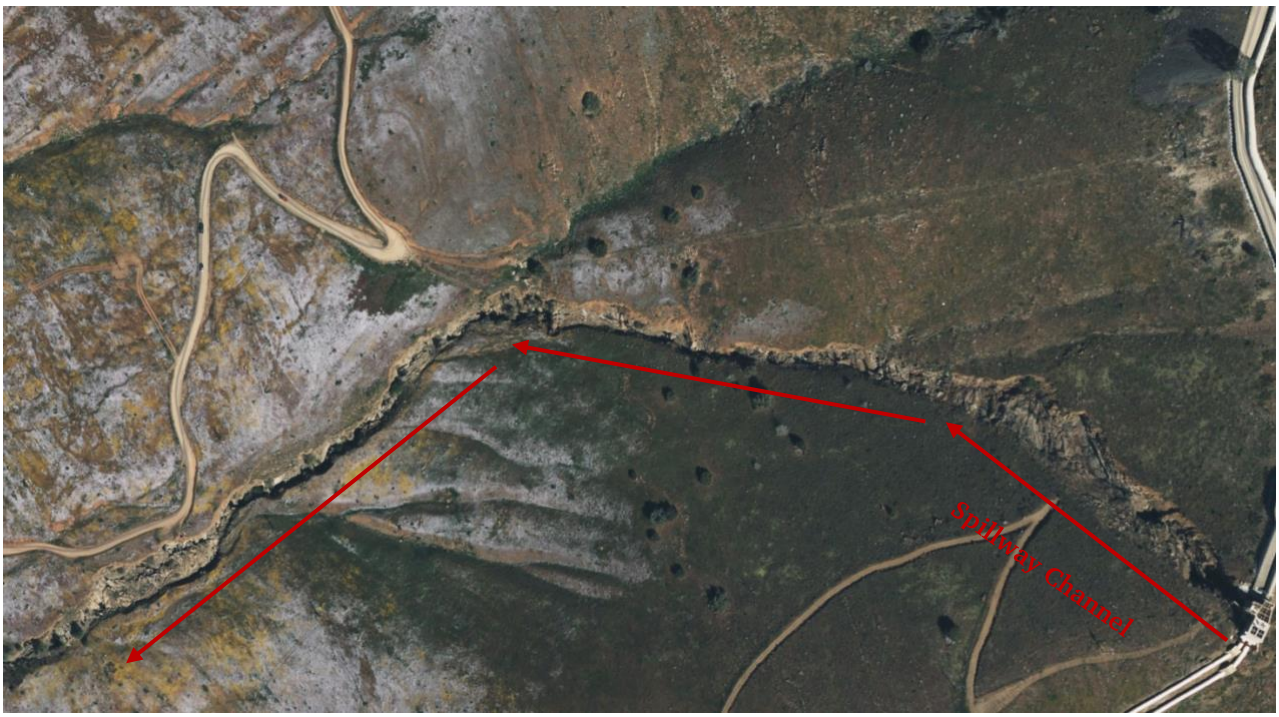
[96] Final Environmental Impact Statement, NFKR Wild and Scenic River, USFS (1982) at 18 (.pdf 29); Final Environmental Impact Statement, N&SFKR Wild and Scenic Rivers, USFS (1994) "Affected Environment" at 76 (.pdf p. 128).

[97] https://rms.waterboards.ca.gov/StatementPrint_2020.aspx?FORM_ID=503809.



This visible laceration of the landscape is not simply a matter of sediment removal but represents the severe degradation of a natural hillside due to the uncontrolled forces generated by the KR3 spillway. The claim that the area has now reached a bedrock substrate fails to acknowledge the extent of damage caused to the landscape. The forebay and related infrastructure have been allowed to permanently scar the hillslope, altering its natural form and ecology. Such damage is a direct result of long-term, unchecked operation and inadequate environmental mitigation. This damage should not be minimized as a mere transition to a bedrock substrate but should be recognized as an unintended and unacceptable alteration to the natural topography. It stands as an example of why more stringent oversight and mitigation measures are essential if the project is to continue operating. Allowing this type of environmental harm to persist further underscores the need for FERC to carefully scrutinize the impacts of KR3's operations and consider whether stronger restoration and mitigation efforts should be required.

SCE: *Two fish screens at the downstream end of the sandbox* ***prevent most fish*** *from entering the flowline.* (DLA Vol.2, P1 at 7-29.)
KRB: SCE's assertion that the fish screens at KR3 prevent "most" fish from entering the flowline is simply unsupported by empirical evidence. Without any formal, comprehensive entrainment monitoring or data collection, the claim that the screens are "mostly effective" appears is aspirational at best rather than grounded in scientific fact.

Entrainment studies are a critical tool in determining the effectiveness of fish screens and ensuring that fish populations are adequately protected from being drawn into

hydroelectric infrastructure. These studies quantify the number of fish that bypass the screens and enter the flowline, providing measurable data that can be used to improve mitigation efforts. However, in the case of KR3, no such site-specific studies have been conducted, and SCE provides no similar data to support its claim of effectiveness. The effectiveness of fish screens is dependent on a variety of factors, including the size of the fish, the screen aperture, water velocities, and overall screen maintenance. It is impossible on this record to verify how these factors are interacting at KR3 or to determine whether the screens are functioning as intended. The Federal Power Act and FERC relicensing guidelines emphasize the need for data-driven management practices to ensure the protection of aquatic resources. By failing to ever conduct a site-specific, objectively observational, and comprehensive study of its project's entrainment effects flies in the face of best practices for hydropower operations — particularly for a project located on a federally protected and ecologically sensitive river.

SCE: *Because the [Spillway] channel bottom in the upper portion of the spillway is currently exposed bedrock and has* ***little potential for further erosion****, erosion along the spillway would be minimal.* (DLA Vol.2, P1 at 7-34.)
KRB: Elsewhere, SCE concedes that, "According to historical records, most erosion and sedimentation occurred shortly after operations began. Spillway channel banks continue to actively erode but at low rates."[98] NEPA requires federal agencies to consider the cumulative effects of their actions, which include the impact of the proposed action when combined with other past, present, and reasonably foreseeable future actions. Cumulative effects are particularly relevant when environmental impacts are incremental but could become significant over time. Although SCE argues that most erosion and sedimentation occurred shortly after operations began and that the exposed bedrock has little potential for further erosion, this overlooks the possibility of cumulative effects over time. Even minimal ongoing erosion, when combined with other environmental impacts (*e.g.*, sedimentation from other sources, changes in hydrology, increased storm frequency due to climate change), could lead to significant cumulative impacts on the river's ecosystem and water quality. Over the life of the KR3 project, the cumulative effects of even minor erosion could contribute to downstream sedimentation, potentially affecting aquatic habitats, water quality, and recreational uses. This cumulative impact may be more significant than SCE anticipates, especially if the baseline assumption that the bedrock is stable proves overly optimistic in the context of changing environmental conditions. The continued operation of the KR3 spillway could exacerbate environmental degradation even if the present contribution of the spillway is small. NEPA requires a comprehensive analysis that considers the cumulative effects of even small, incremental impacts. A thorough cumulative effects

[98] DLA Vol.2, P1 at 7-33

analysis is necessary to ensure that the potential environmental impacts of the KR3 spillway are fully understood and mitigated. SCE has not provided one here.

SCE: *Similar to the KR3 Powerhouse Forebay Spillway channel, **erosion** in the Cannell Creek Siphon Spillway channel is expected to have minor to no effects on geology and soils.* (DLA Vol.2, P1 at 7-34.)
KRB: For the same reasons outlined above regarding the Powerhouse Forebay Spillway, a thorough cumulative effects analysis of erosion at the Cannell Creek Siphon Spillway is required. Instead of offering one, SCE opts to simply downplay the potential for significant erosion. Even minor ongoing erosion can lead to cumulative environmental impacts when considered over the long term and in combination with other stressors. This is especially true for the Cannell spillway, where erosion, even if currently described as minor, has the potential to cause more significant impacts when considered in the context of climate change-induced hydrological changes and sedimentation impacts downstream, which can alter aquatic habitats and degrade water quality over time. SCE's conclusion that erosion in the Cannell Creek Siphon Spillway will have "minor to no effects on geology and soils" is a motivated assertion. The absence of a detailed cumulative effects analysis undermines its validity. NEPA requires the assessment of incremental environmental impacts when considered alongside other past, present, and reasonably foreseeable future actions. FERC must ensure that these cumulative impacts are evaluated rigorously, particularly in light of potential changes in environmental conditions over the lifespan of the KR3 project.

SCE: *Flushing activities at flows less than 350 cfs may have **minor, local, short-term effects** on sediment transport because sediment from the sandbox may be deposited between higher flow events (i.e., flows greater than 350 cfs)*. (DLA Vol.2, P1 at 7-36.)
KRB: As with its WR-1 MIF proposal, SCE is again trying to turn back the clock on environmental protection. Lowering the threshold for flushing to below 350 cfs will significantly increase sediment deposition in the riverbed, which will negatively impact the aquatic habitat. SCE's claim that sediment deposition would be minor and localized is unsupported by evidence and ignores the reality that sedimentation can cause significant disruptions to the habitat, particularly in areas where fine sediment can accumulate, smothering spawning grounds and reducing the quality of habitat for macroinvertebrates that are crucial for fish diets.

Over time, even small, localized sediment deposits can accumulate, leading to more extensive degradation of the riverbed. These cumulative effects could compromise the long-term health of the river ecosystem, which may not be adequately addressed by the occasional higher flow events that SCE relies on to redistribute sediment. Flushing at flows below 350 cfs is more likely to cause sediment to settle and accumulate, as the lower energy in the river is insufficient to carry the sediment downstream effectively. This

accumulation could lead to the clogging of riffles and pools that are critical habitats for various life stages of fish, including juveniles and spawning adults.

The claim that flushing at these lower flows will be outside of the rainbow trout spawning season doesn't answer the question of what happens in drought years when flows rarely if ever exceed 350 cfs or negate the potential harm to other life stages of aquatic species or to the river's overall health. Sediment that is not adequately flushed can create long-lasting changes in the river's geomorphology, potentially leading to habitat loss and increased water temperatures, which are detrimental to cold-water species like trout. While SCE references historical studies, it is important to highlight that these studies were conducted under the existing 350 cfs regime. The data from these studies do not support the conclusion that lower flow flushing would have minimal impacts. On the contrary, those studies were based on higher flow conditions specifically because lower flow flushing was recognized as potentially harmful. There is insufficient data to support the claim that flushing at flows below 350 cfs will not have adverse effects. SCE's argument is speculative and does not adequately account for the potential variability in river conditions or the likelihood that lower flows could exacerbate sedimentation issues.

SCE's proposal prioritizes its own short-term operational flexibility over the long-term health of the river ecosystem. This approach is inconsistent with sustainable river management practices, which emphasize maintaining natural sediment transport processes and protecting critical habitats. The purported benefits of more frequent flushing at lower flows (*e.g.*, reduced time between flushings) are outweighed by the potential harm to the river. Increased flushing frequency might reduce sediment buildup in SCE's sandbox, but at the cost of greater sediment deposition downstream, which will exacerbate habitat degradation. There is a precedent in environmental law and policy to err on the side of caution, particularly when proposing changes that could potentially harm sensitive ecosystems. Given the uncertainty and potential risks associated with lowering the flushing threshold, it would be more prudent to maintain the 350 cfs limit or even consider more conservative measures to protect the river's health.

Under NEPA, any proposed changes to project operations that could significantly affect the environment require thorough analysis and justification. SCE has not provided such here. Given the potential risks to the river ecosystem, the proposal to lower the flushing threshold should be subject to rigorous environmental review, including consideration of cumulative impacts and alternative sediment management strategies that might be less disruptive. The existing data and ecological principles strongly suggest that maintaining the current 350 cfs threshold is crucial for protecting the river's health. Any changes to this threshold should be based on comprehensive studies that fully consider the potential long-term impacts on the river ecosystem rather than speculative benefits posed by an interested party for operational convenience over environmental stewardship.

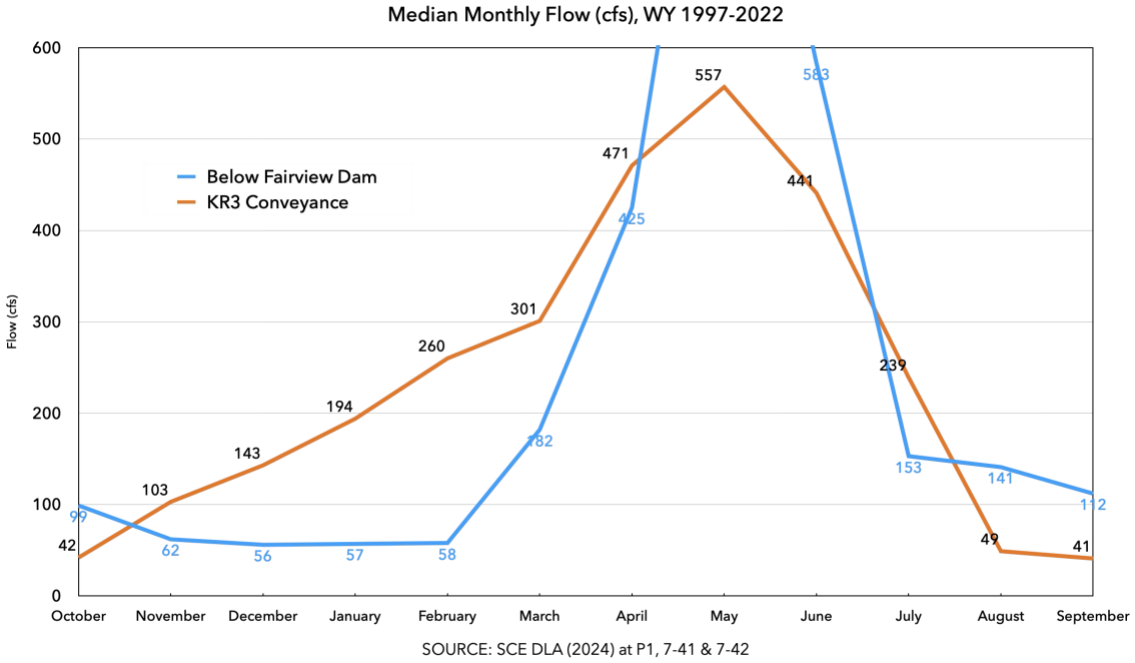
SCE: *With implementation of proposed Measure WR-4, SCE would, as needed, open the impoundment drain when the diversion is turned out (i.e., not diverting flow) to allow any accumulated sediment to* ***naturally*** *flush downstream. If accumulated sediment does not naturally flush downstream through the pond drain, sediment may need to be physically removed and relocated downstream using small hand tools.* (DLA Vol.2, P1 at 7-37.)
KRB: SCE's analysis of its proposal is simplistic and allows potentially harmful practices. The periodic release of accumulated sediment, particularly in large quantities, can smother aquatic habitats downstream, disrupting spawning grounds for fish and affecting benthic organisms essential to the food web. Even if the sediment is flushed "naturally," the sudden influx of material can cause significant turbidity spikes, which are detrimental to aquatic life. SCE should know this. Without comprehensive, continuous monitoring before, during, and after flushing events, it is impossible to accurately determine the environmental impacts. NEPA requires consideration of cumulative impacts, and it is questionable whether this piecemeal approach to sediment management has adequately considered these cumulative effects. The argument that sediment will naturally flush downstream does not account for the cumulative accumulation of sediment in lower-gradient areas, where it can create persistent problems for aquatic habitats and water quality. The reliance on "natural flushing" as a primary method and "hand tools" in reserve indicates a lack of long-term, sustainable sediment management planning.

The proposal must ensure compliance with the Clean Water Act, Endangered Species Act, and other relevant environmental regulations governing these sensitive creeks. Any sediment release must not violate water quality standards or negatively impact species listed under these acts. The plan should be subject to rigorous review and approval by environmental agencies to ensure that the proposed sediment management activities do not lead to adverse environmental impacts. SCE has provided insufficient evidence for that analysis here.

7.3 Water Resources

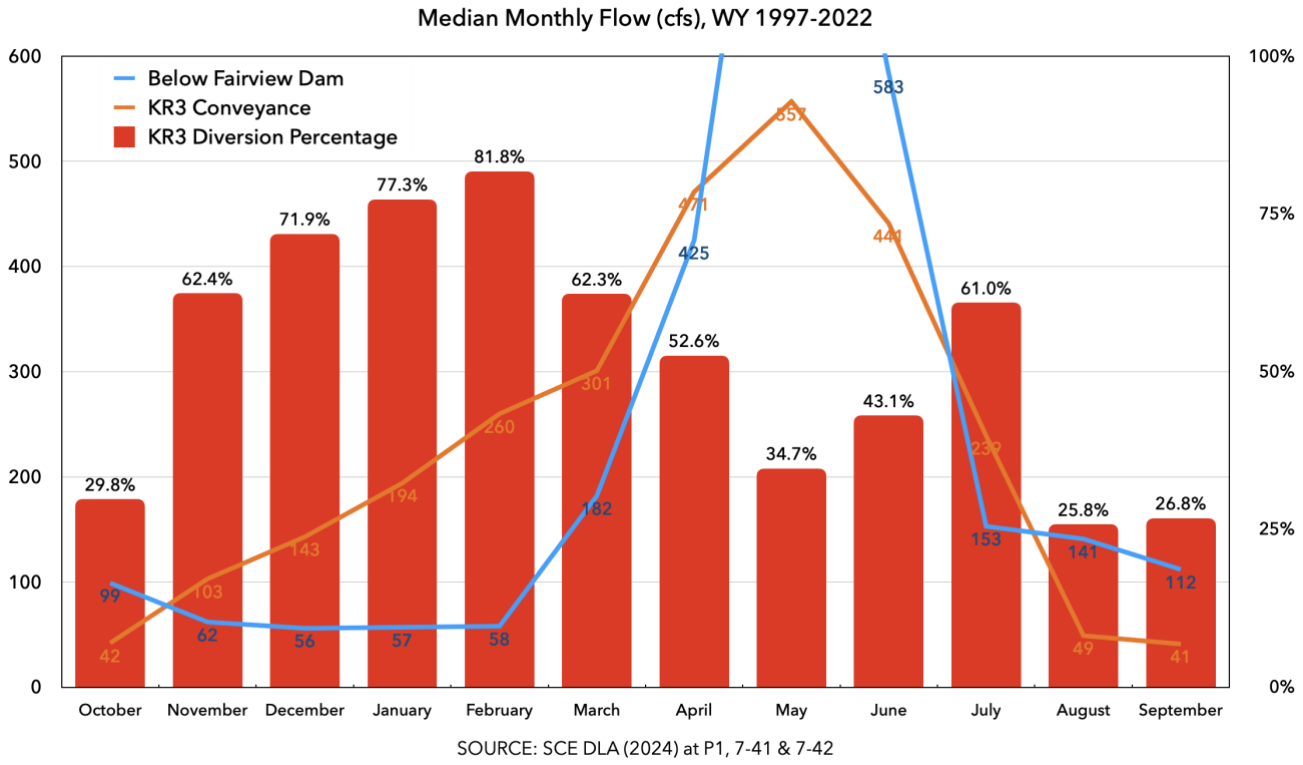
SCE: *Diversion from the NFKR was* ***generally highest*** *from April through June (greater than 400 cfs) and lowest from August through January (less than 200 cfs).* (DLA Vol.2, P1 at 7-41.)
KRB: As shown in SCE table data (DLA Vol.2, P1 at 7-41 & 7-42), the project typically (median) takes more water out of the river at Fairview Dam than it leaves in — seven months out of twelve, in fact. Here is SCE's own data plotted together by month, first in isolation, and then including the percentage of incoming water taken out at Fairview Dam[99]:

[99] KRB-DLA-MIF, Sheet 14.



As a percentage of natural inflow, the diversion is greatest (>60%) during November-March and July[100]:

[100] KRB-DLA-MIF, Sheet 14. Recall that during the last relicensing proceeding, U.S. Fish & Wildlife recommended that the MIF be set at 100-150 cfs. (1996 EA at 10.) Those figures were reduced to 40-130 cfs in exchange for the trust fund. (Amended Settlement at Exh. B (.pdf p. 111).) Presently, the California Environmental Flows Framework recommends that the ecological baseflow below Fairview Dam be 195 cfs during the dry season, and 335 cfs during the wet season. (California Environmental Flows Working Group California Natural Flows Database: Functional Flow Metrics v. 1.2.1 [accessed December 2023].)



SOURCE: SCE DLA (2024) at P1, 7-41 & 7-42

SCE: *Consistent with 2022 and 2023 results, high levels of fecal coliform have* ***occasionally*** *been detected during historical sampling events.* (DLA Vol.2, P1 at 7-52.)

KRB: SCE's characterization of high fecal coliform levels as an "occasional" phenomenon is not aligned with the evidence or multiple agency opinion. USFS, NPS, and CDFW have all concluded that elevated coliform concentrations are not sporadic but a predictable environmental concern in the dewatered reach — particularly during periods of low flows caused by project diversions. The Upper Kern Basin Fishery Management Plan identifies increased coliform levels as a consistent issue in the dewatered reach, particularly during low flow conditions. Low flows reduce the river's natural ability to dilute pollutants, leading to elevated coliform concentrations. This is not a rare occurrence but a foreseeable consequence when impaired flows are insufficient to maintain adequate water quality.[101] SWRCB has also emphasized that increased fecal coliform levels are flow-related. Their assessment concluded that elevated coliform concentrations are directly tied to low flow conditions, indicating that insufficient water releases from KR3 contribute to this problem.[102] The 1996 KR3 Environmental Assessment explicitly acknowledges this, stating that reduced flows allow for higher concentrations of pollutants, including coliform, which are not adequately diluted under the current flow regime. This confirms that the issue is systemic and linked to flow management rather than being an isolated or occasional

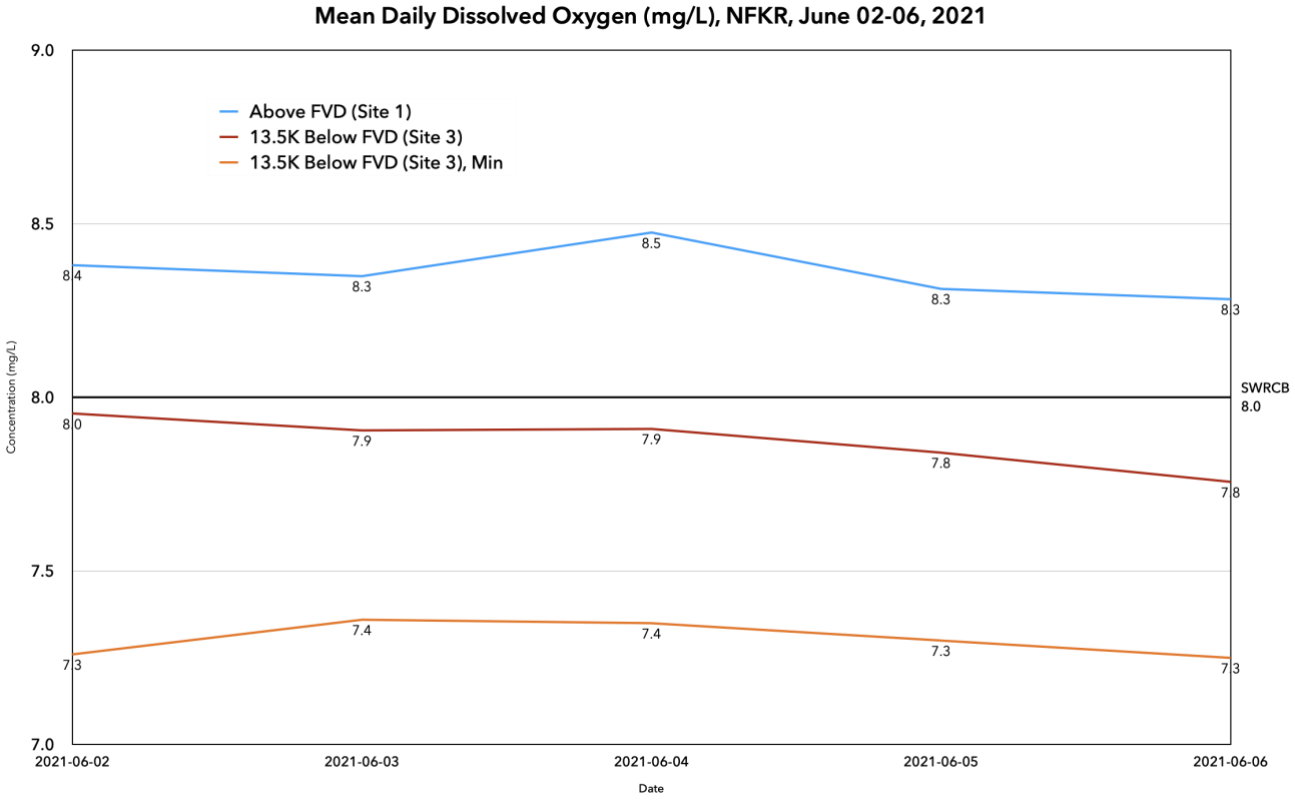
[101] Upper Kern Basin Fishery Management Plan, USFS (1995) at V-3.
[102] KR3 Environmental Assessment, FERC & USFS (1996) at 26.

problem. USFS further noted that high fecal coliform levels could contribute to low dissolved oxygen (DO) levels, posing a threat to aquatic species.[103] Reduced flows allow for coliform to build up in the water, which in turn degrades water quality and potentially lowers DO levels, particularly during the summer months when water temperatures are high.[104] Low DO levels can be lethal to fish populations that rely on cool, oxygenated waters to survive.

KR3's current and proposed MIF regime fails to address these flow-related issues adequately. The California Environmental Flows Framework (CEFF), which provides a scientifically based flow standard, offers an effective solution to mitigate these ongoing water quality issues. Implementing CEFF baseflows as the new MIF would significantly improve conditions in the dewatered reach by (1) increasing flow volumes, which would provide greater dilution of fecal coliform and other pollutants, helping to mitigate their impact on water quality; (2) improving water temperature control, particularly during the hottest months when coliform levels are highest, ensuring cooler water temperatures beneficial to both the aquatic ecosystem and recreational users; (3) enhancing dissolved oxygen (DO) concentrations by ensuring higher flows, which increase oxygen mixing and prevent the development of low-oxygen "dead zones"; and (4) supporting the health of aquatic species by creating more favorable habitat conditions with cooler, oxygen-rich water and reducing the risks associated with elevated coliform levels and degraded water quality. Implementing CEFF baseflows as the MIF, as we have proposed, would provide a data-driven solution to address these water quality concerns and ultimately create a healthier aquatic environment.

SCE: *The 1993 study found that reduced DO was primarily* ***related to elevated temperature*** *rather than Project-related variations in stream flow. DO concentrations were* ***generally similar*** *upstream and downstream of the diversions and within the Fairview Dam Bypass Reach throughout the summer study period.* (DLA Vol.2, P1 at 7-54.)
KRB: To begin, SCE fails to characterize the results obtained from its own WR-1 to date. They are not hopeful. For instance, between June 02 and 06, 2021, the project clearly demonstrated a reduction in DO below Fairview Dam that fell below state water quality standards[105]:

[103] KR3 Environmental Assessment, FERC & USFS (1996) at 25-26.
[104] KR3 Notice of Decision (FONSI), USFS (1998) at Appendix E, 13.
[105] KRB-DLA-TMP, Sheet 7.

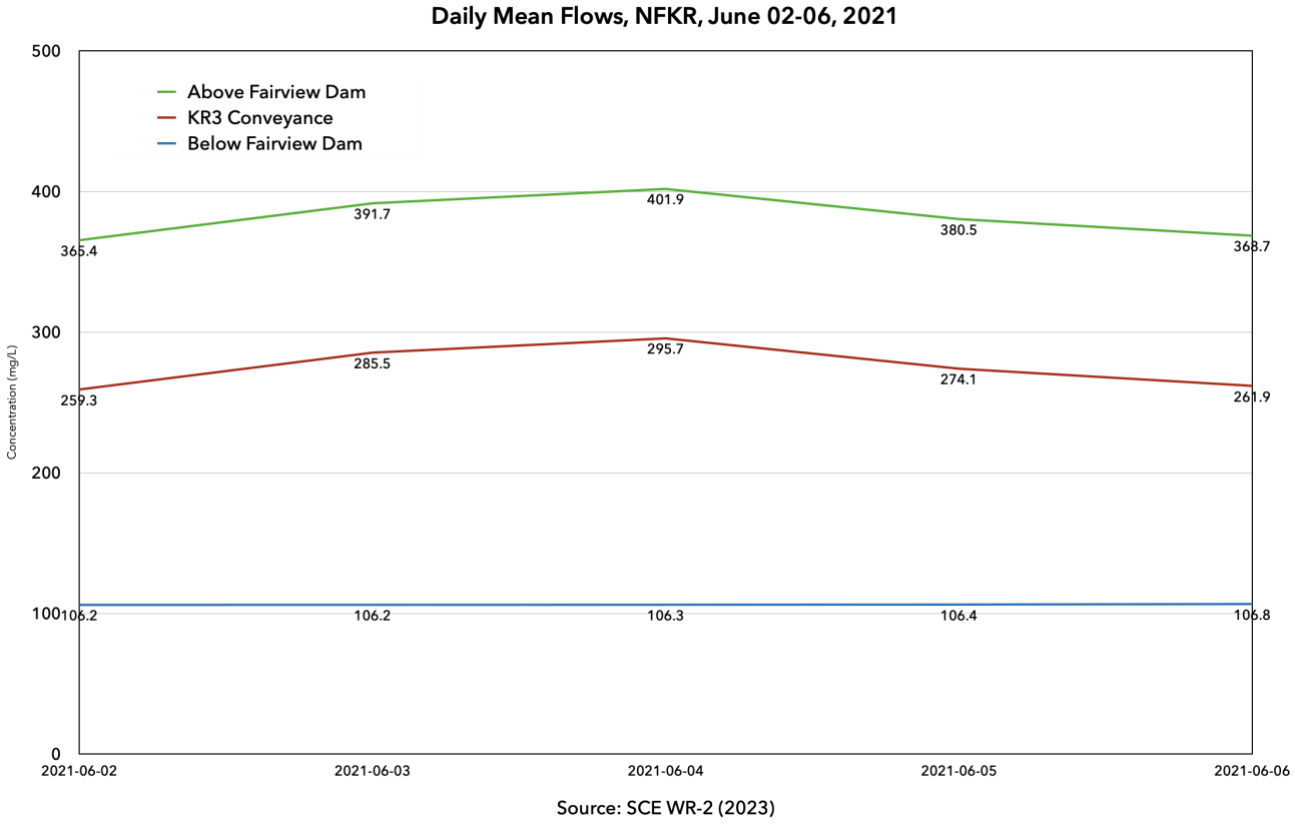


Source: SCE WR-1 (2023)

The results speak for themselves:

- Above Fairview Dam: 8.3 - 8.5 mg/L
- Below Fairview Dam (13.5 km downstream): DO consistently fell, with daily minima as low as 7.3 mg/L, below the 8.0 mg/L standard required by the SWRCB. In this instance, moreover, while inflows were between 360-400 cfs, SCE diverted the flow to leave just 106 cfs in the river[106]:

[106] KRB-DLA-TMP, Sheet 7.



Flow Rates Observed: June 02-06, 2021:

- Above Fairview Dam: 365-400 cfs
- Below Fairview Dam: 106 cfs, showing that SCE took most of the water from the river.

This reduced flow directly correlates with the decrease in DO observed below Fairview Dam. Reduced DO levels are not just related to temperature but are intrinsically linked to flow rates. Lower flow reduces the river's ability to buffer temperature increases, which in turn lowers DO levels. SCE's diversion leaves the river vulnerable to greater temperature fluctuations, exacerbating the decline in DO concentrations.

We strongly challenge the cited conclusion of SCE's consultant, Entrix, that "reduced DO was primarily related to elevated temperature *rather than* Project-related variations in stream flow." It is well-established in aquatic science that water temperature and DO levels are intrinsically connected. Warmer water holds less dissolved oxygen, and this connection is crucial in understanding the combined effects of low flow and temperature increase: Flow reduction removes the river's ability to buffer against temperature spikes, especially in summer. Elevated temperatures cause a decline in DO, creating a stressful environment for aquatic life, particularly cold-water species. Project-induced diversions reduce thermal mass, allowing water temperatures to rise quickly due to solar radiation, leading to lower DO levels downstream. The argument that reduced DO is primarily temperature-driven fails

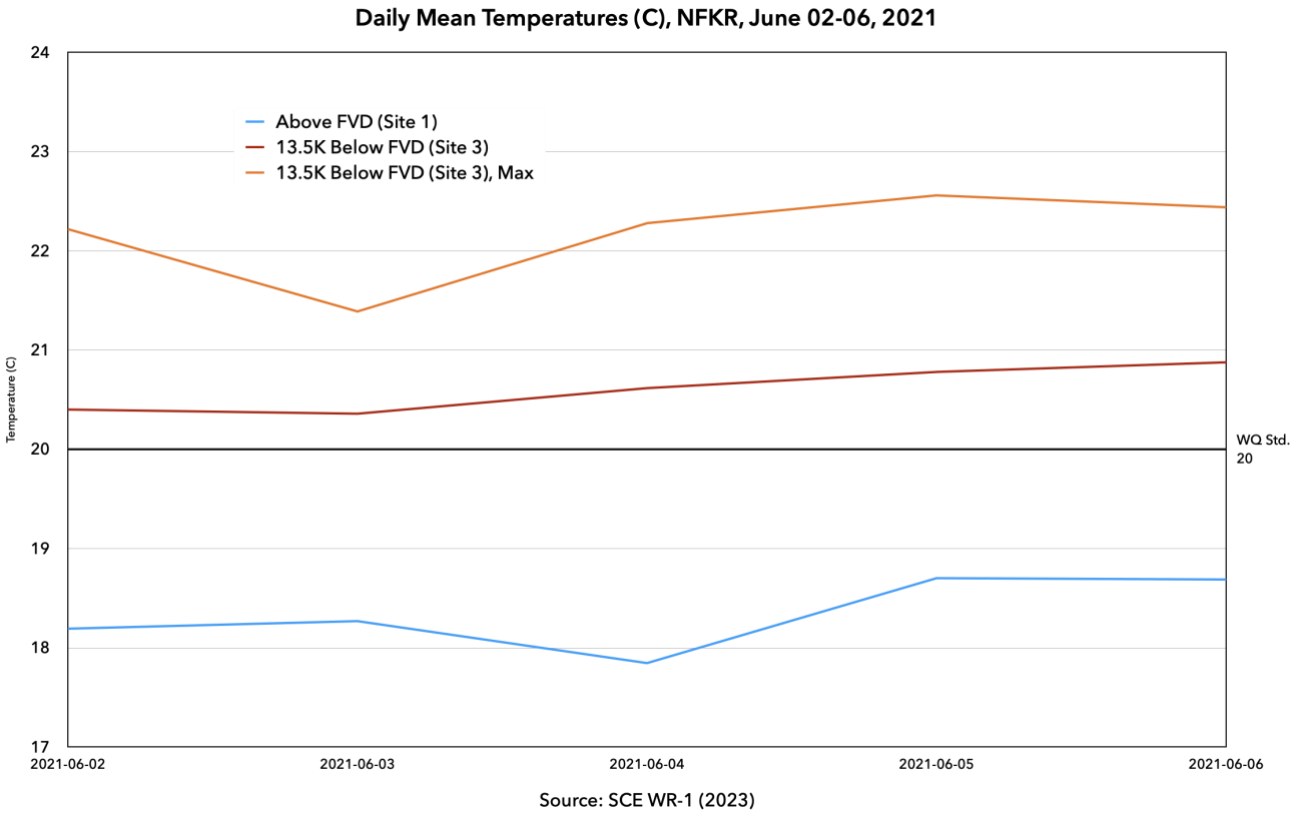
to acknowledge the crucial role of flow in regulating both temperature and dissolved oxygen levels. By diverting large volumes of water from the North Fork Kern, SCE diminishes the river's thermal mass, increasing its susceptibility to rapid warming. As a result, the remaining flow heats up more quickly, exacerbating the problem of reduced DO. The chain reaction of diversion → lower flows → higher temperatures → lower DO is well-documented in both scientific literature and aquatic management practices. SCE's position that temperature alone is to blame for reduced DO is a mischaracterization of the science. Project-induced reduction of flows is directly responsible for these temperature increases, which in turn depress DO levels, making the aquatic environment uninhabitable for cold-water species. Maintaining higher minimum flows, particularly during the warmer months, is critical to mitigating the adverse impacts of low DO and high temperatures on aquatic species. This is especially important for the cold-water fishery, which cannot thrive under the conditions produced by KR3's current MIF regime. Increasing flows, as recommended by the California Environmental Flows Framework, and as we have proposed, would allow the river to better maintain its natural temperature and DO buffering capacity.

Nor does SCE care to speak honestly about the damage its diversion imparts on its creeks. The 2021 data it obtained, however, shows a massive 5 ºC (9 ºF) increase in temperature for more than a month at the diverted reach in Salmon Creek and three months at Corral.[107] SCE provides no justification for causing this damage in the DLA — specifically, to what degree do these creek diversions provide useful power to society? We have proposed that these creek diversions be retired given the absence of their social utility and the promise such retirement would hold out to special status and native species alike.

SCE: *Based on current data, the differences in water temperature between the stream sites upstream and downstream of Project diversions were* ***less than the 9 °C (5 °F) [sic] water quality objective*** *for receiving waters in the Basin Plan.* (DLA Vol.2, P1 at 7-59.)
KRB: The fundamental state water quality objective is that the project must *not adversely affect beneficial uses*, such as the natural riverine environment that supports a cold-water fishery. SCE's suggestion that they are somehow permitted to raise water temperatures by 5 °C is inapposite and cover for it not addressing the project's adverse effects on the river's beneficial uses.

SCE's own data shows that project diversions are negatively affecting water temperatures. For instance, in June 2021 water temperatures downstream from Fairview Dam regularly exceeded 20°C, breaching the state standard for cold-water streams[108]:

[107] DLA Vol.2 P1 at 7-62.
[108] KRB-DLA-TMP, Sheet 7.



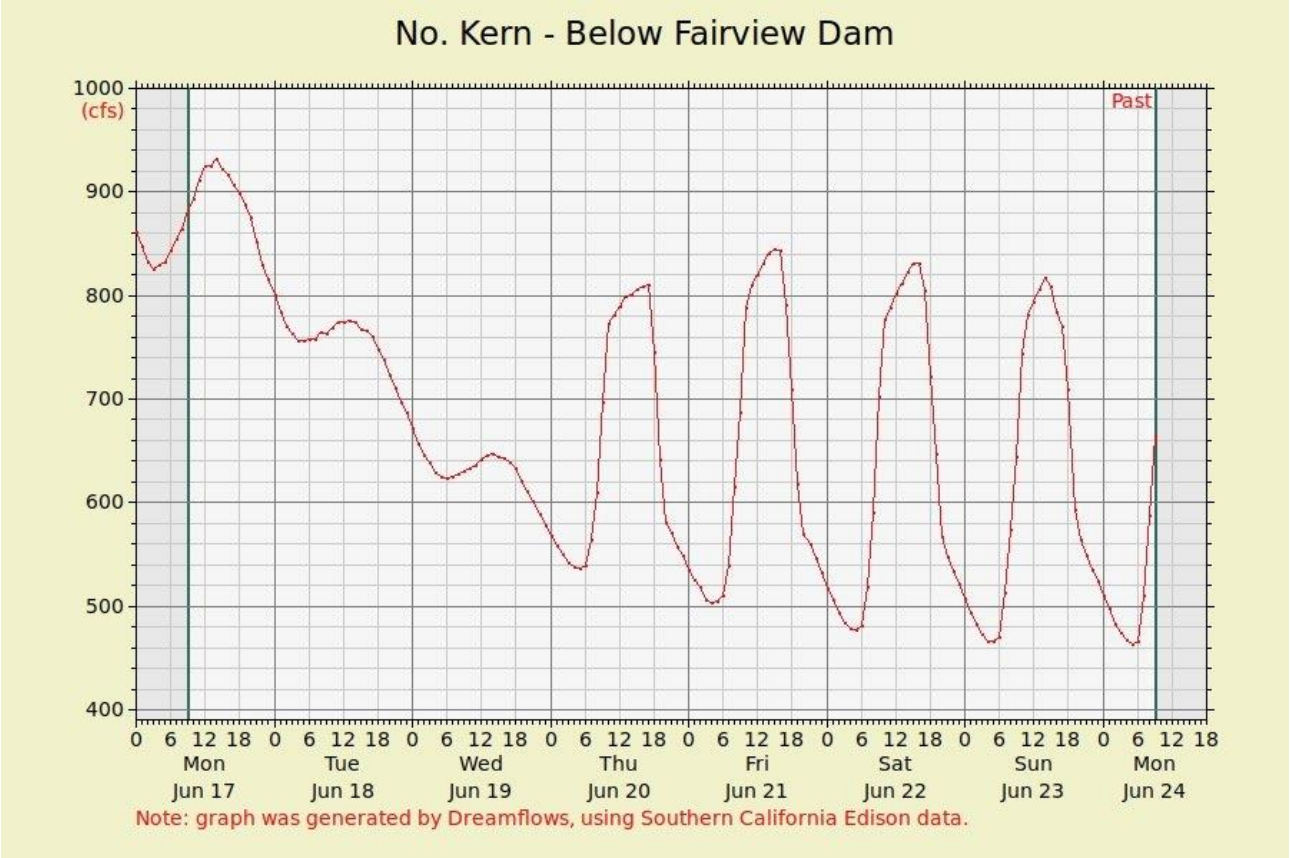
Temperature Results: June 02-06, 2021

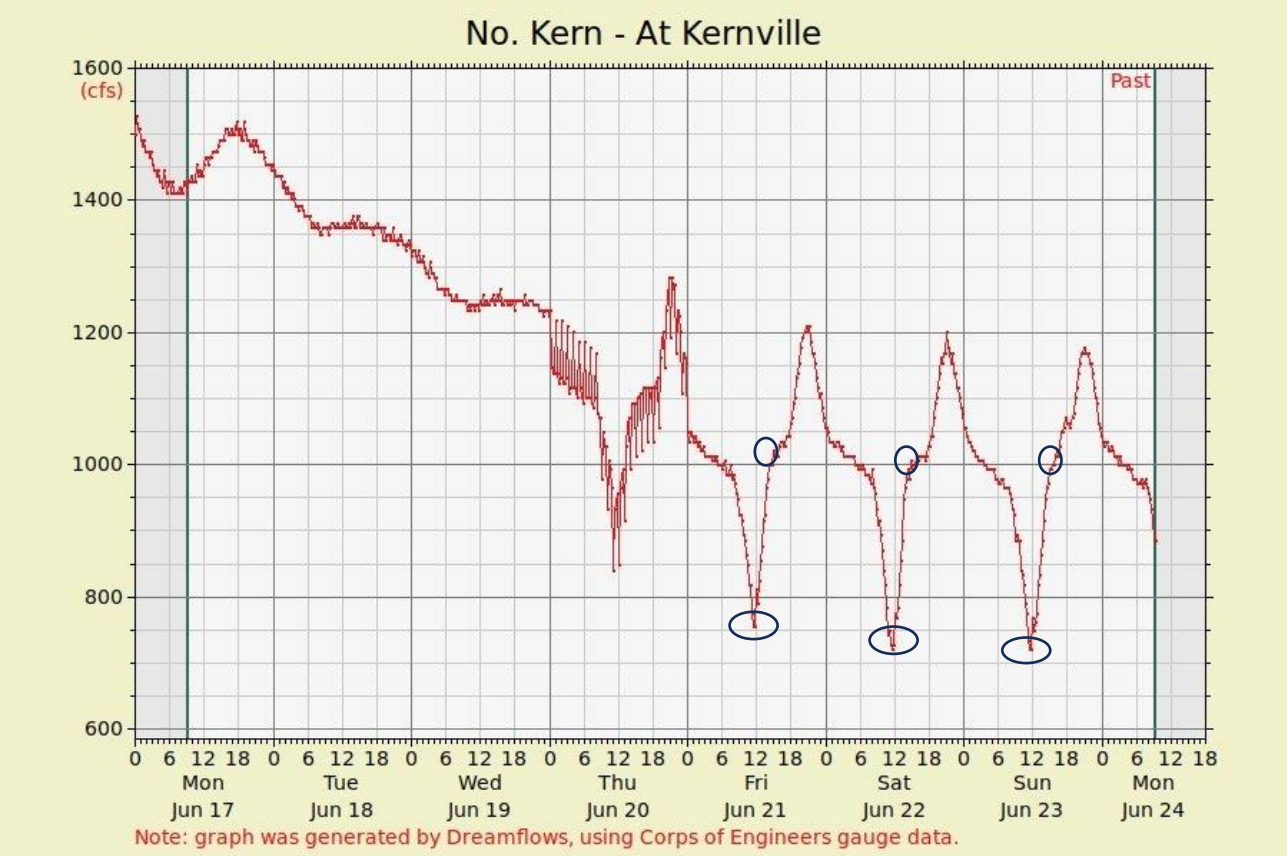
- Above Fairview Dam: Water temperatures remained below 20 °C, averaging between 18-19 °C.
- 13.5 km Below Fairview Dam: Temperatures frequently exceeded the stress threshold of 20°C for cold-water species, with daily means approaching 21 °C and maximums 23 °C.

As with the DO chart above, inflows at this time were between 360-400 cfs, yet SCE diverted most of the water, leaving only 106 cfs in the river and lowering the river's thermal capacity. The diversion caused water temperatures downstream to rise above the 20°C state standard, making the conditions inhospitable for cold-water fish. SCE's claim that differences in water temperature between upstream and downstream sites are "less than the 9°C (5°F) [*sic*]" standard is irrelevant to the overarching issue of protecting beneficial uses. State law clearly mandates that project operations must not adversely affect beneficial uses such as maintaining a cold-water fishery. The project's diversions, as demonstrated in the June 2021 data, are clearly undermining that goal by increasing temperatures beyond the threshold water quality for a healthy cold-water ecosystem. Maintaining higher minimum flows, as prescribed by CEFF and as we propose, is essential to ensuring that the North Fork Kern River remains a viable habitat for cold-water species, providing cooler water temperatures and adequate DO levels during critical summer months.

SCE: *Because water travels more rapidly through the 13-mile long flowline than through the 16-mile long bypass reach, an increase in releases into the Fairview Dam Bypass Reach may result in a minor, localized, short-term* ***decrease in flow downstream of the KR3 Powerhouse a few hours following the change****. This travel-time effect may have a duration of a few hours until the increase in flow at the Fairview Dam is realized downstream of the KR3 Powerhouse.* (DLA Vol.2 P1 at 7-65.)

KRB: The following graphs reflect four recreational flow days in 2024 under the current regime. The maximum *reduction in diversion* at Fairview after ramping is shown to occur each day at 10 a.m. That is when the license requires the additional flows to be in the river below Fairview Dam. (Minor increases after 10 a.m. are due to diurnal changes in natural inflow, not changes in the diversion.) The second graph of flows at Riverside Park shows that flows reach their nadir about two hours after 10 a.m. and are restored to pre-fluctuation levels two hours after that, for a total of four hours between the time of maximum reduction in diversion and restoration of flows at Riverside Park:





= fluctuation nadir

= flows restored

KRB's recreational flows proposal (KRB-LC05-REC) requires the maximum reduction in diversion to occur by 6 a.m. That means flows would begin being restored at Riverside Park around 8 a.m. and would be fully restored by 10 a.m. Flows at the KR3 powerhouse put in would, of course, be restored a bit sooner than that 10 a.m. figure for full recreation in the short segment from the KR3 powerhouse to Kernville. Recreational flows can accordingly be provided in the dewatered reach, as we propose, at times of solar glut when the water is far more valuable to society in the river below Fairview Dam instead of in SCE's tunnels.

SCE: *This slightly modified release schedule is intended to* ***balance resource objectives between sportfish (trout) and native species****; proposed Measure WR-1 would enhance water temperatures for native fishes, namely hardhead (Mylopharodon conocephalus), resulting in slightly warmer temperatures in the lower portions of the Fairview Dam Bypass Reach.* (DLA Vol.2, P1 at 7-66.)

KRB: SCE's claim that shifting the 130 cfs months of the minimum instream flow from July and August to May and June would benefit native (but absent) warm water species like

hardhead ignores the full spectrum of its proposal's environmental impacts — particularly the harm it would cause cold-water species like trout.

During July and August, air temperatures are naturally higher, which leads to a corresponding rise in water temperatures. Reducing environmental flows during these months would exacerbate the already elevated temperatures in the dewatered reach below Fairview Dam. This would likely create lethal conditions for cold-water species such as trout, which are highly sensitive to temperatures above 20°C. When temperatures exceed this threshold, trout populations experience heightened stress, increased mortality, and degraded habitat conditions, all of which significantly reduce the viability of the trout fishery. While SCE claims that slightly warmer water in July and August could benefit native species like hardhead, this statement lacks the detailed temperature and habitat modeling required to fully support such a conclusion. SCE has not presented comprehensive data modeling the long-term ecological implications of this MIF shift, especially with respect to the coexistence of trout and hardhead in the Fairview Dam bypassed reach. In contrast, cold-water species like trout are highly sensitive to even slight temperature increases during the summer months, and reducing the flow in this critical period would likely increase water temperatures beyond the 20°C threshold, leading to severe stress and mortality in trout populations.

Further, as SCE itself concedes, May and June typically coincide with higher natural flows due to snowmelt. According to SCE's own data, median flows below Fairview Dam during these months are already 1,049 cfs in May and 583 cfs in June — far exceeding the proposed 130 cfs MIF.[109] Therefore, any increase in the MIF during May and June would have no practical ecological benefit most years, as natural inflows during these months already exceed the proposed MIF. By contrast, July and August are the months in which the MIF is essential to mitigating the project's negative effects of high temperatures and low dissolved oxygen (DO) levels for cold-water species like trout. Reducing flows in these months would directly harm the established but at-risk cold-water fishery and likely lead to further decline in trout populations.

SCE's proposal also fails to account for historical precedent and agency concerns. The current MIF regime was designed to ameliorate adverse conditions caused by the Fairview Dam diversion during two of the hottest months of the year: July and August. These are the months when the river is most vulnerable to increased temperatures and reduced DO, which endanger the cold-water species that depend on the river for survival.

In 1993, the State Water Resources Control Board (SWRCB) warned SCE that project operations were increasing temperatures in the North Fork Kern River, especially during July and August:

[109] DLA Vol.2, P1 at 7-41.

> *Project operation has increased North Fork Kern River water temperatures in some sections of the projection reach during July and August of normal flow years, regardless of the ambient air conditions. This increase in water temperature appears to be at least one factor that has led to the decline in populations of the Kern River rainbow.*[110]

The 1996 joint environmental analysis from FERC and the U.S. Forest Service recognized the same concerns. Interior [USFWS] originally recommended that SCE release flows up to natural streamflow levels to keep water temperatures below 20°C within a 6 km stretch downstream of Fairview Dam. The analysis concluded that the 130 cfs MIF during July and August was designed to maintain water temperatures below 20°C for a 6 km reach, with the goal of enhancing habitat for trout species:

> *The 130-cfs minimum flow during July and August would maintain temperatures at less than 20°C for a distance of 6 km downstream from the dam under all but the most adverse conditions of low runoff and unusually hot weather. Thus, a minimum flow of 130 cfs in the bypassed reach would improve compliance with the Section 401 WQC's recommended temperature of 20°C for 'cold' streams to the extent practical in the upper 6 km of the bypassed reach and would enhance summer stream temperatures for trout species.*[111]

Furthermore, the 1996 EA acknowledged that warm water temperatures were a recurring problem during July and August, and that the 130-cfs minimum flow during these months was needed to mitigate this problem:

> *Flow increases during the late summer could provide benefits to trout populations in the upper bypassed reach by reducing temperature impacts and maintaining adequate quality trout habitat throughout the summer. The proposed 130-cfs minimum flows during July and August would provide exactly this enhancement.*[112]

SCE is now attempting to roll back these small but important gains achieved through the 130-cfs MIF during the hottest months of the year. Its proposal, in essence, is to stop managing the river below Fairview Dam as a cold-water fishery and treat it *de facto* as a warm water fishery. To the contrary, this river is a cold-water fishery to Goldledge (13.5k below the dam) per SWRBC, USFS, CDFW & USFWS.[113] Temperature studies, fish

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[110] Letter to SCE from SWRCB (1993), FERC Accession No. 19930127-0376 at .pdf p. 33.
[111] 1996 EA at 24-25.
[112] *Id.*, at 33-34.
[113] See Water Quality Control Plan for the Tulare Lake Basin, SWRCB (2018); see also Upper Kern Basin Fishery Management Plan, USFS (1995) at IV-4.

monitoring studies, agency plans, CDFW standards, and CEFF guidelines all point to the fact that minimum instream flows should be increased across the board. We have proposed to do exactly that guided by CEFF science. FERC should reject SCE's WR-1 proposal and instead mandate higher minimum flows in accordance with CEFF standards.

SCE: *Based on current information, Project operations are* ***not expected to affect bacteria levels*** *within Project-affected stream reaches*. (DLA Vol.2, P1 at 7-67.)
KRB: This assertion is false and contradicts well-documented conclusions from various resource agencies, including USFS, NPS, CDFW, and the State Water Resources Control Board (SWRCB). These agencies have consistently identified increased fecal coliform concentrations as a predictable environmental concern in the dewatered reach below Fairview Dam — particularly when instream flows are regulated, reduced, and impaired by the project. In the Upper Kern Basin Fishery Management Plan (1995), the Forest clearly stated that coliform concentrations are an ongoing "environmental concern" whenever project operations reduce flows in the dewatered reach below Fairview Dam.[114] Similarly, the SWRCB has explicitly linked increased fecal coliform levels to reduced flows, stating that the problem of high coliform counts and potential solutions to mitigate them are inherently "flow-related."[115] Thus, the flow regime created by the KR3 diversion directly contributes to this bacterial problem by significantly reducing dilution capacity in the dewatered reach. The drastic reduction in flows caused by the project allows bacterial concentrations — especially fecal coliforms — to rise to harmful levels, as the natural dilution that would typically disperse these contaminants is no longer available.

It is also crucial to acknowledge that increased coliform concentrations are not an isolated concern; they can also contribute to secondary impacts on other water quality parameters, most notably dissolved oxygen (DO) levels. The Forest has observed that "high coliform counts may be responsible for low DO" in the reach, exacerbating already degraded water quality conditions.[116] Low DO levels, as documented in multiple studies and project assessments, create conditions that are lethal for cold-water fish species further undermining the health of the river's aquatic ecosystem. This observation was not new. In the 1996 EA, FERC and the USFS concluded that the project's drastic flow reductions below Fairview Dam contribute to increased bacteria levels in the dewatered reach by reducing the natural flow's ability to dilute these concentrations. The environmental review recognized that the bypass flow reductions significantly exacerbate bacterial problems, including fecal coliforms, leading to increased environmental risks.[117]

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[114] Upper Kern Basin Fishery Management Plan, USFS (1995) at V-3.
[115] 1996 EA at 26.
[116] KR3 Notice of Decision (FONSI), USFS (1998) at Appendix E, 13.
[117] 1996 EA at 26.

Given the evidence linking reduced flows to increased coliform concentrations and subsequent water quality deterioration, it is critical that minimum instream flow (MIF) rates be increased to adequately address these concerns. The California Environmental Flows Framework (CEFF) provides a scientifically supported methodology to establish baseflows that will help dilute bacterial concentrations, improve DO levels, and ensure that the North Fork Kern River (NFKR) can maintain its ecological health. SCE's assertion that project operations are not expected to affect bacterial levels is unsupported by the scientific record. A flow regime that ensures ecological functionality (including adequate dilution capacity), as we have proposed in this proceeding, is crucial for mitigating these persistent bacterial problems, improving water quality, and supporting the river's beneficial uses.

SCE: *Proposed changes to MIFs would likely have* ***no significant effects*** *on DO. However, there is a potential for* ***minor effects*** *related to an increase in summer water temperature.* (DLA Vol.2, P1 at 7-68.)

KRB: SCE's assertions of proposal effects are unsupported by scientific evidence and contradict the substantial body of research demonstrating that flow rates are critical determinants of dissolved oxygen levels, especially in rivers with impaired flow regimes like the North Fork Kern River below Fairview Dam. The proposed changes to minimum instream flows would have significant effects on DO concentrations as well as water temperature, both of which directly impact aquatic life and the overall health of the riverine ecosystem. It is well established in hydrological science that flow rates significantly affect the reoxygenation potential of rivers. Higher flow volumes promote the mixing of water and air, which facilitates the replenishment of DO. Conversely, lower flows, such as those caused by the KR3 diversion below Fairview Dam, reduce the river's ability to reoxygenate, especially during warmer summer months when water temperatures are elevated and oxygen solubility decreases. SCE's failure to acknowledge the role of flow in regulating DO levels is a critical oversight. As flows are reduced, especially during summer, DO concentrations can drop to dangerously low levels during the hottest parts of the day. This risk is further heightened by the project's diversion, which disproportionately reduces flow during periods when oxygenation stress is already at its peak due to elevated temperatures. This is precisely when cold-water species such as trout require higher DO concentrations to survive. SCE's characterization of potential temperature increases as "minor" overlooks the profound ecological consequences of even slight temperature changes, particularly in a sensitive aquatic environment like the Fairview Dam Bypass Reach.

It is also a well-documented fact that water temperature and DO levels are inextricably linked. As water temperature rises, its capacity to hold oxygen decreases. This inverse relationship is especially problematic in the already warm summer months, when water temperatures in the bypass reach routinely approach stressful levels for cold-water

species. The reduction in flow proposed by SCE will only exacerbate this problem, decreasing the thermal buffering capacity of the river, thus allowing temperatures to rise even further and compounding the drop in DO levels. Even small increases in temperature can have cascading effects on the metabolic rates of aquatic organisms. For instance, as water temperatures rise, the oxygen demand of fish and other organisms increases just as the river's capacity to supply oxygen is diminished. This dynamic places additional stress on cold-water species like trout, which are especially vulnerable to temperatures above 20°C. As the river heats up, the metabolic stress and oxygen demand increase, leading to reduced growth rates, lower reproduction, and increased mortality among trout populations.

The suggestion that temperature and DO impacts would be "minor" also ignores the broader context of cumulative environmental effects over time. While SCE may downplay the day-to-day impacts of slight daily average temperature increases or minor DO fluctuations, the long-term consequences of sustained exposure to suboptimal environmental conditions — including spikes in daily high temperatures, which SCE does not analyze — are well-documented. Over time, even marginal changes can lead to population declines in sensitive species, reduced habitat suitability for cold-water species, and degraded overall river health. These cumulative effects are not speculative; they are a fundamental principle of environmental science. Repeated exposure to suboptimal conditions — even if slight — can cause a slow decline in species populations and, eventually, an irreversible shift in the ecological balance of the river.

In light of the cumulative risks of flow reductions and temperature increases, the ecological integrity of this river requires, as we propose, the adoption of the California Environmental Flows Framework baseflows as the MIF standard. CEFF baseflows would provide adequate thermal buffering, help maintain DO concentrations, and better protect the river's cold-water fishery, thus ensuring the long-term health of this critical ecosystem. The project's current and proposed operations will continue to degrade water quality and aquatic habitat if not appropriately mitigated through higher minimum flows based on CEFF standards.

SCE: *Based on currently available data, DO concentrations are* ***generally greater than the 8 mg/L*** *Basin Plan water quality objective.* (DLA Vol.2, P1 at 7-68.)
KRB: SCE's statement is demonstrably false. The available data from the WR-1 monitoring at Site 3 (Goldledge, 13.5 km below Fairview Dam) unequivocally contradicts this claim — and SCE does not attempt to report that data save for this blithe, false assertion. According to the WR-1 data provided to date, the daily mean dissolved oxygen (DO) concentrations at Goldledge (site 3) fell *below* the 8 mg/L Basin Plan standard for 98 of the 181 days during which SCE's instruments recorded data — more than half the time. That is "generally lower" than the standard, not greater, as SCE baselessly asserts. Further, daily *minimum* DO concentrations were below the 8 mg/L threshold for 137 of those 181 days. These are not

isolated or insignificant deviations; they represent a substantial and chronic violation of water quality standards that cannot be dismissed. The fact that SCE chooses to gloss over this alarming pattern in its filings raises serious concerns about its credibility and its commitment to transparency in presenting environmental data to this Commission. By falsely claiming that DO concentrations are "generally" above the Basin Plan water quality objective, SCE is attempting to mislead the Commission and the public. The truth is that the project frequently causes DO levels to drop below regulatory standards, especially during critical periods when aquatic life is most vulnerable. The discrepancy between the reported data and SCE's conclusion highlights the need for independent review of water quality monitoring results, particularly in the context of project relicensing where long-term environmental protections are at stake.

SCE: *[U]nder proposed Measure WR-4, SCE would open the pond drain in Salmon Creek and Corral Creek Diversions when not diverting flows to allow accumulated sediment to naturally move downstream and may use hand tools to clear the pond drain if it is blocked by sediment. [Sandbox] flushing activities at flows less than 350 cfs may have* ***minor, local, short-term effects*** *on sediment transport because sediment from the sandbox may be deposited between higher flow events (i.e., flows greater than 350 cfs).* (DLA Vol.2, P1 at 7-70.)
KRB: SCE's characterization of the effects of its proposed sediment plan as "minor, local, and short-term" lacks detailed empirical data and is overly simplistic given the complex nature of sediment transport dynamics. Sediment transport is influenced by a wide range of factors, including flow velocity, sediment size and composition, channel morphology, and ecological conditions. The absence of comprehensive, site-specific studies that evaluate these variables under the proposed operational conditions undermines SCE's assertion that impacts will be minimal. The characterization of the effects as "minor" is speculative without robust data to support such a conclusion.

Without empirical studies, SCE's assumption about how sediment will behave in such conditions is speculative at best. Sediment release at low flows (<350 cfs) introduces the real risk of localized sediment accumulation in slow-moving sections of the river. This sediment can alter streambed composition, impair critical habitats, and cause long-lasting effects on aquatic species. Sediment impacts are also concerning in smaller streams such as Salmon Creek and Corral Creek, where minor changes in sediment dynamics can lead to disproportionately large ecological disruptions. Hydropower projects across the U.S. have demonstrated that sediment management practices often result in greater downstream impacts than initially anticipated. Sediment accumulation in river systems can alter the physical habitat, smothering benthic organisms, reducing spawning grounds for fish, and impeding the ecological functions of the streambed. Without robust, site-specific studies on sediment movement and deposition patterns under SCE's proposed regime, it is speculative to assert that these effects will be either minor or short-lived.

SCE's analysis of sediment management further focuses exclusively on short-term effects, entirely overlooking the potential for cumulative impacts. Even if each sediment flushing event has only minor immediate consequences, repeated flushing events over time can lead to substantial cumulative effects on streambed morphology, sediment distribution, and habitat quality. SCE's proposal blithely assumes that sediment released during periods of low flow (<350 cfs) and from the creeks will be naturally moved downstream by subsequent higher flows. However, there is no empirical evidence to support these assumptions. Sediment transport during low-flow conditions is highly limited, leading to sediment accumulation in areas with lower velocity. These accumulations can persist for extended periods, especially in years where high flows are infrequent or absent, such as during droughts. In such scenarios, sediment will not be transported effectively, and the impacts will extend beyond the "short-term" and "local" effects suggested by SCE. In years when flows do not exceed 350 cfs, the sediment that accumulates in the stream will remain in place, degrading water quality and aquatic habitats over long periods. The cumulative effects of multiple years of sediment release at low flows could lead to significant alterations in stream morphology, affecting the spawning grounds of fish, disrupting the habitats of benthic invertebrates, and reducing fish populations and the overall ecological health of the river.

SCE's plan to release sediment during low-flow conditions also contradicts widely accepted Best Management Practices (BMPs) for sediment management in regulated river systems. BMPs routinely emphasize the importance of *avoiding* sediment releases during low flow periods, as the transport capacity of the river is insufficient to move sediment downstream effectively. Sediment releases should occur during higher flows when the river has greater capacity to transport sediment downstream and distribute it more naturally throughout the system. Without clear evidence-based assurances that sediment releases during low flows will not result in adverse environmental impacts, SCE's proposal to release sediment at flows below 350 cfs is inconsistent with modern guidelines for sustainable river management. Rather than adhering to practices that minimize environmental impact, SCE's proposal appears to prioritize operational convenience over ecological responsibility.

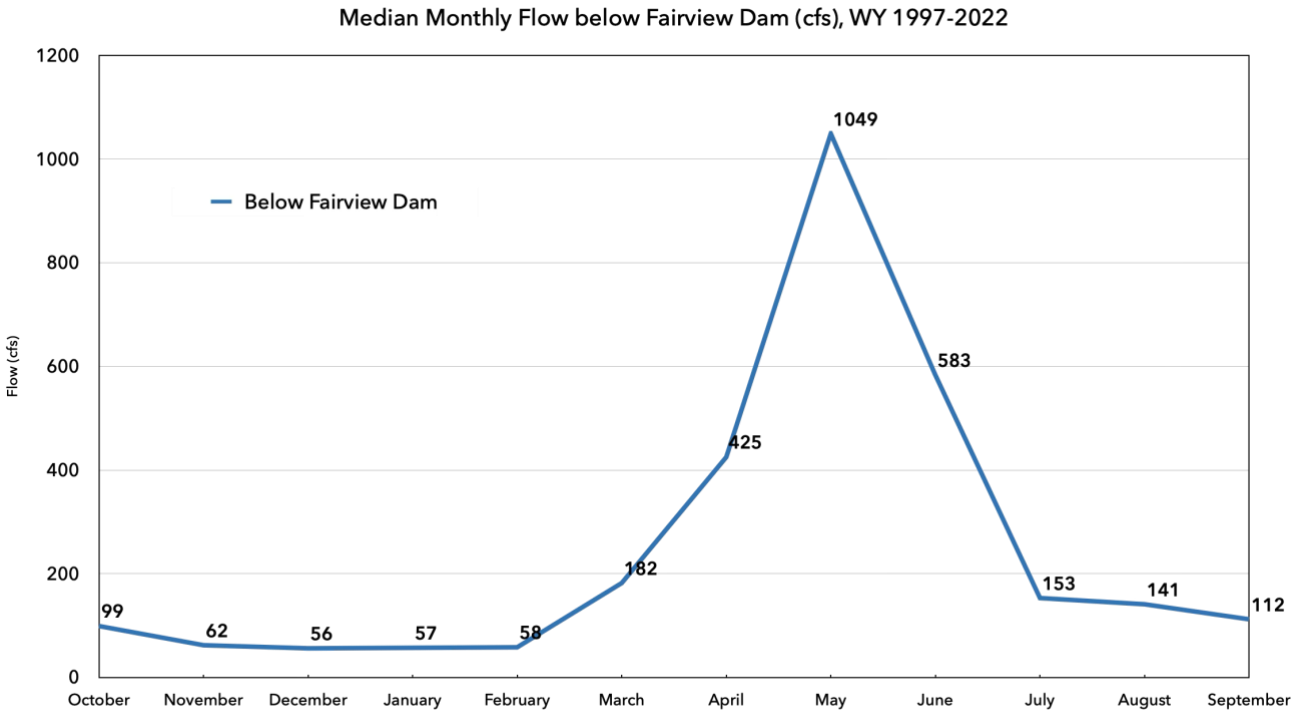
SCE: *Proposed Measure WR-1 would enhance current flow conditions by shifting the higher base flows (130 cfs) in the Fairview Dam Bypass Reach from summer to spring in alignment with natural flow patterns. Temperature model results indicate that water* ***temperatures in August would increase by less than 1 °C (1.8 °F)*** *(Figures 7.3-11 through 7.3-13; SCE, 1991). Warmer water temperatures would also likely be observed farther upstream than if flows remained at 130 cfs.* (DLA Vol.2, P1 at 7-71.)
KRB: This is untrue. SCE is citing a model of daily mean temperatures. That model does not purport to state that *maximum* temperatures will rise by less than 1 ºC. SCE's model obscures the real-world thermal stress that aquatic species will experience during the

hottest parts of the day, when temperature spikes occur. By using a 24-hour average, SCE's model hides critical short-term temperature increases, particularly during peak afternoon hours when solar radiation is most intense. These spikes in water temperature can significantly impact aquatic ecosystems, especially cold-water species like rainbow trout, which are highly sensitive to even brief periods of elevated temperature. Daytime peaks could well exceed 24°C, a lethal threshold for trout if sustained over extended periods. In such cases, fish populations face prolonged periods of thermal stress, which severely reduces their ability to survive and reproduce. These daytime temperature spikes create cumulative stress, meaning that fish populations are weakened over time, even if the temperature spikes are not sustained throughout the entire day. The 2016 fish monitoring study has shown the damaging effects of such conditions on trout populations in this region under the existing inadequate MIF. SCE is proposing to increase its inadequacy.

Further, SCE's proposal and the reasoning behind it significantly understate the cumulative and real-world impacts of this slight temperature increase on aquatic life, particularly on cold-water species like trout. Even small increases in water temperature during the hottest months can have profound ecological consequences. Trout, particularly rainbow trout, are highly sensitive to temperature increases. As water temperatures approach critical thresholds, the fish begin to experience acute stress and elevated mortality rates. A slight increase in the frequency or intensity of these violations can have profound environmental effects. SCE's modeling misleadingly suggests that average July and August temperatures at Fairview Dam are typically at 17 °C, based on the first two models presented (DLA Vol.2, P1 at 7-72 & 7-73). However, the third model (DLA Vol.2, P1 at 7-74) presents more accurate figures, showing baseline temperatures higher than 17°C. This means that even the "slight increase" proposed by SCE would push water temperatures deeper into the danger zone for thermal stress and mortality during the hottest parts of the day. SCE's assertion that warmer water would only be "slightly" warmer also ignores the cumulative effects of additional warming. Prolonged exposure to suboptimal conditions over time, even if individual temperature increases seem minor, leads to population declines in cold-water species like trout, as seen in the fish monitoring studies. A flow regime that does not satisfy the California Environmental Flows Framework baseflow recommendations and already produces lethal temperatures under normal operations in July and August will become increasingly inadequate under SCE's proposed WR-1 plan.

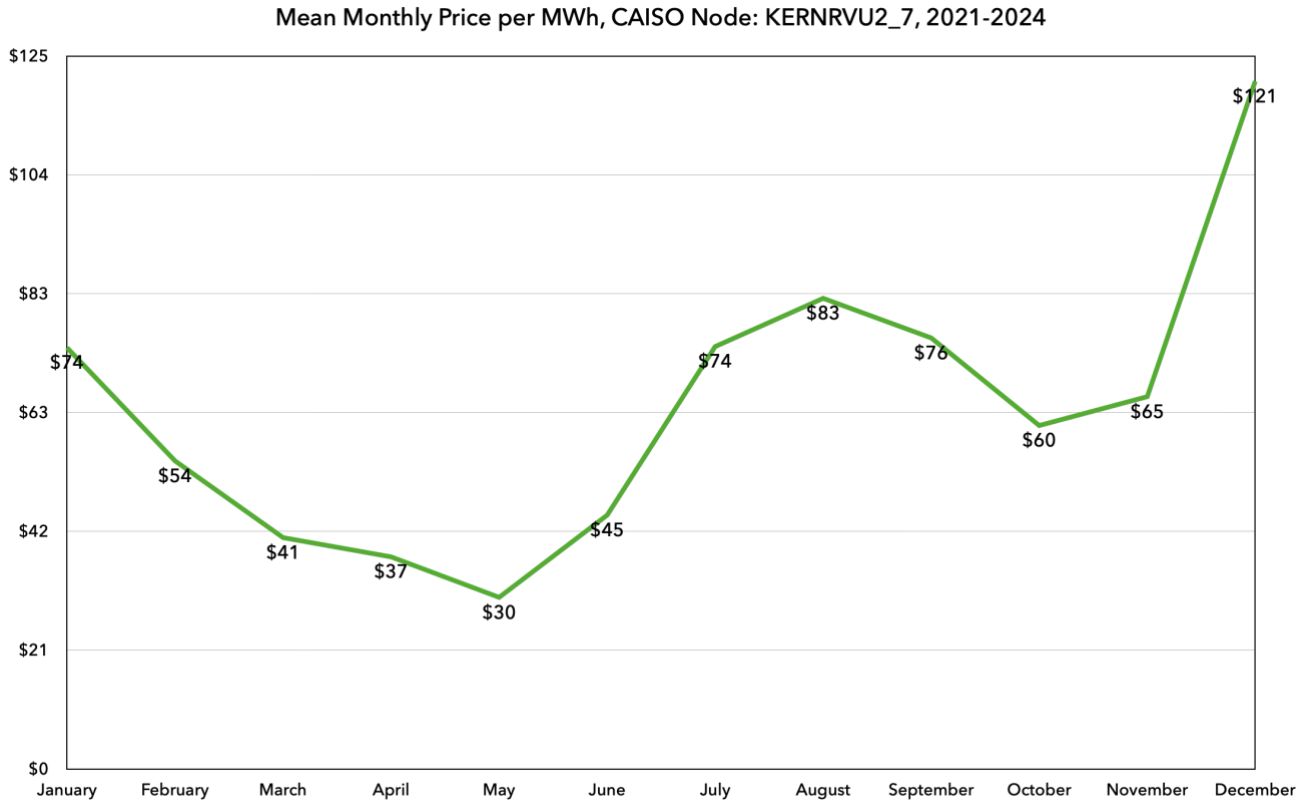
Finally, SCE's suggestion that shifting higher base flows from summer to spring "aligns with natural flow patterns" is misleading. May and June *already* see higher natural flows due to snowmelt, and the proposed WR-1 would provide no meaningful ecological benefit during these months when instream flows are typically far above SCE's proposed minimum instream flows[118]:

[118] KRB-DLA-MIF, Sheet 14.

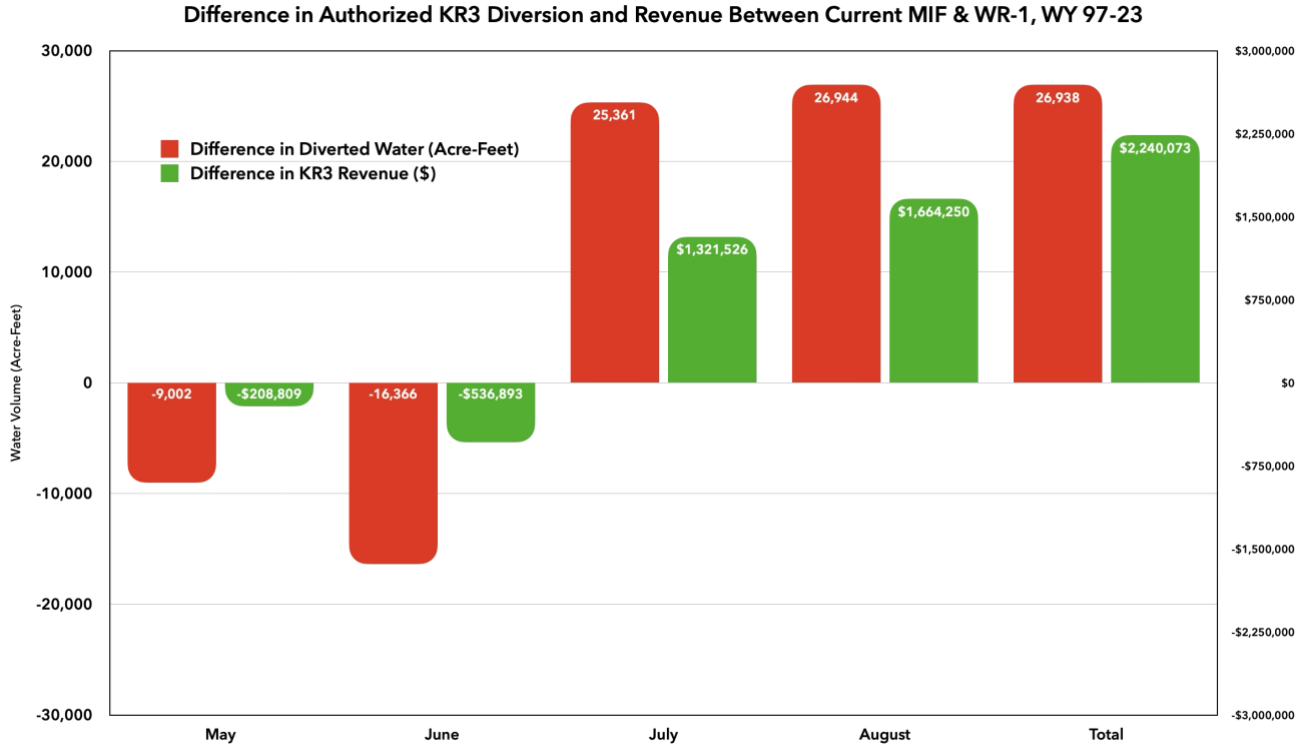


The only real alignment in SCE's proposal is economic — not ecological — as the proposal allows SCE to divert (net) more water with the additional water being diverted during months with higher wholesale energy market prices[119]:

[119] KRB-DLA-MIF, Sheets 10 & 13.



Source: CAISO OASIS (http://oasis.caiso.com/mrioasis/logon.do)

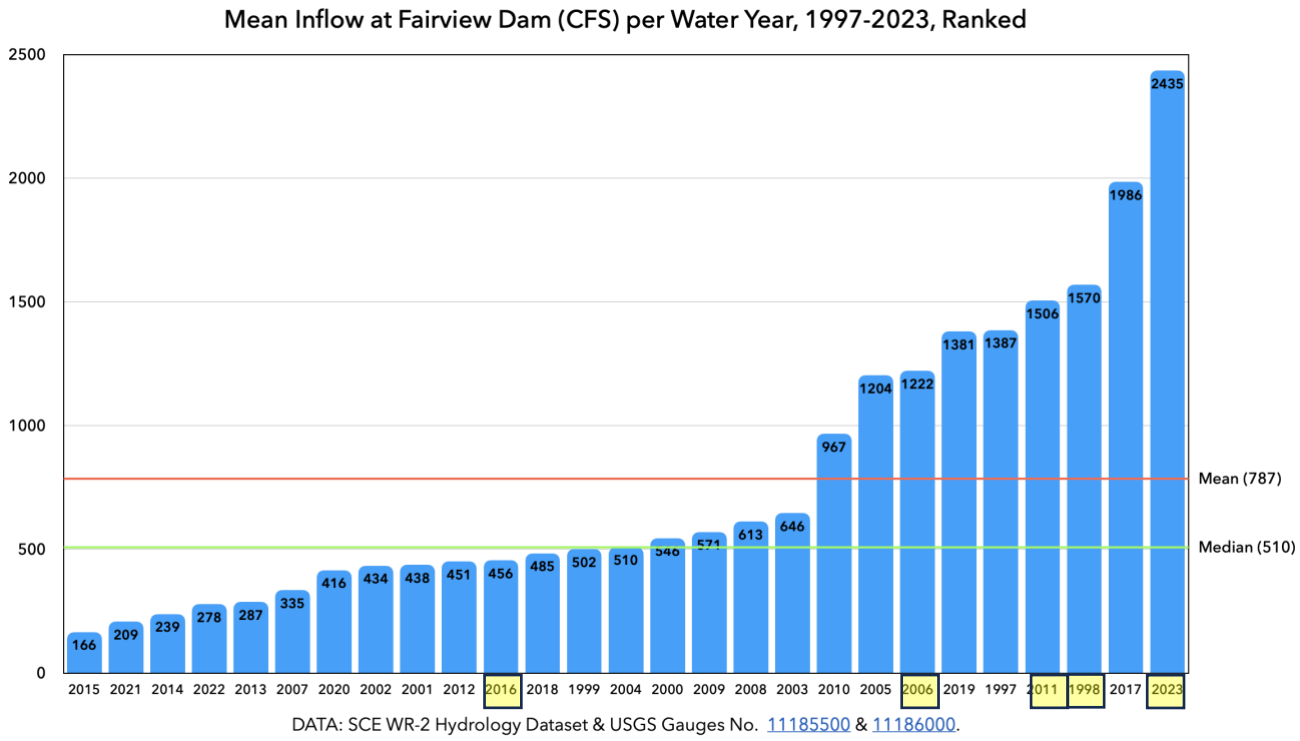


Edison's WR-1 Proposal is a Water-and-Cash-Grab to be Paid For by the NF Kern Fishery.
Sources: SCE WR-2 Hydrology Dataset & CAISO Oasis LMP Database

7.4 Fish and Aquatic Resources

SCE: *Fish population surveys were conducted . . . under of the current license (License Article 411) in* ***2006, 2011, 2016, and 2023*** *to monitor populations following changes to MIF releases in 1996 (FERC and Forest Service, 1996; Stillwater Sciences and ERM, 2024).* (DLA Vol.2, P1 at 7-78.)

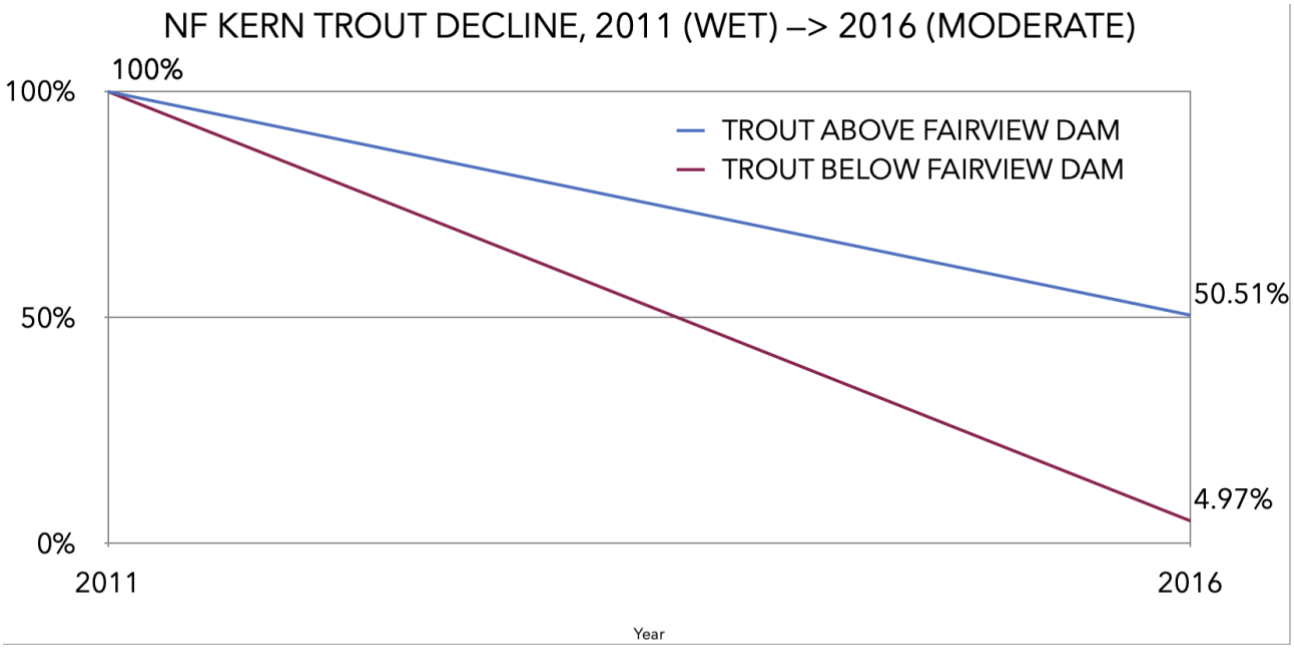
KRB: SCE's fish population monitoring during the current license term lacks a representative sample of hydrological conditions. In fact, of the five fish monitoring studies conducted since issuance of the 1996 license — 1998, 2006, 2011, 2016, and 2023 — all but one (the 2016 study) were performed during high-water years. This selection of years is problematic as it fails to adequately capture the typical project impacts under more moderate or low-water conditions, which are critical for understanding the true ecological consequences of the project on the trout populations below Fairview Dam. The water years during which these studies were conducted rank among the highest inflows observed during the license term. Specifically, studies conducted in 1998, 2006, 2011, and 2023 correspond to four of the seven highest water years, as shown in the ranked chart below[120]:



The only moderate water year during which a fish monitoring study occurred was 2016, with a mean inflow of 456 cfs at Fairview Dam — about 90% of the median flow. Despite 2016 not being a low-water year, the results were alarming: trout populations below

[120] KRB-DLA-MIF, Sheet 3.

Fairview Dam were decimated, with a reduction of over 95% compared to a 50% reduction upstream of the dam. The steep decline in the fishery below Fairview Dam during this moderate year highlights the severe ecological strain the dam imposes on trout populations, even when natural inflows are near median levels[121]:



TROUT POPULATION FIGURES NORMALIZED TO 2011 (100%)
SOURCE: SCE FISH MONITORING STUDIES (2012 & 2017)

(SCE PAD at 5-63.) This significant disparity in trout survival between upstream and downstream locations of Fairview Dam in a moderate water year should serve as a warning about the project's deleterious impacts. It is concerning that no monitoring studies were conducted during dry years — the years in which the project's impacts on fish populations would likely be even more pronounced.

Going forward, fish population studies should be conducted more frequently and during a wider range of hydrological conditions, particularly in moderate and low-water years. Nevertheless, the 2016 study provides a clear indication of the negative effects of Fairview Dam on trout populations. This information must guide future project decisions and flow regime management to ensure the long-term sustainability of the North Fork Kern River fishery and militates extremely strongly in favor of the implementation of the CEFF baseflows for the MIF, as we propose.

[121] KRB-DLA-MIF, Sheet 7.

SCE: *[F]lows in excess of 350 cfs were shown to transport finer sediment downstream and toward the banks* ***without deposition*** *in spawning riffles (FERC and Forest Service, 1996; ENTRIX, 2002).* (DLA Vol.2, P1 at 7-86.)

KRB: SCE's characterization grossly misrepresents the findings of the cited study. The ENTRIX study did not conclude that flows over 350 cfs "were shown to transport finer sediment . . . without deposition." Instead, the report weakly concluded that flushing at such flows "does not cause *widespread* deposition"[122] — far from the definitive endorsement of current practices that SCE has concocted. Entrix' weak conclusion, moreover, was based solely on visual surveys and not supported by comprehensive sediment testing.[123] Visual observations alone are insufficient to make definitive claims about sediment transport, and the reliance on such subjective measures weakens the study's findings.

The study's testing, moreover, revealed concerning results. It found that "both the fines criteria and relative annual change criterion for fine sediment content were exceeded in more samples in 2001 than for any other year."[124] Notably, 2001 was a dry water year. This suggests that sediment management during dry years is particularly problematic, with fines accumulating in downstream areas during low-flow conditions, adversely affecting spawning habitat. Furthermore, the report admitted: "It is difficult in this study to attribute causal links to any particular source of fine sediment in spawning gravels" because *no sites upstream of Fairview Dam were studied*.[125] This is a critical omission, as it leaves the study unable to rule out the contribution of sandbox flushing to fine sediment deposition, especially during low-flow periods when natural transport mechanisms are less effective. Indeed, the study concluded: "There is the potential that sand transport and deposition during dry year types adversely affects spawning habitat," Entrix was forced to admit.[126]

The report also states, "There is no clear or conclusive evidence linking spawning gravels that exceed the biological criteria for fine sediment to the sandbox flushing procedures,"[127] but this hedged conclusion must be considered in light of the multiple criteria exceedances observed, particularly in the final year of the study, 2001, which was a dry year. Contrary to SCE's false characterization, the flushing study fails to provide "clear or conclusive" evidence that sandbox flushing is harmless to the fishery or consistent with maintaining healthy spawning grounds under current practices. Instead, it presents enough data to suggest that sediment transport and deposition during dry years do negatively impact spawning habitat notwithstanding the 350 cfs limitation. This is yet another datapoint that points squarely at the need for higher minimum instream flows in line with

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[122] Sandbox Flushing Study, Entrix & SCE (2002), at 3-69.
[123] *Id.*, at 4-7.
[124] *Id.,* at 4-6.
[125] *Id.,* at 4-6.
[126] *Id.*, at 4-6.
[127] *Id.,* at 4-7.

CEFF baseflow recommendations to mitigate the impacts of cumulative sedimentation and ensure better conditions for aquatic species in drier periods. We have proposed just that.

SCE: *The **limited availability of spawning habitat** was identified as a physical factor controlling the abundance of trout populations within the NFKR downstream of Fairview Dam (SCE, 1991). However, despite limited spawning habitat, rainbow trout of different age classes have been observed in the NFKR, suggesting successful recruitment in some years.* (DLA Vol.2, P1 at 7-86.)

KRB: SCE downplays the potential for effectively managing and enhancing these spawning habitats. While it is true that spawning habitat may be somewhat limited by natural river dynamics, this limitation is significantly exacerbated by the project's operations, which disrupt the natural recruitment of spawning gravel downstream of Fairview Dam by altering flow timing, frequency, and volume. Lower flows lead to increased deposition of fine sediments, which degrade the quality of spawning habitat by filling gravel beds, reducing permeability, and hindering oxygenation of trout eggs. A higher minimum instream flow, such as the ecological baseflows supported by the California Environmental Flows Framework we have proposed, would improve the availability and quality of spawning habitat by ensuring more frequent and natural sediment transport, including essential spawning gravel.

Additionally, SCE's proposal to allow sandbox flushing at flows below 350 cfs between July 1 and February 15 raises serious concerns about the health and sustainability of the river's spawning habitats. Sediment flushing at lower flows increases the risk of fine sediment deposition in key spawning areas. Fine sediments can fill in gravel beds, reducing the interstitial spaces critical for oxygen flow to trout eggs, and thereby reducing the success of spawning efforts. This sediment can also accumulate and remain in the riverbed through the spawning season, particularly if adequate flushing flows are not available to clear the sediment before spawning begins. If higher flushing flows do not arrive in time, accumulated sediment from earlier flushes can persist into the critical spawning period, further reducing the availability and quality of spawning gravel. The sedimentation of these habitats, as evidenced by increased fine sediment content during monitoring, suggests that even minor disturbances could exacerbate an already precarious balance, further limiting trout recruitment in the North Fork Kern River. SCE's proposal should be rejected on these grounds as well as Entrix' finding that sediment transport was an issue at low flows.[128] Increased flows consistent with CEFF guidelines would not only restore spawning habitat but also ensure more sustainable recruitment over time. By failing to support these measures, SCE risks further degradation of the fishery, making successful recruitment less

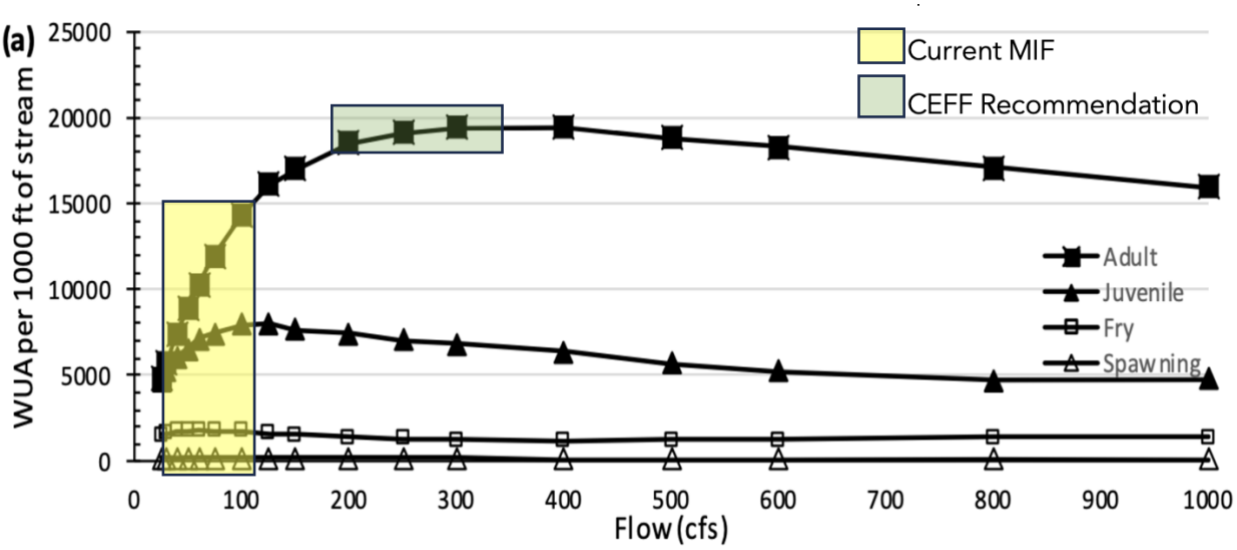
[128] Sandbox Flushing Study, Entrix & SCE (2002), at 4-6.

frequent and more dependent on sporadic, favorable conditions rather than being reliably supported by a more natural flow regime.

SCE: *[IFIM] habitat values for rainbow trout are maximized (**greater than 80 percent** weighted usable area)*. (DLA Vol.2, P1 at 7-106.)
KRB: This is a misstatement. Habitat is maximized as the WUA approaches 100%. Moreover, looking solely at the WUA is also an overly simplistic and myopic view of the complex ecological dynamics governing the North Fork Kern. WUA does not equate to optimal or sustainable habitat conditions for an entire river ecosystem, particularly given the river's dynamic and interconnected nature. The 1991 IFIM study primarily focused on physical habitat suitability based on hydraulic modeling and did not comprehensively assess a broader range of ecological factors required to sustain a healthy trout population or a thriving aquatic ecosystem. For example, while the WUA might be considered 100% "maximized" at 200 cfs for adult trout, that flow may not be adequate to support other critical aspects of the ecosystem such as maintaining optimal water temperatures, dissolved oxygen (DO) concentrations, or ensuring successful sediment transport. While WUA modeling can be a useful tool, it is not a sufficient stand-alone metric for determining flow regimes that ensure a fish population's (or a river's) long-term ecological health. Lower flows, especially below 200 cfs during critical summer months, are likely to exacerbate temperature increases, pushing water temperatures beyond the 20°C threshold necessary for cold-water fisheries and the 24°C level associated with trout mortality. Indeed, SCE's hydrology data shows that the pitiful results of the 2016 fish monitoring study below Fairview Dam were obtained after flows had dipped below 200 cfs during the preceding months. As SCE's temperature modeling has shown, such low flows combined with high ambient temperatures can elevate water temperatures leading to significant thermal stress or even mortality among trout populations. This critical interaction between flow and temperature is absent from the WUA. Furthermore, the IFIM study identifies little fry or spawning habitat at any flow rate, which demonstrates that physical habitat alone does not ensure a healthy fish population. Spawning habitat, already limited, can be further degraded by low flows that allow fine sediment deposition in gravels, reducing oxygen availability for trout eggs. Nor does the WUA account for the cumulative impacts of continued inadequate flow regimes, which can lead to habitat fragmentation, poor water quality, and reduced resilience against extreme weather events (*e.g.*, heatwaves, droughts).

That said, the 1991 IFIM study supports the need for the California Environmental Flows Framework (CEFF) baseflow recommendations, which offer a more comprehensive approach in support of multiple metrics for river health and function, not just WUA. CEFF baseflows are designed to support not only physical habitat, as WUA does, but also the full suite of ecological processes required for the long-term health of the river. This includes temperature regulation, maintaining adequate DO levels, ensuring proper sediment

transport, and preserving biological connectivity. Flows closer to the CEFF recommendations are far more likely to provide the ecological conditions necessary to support the full range of trout life stages and maintain the river's overall health, and, in fact, maximize the IFIM's results:



The CEFF recommends baseflows of 195 cfs during the dry season and 335 cfs during the wet season to maintain ecological integrity while allowing for robust hydropower generation, and we propose those be implemented as the KR3 MIF.

SCE: *[T]he California Environmental Flow Framework (CEFF) [is] a framework that provides technical guidance to aid in the development of* ***science-based, ecologically protective environmental flow recommendations*** *for California stream types. The CEFF framework provides information on the expected* ***natural functional flow ranges needed to support ecological functions*** *in rivers.* (DLA Vol.2, P1 at 7-109.)
KRB: Noted.

SCE: *The CEFF natural functional flow metrics do not represent effects* ***or flow recommendations****.* (DLA Vol.2, P1 at 7-109.)
KRB: This is not true. Although the California Environmental Flows Framework is not a regulatory agency, it does provide detailed, scientifically derived flow prescriptions that represent the minimums required to maintain key ecological processes within a river system. The CEFF's metrics are not simply academic guidelines; they are evidence-based recommendations grounded in comprehensive ecological research and aimed at supporting the natural functional flows that sustain a healthy river ecosystem. Instead of focusing among chosen, isolated and potentially contradictory metrics, the CEFF offers a holistic suite of flow components that account for the seasonal and functional variability essential

to maintaining ecosystem integrity. These include fall pulse flows, wet-season base flows, peak flows, spring recession flows, and dry-season base flows. Each of these components plays a critical role in sustaining native species, facilitating sediment transport, preserving water quality, and providing environmental cues for species migration, spawning, and other life-cycle events. To assert that the CEFF does not represent flow recommendations is to ignore the scientific foundation that underpins its flow metrics. The CEFF explicitly recommends flows that will sustain key ecological functions, recognizing that flow variability is essential to maintaining ecosystem resilience and diversity. By capturing the complexity of a river's natural hydrological regime, the CEFF metrics serve as minimum conditions required to preserve ecological health, rather than just operational thresholds optimized for energy production or other single-use purposes. And, in fact, CEFF baseflows have been used to set FERC MIFs[129] as they intended; from page iii of the CEFF paper[130]:

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Natural Flows database – Julie Zimmerman (Julie.Zimmerman@tnc.org)
https://rivers.codefornature.org

The North Fork Kern River below Fairview Dam provides a prime example where flow is the primary determinant of ecological health. SCE itself acknowledges in the DLA[131] that there is no significant evidence of non-flow impairments, such as invasive species, severely altered physical habitats, or water quality issues. In this setting, flow becomes the most critical variable that can be managed to sustain the river's ecological processes. The CEFF baseflows, therefore, should not be seen as optional metrics or academic suggestions but as scientifically validated minimums for maintaining ecological function. The CEFF was specifically conceived to "improve the scale and pacing at which environmental flow

[129] See, *e.g.*, Devil Canyon Project in the Mojave River watershed (FERC Project No. 14797, FERC Accession No. 20210909-5090).
[130] California Environmental Flows Framework Version 1.0 Technical Report, California Environmental Flows Working Group (2021) at iii.
[131] DLA Vol.2, P1 at 7-111.

protections can be extended to rivers and streams across the state."[132] The CEFF uses readily available data to the characterize natural instream flows of a watershed based upon five functional flow components: fall pulse flow, wet-season base flow, wet-season peak flows, spring recession flow, dry-season base flow. Ecological flow criteria are developed that correspond to these components, and minimum flow recommendations adhering to the proscribed functional metrics are environmentally sound. As such, the ecological management goals of each relevant agency — USFS, CDFW, USFWS & SWRCB — should start *and end* with the baseflow prescriptions from the CEFF; those baseflows should form the basis of their minimum instream flow recommendations. Again, when CEFF refers to "baseflows," it is with the understanding that those flows are critical to maintaining the minimum ecological function of the river, and should accordingly be adhered to except under exceptional circumstances not present in this river. Although the CEFF baseflows framework focuses on ecologically viable flow levels, it is *not* equivalent to natural flows — far from it — and thus the framework *permits robust hydropower generation* while at the same time sustaining scientific and ecologically sound minimum flow prescriptions.

Regulatory agencies such as CDFW, USFWS, and the SWRCB are tasked with safeguarding wildlife and aquatic ecosystems and are required to rely on the best available science in so doing. In the context of flow management for the KR3 relicensing, the best science is encapsulated by the CEFF, and its baseflows are the most robust, scientifically informed methodology for ensuring the ecological sustainability of the North Fork Kern. Note also that the development of the CEFF was funded in part by the SWRCB, and the CEFF Technical team includes multiple representatives from CDFW and SWRCB; and further that these agencies intend further application and "coordination with agency requirements and actions."[133] The environmental agencies involved in the relicensing process should accordingly adopt CEFF baseflows as their recommendations for instream flow requirements. Doing so would fulfill their responsibility to protect the river's ecological integrity and ensure that flow regimes are based on the best available science — science that recognizes the critical importance of functional flow variability in maintaining a healthy, resilient river system. Far from being non-binding suggestions, CEFF flow metrics are vital guidelines that should inform the management of the North Fork Kern, and we have incorporated them into out MIF proposal.

SCE: *"[T]he observed bypass flows were compared with the modeled flows"* (DLA Vol.2, P1 at 7-111).
KRB: We note that only "observed bypass" flows are analyzed. SCE's analysis does not include or plot the data for flows authorized below Fairview Dam. By not calculating the

[132] *Id.*, at 1.
[133] *Id.*, at iii.

results for the actual authorized flows below Fairview Dam, this analysis is not capturing full potential impact of project, as direct by FERC in the May 30, 2024 study determination: "Therefore, to fully demonstrate project effects while the project is operational, we recommend that the approved study plan be modified to require SCE to conduct an independent authorized flows analysis excluding outages or to verify or correct the analysis provided by KRB in their reply comments for the ISR."[134]

SCE: *"The magnitude of the fall-pulse flow is lower than modeled natural flows (Figure 7.4-7)."* • *"Current Project operations affect the magnitude of flow in the Fairview Dam Bypass Reach, and consequently likely alter baseflows during the wet and dry seasons and the timing of the dry season."* • *"the wet-season baseflow and median baseflow in the Fairview Dam Bypass Reach (characterized as the 10th and 50th percentiles of daily flows during the wet season, respectively) are lower than modeled natural flows (Figure 7.4-8[a,b]; CEFWG, 2021a)."* • *"Similarly, dry-season baseflow and high baseflow, characterized as the 50th and 90th percentiles of daily flows during the dry season, respectively, are also lower than modeled natural flows (CEFW, 2021; Figure 7.4-13[a,b])"* (DLA Vol.2, P1 at 7-111 to 7-112).
KRB: We are encouraged to see that the functional flows analysis agrees significantly with the results we have previously submitted, even noting that a slight difference of years was analyzed (KRB used 1997-2022; in this analysis SCE uses 1980-2020):

> *a. Fall pulse magnitude is reduced and "likely altered"*
> *b. Wet-season low baseflow is reduced and "likely altered"*
> *c. Dry-season median baseflow is reduced and "likely altered"*
> *d. Dry-season high baseflow is reduced and "likely altered"*
> *e. Dry-season duration is increased and "likely altered"*[135]

These changes are a direct quantification of project effects which correspond to: a reduction or altogether lack of fall flushing flows (a), year round baseflows that are insufficient for environmental and ecological needs (b-d), and shortened wet season which is replaced by lengthened dry season (e). Additionally, SCE's modeled natural flow dataset *matches* the one generated by KRB in support of its MIF proposal, reinforcing the target baseflows of 335cfs as median wet season baseflow and 195 cfs as median dry season baseflow.

SCE: *"The duration and start of the dry season were identified as likely unaltered from modeled natural conditions (Figure 7.4-13[c, d])."* (DLA Vol.2, P1 at 7-112).

[134] FERC ISR SPD at B-11
[135] KRB ISR Comments, "WR-2 CEFF BELOW FAIRVIEW DAM. New Study," Appendix A.

KRB: This statement completely contradicts SCE's statement on the same page that "Current Project operations . . . *likely alter* . . . the timing of the dry season."[136] It also contradicts the provided data. It appears based on SCE's plots that the discrepancy is because the comparison is made only between "observed bypass flow" and "modeled natural flow". However, as SCE points out, "Natural functional flow metrics predicted by the modeling have the potential to be biased or inaccurate based on the available reference gages used for the model."[137] Comparing to the provided plots, the data provided in the DLA show:

> - Dry season start is "likely altered" (earlier) compared to the observed unimpaired,
> - Dry season duration is "likely altered" (longer) if compared to "observed unimpaired".
> - Spring recession duration appears "likely altered" (shorter) compared to observed unimpaired,
> - Spring recession rate of change (%) is "likely altered" (higher rate) compared to observed unimpaired.

SCE: *The trash racks provide a 2-inch porous barrier that would restrict or deter passage by some fish. Given the maximum intake volumes, riverine/run-of-river system, and size of the intake at the trash racks, it is unlikely that fish would be involuntarily entrained into the flowline intake based on intake velocities; however, fish that do move through the trash rack would travel along a 420-foot-long flume before entering the sandbox. The slope of* ***this flume results in velocities that exceed juvenile to most adult fish swim speeds, thus preventing most fish from returning upstream*** *to the intake. Within the sandbox, low water velocities (less than 1 foot per second) would allow fish to swim about freely.* (DLA Vol.2, P1 at 7-121.)

KRB: SCE's description of the trash racks as an effective protective measure for fish is highly speculative and lacks the necessary empirical data to support such a claim. A 2-inch porous barrier might deter larger fish from passing through, but it does not adequately protect moderate-sized fish, juveniles, or smaller species that could easily pass through such a barrier. Moreover, the assertion that involuntary entrainment is unlikely, based on intake velocities, is speculative without detailed empirical data. Factors such as water currents, fish swimming capabilities under stress, and behavioral responses are all critical variables. Fish, especially smaller or weaker or stressed individuals, or individuals with prolonged

[136] DLA Vol.2, P1 at 7-112.
[137] DLA Vol.2, P1 at 7-109.

exposure to intake velocities, could still be involuntarily drawn into the intake system due to factors that go beyond a simplistic reference to intake velocity.

The situation becomes more concerning when fish enter the flume. SCE's acknowledgment that water velocities in the 420-foot flume exceed the swimming speeds of most fish means that fish passing through the trash racks would be effectively trapped, with no opportunity to return upstream. The assumption that fish are unharmed simply because they can swim freely in the sandbox ignores the potential for stress, predation, and physiological harm caused by being confined in an artificial environment. While low velocities in the sandbox might theoretically allow for movement, it is crucial to understand the cumulative effects of prolonged confinement in a system designed for water conveyance, not for the preservation of fish health. SCE glosses over the potential mortality or harm that fish may experience after entering the intake system. Entrained fish could suffer from stress, exhaustion, or predation as they remain confined in an artificial setting without the natural *refugia* they would find in natural habitat.

The lack of hands-on, species-specific entrainment studies makes SCE's conclusion of "no significant effect" on fish highly questionable. Without concrete, contemporary data, there is no way to substantiate the claim that the trash racks, flume, and sandbox adequately protect fish populations from harm. Absent recent and specific entrainment studies we simply cannot assess the system's impact on fish, including mortality rates, stress levels, and the long-term health of populations exposed to this artificial environment. The absence of such data casts serious doubt on SCE's self-serving conclusion.

SCE: *The screens were found to effectively exclude fish greater than 4 inches (102 mm) in length from entering the flowline; however, smaller fish may be able to fit through the 5/8-inch spacing between the screens before continuing along the 13-mile flowline toward the KR3 Powerhouse. The effectiveness of the fish screens was evaluated twice in 1965 following installation. The screens were found to effectively exclude the majority of juvenile and adult fish (greater than 4 inches) from passing into the flowline (84.5 percent effective to 99.5 percent effective) but were* ***less effective with smaller fish (6 percent to 78 percent effective)***. (DLA Vol.2, P1 at 7-123.)

KRB: SCE's concession that the screens are not fully effective for smaller fish raises significant concerns, especially considering the vulnerability of juvenile fish to entrainment. SCE's vague statement that smaller fish "may be able" to pass through the 5/8-inch screen spacing significantly downplays the risk to these younger, more vulnerable fish. In reality, it is highly likely that juvenile fish are frequently entrained, given the substantial range of effectiveness that SCE cites (6 percent to 78 percent). Such variability in the effectiveness of the screens, particularly for smaller fish, is concerning and points to a lack of precision and confidence in SCE's ability to protect juvenile fish from entrainment. This range further suggests that the screens may fail to protect a significant portion of the fish population from

being entrained into the flowline. Juvenile fish are key to reproductive success and future viability of fish populations, and their entrainment could have long-term consequences for the ecosystem.

Without recent, hands-on studies using contemporary scientific methodologies, the effectiveness of the screens remains speculative. SCE's reliance on estimates conducted in 1965 and subsequent desktop studies is deeply problematic. A nearly 60-year-old assessment does not offer a reliable basis for understanding current fish protection efficacy. The aquatic ecosystems, fish populations, and available technologies have all evolved considerably since 1965. The evaluation methodologies and standards of that time are likely outdated and inadequate for assessing modern environmental and operational challenges. SCE's failure to provide more accurate, up-to-date data on the current level of protection for these fish cannot be ignored in assessing the project's impacts on the aquatic ecosystem.

SCE: *Of the two species observed upstream of Fairview Dam in 2023,* ***juvenile rainbow trout less than 4 inches in length are believed to be most susceptible to entrainment into the flowline.*** *This is due to Sacramento suckers' preference for benthic zones compared with rainbow trout's tendency to swim more freely throughout the water column and to use structures for cover. Juvenile suckers, if entrained at the diversion trash racks, would likely seek cover along the bottom sediments within the sandbox. Juvenile rainbow trout may seek refuge from larger predatory fish behind the screen structures, if their smaller size allows for passage, which could result in entrainment into the flowline.* (DLA Vol.2, P1 at 7-124.)

KRB: SCE's characterization of the susceptibility of juvenile rainbow trout to entrainment is vague and speculative, using noncommittal language like "believed to be" and "may seek refuge," which undermines the credibility of its assessment. The reliance on belief rather than on concrete, empirical evidence highlights the absence of any thorough investigation into actual entrainment rates and the specific factors contributing to them. SCE's assumption that rainbow trout are more vulnerable because they swim more freely throughout the water column and seek cover is an oversimplification that ignores a range of factors such as fish size, health, and stress levels along with the potential for prolonged intake velocity exposure. The statement improperly implies that behavior alone is the primary determinant of susceptibility.

SCE's suggestion that juvenile suckers would likely seek cover along the bottom sediments within the sandbox similarly overlooks the potential stress and mortality risks associated with entrainment. Fish that are entrained into an artificial structure like the sandbox are removed from their natural habitat, which may result in disorientation, stress, or death. Describing the sandbox as a potential refuge is misleading, as it is not a natural habitat capable of sustaining fish health in the same way the river would. There are no

guarantees the sandbox provides adequate shelter, oxygenation, or food resources. The suggestion that juvenile suckers can simply "seek cover" in the sandbox glosses over the negative consequences of entrainment and fails to address the fact that the sandbox is not a suitable environment for sustaining fish.

Finally, SCE acknowledges that juvenile rainbow trout could potentially seek refuge behind the screen structures, which is an admission that the screen design may inadvertently increase the risk of entrainment for smaller fish. If the screen allows for smaller fish to pass through, this further highlights its ineffectiveness in protecting the very species that are most vulnerable. Rather than minimizing the potential consequences of entrainment, SCE should be prioritizing solutions to prevent fish from entering the flowline in the first place, particularly for juvenile fish, which are crucial for population sustainability. But that would involve money — money for studies, money for infrastructure — money that SCE does not want to spend on this environmental imperative.

SCE: *Although considered possible, there are no known* ***observations of fish*** *within the sandbox during routine facility inspections by SCE staff or during other incidental surveys (including a visual survey by fish biologists during the 2023 fish monitoring effort).* (DLA Vol.2, P1 at 7-124.)

KRB: SCE's reliance on incidental observations rather than systematic, focused studies paints in a poor light its conclusion that fish entrainment into the sandbox is not a significant issue. The fact that no fish were observed during routine inspections or incidental surveys is hardly sufficient evidence to conclude that entrainment does not occur. These incidental surveys were not designed to detect fish entrainment comprehensively, and their limitations — such as infrequent or non-targeted observations, lack of specific protocols, and potential observer bias — are simply not acknowledged. Visual surveys, especially incidental ones, are notoriously unreliable for assessing complex ecological phenomena like fish entrainment, especially of smaller fish. They depend heavily on factors like the timing of observations, water clarity, observer skill, and the equipment used. A more rigorous approach would involve using modern methods such as underwater cameras, acoustic telemetry, or even periodic, targeted surveys during known times of increased entrainment risk. Without such thorough study, the best that can be said about the question of fish entrainment into the sandbox is that it remains unresolved. The lack of structured, repeatable, and methodologically sound studies leaves the question of entrainment unanswered and renders SCE's assurances unconvincing. The best that can be said about the question of entrainment of fish into the sandbox is that it remains at this late date completely unanswered.

SCE: *Additionally, to decrease the period between flushing, SCE proposes to routinely inspect the sandbox* ***when flows are below 350 cfs, and if necessary, SCE would drain one or***

both sides of the sandbox to remove accumulated sediment between July 1 and February 15*, or outside the rainbow trout spawning season. The increased flushing frequency would decrease any holding time for fish within the sandbox.* (DLA Vol.2, P1 at 7-126.)

KRB: SCE fails to provide historical data or studies demonstrating the safety and effectiveness of its proposal to flush sediment at flows below 350 cfs, which is a significant oversight. This lack of empirical evidence undermines the credibility of SCE's proposal. The assumption that flushing at lower flows can be conducted safely, simply because it is scheduled outside the rainbow trout spawning season, overlooks several key ecological factors, particularly the cumulative impacts of sediment deposition on habitat quality. Flushing at flows below 350 cfs carries a risk that sediment will not be adequately dispersed downstream. Insufficient flow can lead to localized sediment deposition in critical habitats, which may degrade water quality, reduce the availability of suitable spawning gravel, and impact aquatic species for extended periods. The fact that this proposal does not include any detailed sediment transport modeling or studies on how sediment behaves under lower flow conditions makes it speculative at best. The assumption that habitat quality will remain unaffected during lower flow flushing is unsubstantiated.

SCE's assertion that increased flushing frequency will reduce the holding time for fish within the sandbox is misleading. The primary concern is not just the duration of time fish are held in the sandbox, but the overall impacts of entrainment and subsequent flushing activities on fish populations, sediment transport, and habitat integrity. Without adequate flow, the risk of sediment buildup in downstream habitats is heightened, which could compound the harmful effects of repeated flushing events over time. Cumulative sedimentation, especially when not fully dispersed, can lead to long-term degradation of riverine habitats, including those critical to trout and other aquatic species.

SCE: *With the exception of potential predation of smaller fish by larger fish within the sandbox, there are no features identified along the 13-mile flowline that would result in* ***fish mortality****. Fish that move into the water conveyance system and return to the NFKR downstream of Fairview Dam during sandbox flushing activities are expected to survive.* (DLA Vol.2, P1 at 7-126.)

KRB: SCE significantly downplays the potential risks to fish within the 13-mile flowline, overlooking a range of critical stressors that fish may encounter. The flowline and sandbox, both artificial environments, lack the natural habitat features that fish rely on for shelter, feeding, and recovery. Prolonged exposure to these conditions can increase physiological stress, reduce the ability to find food or rest, and, in turn, lead to higher mortality rates, particularly for smaller and more vulnerable fish. The suggestion that predation is the only significant threat ignores the cumulative impacts of stress from unnatural flow regimes, disorientation, and physical exhaustion over the long journey through the flowline. Small fish may not have the strength to withstand these extended, high-velocity conditions, and

their inability to access appropriate habitat could leave them vulnerable. The claim that there are "no features" along the flowline that could cause fish mortality is wholly unsupported by specific studies of the flowline's current conditions and its effects on fish.

SCE's assertion that fish are "expected to survive" after passing through a sandbox flushing is baselessly optimistic. It oversimplifies the complex environmental conditions fish face within this artificial system. Fish flushed from the sandbox may experience physical injuries from pressure changes, abrupt transitions, and contact with the conveyance infrastructure. The stress of navigating an artificial environment, combined with the lack of appropriate habitat, likely diminishes survival rates. The absence of comprehensive studies that evaluate the full range of stressors and mortality risks for fish within the flowline and sandbox undermines SCE's conclusion. The DLA also fails to account for the cumulative effects of these stressors that can impair fish survival after returning to the North Fork Kern River.

SCE: *If the existing screens within the sandbox were removed, or larger fish somehow got past the screens, fish found in the vicinity of the intake structure at Fairview Dam (lengths ranging from 3 to 19.3 inches [77 to 490 mm]) would* ***still have relatively high survival rates*** *(88.5 to 98.2 percent). . . . Because entrainment of fish is expected to be low, and because survival of entrained fish is expected to be high, the continuation of Project O&M would have no effect on fish populations upstream of Fairview Dam, and the increased flushing activities would benefit any fish that had moved into the sandbox. Therefore, the proposed Project would have no adverse effect on, and may benefit, fish populations at Fairview Dam.* (DLA Vol.2, P1 at 7-127 & 7-128.)

KRB: Fish behavior is highly variable and influenced by factors not fully captured in the equation, such as sudden changes in water pressure, the fish's stress level, and their ability to navigate turbulent waters. The DLA's reliance on the Eicher equation without acknowledging these limitations paints an overly optimistic view of fish survival. SCE fails to address issues of cumulative stress and potential for delayed mortality, latent injuries, or increased susceptibility to predators after turbine passage. SCE's conclusion that project operations would have "no adverse effect" on fish populations upstream of Fairview Dam is problematic because it is based on several assumptions that have not been substantiated with empirical evidence specific to the KR3 project. There is a risk that the desktop tools SCE presents are being used to paint an overly optimistic picture of fish survival, which would bias the environmental review process. Conclusions about fish survival and the impact of the project on fish populations must be based on robust, site-specific data, rather than generalized or outdated studies.

SCE: *Because the Salmon Creek and Corral Creek Bypass Reaches are* ***intermittent and fishless*** *(Section 7.4.1.1, Aquatic Habitat), the proposed Project would have no effect on*

fish or fish habitat. (DLA Vol.2, P1 at 7-128.)
KRB: SCE's conclusion that the Salmon Creek and Corral Creek Bypass Reaches have "no effect" on fish or fish habitat fails to recognize the broader ecological functions that intermittent streams serve. While these reaches may be intermittent, and even fishless, that does not mean they lack ecological significance. Intermittent streams provide critical ecological services, such as offering seasonal *refugia*, contributing to sediment transport, supporting water quality, and playing key roles in the hydrological dynamics of the larger watershed. These creeks may support aquatic species during wet periods, and their condition as "fishless" is likely a direct consequence of project operations that have altered the natural flow regimes and connectivity that would otherwise sustain these habitats. SCE does not consider whether the "fishless" nature of these creeks is a cumulative effect of the project. SCE dismisses the possibility that, with an appropriate flow regime, these creeks could become viable habitats for fish or other aquatic organisms. The fact that they are fishless under current conditions does not preclude the potential for restoration. We propose that the Commission unencumber these creeks, given their low importance as a source of energy and their ecological potential for fish and special status species restoration. Restoration efforts that involve improved flow regimes and habitat enhancements could transform these intermittent streams into productive aquatic habitats.

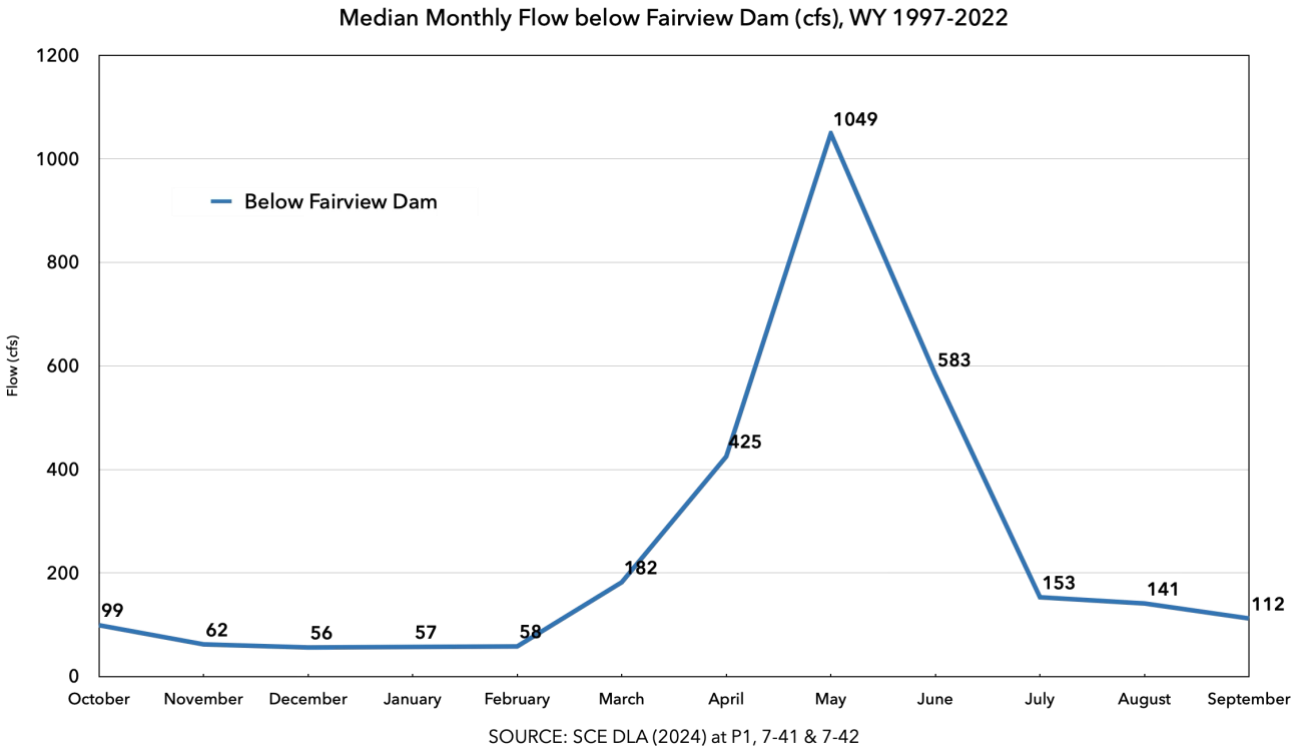
SCE: *[T]he natural dynamics of the NFKR* ***limit spawning gravel deposits for trout*** *both upstream and downstream of Fairview Dam.* (DLA Vol.2, P1 at 7-128.)
KRB: SCE's assertion that the "natural dynamics" of the North Fork Kern limit spawning gravel deposits ignores the significant alterations to those dynamics caused by the presence of Fairview Dam and its associated operations. While it is true that natural riverine processes can influence the availability of spawning gravel, the construction and operation of the dam have fundamentally changed those dynamics by reducing flow variability and the quantity of water released downstream, especially during periods critical for sediment transport and gravel deposition. The associated reduction in flow not only decreases the ability of the river to transport coarse gravels to key spawning areas but also increases the accumulation of finer sediments, which can fill in gravel beds and degrade the quality of spawning habitat. Over time, this sediment reduces the availability of suitable spawning gravel for trout, *compounding* the natural limitations SCE references. Fairview Dam also limits the natural replenishment of gravel in downstream reaches, further diminishing the spawning habitat necessary for a healthy trout population on top of natural limitations. SCE's focus on "natural dynamics" unreasonably downplays the role of the project in exacerbating these limitations.

SCE: *Although the NFKR is currently stocked with hatchery rainbow trout, the observed rainbow trout densities in the river were relatively low in 2023 compared with prior survey years, and densities appear to consistently decrease from 1998 to 2023, indicating an annual decrease in spawning success (Figure 7.4-15). The* ***limited recruitment of rainbow trout in 2023*** *could reflect poor spawning conditions during the preceding 5 years of drought (which includes the second driest year on record in 2022) and/or flood-level flows in 2023. However, both rainbow trout and Sacramento suckers spawn in the spring and early summer, on the descending limb of the snowmelt run-off, and suckers showed a strong recruitment of YOY fish in 2023, although their spawning timing appears to have been delayed (Figure 7.4-3). Most rainbow trout observed in 2023 were within the catchable size group (e.g., 6 to 12 inches [152 to 305 mm]), likely reflecting the recent stocking upstream and downstream of Fairview Dam. Naturalized rainbow trout from historically stocked populations may be affected by the stocking of larger trout, which compete for resources and may prey on smaller trout (Vincent, 1987). Additionally, the stocking amounts, timing, and distribution of sterile versus non-sterile rainbow trout in the NFKR is uncertain (personal communication, William Branch, Senior Hatchery Supervisor, CDFW, January 30, 2024). The stocking of sterile rainbow trout may decrease the overall fecundity of the remnant naturalized population because the stocked sterile trout may unsuccessfully attempt to reproduce with naturalized non-sterile trout, thereby decreasing the overall reproductive success of the local population (Knipling, 1955). If sterile fish are released in sufficient numbers over a sufficient period of time, these fish would suppress the natural recruitment within the reach (Alphey et al., 2010).* (DLA Vol.2, P1 at 7-128 & 7-129.)

KRB: SCE's argument ignores a critical point: the project's operations further impair imperfect conditions created by droughts, particularly through flow reductions that limit spawning habitat and raise water temperatures. While SCE points to drought and flood as contributors to declining trout populations, these factors alone do not explain the steady decrease in populations over time. Project-related flow reductions during critical spawning periods amplify the effects of natural environmental stressors, resulting in unsuitable spawning habitats and poor conditions for trout recruitment. The success of Sacramento suckers in the same habitat points to specific issues affecting trout, such as a lack of clean, well-oxygenated gravels — conditions that are compromised by sedimentation and other water quality issues tied to project operations. The presence of suckers indicates that these conditions could be improved for trout if the right ecological requirements were met, particularly through higher minimum instream flows as recommended by the CEFF. SCE's suggestion that stocking practices are largely responsible for the decline in trout populations is entirely speculative given the lack of clarity on the proportion of sterile versus non-sterile trout being stocked. Even if stocking contributes to some issues, SCE fails to account for the role that reduced flows and increased sedimentation due to project

operations play in the decline. By focusing on stocking practices, SCE inelegantly deflects attention from the broader, cumulative impacts of its project that stick out like a sore thumb. Addressing these project-related factors through increased baseflows and sediment management will restore trout populations and improve overall river health.

SCE: *Proposed Measure WR-1 would enhance current flow conditions for native fish species downstream of Fairview Dam by shifting the timing of greater MIFs from the summer months of July and August to the spring months of May and June to align with the spring snowmelt and the natural hydrograph (Figure 7.3-10 in Section 7.3.3.1, Water Use and Hydrology). Because the timing of native fish spawning is partially driven by the annual hydrograph, this measure's* ***shift in flow timing would benefit aquatic resources*** *by providing flows that mimic the natural conditions to which native species are adapted. Therefore, implementation of Measure WR-1 is expected to benefit native species and their habitats within the Fairview Dam Bypass Reach.* (DLA Vol.2, P1 at 7-129.)
KRB: SCE's argument oversimplifies the ecological dynamics at play by suggesting that merely shifting required higher flows to the spring months will benefit native species. Those flows already exist[138]:

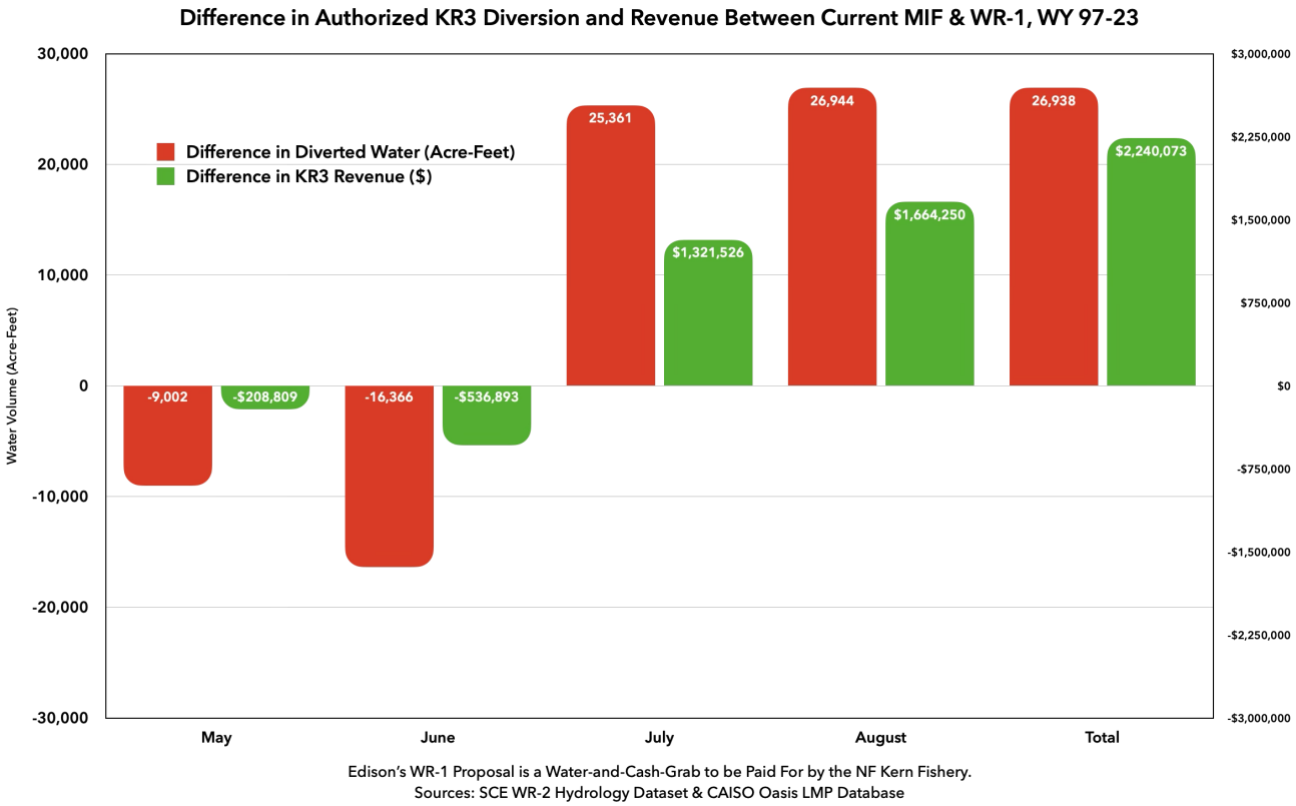


SOURCE: SCE DLA (2024) at P1, 7-41 & 7-42

[138] KRB-DLA-MIF, Sheet 14.

While it is true that spring flows are crucial for spawning, summer baseflows are just as critical for juvenile fish to access suitable habitat and for adult fish to survive in warmer, potentially lethal temperatures. The CEFF baseflows, which consider the entire seasonal flow regime, reflect the comprehensive needs of the river's ecosystem, including the temperature and oxygen requirements necessary for both native and naturalized species to thrive year-round, and we propose they be adopted as the KR3 MIF.

SCE's approach, in contrast, fails to acknowledge the importance of maintaining sufficient flows during the summer months of July and August when temperatures peak and aquatic species, particularly cold-water species like trout, are most vulnerable. The proposed shift in flows would exacerbate the already stressful conditions that species face during the hottest months. Instead of improving ecological outcomes, this proposal would reduce the ecological resilience of the system by depriving fish and other aquatic organisms of the water they need during the most critical periods of thermal stress. Again, what is required here is the CEFF's more balanced approach, ensuring that both spring and summer flows are adequate to support the river's ecological integrity throughout the year alongside robust diversions for hydropower. Crudely "aligning" minimum flows with the natural hydrograph is sound only if the resulting flows are adequate — otherwise you are just stealing from Peter to pay Paul . . . and SCE, to the tune of $2.24 million[139]:



[139] KRB-DLA-MIF, Sheet 10.

SCE*: Similarly, proposed Measure WR-5 would enhance current flow conditions by including a 10-day spring-pulse flow on the ascending limb of the natural hydrograph. Although the Project has no significant storage capacity and spills regularly in the spring, the addition of full natural flows in spring would* ***enhance flow conditions for native species by providing flows that mimic the natural conditions to which native species are adapted****. Therefore, implementation of Measure WR-1 is expected to benefit native species and their habitats within the Fairview Dam Bypass Reach.* (DLA Vol.2, P1 at 7-129.)

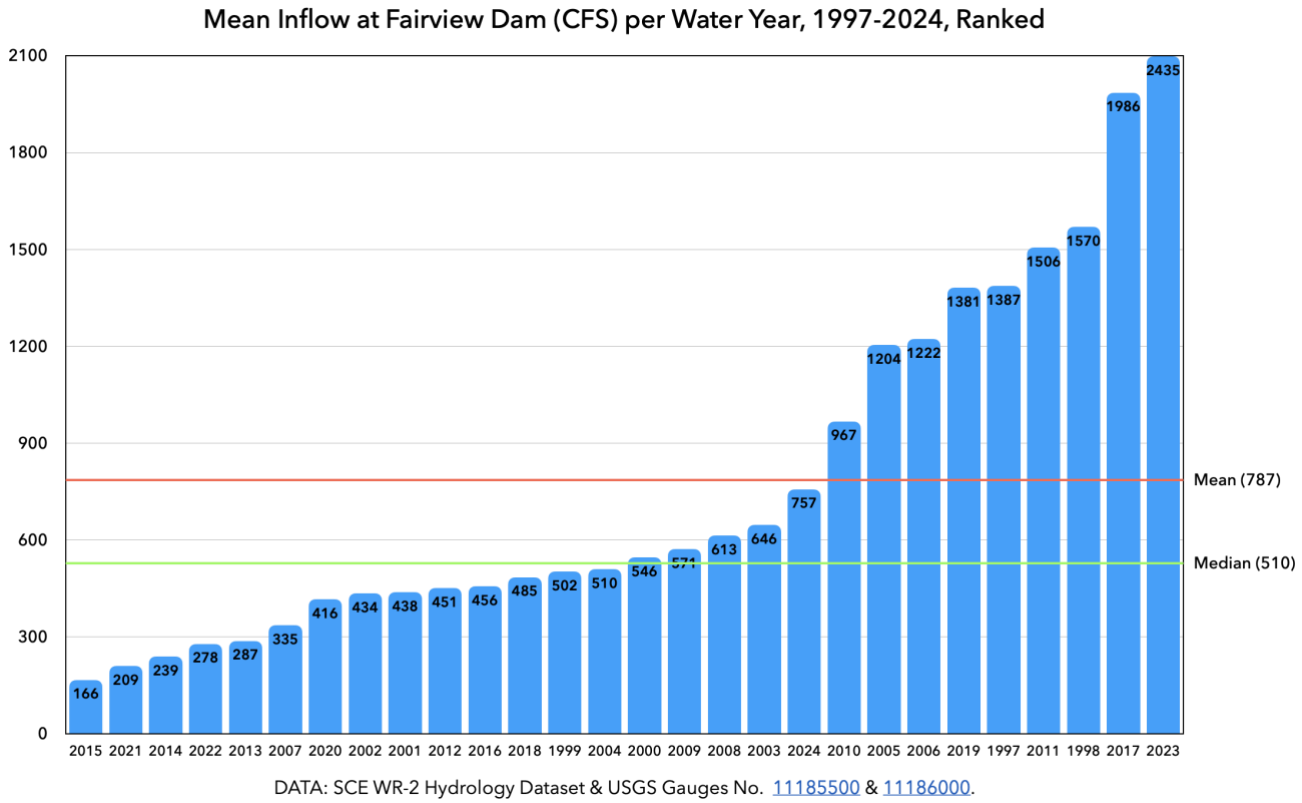
KRB: A brief 10-day pulse flow, as proposed by SCE, is facially insufficient to support the critical ecological processes that sustain the health of the North Fork Kern River ecosystem. While such a flow may temporarily mimic natural conditions, it does not provide the sustained flow necessary for key functions like sediment transport, temperature regulation, and habitat maintenance. These processes require continuous periods of elevated flows to prevent the buildup of fine sediments, maintain healthy spawning gravels, and regulate water temperatures. The CEFF's recommended baseflows are significantly higher than SCE's current MIF, and they offer a more scientifically grounded and ecologically sustainable approach. Unlike a short-lived pulse flow, CEFF baseflows support the river's ecological functions year-round, ensuring that habitat quality, species diversity, and overall river health are preserved. A 10-day pulse in the spring, when water temperatures are typically not problematic, does nothing at all to address the river's needs during the critical summer months when sustained higher flows are essential to mitigate rising temperatures and support aquatic species, particularly cold-water species like trout. Furthermore, effective sediment mobilization and distribution — key for maintaining spawning habitats — require more than a short burst of water. Prolonged higher flows are needed to flush fine sediments out of spawning gravels and prevent their accumulation, which can choke out vital oxygen and degrade habitat quality. The proposed pulse does not achieve this aim and leaves the river susceptible to rapid degradation once the pulse subsides, especially in the absence of sustained adequate flow conditions. In contrast, the CEFF baseflows offer a holistic approach that supports the river's long-term ecological sustainability by maintaining the necessary flow levels year-round. These baseflows ensure that key ecological processes are not artificially interrupted or astroturfed but are instead meaningfully sustained to support the health and resilience of our river and its species.

SCE: *Implementation of the proposed measures are expected to enhance aquatic habitats within Project-affected stream reaches and benefit BMIs. The measures would provide flows that align better with the natural hydrograph, continue restrictions on the stream flow rate of change, minimize erosion and the delivery of fine sediment to streambeds, and reduce the chance of hazardous substances entering waterways. Increased flushing activities at the*

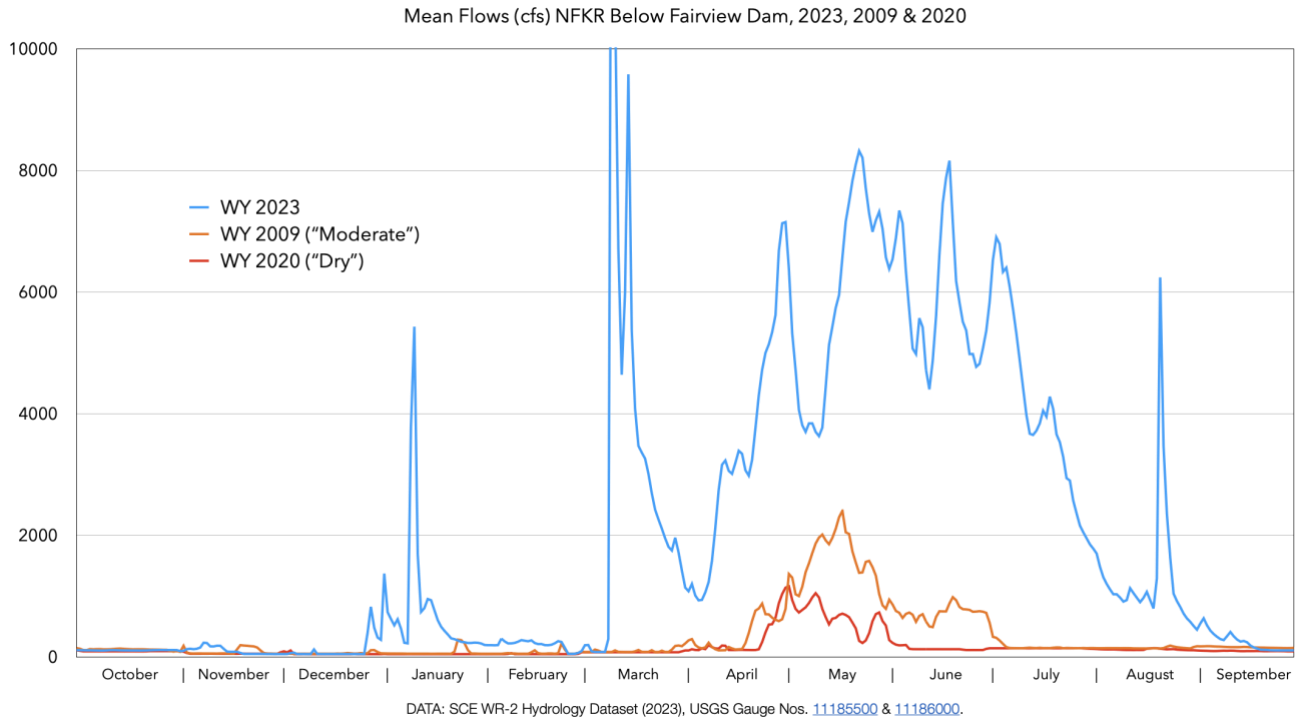
sandbox and removal of sediment could temporarily increase turbidity and deposited sediment at the sandbox outlet, but any potential effects would be minor, local, and short-term. Because the ***current CSCI scores indicate all sites are "likely intact,"*** *implementation of the proposed Project would result in no adverse effect on the BMI community.* (DLA Vol.2, P1 at 7-134 & 7-135.)

KRB: SCE fails to inform its readers the BMI study was conducted during an extremely high-flow year (2023) that is likely skew its results and does not represent typical conditions in the dewatered reach.

To represent the anomalous conditions in 2023, we present a graph of daily mean flows below Fairview Dam during the present license term, and a second graph comparing 2023 with a representative moderate water year (2009 — 13th highest out of 28 water years in the current license term) and a representative low water year (2020 — 22nd out of 28)[140]:



[140] KRB-DLA-MIF, Sheets 3 & 15.



Flows in 2023 were not just high; they were anomalously, ridiculously so, high. High-flow years are fantastic, as they naturally cleanse rivers of accumulated sediments, improve water quality, and provide habitat conditions that might not be present during average or low-flow years. But many years can go between high water years. This context is crucial when evaluating SCE's claim that BMIs are not impaired. Conducting a BMI study during an anomalous year provides a snapshot that does not reflect the long-term impacts of the project on the river's ecosystem in many or most years. It is critical to consider whether similar results would have been obtained in years with lower flows or during drought conditions, where the negative impacts of flow diversion and sedimentation would be more pronounced. SCE's reliance on data from a single year overlooks the need for longitudinal studies that capture the variability of the river's conditions over time. A more robust analysis would involve multiple years of data to determine whether the "likely intact" condition is consistent or an anomaly. The CSCI scores further fail to capture the ecological impacts of the altered flow regimes proposed by SCE, particularly the reduced summer flows and increased sedimentation from sandbox, which can degrade BMI habitat over time. Although BMI assemblages in the dewatered reach may be resilient in high-flow years, the long-term health of these communities is at risk under the current and proposed flow regimes. A more robust approach would involve raising the MIF to align with CEFF recommendations, ensuring sustained higher flows throughout the year.

SCE: *[I]mplementation of the proposed Project would have at most minor, local, and short-term effects on* ***special-status mollusks****.* (DLA Vol.2, P1 at 7-136.)

KRB: The western pearlshell is extremely sensitive to temperature changes. SCE mentions that temperatures above 25°C have been shown to cause mortality but downplays the potential impacts of even minor increases in water temperature, failing to adequately address the effects of temperature changes in a river system that in is already near the upper limit of suitable habitat conditions due to the project diversion. The proposed decrease in flow during July and August under Measure WR-1 will exacerbate project-induced temperature increases during critical summer months, pushing temperatures closer to or beyond this critical threshold. Additionally, these temperature increases will lead to further reductions in dissolved oxygen (DO), compounding the stress on mollusk populations. The long-term viability of western pearlshell populations could be threatened by these cumulative stresses.

SCE further contends that it is "extending and modifying" the existing flushing regime, but the long-term impacts of sediment management at flows below 350 cfs are not documented. These lower flows could result in increased sediment deposition in critical habitats, smothering the suitable substrates (gravel, sand, cobble) essential for mollusk survival and reproduction. Moreover, the increased disruption of substrates through sediment flushing could reduce the availability of stable habitats over time, negatively impacting mollusk populations. SCE also ignores the fact that the western pearlshell relies on salmonid species, such as rainbow trout, as host species for their larvae (glochidia). The decline in trout populations in recent years raises concerns about the availability of suitable hosts for western pearlshell. SCE's proposed changes to the flow regime under Measure WR-1 would further reduce trout populations during critical summer months, potentially leading to a decline in host availability and subsequent impacts on western pearlshell recruitment and survival.

SCE's characterization of the impacts of the proposed project as "minor, local, and short-term" fails to consider the potential long-term consequences of repeated flow reductions, temperature increases, and sediment management practices. The cumulative effects of these changes could lead to a significant decline in western pearlshell populations, particularly if the conditions for their survival and reproduction are compromised over time. This is not a temporary issue but one that could have lasting implications for the species' viability in the NFKR. A better solution is found in our proposal to implement the CEFF baseflows as the project MIF so as to ensure broad ecosystem functionality while allowing for robust hydropower generation.

SCE: *Aquatic herpetofauna and their habitat within Project-affected reaches would be* ***protected and enhanced*** *by implementation of the following proposed environmental measures.* (DLA Vol.2, P1 at 7-137.)

KRB: Amphibians such as the Sierran treefrog and California toad rely on habitats with adequate moisture and temperatures suitable for breeding and larval development. SCE's

proposed shift in the flow regime, which reduces summer base flows, will lead to reduced water availability and higher temperatures in shallow habitats, both of which are critical for amphibians. These changes will adversely affect egg survival, larval development, and metamorphosis, directly harming population sustainability. Amphibians are particularly sensitive to temperature changes during their developmental stages, and higher temperatures in reduced-flow conditions increase the risk of desiccation for eggs and larvae, significantly limiting reproductive success. SCE also fails to consider the impacts of altered sediment dynamics and increased sedimentation from its proposed sandbox flushing activities. These activities could disrupt benthic microhabitats, which are essential for amphibian and reptile prey species, such as benthic macroinvertebrates. Altered sediment composition and increased sediment loads can reduce the availability of suitable substrates for BMIs, thereby affecting the food web and limiting prey availability for amphibians and reptiles. Such changes could have cascading effects throughout the ecosystem, diminishing food sources and, in turn, negatively impacting amphibian and reptile populations that rely on these BMIs. SCE's conclusion that the proposed measures would have no adverse population-level effects on amphibians and reptiles is overly optimistic and fails to consider the cumulative impact of multiple project activities. The combined effects of reduced summer base flows (WR-1), increased sediment flushing (WR-4), and increased water temperatures could lead to the long-term degradation of amphibian and reptile habitats. These effects are especially concerning in a river system already subject to significant hydrological alterations that fall below the scientifically recommended flows of the California Environmental Flows Framework, which should be implemented as this project's MIF.

SCE: *The proposed Project would have* ***no adverse effects on foothill yellow-legged frogs*** *because they are likely extirpated from the FERC Project Boundary and Project-affected reaches.* (DLA Vol.2, P1 at 7-137.)

KRB: While it is true that recent surveys have not documented the presence of *foothill yellow-legged frogs* [FYLF] within the FERC project boundary, this is an absolutely insufficient ground on which to dismiss the project's impact on this species. SCE acknowledges that the species was historically observed downstream of the Fairview Dam and that habitat conditions have deteriorated due to project operations. Instead of dismissing the frog's absence, SCE's managers should consider the role their predecessors and the project played in extirpating this species from the region and what they can do to reverse it. Specifically, the California Environmental Flows Framework provides for ecologically-sound flow regimes that can restore natural habitat conditions critical for species like the FYLF. If the project were to implement the CEFF's flow recommendations, particularly baseflow restoration, the improvement in water quality, temperature regulation, and aquatic habitat would create conditions that are conducive to the return of

the FYLF and other riparian species. Simply acknowledging the absence of the species is not enough; active steps should be taken to restore ecological conditions and create an environment where the species could re-establish.

The frog's presumed extirpation is likely a direct result of hydropower operations that have disrupted its habitat. The statement that populations have been observed five miles upstream suggests that suitable habitat exists nearby. It's critical to understand that species like the FYLF are highly sensitive to water flows and habitat structure. The project has altered these two key factors, reducing the probability of the species reestablishing. Instead of merely acknowledging the species' absence, SCE should evaluate how restoring flows in line with CEFF recommendations could help reintroduce or support the frog's habitat. If not SCE, then the governing agencies should demand it. KRB's MIF proposal aligns with these goals by ensuring that critical ecological baseflows are sustained during all seasons. Implementing CEFF-based flows would address key factors contributing to the species' extirpation, such as altered water temperatures, reduced flows, and lack of shallow stream habitats. By enhancing the flow regime, the habitat could potentially support reintroduction efforts or natural recolonization by the FYLF. Not doing so only compounds the cumulative negative effect of project operations on this frog's habitat. The cumulative impacts of reduced flows, increased water temperatures, and habitat fragmentation have had far-reaching effects on the aquatic ecosystem, contributing to the extirpation of FYLF.

SCE's failure to evaluate these cumulative effects on the frog and its habitat is a significant oversight. Moreover, continuing the current or proposed flow regimes without addressing these impacts will only perpetuate the degraded conditions. SCE fails to account for the broader responsibility of the project to contribute to ecological restoration. Even though the species is extirpated, the project has a responsibility to help rehabilitate the degraded ecosystem. Measure TB-2 does not begin to address the fundamental issue: habitat degradation caused by altered flow regimes. The FYLF depends on shallow, cool-water habitats with cobble or boulder substrate, which have been significantly diminished due to reduced flows and altered water temperature regimes. SCE's proposed measures do not rectify the long-term degradation caused by the diversion of water at Fairview Dam. KRB's MIF proposal would promote a healthy, resilient river system capable of supporting sensitive species like the FYLF and address the cumulative impacts ignored by SCE. The federal and state listings of the FYLF underscore the importance of active conservation measures. The managing agencies should not be content with passive mitigation but should instead engage in proactive conservation that includes habitat restoration and flow management improvements.

SCE: *With implementation of proposed Measures WR-1, LU-1, and TB-2, implementation of the proposed Project may affect but is* ***not likely to adversely affect populations of***

northwestern pond turtle *within the FERC Project Boundary or Project-affected reaches.* (DLA Vol.2, P1 at 7-137 through 7-139.)

KRB: SCE's argument that the reduction of summer flows could benefit northwestern pond turtles is simplistic and lacks sufficient consideration of the complex needs of the species. That species requires perennial, cold-water habitats with stable DO levels. Reduced flows during summer — a critical period for turtle thermoregulation and foraging — could lead to temperatures exceeding optimal ranges for the species. This would particularly affect juveniles and eggs, which are more vulnerable to thermal stress and habitat disruption. The assertion that habitat within Cannell Creek may only be affected "during the short-term release of water" does not account for the cumulative and potentially chronic impacts of such disturbances on the turtle populations. The displacement of adult and juvenile turtles and the alteration of habitat due to significant changes in flow regimes could have more profound effects than SCE suggests, especially when considering the limited suitable habitat availability within the project area. SCE blithely assumes that current conditions are sufficient for maintaining viable populations of this special-status species. Given the lack of comprehensive baseline data on the health and trends of these populations, this assumption is speculative at best. Furthermore, relying on current conditions without integrating CEFF baseflow recommendations fails to address the broader ecological needs that underpin species survival and habitat quality. The CEFF emphasizes adequate flows that support all ecological functions, including species-specific needs, and implementing those as the MIF here as we propose would provide more stable and protective conditions for species like the northwestern pond turtle, particularly during critical life stages such as nesting and juvenile development.

SCE: *The proposed Project would* ***not result in unavoidable adverse effects*** *on aquatic resources.* (DLA Vol.2, P1 at 7-139.)

KRB: SCE blanket statement that the proposed project would not result in any "unavoidable adverse effects on aquatic resources" does not fairly reflect the project's impacts. Throughout the DLA, SCE relies on extremely limited and/or outdated data to draw broad conclusions about the lack of adverse effects on aquatic populations. For instance, SCE's claims on entrainment are based largely on theoretical calculations and non-comprehensive visuals. SCE's sediment management strategies, particularly the proposal to flush the sandbox at flows below 350 cfs, have not been demonstrated to be safe for maintaining habitat quality. Such activities are likely to lead to increased turbidity and sediment deposition, which could smother benthic habitats and degrade spawning grounds. These indirect effects on habitat are cumulative and could result in unavoidable adverse impacts over time. SCE's proposed measures on modified flow regimes and flushing protocols are founded on entirely speculative benefits rather than proven effectiveness. The assumption that these measures will mitigate potential adverse effects lacks empirical support and

ignores the possibility that some impacts may be unavoidable. For example, while WR-1 and WR-5 aim to align flows with natural hydrographs, they do not address the need for consistent baseflows throughout the year, as recommended by CEFF, to support a fully functioning aquatic ecosystem. SCE's proposed reduced flows during critical summer months are likely to further increase water temperatures beyond optimal levels for trout and other cold-water species. The repeated occurrence of suboptimal conditions could lead to cumulative stress and gradual habitat degradation, which is not accounted for in SCE's analysis.

7.5 Wildlife Resources

SCE: *With implementation of the proposed environmental measures [LU-1, TB-1 & TB-2], the proposed Project would have* ***no adverse effect on non-special-status terrestrial amphibians and reptiles****.* (DLA Vol.2, P1 at 7-152.)

KRB: The measures SCE outlines do not go far enough in addressing the full range of risks posed by project operations, particularly with respect to the interplay between flow regimes and terrestrial habitats, which SCE repeatedly downplays. SCE's measures focus primarily on direct, short-term risks (such as trappings or drownings) while overlooking broader, cumulative impacts associated with changes to the ecosystem, including habitat alteration and the effects of hydrological and temperature changes caused by the project. Terrestrial amphibians and reptiles depend on healthy, functional ecosystems with adequate moisture and suitable temperatures for their survival, breeding, and larval development. The proposed reduction in summer base flows under Measure WR-1 is likely to exacerbate temperature increases and reduce water availability in critical amphibian habitats, especially in riparian areas where amphibians are most concentrated. These changes will directly impact egg viability and larval development by reducing moisture and increasing temperatures in shallow pools and along the stream margins. While SCE's proposal focuses on project operations and vegetation management, it fails to account for how reduced water availability and higher temperatures in summer months will further degrade habitat quality for terrestrial species.

The potential for increased sedimentation and altered sediment dynamics resulting from sandbox flushing (Measure WR-4) is an additional concern. This sediment could be transported into riparian areas, impacting the microhabitats relied upon by terrestrial amphibians and reptiles for shelter and breeding. The flushing of fine sediment during low flow conditions could degrade benthic substrates and disrupt the microhabitat structure necessary for the prey species that amphibians and reptiles rely on, such as benthic macroinvertebrates. The measures outlined in TB-2, such as the development of BMPs and environmental awareness training, are insufficient to mitigate these broader, long-term effects. While these steps may address certain operational hazards, they do not account for the cumulative ecological impacts of altered flow regimes, increased sedimentation, and

rising temperatures, all of which can degrade amphibian and reptile habitats over time. Furthermore, relying on reactive measures such as "notification" to agencies when threatened or endangered species are identified within the FERC boundary neglects the proactive approach needed to safeguard habitats before irreversible damage occurs.

The CEFF's recommended baseflows provide a more comprehensive approach to ensuring the ecological sustainability of these species. By maintaining higher flows throughout the year, the CEFF ensures that critical habitats retain adequate moisture and that temperatures remain within a range conducive to amphibian and reptile survival. Increased flows also help maintain the ecological conditions necessary for benthic prey populations to thrive, thereby supporting the broader food web that amphibians and reptiles rely on. Without adopting CEFF-recommended baseflows and ensuring that these species' habitats are maintained year-round, SCE's measures are insufficient to protect the long-term viability of terrestrial amphibians and reptiles within the project area. The proposed project would therefore have more than just "minor, local, and short-term effects" and could lead to significant long-term declines in these populations if not appropriately mitigated.

SCE: *With implementation of proposed Measures LU-1, TB-1, and TB-2, the proposed Project would have* ***no effect on Fairview slender salamander*** *or its habitat.* (DLA Vol.2, P1 at 7-154.)

KRB: The Fairview slender salamander's designation as a Forest Service species of conservation concern indicates recognized threats or declining populations. This status necessitates precautionary measures, especially given that the species has a limited geographic range and specific habitat requirements. The fact that it is a species of conservation concern should prompt more rigorous protection measures. SCE's argument that the salamander does not inhabit running water irrationally distracts from the indirect impacts of altered hydrology on its habitat and flow-related opportunities to improve habitat. Moisture levels in the salamander's habitat are influenced by riparian conditions and local hydrology, both of which are impacted by changes in flow regimes. The reduction of summer base flows under Measure WR-1 will exacerbate dry conditions during the critical summer months when salamander habitats rely on residual moisture. Though SCE emphasizes that the species is not directly found in flowing water, the fact that it inhabits areas adjacent to or influenced by these watercourses makes it highly vulnerable to the indirect effects of reduced flows, particularly the drying out of adjacent moist areas during the warmest months of the year.

SCE's reliance on vegetation management techniques like herbicide application and hand trimming does not fully consider the impacts these practices may have on the integrity of salamander habitat. While these activities may not directly affect the salamanders themselves, the potential for habitat disturbance — particularly in areas that support the

salamander's required moist micro-environments — has not been adequately assessed. The use of herbicides, even if conducted within the guidelines of Forest Service 4(e) Condition 27, presents an additional risk to adjacent habitats, particularly through unintended drift or runoff, which could impact soil moisture levels and microhabitat conditions vital to the salamander.

SCE fails to adequately assess the long-term impacts of its sediment management practices, such as sandbox flushing, on the salamander's habitat. Increased sediment deposition from project operations, especially at lower flows as SCE proposes, will degrade riparian and adjacent habitats by altering soil composition and moisture retention. These changes make salamander habitats less suitable by disrupting the delicate balance between moisture and substrate stability required for the species' survival. The effects of sediment management may be local in nature, but the cumulative impact over time can result in a significant degradation of salamander habitats. The assertion that these areas are not "direct" salamander habitats overlooks the interconnectedness of riparian ecosystems and the reliance of the salamander on these nearby moist environments. Further, while SCE's proposal to confine road and vegetation maintenance activities to existing road prisms and use hand trimming may seem low impact, these activities can still indirectly affect the salamander by altering the shading, moisture retention, and composition of adjacent habitats. The use of herbicides, even if applied carefully, can also disrupt the delicate ecological balance required to maintain the moist conditions that the Fairview slender salamander relies upon. Although SCE asserts that these activities would not affect the salamander, the potential for cumulative impacts — particularly in the form of habitat fragmentation or degradation — has not been fully assessed.

SCE does not address how the Corral and Salmon Creek diversions indirectly impact the riparian habitats, or negatively affect them over time. A reduction in water availability due to the diversions leads to drier conditions, increasing the risk of desiccation for these salamanders, particularly during dry seasons. That would not exist under our proposal to retire the creek diversions. Nor does SCE adequately account for the operation of the Cannell Creek spillway. While salamanders may prefer moist, sheltered environments like rocky crevices, the species could still utilize areas close to the high-water line, particularly during periods of lower flow or drought when they seek out moisture-rich environments. (SCE is unclear as to whether the "highwater line" is demarcated by natural events or spills.) The presence of water during spills could indeed affect the salamanders if it causes sudden changes in moisture levels, sediment deposition, or other environmental conditions. Moreover, salamanders could be present in microhabitats within the high-water line that are not directly impacted by flowing water but could still be affected by changes in adjacent conditions. Spills could also indirectly impact salamanders by affecting the broader ecosystem, including vegetation and prey availability. Changes in moisture patterns, vegetation growth, and the distribution of invertebrates (a primary food source for

salamanders) could all impact salamander populations, even if the spills themselves are contained within certain physical boundaries.

SCE's assertion that the proposed project would have no effect on the Fairview slender salamander is premature. The reliance on vegetation management measures, sediment management, and a reduced flow regime (Measure WR-1) could, in fact, degrade adjacent salamander habitats by reducing moisture availability, increasing sediment deposition, and altering the micro-environments that are essential for the salamander's survival. These risks are compounded by the lack of long-term, species-specific studies that evaluate the cumulative effects of these changes over time. In contrast, a more robust flow regime, aligned with the CEFF's recommended baseflows, would help improve the moisture levels and microhabitat conditions necessary for the salamander as called for by its protected status, ensuring that its habitat is not inadvertently degraded by project operations.

SCE: *[C]ontinued operations of the Project is* ***unlikely to affect wildlife***. (DLA Vol.2, P1 at 7-157.)

KRB: Even if direct disturbances to vegetation are minimal, the alteration of water flows and temperature regimes due to the project's diversions and changes in MIF can indirectly affect the habitats that game species rely upon. For instance, decreased instream flows during the hottest months of the year, as proposed in WR-1, will negatively affect riparian zones that are crucial for many game species. These areas provide food, cover, and breeding grounds, and changes in water availability can lead to shifts in plant communities, reducing the quality of habitat for game species. That proposal as well as the failure to satisfy CEFF baseflow recommendations can negatively impact hunting opportunities for the same reason. SCE's argument suggests the current MIF is insufficient to protect the entire ecosystem, including terrestrial species. To maintain habitat quality and availability for wildlife, flow regimes that better reflect natural conditions (as proposed by the CEFF) should be adopted. This includes maintaining adequate base flows during critical seasons to sustain riparian and upland habitats.

Further, while large wildlife species might navigate around structures like the penstock or siphon, smaller terrestrial species might be more significantly impacted. Salamanders, reptiles, small mammals, and amphibians that are sensitive to habitat fragmentation might find even minor alterations or obstacles created by aboveground infrastructure to be substantial barriers. Even if these structures do not completely prevent movement, they may alter migration patterns or disrupt daily movements, especially during critical life stages (*e.g.*, breeding, foraging). SCE's claim of no documented occurrences of wildlife drowning conflicts with local understanding of incidents that have led to project outages; SCE fails to describe the incentives and procedures for such reporting. We note

that even short-term artificial lighting during maintenance can disorient nocturnal species or disrupt natural behaviors such as foraging or mating.

SCE: *[C]ontinued operations of the Project is* ***not expected to affect special-status wildlife*** *species.* (DLA Vol.2, P1 at 7-157.)
KRB: While SCE claims that its operations do not directly disturb habitats, it fails to consider the indirect impacts that altered flow regimes and diversions may have on these habitats. Given the sensitivity of special-status species to habitat conditions and the potential for indirect impacts from altered flow regimes, it is crucial to consider CEFF baseflows as a protective or enhancing measure. CEFF baseflows are designed to maintain ecological integrity by providing consistent water availability and quality, essential for sustaining habitats for special-status species throughout their life cycles.

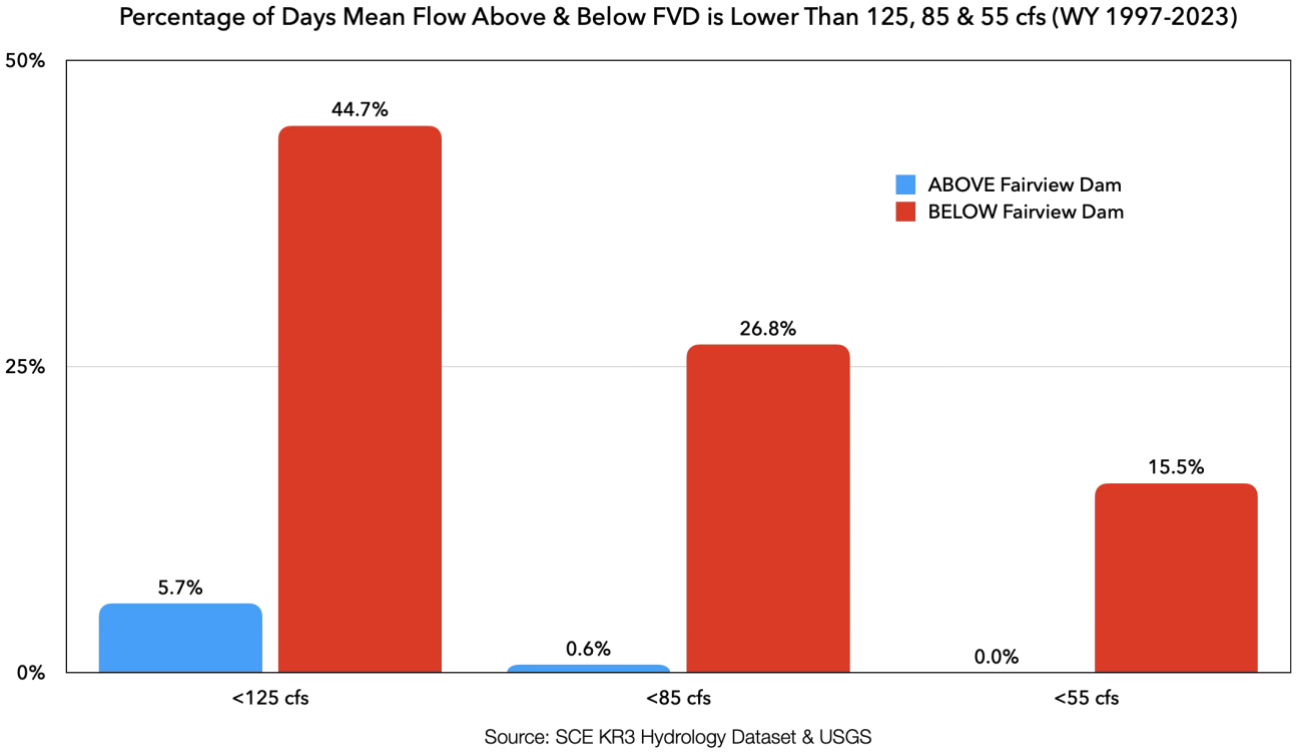
7.6 Botanical Resources

SCE: *Low flows in the Fairview Dam Bypass Reach during late summer and fall may result in adverse effects (e.g., vegetation dieback, disease susceptibility) on riparian-associated communities. However, any effects would be minor, local, and short term because these communities are* ***adapted to seasonally low flows*** *typical of the dry climate and intermittent rainfall in the region (Henn et al., 2018).* (DLA Vol.2, P1 at 7-204.)
KRB: SCE's assertion that low flows in the Fairview Dam Bypass Reach during late summer and fall would result in only "minor, local, and short-term" effects on riparian-associated communities is overly simplistic and neglects the full scope of forseeable long-term damage associated with the proposed project. Riparian ecosystems are complex and rely heavily on sustained surface water flows and stable groundwater levels. Reductions in base flows, especially during critical periods like the late summer and fall, can significantly impact riparian vegetation in ways that go far beyond what SCE describes. Riparian vegetation depends on a delicate balance of surface and subsurface water availability. When flows are reduced during key periods of the growing season, plants lose access to surface water, and groundwater levels can drop, increasing stress on these communities. The consequences include not only vegetation dieback but also reduced resilience to disease, increased vulnerability to invasive species, and weakened ecosystem functions. Vegetation in riparian zones supports a wide range of ecological services, including stabilizing streambanks, filtering pollutants, and providing critical habitat for wildlife. Any degradation of these communities can result in cascading effects throughout the ecosystem.

SCE further focuses solely on the immediate, short-term effects of low flows and ignores the long-term consequences of prolonged water stress on riparian communities. Repeated exposure to low-flow conditions can weaken riparian vegetation over time, making it more susceptible to disease, pests, and environmental stressors such as drought and heatwaves. In the long term, this can lead to a gradual decline in riparian health,

reduced biodiversity, and diminished ecosystem services. Additionally, riparian dieback can lead to increased erosion along streambanks, further degrading water quality and habitat for both aquatic and terrestrial species.

SCE's reference to Henn *et al.* (2018) as evidence that riparian communities are "adapted to seasonally low flows" fails to address the additional stress imposed by the project's diversions, which exacerbate naturally low flows. While riparian communities may be somewhat resilient to seasonal fluctuations in water availability, they are not adapted to artificially reduced flows caused by human intervention. In fact, riparian ecosystems are among the most vulnerable to alterations in natural flow regimes because of their reliance on consistent hydrological inputs to maintain biodiversity, productivity, and ecosystem stability. KR3 radically alters the frequency and intensity of low-flow events below Fairview Dam[141]:



The project fundamentally alters the frequency and intensity of low-flow periods below Fairview Dam to a state that is different in kind than those above the dam: Flows below 125 cfs go from one day in twenty to nearly every other day; flows below 85 cfs go from one day in 200 to one day in four; and flows below 55 cfs go from ***never*** to one day in six. SCE does not account for this.

[141] KRB-DLA-ISR, Sheet 8.

By contrast, the California Environmental Flows Framework provides a scientifically grounded approach to managing instream flows, emphasizing the need for higher base flows year-round to sustain both aquatic and riparian ecosystems. The current minimum instream flows for KR3 fall far short of these recommendations, particularly during the summer and fall when riparian vegetation is most vulnerable to stress. Implementing the CEFF baseflow recommendations, as we have proposed, would help mitigate the negative effects of low flows on riparian communities by ensuring that surface water availability and groundwater recharge remain sufficient to support these ecosystems during critical periods.

SCE: *Multiple species with potential for human use (e.g., for fiber, food, construction, medicine) are located within the FERC Project Boundary. Project O&M activities would have* ***no effect on these species*** *or access to them.* (DLA Vol.2, P1 at 7-205.)
KRB: SCE's assertion that Project O&M activities would have "no effect" on species with potential human use (e.g., broadleaf cattail, rushes, sedge, willow, white alder) fails to account for the critical dependence of many of these species on consistent water availability. Many of these hydrophilic plants are highly sensitive to changes in water flows, particularly during the dry months or drought conditions, when KR3's diversions reduce the water levels needed to sustain healthy populations. These species are not only ecologically important but also culturally significant for fiber, food, medicine, and other traditional uses. Reduced water flows from the project's diversions directly affect the health and abundance of these species, particularly during the most water-scarce times of the year. The health of riparian ecosystems is closely tied to consistent water availability, and any reductions in flows can lead to diminished plant growth, reduced seed dispersal, and a loss of plant vigor over time.

SCE neglects to account for cultural practices that rely on the availability of specific plants in particular locations. For Indigenous and local communities, the timing and location of plant gathering are closely linked to the natural hydrological cycles that support the abundance and accessibility of key species. Changes in flow regimes, particularly reductions in base flows during the dry season, can shift the distribution of plants away from traditional gathering areas, making them less accessible or moving them entirely out of reach. Such shifts have the potential to disrupt long-standing cultural practices that rely on specific species being available in predictable locations. For instance, species like willow and sedge, which are used in basketry and other cultural practices, require stable riparian habitats with adequate moisture. When flows are reduced, especially during critical growing periods, these plants can become less productive or shift their growth patterns, making them harder to locate and gather. SCE's claim that access to these species will remain unaffected ignores the profound cultural and practical implications of hydrological changes on plant distribution and availability.

The California Environmental Flows Framework (CEFF) highlights the importance of maintaining natural flow variability to support ecological processes, including the health and diversity of riparian and wetland plant communities. By recommending base flows that more closely mimic natural conditions, the CEFF seeks to preserve the integrity of these ecosystems, ensuring that hydrophilic species continue to thrive. The failure to implement CEFF-recommended flow regimes will likely lead to a reduction in plant diversity and density, as well as diminished resilience of these plant communities to environmental stressors like drought. Over time, this degradation leads to a loss of traditional plant species and a decline in the ecosystem services they provide. As a result, we call for the implementation of the CEFF baseflows as the KR3 MIF.

SCE: *Measure TB-1 would entail creating a species monitoring, removal, and containment strategy to* ***alleviate the long-term invasion pressure faced by native species*** *occurring within the FERC Project Boundary, as well as general environmental awareness trainings that review photographs and life history information for noxious weeds in the FERC Project Boundary.* (DLA Vol.2, P1 at 7-205.)

KRB: SCE's Measure TB-1, which proposes a species monitoring, removal, and containment strategy, as well as environmental awareness training for noxious weeds, does not adequately address the full scope of challenges posed by non-native invasive plants (NNIPs) within the FERC Project Boundary. While SCE acknowledges the presence of NNIPs like cheatgrass, red brome, and Himalayan blackberry, its strategy lacks the comprehensive approach necessary to manage these species in the context of altered hydrological conditions brought about by the project's operations.

NNIPs thrive in disturbed environments, particularly where hydrological regimes have been altered such as in the project boundary. For instance, the reduction in instream flows proposed in Measure WR-1 — especially during critical summer months — can create conditions that favor the establishment and spread of NNIPs. Reduced water availability generally leads to less competition from native hydrophilic species that depend on consistent flows to survive. Native plants, which are adapted to higher and more stable base flows, can be outcompeted by NNIPs that are more tolerant of the drier and disturbed conditions created by reduced flow regimes. In this context, SCE's proposal to reduce summer flows under WR-1 is likely to exacerbate the spread of NNIPs by weakening the native riparian plant communities that provide natural resistance to invasion. SCE also fails to adequately consider how NNIPs might impact sensitive plant communities or special-status species over time. NNIPs like cheatgrass and red brome are highly flammable and can increase fire frequency and intensity in riparian and upland areas. This not only threatens the ecological integrity of the region but also puts special-status species and culturally important plants at greater risk of habitat loss. Further, Himalayan blackberry can form dense thickets that outcompete native vegetation, altering the structure and function of

riparian ecosystems. These NNIPs can fundamentally change the composition of plant communities, leading to the decline of native species that rely on specific hydrological and ecological conditions for survival.

SCE's reliance on general environmental awareness training, while helpful, does not substitute for an active and adaptive management plan that addresses the root causes of NNIP establishment — particularly the role of reduced flows and altered sediment deposition patterns. The California Environmental Flows Framework provides a scientifically sound approach to managing hydrology in a way that supports native ecosystems and reduces the likelihood of NNIP invasion. By failing to align flow regimes with CEFF baseflow recommendations, SCE is creating conditions that favor NNIPs and undermine efforts to protect native plant communities and special-status species. SCE's lack of focus on how its flow alterations below CEFF baseflow standards may promote NNIP spread is a significant oversight, particularly given the long-term impacts these species can have on ecosystem health and resilience. A more effective NNIP management strategy should include the following components:

- **Hydrological Restoration**: Aligning flow regimes with CEFF recommendations, as we have proposed, to support native plant communities and reduce the conditions that favor NNIPs.
- **Early Detection and Rapid Response (EDRR)**: Implementing an EDRR program to quickly identify and remove NNIPs before they become established, with specific focus on areas where altered hydrology is likely to promote invasion.
- **Monitoring and Adaptive Management**: Continuous monitoring of NNIP populations and habitat conditions, with the flexibility to adjust management strategies in response to changes in hydrology, plant community composition, and NNIP spread.
- **Restoration of Native Plant Communities**: Actively restoring native plant communities, particularly hydrophilic species, to increase competition against NNIPs and improve ecosystem resilience.

Without such a strategy, SCE measures will fall short in protecting native plant communities and sensitive species from the established and increasing threat of NNIPs.

SCE: *The proposed Project would* ***not result in unavoidable adverse effects on botanical resources.*** (DLA Vol.2, P1 at 7-206.)

KRB: SCE assertion does not seriously account for the impacts of hydrological alteration on riparian plant communities. Riparian vegetation depends heavily on consistent water availability. Reduced flows due to diversions, particularly during critical growth periods in late summer and fall, will lead to stress in these communities, causing dieback or reduced vigor. This impact is likely to be compounded during periods of drought or lower-than-average rainfall when flows stay pegged at the proposed MIF, which falls well short of CEFF baseflow recommendations. The CEFF emphasizes maintaining natural flow variability to

support ecological processes, including the health of riparian and wetland plant communities. By not aligning with CEFF recommendations for higher base flows and periodic pulse flows, SCE risks further undermining the ecological integrity of these plant communities. The absence of these flows could lead to long-term degradation that is effectively an unavoidable adverse effect. We accordingly advocate for the implementation of CEFF baseflows as the KR3 MIF.

7.7 Recreation Resources

SCE: *Flows in NFKR: Respondents were asked if the flows in the NFKR affected their ability to participate in a water-related activity on the current trip. Approximately 1,200 of the 1,600 respondents surveyed answered this question and their responses are summarized below in Table 7.7-6 (REC-2, Table 5.1-17). Overall, the majority (67 percent) of survey respondents did not find that flows in the NFKR affected their water-related activity or respondents did not participate in a water-related activity.* (DLA Vol.2, P1 at 7-219.)

KRB: SCE fails to note that the vast majority of respondents who took the time to articulate their views on project effects expressed negative ones:

> *It's been the same since lat [sic] time that I came just low in some parts and we can't hardly fish;*
>
> *Not great views;*
>
> *River flows poor;*
>
> *No water when SCE diverts to the flume;*
>
> *Un-dam the damn dam;*
>
> *The powerhouse dewaters the wild and scenic Kern. This makes us very frustrated. There is no reason to take so much water out;*
>
> *The [KR3] facilities are very ugly, take away from the natural beauty;*
>
> *De-watered section between Fairview and powerhouse is a mud pit in summer;*
>
> *I do not consider the dam facilities scenic;*
>
> *The long [KR3] tubes can be an eyesore;*
>
> *[KR3] Infrastructure is off-putting;*
>
> *[KR3] Project is ugly;*
>
> *Flowz could be better;*
>
> *[KR3] The pipeline is ugly;*

[KR3] Powerhouse takes a good amount of the view;

[Poor scenic rating] Due to low flows;

The infrastructure is a grim reminder of the dewatering of the river to unhealthy and ugly levels;

Low flows due to KR3;

Everything [project] is old;

Man-made buildings and flumes take away the natural qualities that make this river so spectacular;

The river almost always needs more water and the powerhouse and dam are ugly;

deeper pools that I thought would hold fish. they didn't;

Not a lot of fishes;

Today I didn't catch any and the river was too low;

not enough water and habitat for fish;

[Low (1) fishing rating because] Flow of river and conditions of water;

[Low (2) fishing rating because] Low flow;

[Low (1) fishing rating because] Low flow;

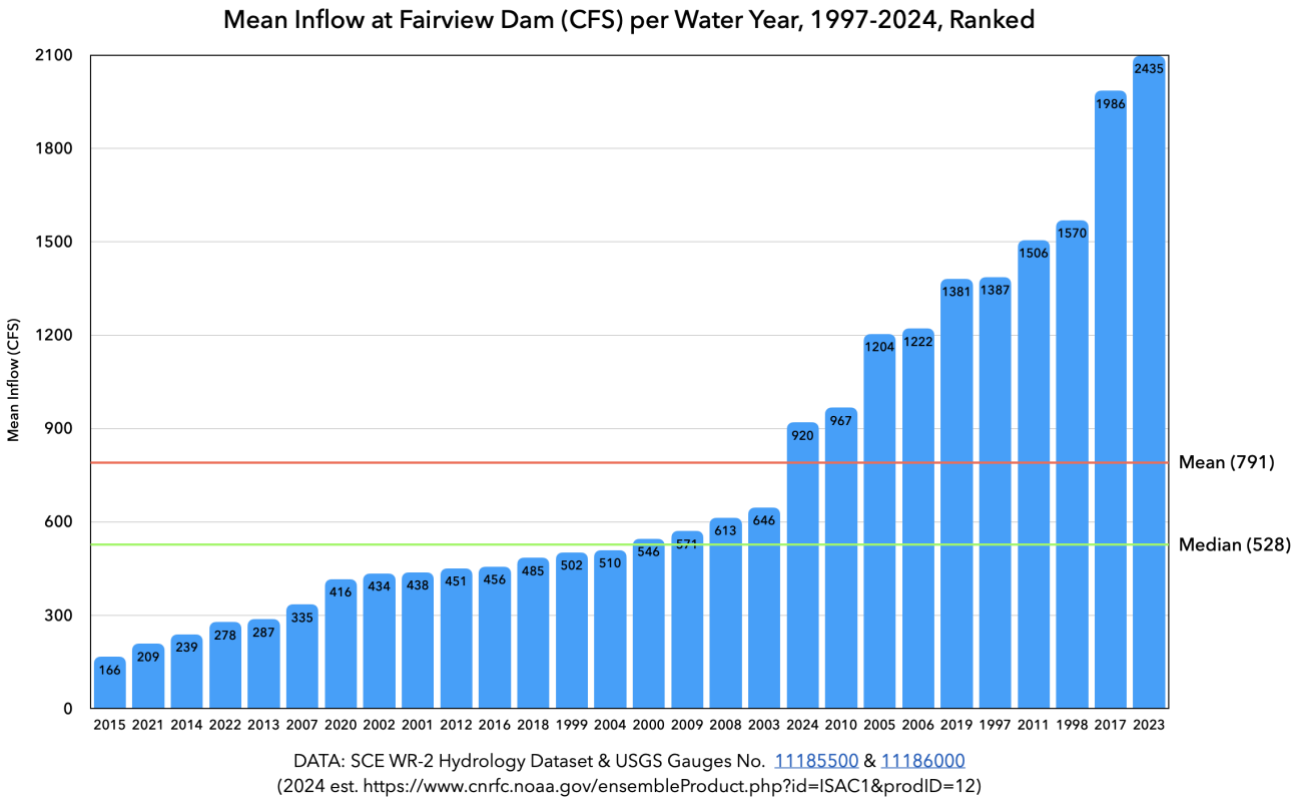
shallow, stagnant, slow;

These comments provide qualitative insights not captured by numerical ratings. Negative feedback like "low flows," "not enough water and habitat for fish," and "dewatered section is a mud pit" highlight significant dissatisfaction. People who take the time and effort to express comments are often more engaged and invested in the issue at hand, and their willingness to go beyond selecting a rating suggests a higher level of interest or concern, which can indicate that their experiences are particularly meaningful or representative of strong sentiments within the community. SCE's focus on quantitative results indicating general satisfaction overlooks these deeper qualitative responses, which suggest serious concerns about the environmental and aesthetic impact of the project. These voices, which reflect deeper frustrations, are critical for a holistic understanding of the project's effects on user experience.

Moreover, the REC-2 survey methodology is inherently biased toward those already satisfied with hydrological conditions. Because participants had to report contemporaneous visits to the river, those dissatisfied with the conditions, such as low flows or dewatered

sections, are less likely to visit and thus were excluded from the survey. This exclusion significantly skews the results by failing to capture the views of recreators who avoid the area due to dissatisfaction with flows.

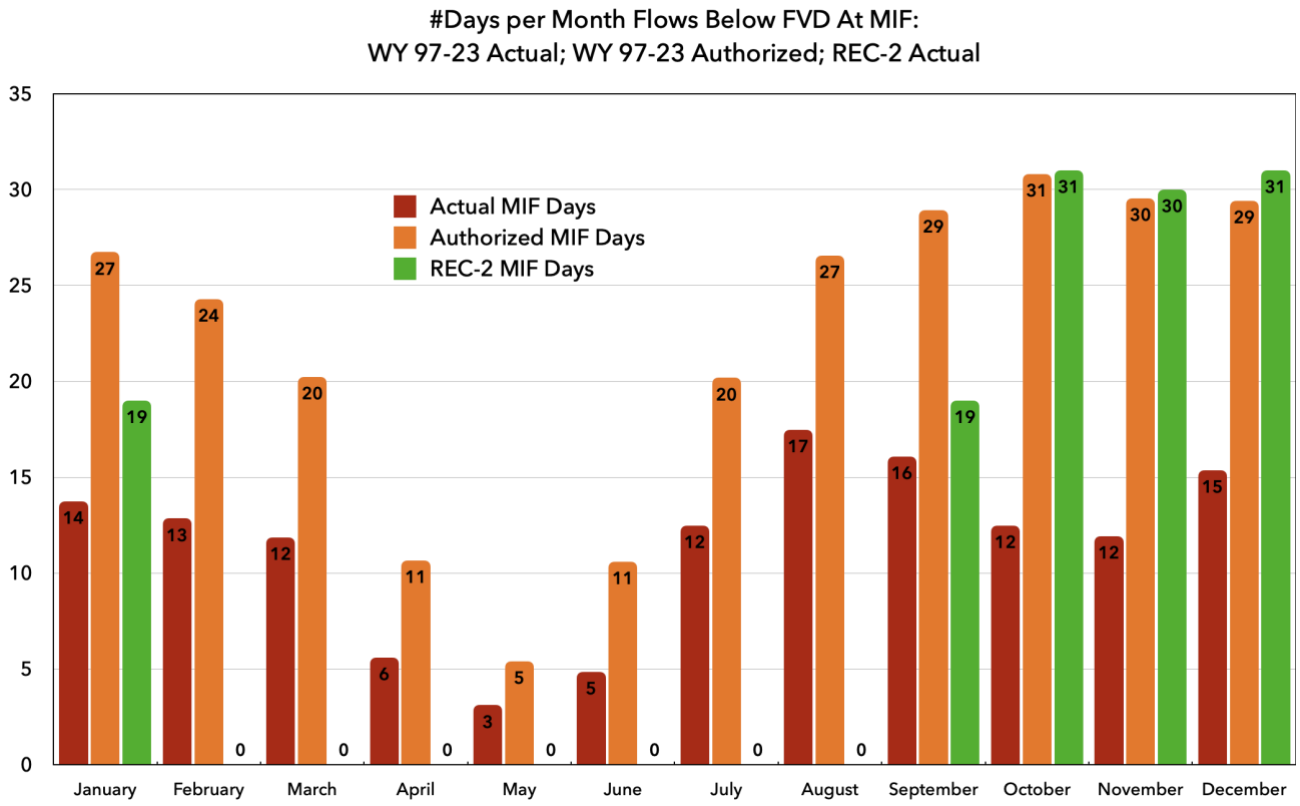
Finally, SCE conducted the REC-2 study during an anomalously high-flow year (2023) following a 40-year high snowpack, followed by a water year over 100% of the mean (WY 2024 NOAA estimate).[142]



In most years, flows drop significantly earlier in the season and remain at the MIF (or lower, due to the "hatchery" flow) throughout the summer. The timing of this survey during a period with uncharacteristically high flows makes the data unrepresentative of typical conditions, particularly during the peak summer months when recreation is highest. This anomaly skews the findings in favor of SCE operations and fails to reflect the low-flow conditions that are most common and problematic for recreation. Any conclusions drawn from the REC-2 survey regarding flow management should take these critical factors into account to avoid underestimating the need for changes in flow management that address low-flow impacts during more typical years.

[142] KRB-DLA-MIF, Sheet 3. We will update this comment on WY 2024 when that data is published.

To further confound typical conditions, SCE diverted no more than 350 cfs at Fairview Dam from mid-January 2024 through the end of March 2024, which is consistent with the operation of one turbine, but inconsistent with its ability to divert up to 600 cfs. The result of these contingencies — atypical water years; atypical operations — is that flows were far above the MIF during the REC-2 study in all but the days between mid-September 2023 (when the snowmelt subsided to a level less than the full diversion of ~600 cfs plus the MIF) and mid-January 2024 (when the snowmelt rose above the level of a partial diversion of ~350 cfs plus the MIF). That is far from typical over the current term, and even farther from the conditions SCE is authorized to create below Fairview Dam[143]:



In all, the 12-month REC-2 study was conducted with seven complete months of flows well above the MIF. Those are not typical conditions; they are the conditions of a river that almost never exists. In most years, flows below the dam are lower, particularly during peak summer months when recreation is at its highest, and SCE does not typically limit itself to about half its diversion from mid-January through March. The data SCE presents in its REC-2 study, accordingly, is not reflective of the conditions most visitors experience. That raises concerns about the study's utility in analysis and planning. The goal of REC-2 was to understand current recreation conditions and forecast future needs. However, basing future

[143] KRB-DLA-MIF, Sheet 4.

projections on a doubly-anomalous year fails to account for the hydrological conditions that are most common and most problematic: namely, flows at the MIF eight or nine months a year (more in drier years).

SCE: *The REC-1 Study divided the Fairview Dam Bypass Reach into* ***eight whitewater segments*** *and identified a ninth segment downstream of the bypass reach from the KR3 Powerhouse to Riverside Park in Kernville (Table 7.7-11 and Figure 7.7-3). Delineation into these river segments was based in part on whitewater difficulty, river access, whitewater boating community use patterns, and commonly used place names. Dividing the Fairview Dam Bypass Reach based in part on whitewater difficulty and community use patterns allowed for more detailed segment specific analysis of flow preferences.* (DLA Vol.2, P1 at 7-225 & 7-226.)

KRB: SCE's segmentation of the dewatered reach of the North Fork Kern is unnecessarily complicated and fails to reflect the realities of whitewater recreation in the region. By dividing the river into eight segments, SCE creates artificial boundaries that do not reflect how paddlers use the river, effectively complicating and distorting the analysis of project impacts on recreational flows. As confirmed by multiple contemporary guidebooks, the whitewater community universally recognizes five distinct segments within the dewatered reach: **Fairview, Chamise, Ant, Thunder, and Cables**. These are the segments paddlers boat based on flow conditions and access points. SCE's decision to introduce additional, extremely short segments with no evidence that paddlers run these sections independently — nor any indication that they have any meaningful recreational distinction from the broader segments — is a tactic that complicates flow preference analysis and undermines the understanding of project impacts.

A contemporary guidebook cited by (but ignored by) SCE confirms KRB's positions on both the names and numbers of river segments (note that "Limestone" and "Lickety" are outside the diverted stretch, leaving the five segments KRB has identified in the dewatered reach):

UPPER KERN SECTION BREAKDOWN

The seven different sections are described below from the furthest upstream down towards Kernville. Click on the link to jump to their corresponding section

- **Limestone:** Class II, III and IV. Not impacted by the diversion dam. It does not continue into another run due to the diversion dam (mandatory takeout).
- **Fairview:** Class III. Impacted by the diversion dam. You can run into the next section, Chamise.
- **Chamise:** Class III and IV. Impacted by the diversion dam. It does not continue into another run due to Class VI Salmon Falls (mandatory takeout).
- **Ant Canyon:** Class III and IV. Impacted by the diversion dam. You can run into the next section, Thunder Run.
- **Thunder Run:** Class III, IV and V. Impacted by the diversion dam. You can run into the next section, Cables.
- **Cables:** Class II, III and IV. Impacted by the diversion dam. You can run into the next section, the Lickety Split.
- **Lickety Split:** Class II and III. Not impacted by the diversion dam. The regular takeout is in Riverside Park in Kernville, however, you can run into the lake too. most beginner run on the Upper Kern.

As does another contemporary guidebook, again in complete agreement with KRB (five dewatered segments / same naming conventions):

> **Fairview Run** (Class III) begins just below Fairview Dam and is a great intermediate section with fun wave trains and boulder-strewn rapids.
>
> **Chamise Gorge** (Class IV) is many boater's favorite section of the Upper, because of the more intimate, canyon setting and fun rapids such as Black Bottom Falls and Satan's Slot. Chamise is a scenic, technical, section of the Kern that strays from the road, providing the most remote run on the Upper Kern Solid Class IV+ boaters can combine the Fairview Run with Chamise Gorge. Upper Salmon Falls (Class VI) marks the end of Chamise Gorge and is almost always portaged. Lower Salmon Falls is an expert-only Class V rapid.
>
> **Ant Canyon** (Class IV) begins below Salmon Falls and is a short Class IV section. Ant Canyon is a great warm-up for the Class V Thunder Run that follows.
>
> **The Thunder Run** (Class V) is steep and technical, dropping 63 feet per mile and providing world-class rapids such as Sock-'em-Dog. Much of the run can be scouted from the road and Sock-'em-Dog can be scouted from the river right.
>
> The Thunder Run flows into the **Cable Run** (Class IV) and adds more whitewater excitement. Cable is straightforward and a great run for rafters and kayakers making the transition between from Class III to intermediate Class IV.

So does a third guidebook (five dewatered segments / same naming conventions). No guidebooks — online or otherwise — identify eight segments in the dewatered reach, as SCE has chosen to do over the community's opposition.

SCE further misrepresents the put in and takeout for the Cables segment to shorten it in comparison with its invention of the Riverkern Beach "segment." (DLA Vol.2, P1 at 7-229.) The vast majority of boaters put in at Thunderbird, which is the takeout for the segment upstream and directly above Cable rapid. According to SCE, a boater putting in for the "Cables" segment would never run "Cable" rapid. That is not well informed. Further, the vast majority of boaters putting in for Cables take out not at Riverkern Beach, as SCE states, but at the KR3 powerhouse; if there is enough water to run the former, there is enough to run the additional rapid to the powerhouse, and that rapid is of similar quality to the Cables segment. The fact that, at this late date in the study process, SCE has not put forward a serious representation of the whitewater segments in the diverted reach is troubling, and a cause for skepticism.

SCE acknowledges that the vast majority of paddlers run a single segment, a combination of segments, or multiple laps of a single segment in a single boating day; it is extremely rare for a paddler to run the entire dewatered stretch of river. This phenomenon of picking and choosing from a handful of ~one-hour paddling segments — unfamiliar to paddlers from most other rivers — is a function of the incredible access and variety afforded by the 16-mile contiguous, dewatered stretch and its dozen or so roadside access points. Boaters have unanimously agreed in the L2 and L3 focus groups that if their preferred flows were not available in one section but were available in a second, they would boat the second. Boaters have informed SCE of these facts throughout the study process — and SCE has told boaters it has heard the message "loud and clear" — yet SCE continues to complicate matters in its analysis. Project effects are most fairly understood not by a compilation of individual flow preferences for each individual segment, but on the overall minimum flow necessary to maintain meaningful whitewater recreation opportunities on *any* part of the dewatered reach for a majority of paddlers. In other words,

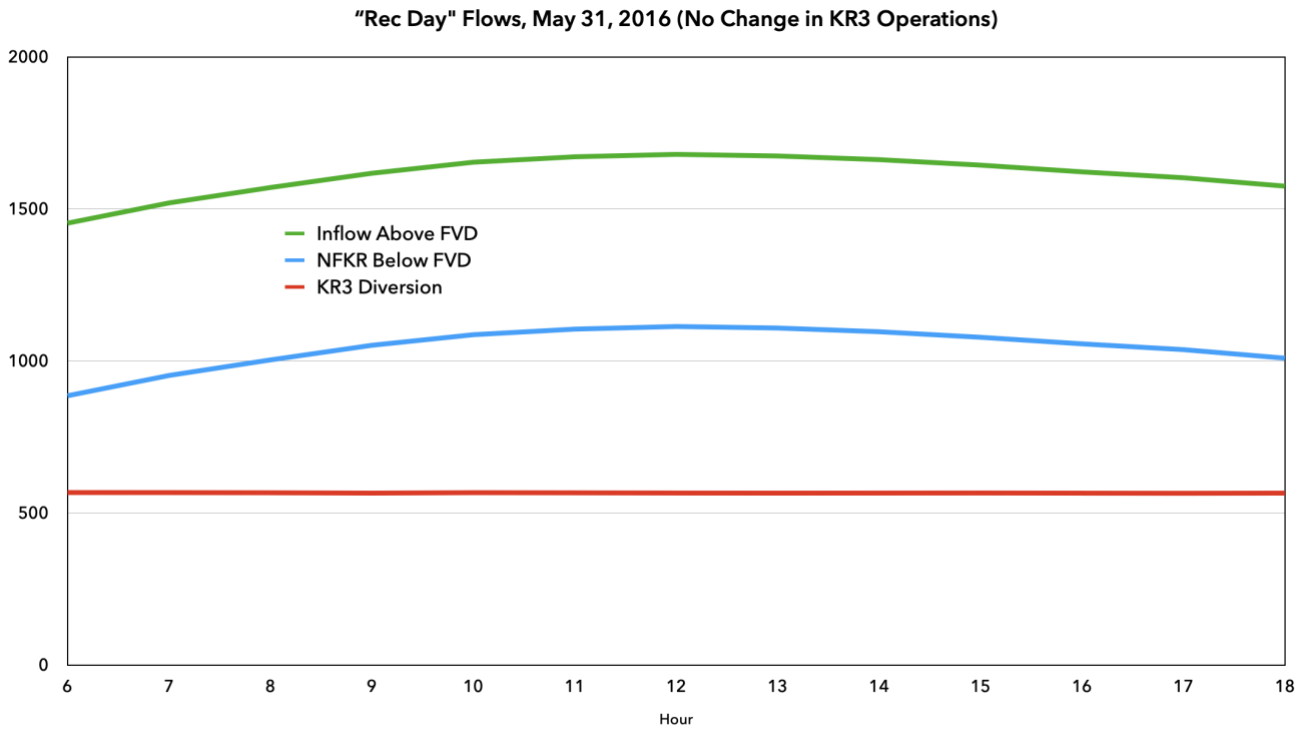
REC-2 should answer the question of the minimum acceptable flow at which half the boaters to return to run anything in the dewatered reach — that is the key metric for quantifying lost recreational opportunities under the Whittaker rubric. This simplified, holistic approach best quantifies the total impact of the project on whitewater recreation and provides a full understanding of the scope of recreational loss.

SCE: *Access to the Lickety Split segment is provided at the KR3 Powerhouse Whitewater Put-in/Take-out. Commercial whitewater outfitters are required to obtain a permit from SCE to use this Project river access site (this is discussed in more detail below).* (DLA Vol.2, P1 at 7-226.)
KRB: While SCE provides the Lickety Split segment access via the KR3 Powerhouse put-in/take-out, it is important to recognize that the requirement for commercial outfitters to obtain a permit from SCE has a significant chilling effect on their ability to advocate for the public interest, including those related to environmental and recreational flows. A prime example of this is Sierra South, a local outfitter that has openly acknowledged its reluctance to take a public stance against SCE due to its dependency on access to the Lickety Split segment, a critical part of its commercial operations. This dependency was demonstrated during the decommissioning of the Borel hydroproject (P-382), which was a pivotal opportunity to restore flows to the lower Kern. Despite the clear alignment of decommissioning with the whitewater community's interests, Sierra South withheld its public support, a decision that can be directly linked to its reliance on SCE for Lickety Split access.[144] This pattern is also evident in this proceeding, where Sierra South has backed away from its previous position that all flows over 300 cfs should be left in the river to enhance recreational opportunities. It wrote in the last proceeding, "Many active Kern Boaters *know* the levels that we need to boat in this 15-mile reach of the diversion, [and they] actively start boating when the river rises to 300 cfs."[145] We agree with that judgment and wish Sierra South was free to keep expressing it. FERC must consider this power dynamic when evaluating the current project's effects on recreation and the local economy.

SCE: *The number of days when SCE was required to* ***provide a whitewater recreation flow*** *in the Fairview Dam Bypass Reach pursuant to License Article 422 are summarized by month and year for the period 2005 through 2022 (Table 7.7-14).* (DLA Vol.2, P1 at 7-234.)
KRB: SCE's representation of its contributions to whitewater recreation in Table 7.7-14 is significantly misleading because it includes days where no operational changes were required to meet the specified recreation flow targets. In these cases, SCE claims credit for

[144] See https://www.kernriverboaters.com/s/ss_borel.png
[145] FERC Accession No. 19961127-0288 at p. 2; see also FERC Accession No. 19940802-0010 at p. 127 [keeping flows from 300 cfs to 1,100 in the river would "make a much more enjoyable river experience and usage"].)

"creating" whitewater recreation opportunities even when natural inflows exceeded the required target, and the company continued its full diversion operations without adjustment. For example, on May 31, 2016, the inflows above Fairview Dam exceeded 1,300 cfs throughout the day. Since the target rec flow for the day was 700 cfs, SCE had no need to reduce its diversion of 600 cfs. The natural flows were sufficient to meet the recreation flow requirement downstream of the dam. Despite this, SCE claims credit for providing a recreation flow, even though it made no operational adjustments to achieve it. As shown in the hourly flow data for that day, SCE was able to divert the full 600 cfs while still meeting the 700 cfs rec flow target, without any change in operations[146]:



The Average Daily Flow for May 30, 2016, was 1,225 cfs, Making May 31 a "Recreation Release Day" with a 700 cfs Target Below Fairview Dam. But Since Inflows on May 31 Increased Above 1,300 cfs, Edison did not have to Change Operations to Meet the Target. Edison Nevertheless Claims to have "Created" this Boating Opportunity. (DLA at 7-234.)

This practice of counting naturally occurring high-flow days as project-created boating days inflates the number of days SCE contributes to whitewater recreation, giving a false impression of its actual support for recreational uses of the river. It skews the data to make it appear as though SCE is more supportive of recreation than it is in reality, when in fact it is simply benefiting from natural flow conditions that require no operational sacrifices.

[146] KRB-DLA-REC, Sheet 10.

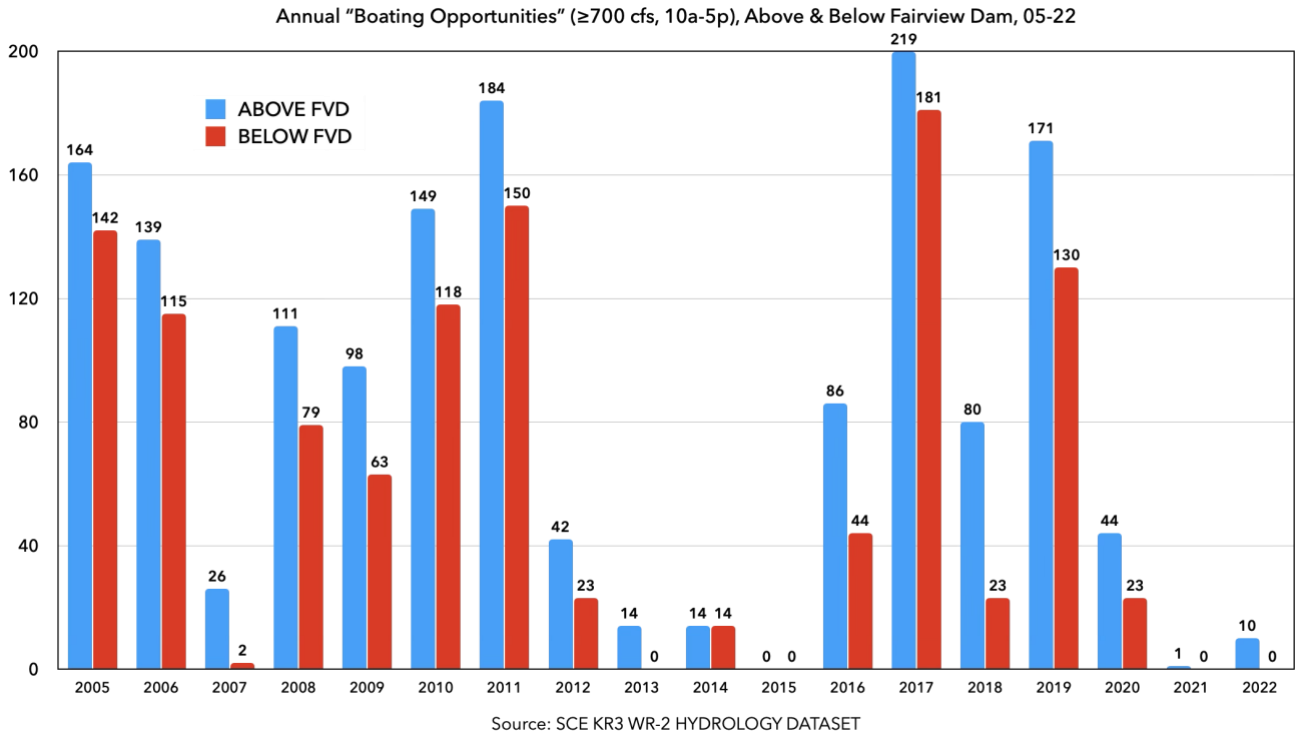
SCE: ***Boating opportunities*** *in the Fairview Dam Bypass Reach ≥700 cfs between 10 a.m. and 5 p.m. as measured at SCE gage 401, Kern River near Kernville.* (DLA Vol.2, P1 at 7-234, fn. 37.)

KRB: SCE has changed its "boating opportunities" methodology without comment or justification. In the ISR, SCE counted a potential boating opportunity as any day in which inflows were ≥700 cfs between 8 a.m. and 8 p.m.. (SCE ISR REC-1 at 28.) We see no reason to change the ISR methodology, given that most boaters run the river below the dam when flows are anywhere near the 700 cfs level. One hour of flows ≥700 cfs during daylight hours firmly presents a boating opportunity for that day, as SCE previously acknowledged.

Also new, SCE counts as a boating opportunity any day in which Article 422 was triggered. (See DLA Vol.2, P1 at 7-234 ["SCE required whitewater recreation flows: 190 days"].) However, as we have previously pointed out, Article 422 does not require that flows below Fairview Dam be kept above 700 cfs between 10 a.m. and 5:00 p.m. Due to the primacy of the 300 cfs tunnel maintenance flow, flows in the river fall below the targeted rec flow whenever there is not enough inflow to satisfy both the tunnel flow and the rec flow. For instance, SCE's WR-2 hydrology dataset shows that in 2020, rec releases went down to 677 cfs on May 31 and down to 663 cfs on May 22. It is unethical to count those Article 422 days as boating opportunities while not counting days with similar inflows as potential boating opportunities lost to project operations.

Applying SCE's new methodology *uniformly* to the data — flow ≥700 cfs between 10 a.m. and 5 p.m. — to its WR-2 dataset reveals that the project removes about a third of the boating opportunities below Fairview Dam, 445 days of 1,552[147]:

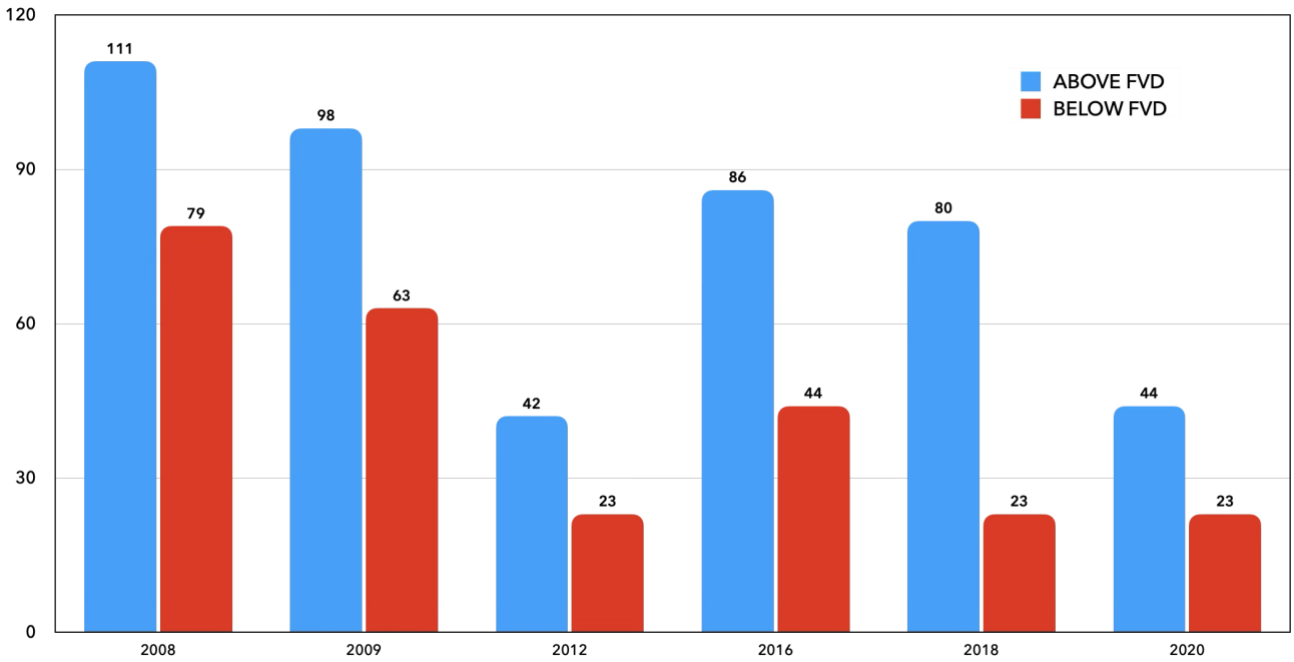
[147] KRB-DLA-ISR, Sheet 15.



But note that the high water years (in which the diversion cannot remove as many boating days due to its 600 cfs diversion limit) skew these results towards the one-third result: in moderate water years (middle tertile), the project removes almost half (45%) the (SCE-defined) boating opportunities, and in dry years (lowest tertile), the project would have removed all of them but for it being offline; even with the outages, it removed 75%[148]:

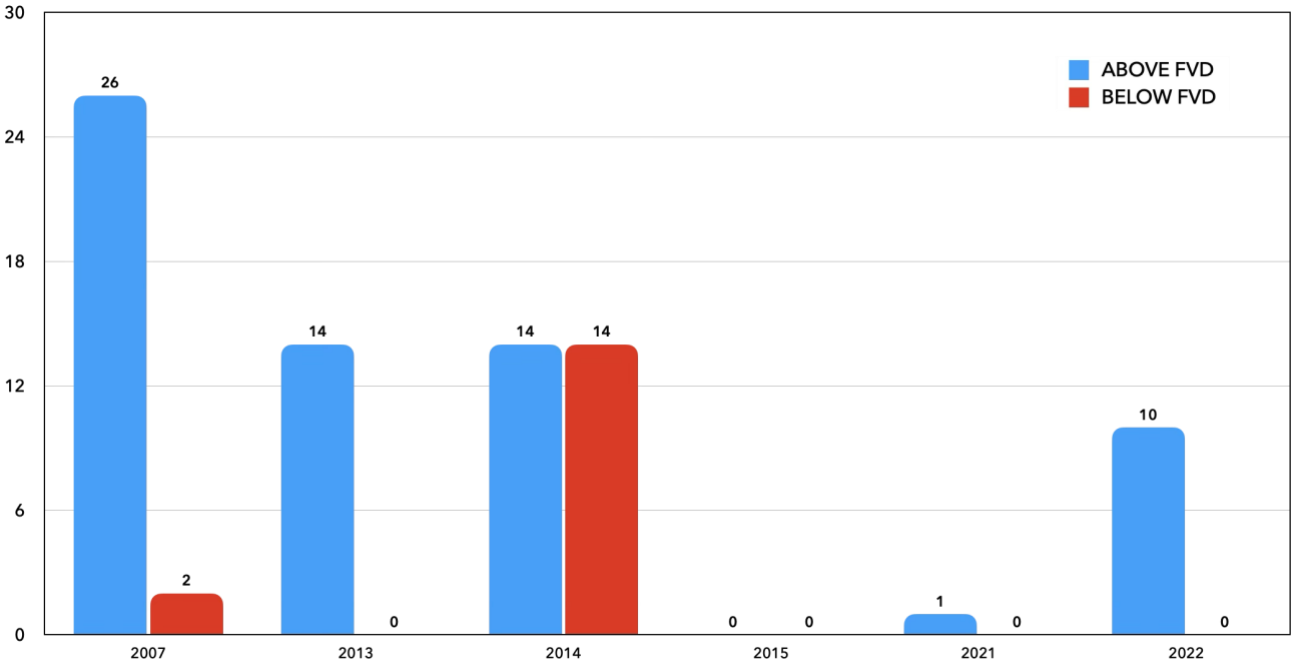
[148] KRB-DLA-ISR, Sheet 15.

Annual "Moderate Year Boating Opportunities" (≥700 cfs, 10a-5p), Above & Below Fairview Dam, 05-22



Source: SCE KR3 WR-2 HYDROLOGY DATASET

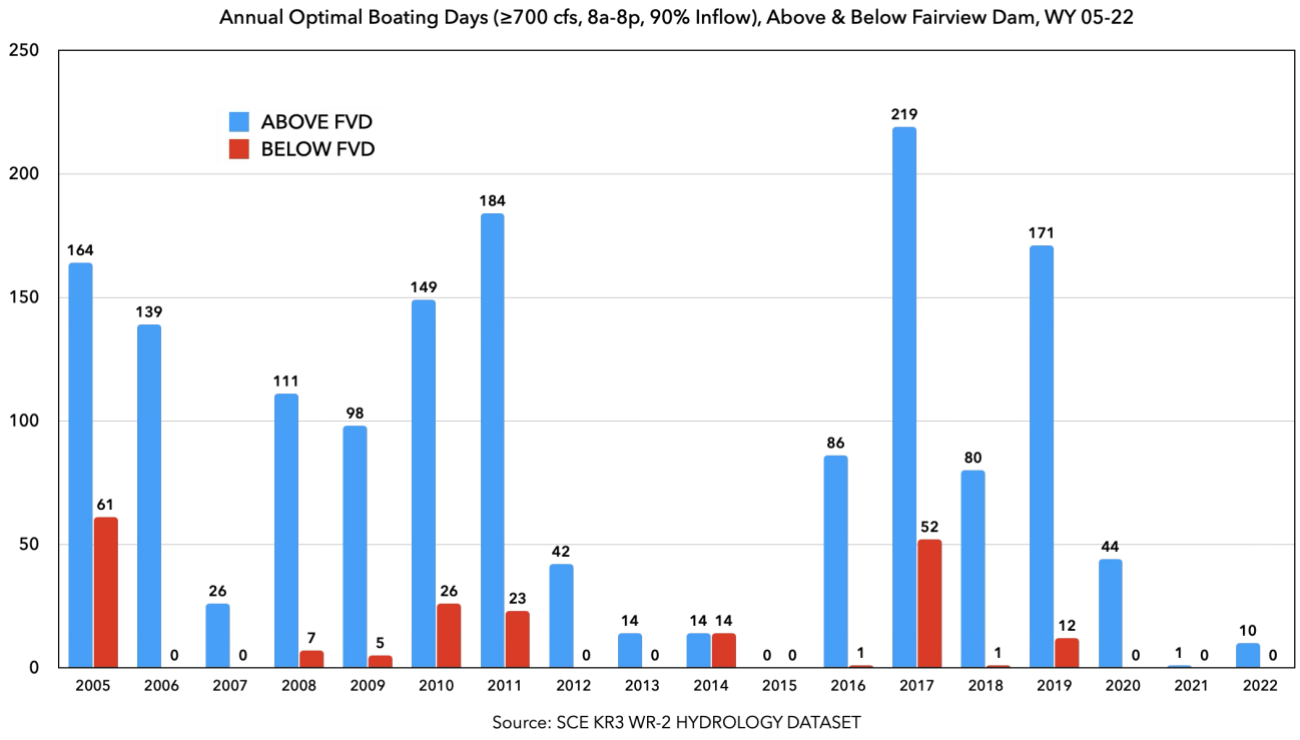
Annual "Dry Year Boating Opportunities" (≥700 cfs, 10a-5p), Above & Below Fairview Dam, 05-22



Source: SCE KR3 WR-2 HYDROLOGY DATASET. Note: The Project Was Offline All Of 2014.

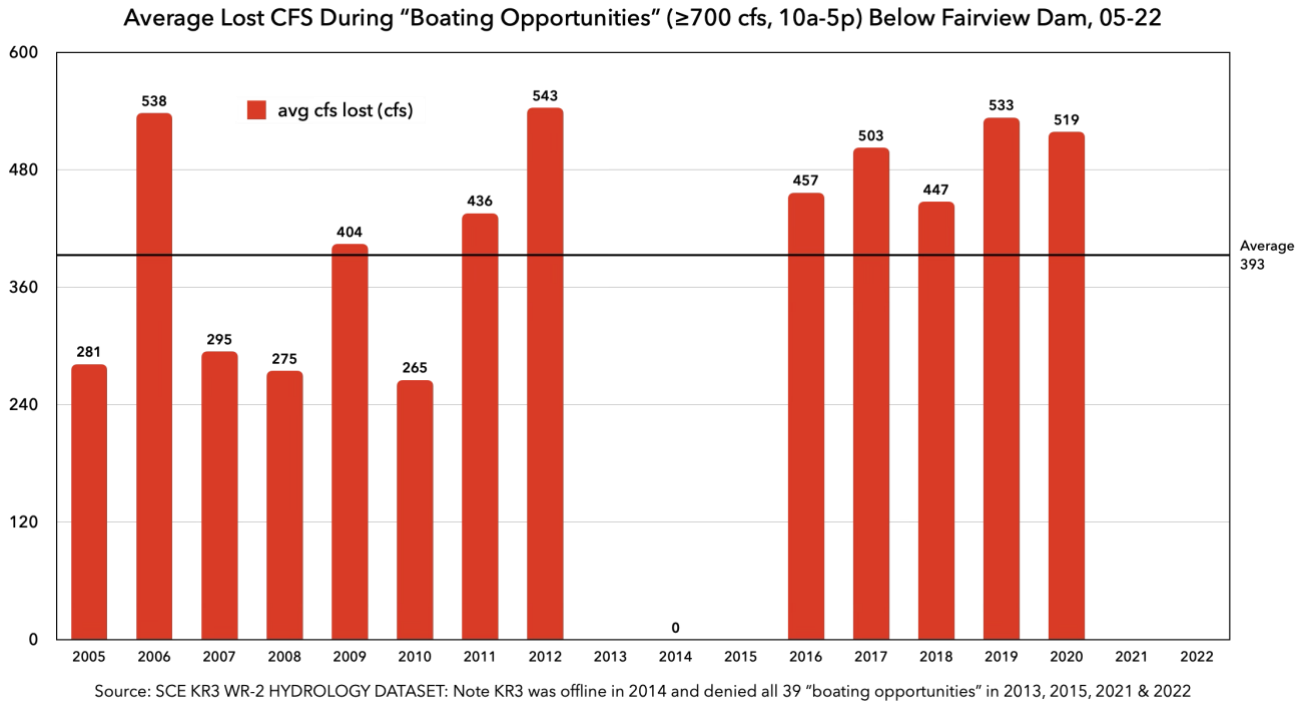
These bare-bones "boating opportunity" analyses — favored by SCE — speak nothing of the opportunities the project continually denies the public to boat *optimal, natural* inflows. SCE's boating opportunity methodology completely fails to capture the full impact of Fairview Dam's operations on whitewater boating. As was discussed in many focus

groups with SCE, boaters on the NF Kern consider the "optimal" flow to be that day's natural inflow (over a certain minimally acceptable level) since the project has no storage from which to provide a targeted flow. By defining "boating opportunities" in terms of a baseline minimum flow, SCE fundamentally misrepresents the reality of project effects, flow conditions, and the range of opportunities KR3 denies the public. SCE's approach glosses over the significant and consistent reduction of natural inflows caused by the project, which denies the public the opportunity to boat on flows that would naturally occur but for the project. SCE's reliance on a baseline minimum flow as the defining measure for project effects is accordingly deeply flawed. By only acknowledging project effects on boating opportunities when flows exceed an arbitrarily defined baseline, SCE erases any consideration of the project's negative qualitative effects. That results in a gross oversimplification. KR3 constantly impairs and suppresses natural flows that are crucial for a vibrant and diverse boating experience. SCE's accordingly approach ignores the extreme loss of boating quality entailed by the diversion. By not including these diminished opportunities in their analysis, SCE paints an incomplete picture of the project's actual recreational impacts. A more representative accounting of project effects on whitewater boating would compare the number of days flows above Fairview Dam were above a minimally acceptable level with the number of days flows below were within 90% of inflow — *i.e.*, an insubstantial reduction of natural flow. We have done that below[149]:



[149] KRB-DLA-ISR, Sheet 15.

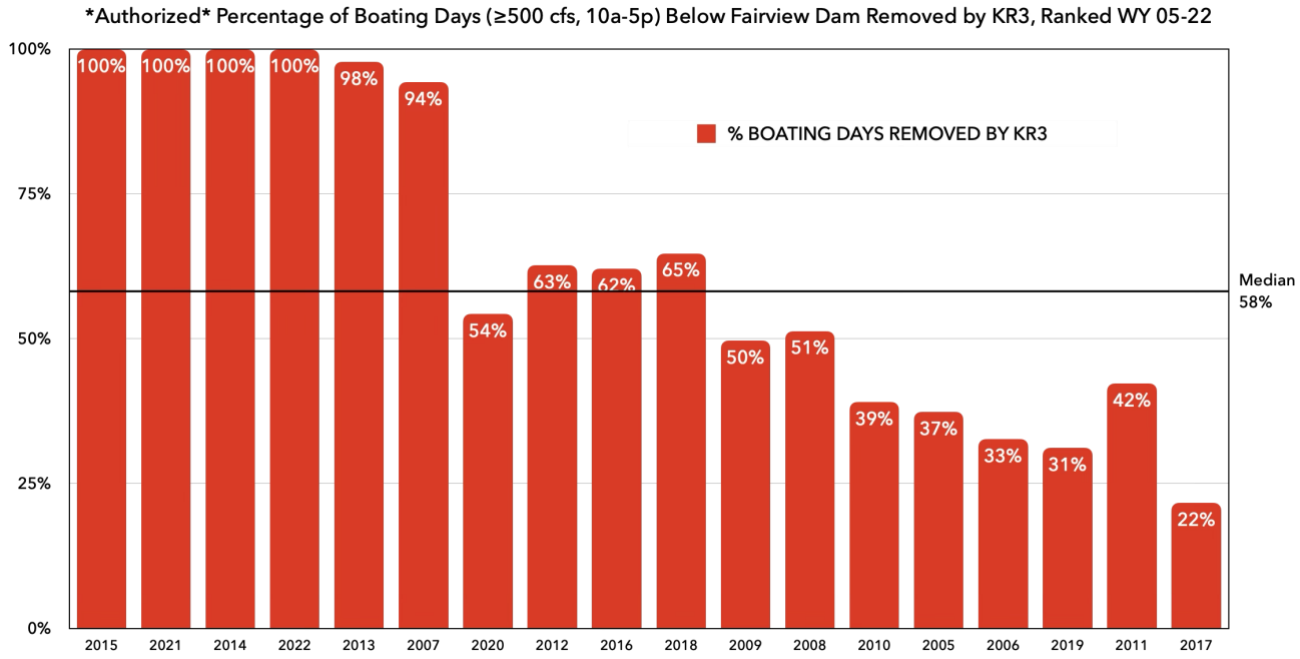
One could also look at the average quantity of water *denied* to boaters *during* each of these "boating opportunities," which we have done below[150]:



As can be seen, the project removes most days at what boaters of the NFKR would consider optimal flows. *The project's negative effects are constant and pervasive far beyond the loss of minimally acceptable flow opportunities*. SCE has not attempted to capture these qualitative project effects. Again, this is not a river with storage, at which we would be trying to determine how to maximize optimal flow opportunities. Rather, the water in this river either gets diverted or stays in the river — there is no third option — and the boaters of the NFKR consider their optimal flow, once a minimally acceptable level is reached, to be that day's natural flow, if only for a few-hour bubble release.

The framework we have provided much better represents real project effects on the North Fork Kern — and those negative effects will increase further in severity when a modernized minimally acceptable flow number below 700 cfs is applied and project outages are accounted for. As we showed in the ISR, the project is authorized to remove almost half of "boating days" defined at 500 cfs, with the annual median being 58% of such days[151]:

[150] KRB-DLA-ISR, Sheet 15.
[151] KRB-DLA-ISR, Sheet 15.

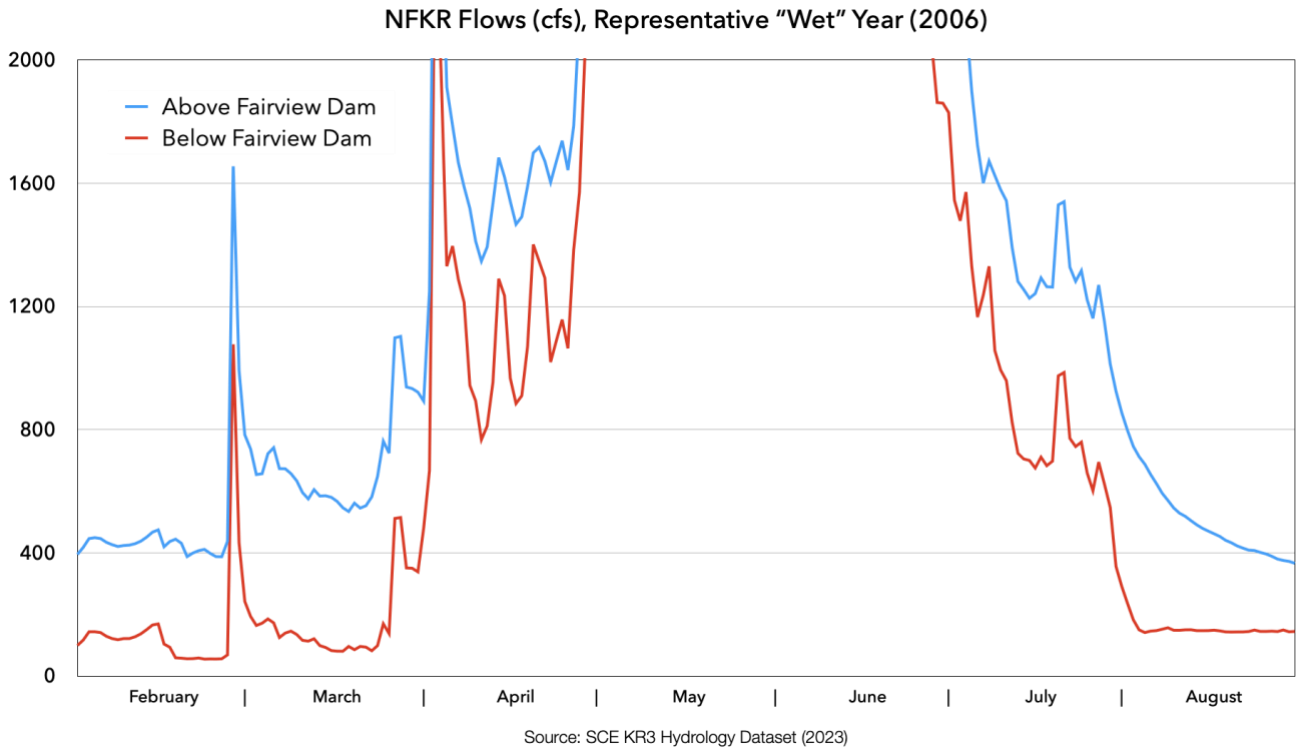


Source: SCE KR3 WR-2 HYDROLOGY DATASE. In this chart we have ranked the water years from driest to wettest.

SCE: *In 11 out of 18 years, the number of naturally occurring whitewater opportunities* ***exceeded those created through SCE*** *required whitewater recreation flows. In 9 of those years, the number of naturally occurring whitewater opportunities was at least twice as many as those created through SCE required whitewater recreation flows.* (DLA Vol.2, P1 at 7-235.)
KRB: Once again, SCE claims credit for "creating" boating opportunities and days (1) where there is no change at all in project operations and (2) where flows below Fairview Dam never reach its own definition of a boating opportunity (700 cfs). That is exceptionally misleading. That said, the data confirms what KRB has argued throughout this proceeding: SCE's releases under Article 422 — negotiated behind the back of the local boating community by SCE's current recreational consultant — do not significantly contribute to enhancing whitewater recreation. Most boating days are naturally occurring in that inflows must be of sufficient quantity to overcome their diminution by the Fairview diversion; the additional days provided by Article 422 are minimal and of an incommensurate scope to the quality and importance of the dewatered reach to Southern California.

SCE: ***Wetter Years.*** *Both inflows at Fairview Dam and flows in the Fairview Dam Bypass Reach typically have about 100 or more whitewater opportunity days (2005, 2006, 2010, 2011, 2017, and 2019, Figure 7.7-5). Very few boating opportunities are created by changes in Project operations.* (DLA Vol.2, P1 at 7-235.)
KRB: SCE fails to address or acknowledge the significant reduction in boating opportunities during the shoulder seasons (late winter and late summer) of wet years. Natural inflows are typically available in wet years during these times, but the project diversion reduces the

volume of these flows, effectively truncating the natural boating season by a month or more at both ends of the year's hydrograph. As a result, boaters are deprived of opportunities to enjoy extended periods of flows outside the peak season. The graph below shows a representative "wet" water year (2006 — 7th wettest year of 28 in the POR) in which boatable flows exist above the dam in February, March, and August, but those days are lost to the project. So are optimal flows in April and July. A wet year should naturally extend the boating seasons to provide additional opportunities for skill development, competitions, community events, and training sessions. By restricting these opportunities, the project diminishes the cultural and social value that the river holds for local and visiting boating communities[152]:

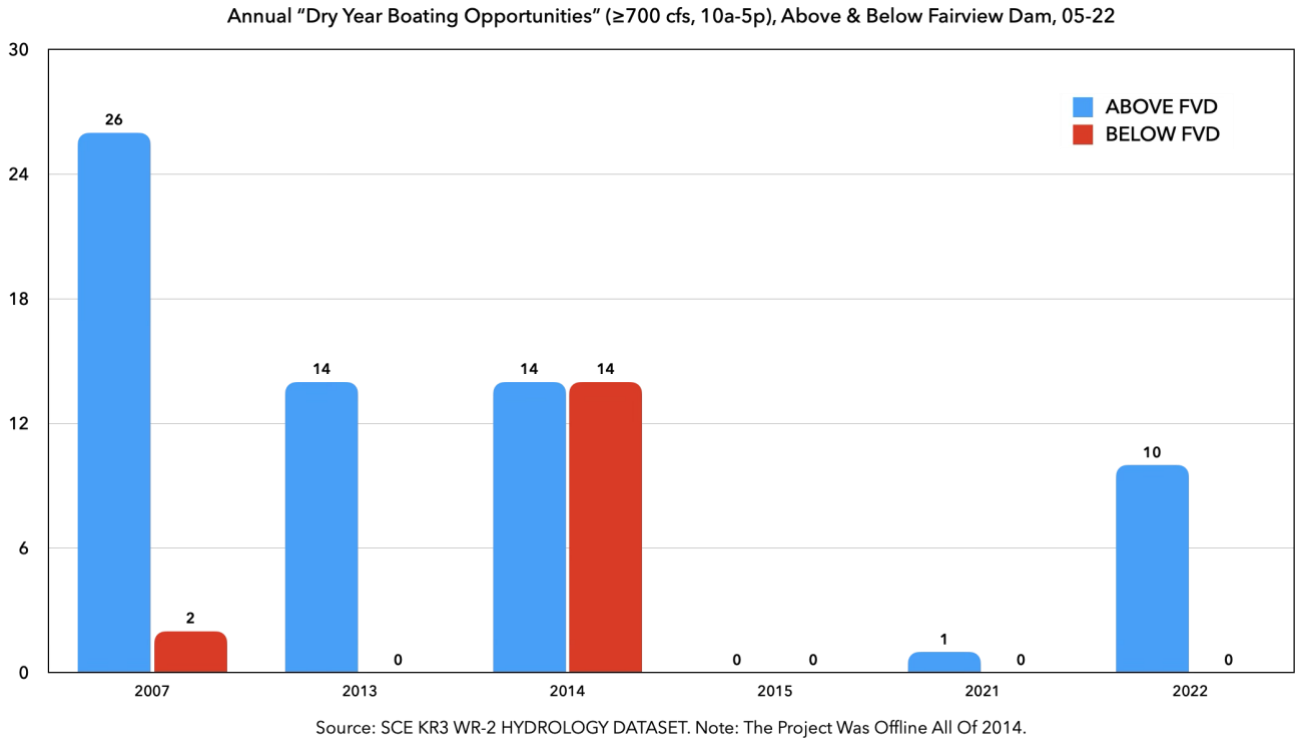


SCE: *Drier Years. There are between 0 and 10 events annually when inflows are ≥700 cfs at Fairview Dam (2007, 2013, 2015, 2021, and 2022, Figure 7.7-5). The limitation of whitewater boating opportunities ≥700 cfs in drought years is* ***due to the lack of snowpack in the watershed, not Project operations*** *diverting water from the Fairview Dam Bypass Reach.* (DLA Vol.2, P1 at 7-235.)

KRB: To begin, SCE's figures are incorrect. Using SCE's own methodology and WR-2 dataset, inflows at Fairview Dam were ≥700 between 10 a.m. and 5 p.m. for 26 days in 2007, 14 days in 2013 and 2014, and 10 days in 2022. KR3 wiped out most of those days

[152] KRB-DLA-ISR, Sheet 23.

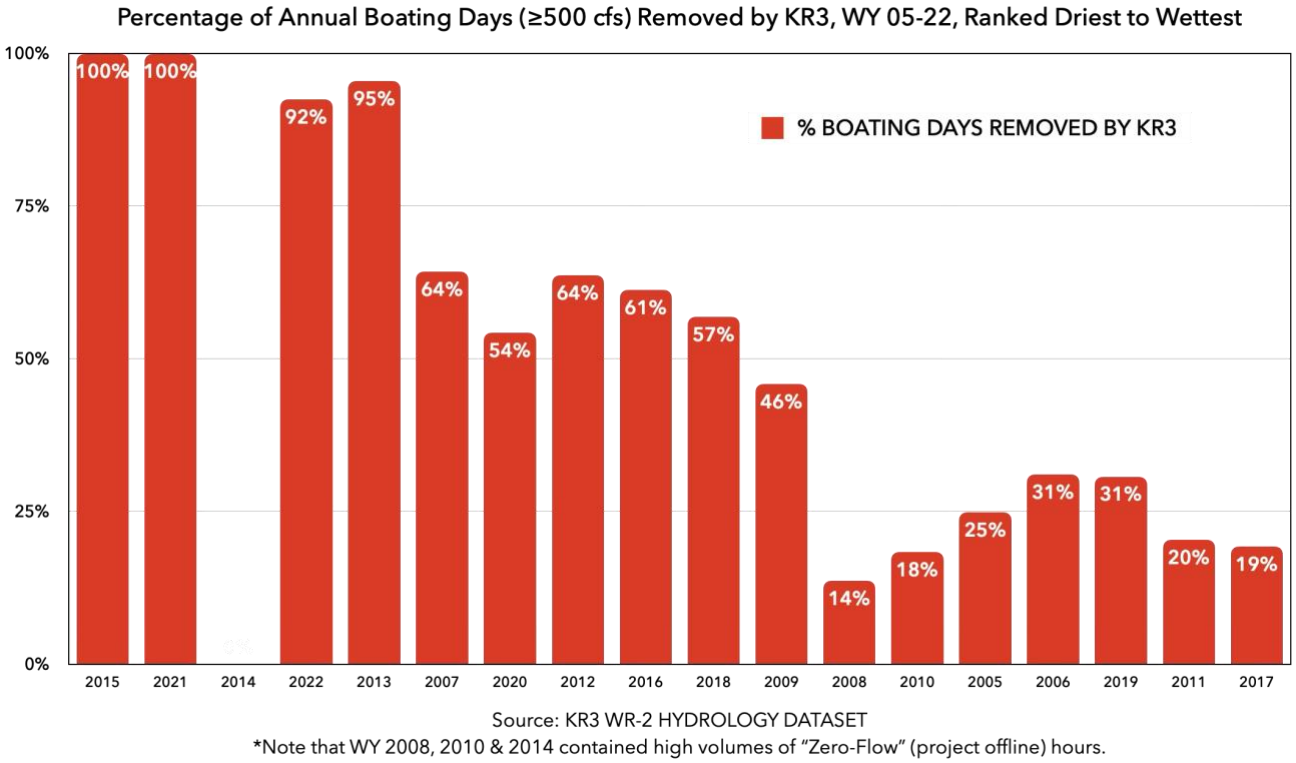
for boating, as shown below, and if it had been online the whole time, it would have wiped out all but 2 of the 65[153]:



SCE is thus flatly incorrect that there is no boating to be had in dry years. Even at its inflated 700 cfs figure, there are days — days that are wiped out by the project, not the lack of snowpack.

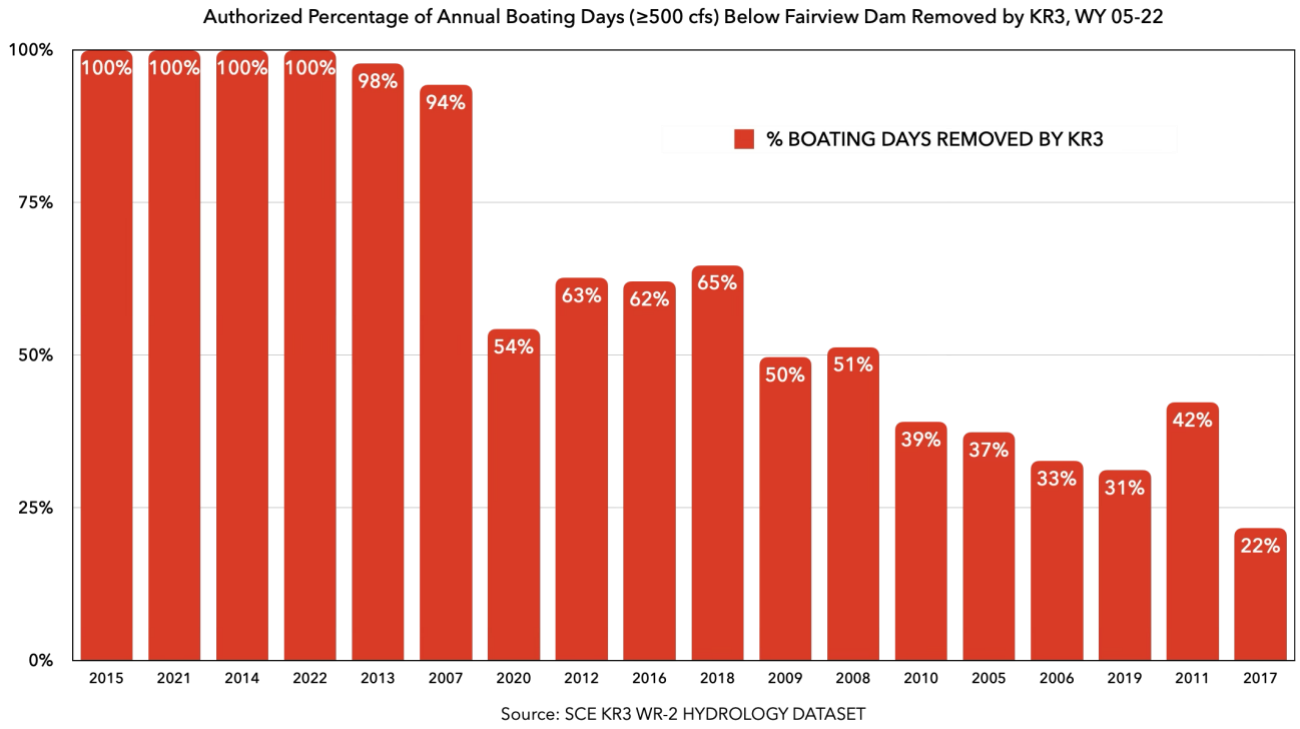
SCE is also incorrect that boating opportunities require 700 cfs. Even the 1994 study showed that people enjoyed boating in the dewatered reach down to 500 cfs. SCE's current studies to date show that on the most popular whitewater segment in the dewatered reach, the minimum acceptable flow is 300 cfs. (ISR Attachment A at 9 & 18.) Far less than 700 cfs is required for boating in the dewatered reach, and natural inflows provide many such opportunities, but almost all are removed by the project in dry years. Indeed, since the project takes a fixed amount of water out of the river (~600 cfs), it is axiomatic that project effects are most firmly felt in years where annual inflows are low. Below are the annual percentages of boating opportunities defined at a moderate 500 cfs figure (we believe the figure is lower) that the project has removed over the current license term (including outages), ranked from driest year to wettest[154]:

[153] KRB-DLA-ISR, Sheet 15.
[154] KRB-DLA-ISR, Sheet 15.



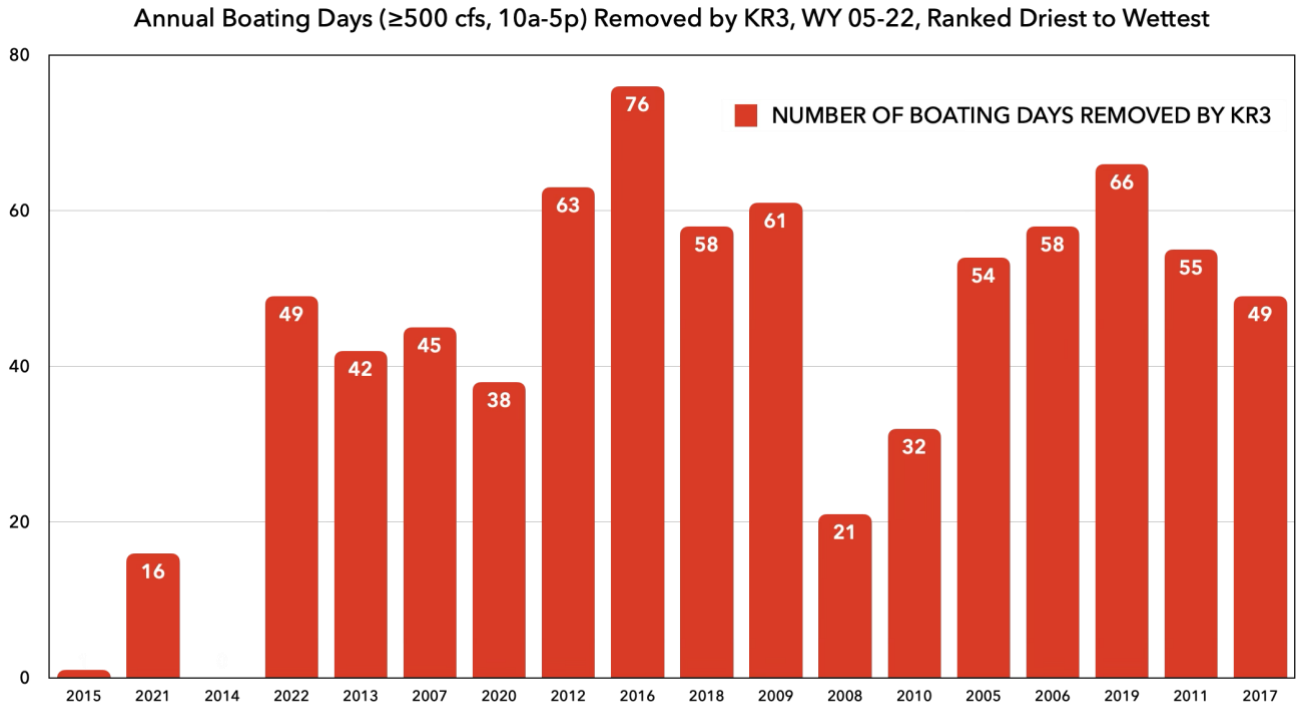
But for the rash of outages at KR3 during the current license term (see DLA Vol.2, P1 at 7-237, c-i), the rate of removal would have been even more linear over the ranked years, as demonstrated by our analysis of the water SCE was authorized to divert under its license[155]:

[155] KRB-DLA-ISR, Sheet 15.



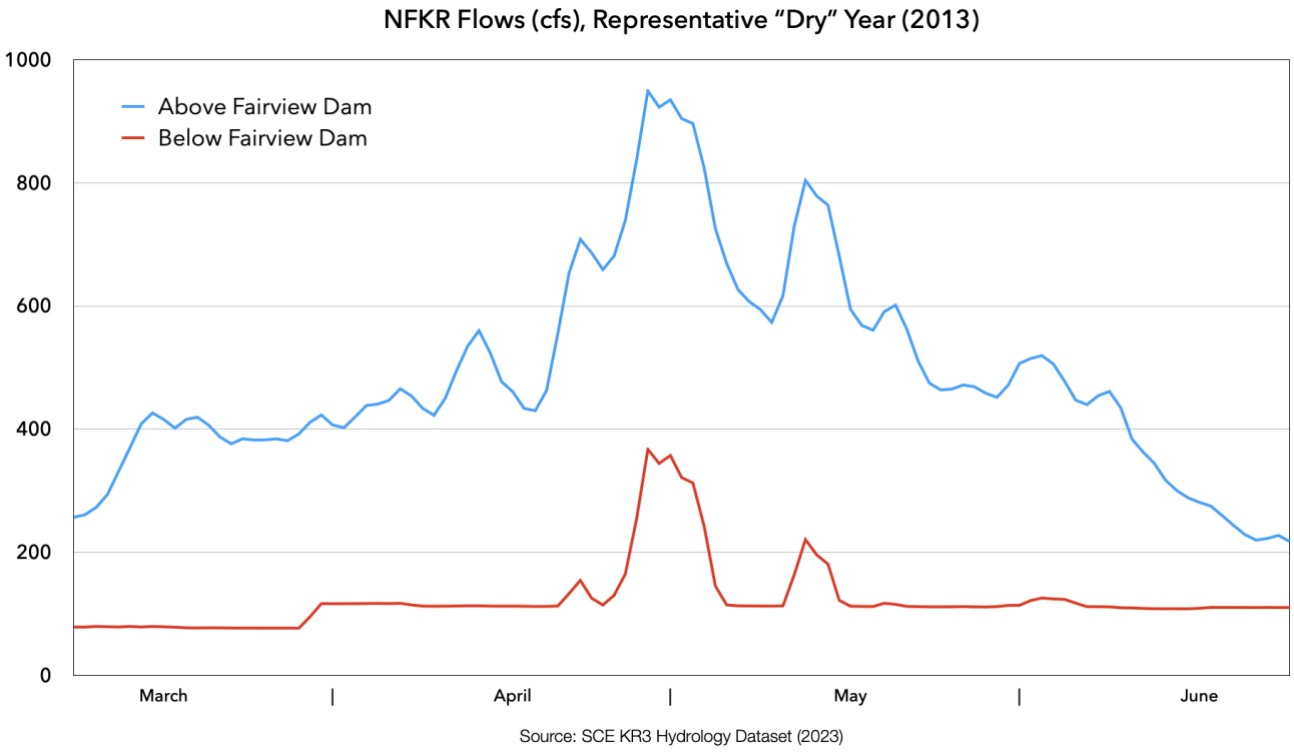
Here are the same figures in absolute numbers from historical operations. It shows SCE's claim that the project does not affect boating in low water years to be categorically false (excepting two of 17 years: one *lowest-of-the-low* water years (2015), and the year *the project was offline!* (2014)[156]:

[156] KRB-DLA-ISR, Sheet 15.



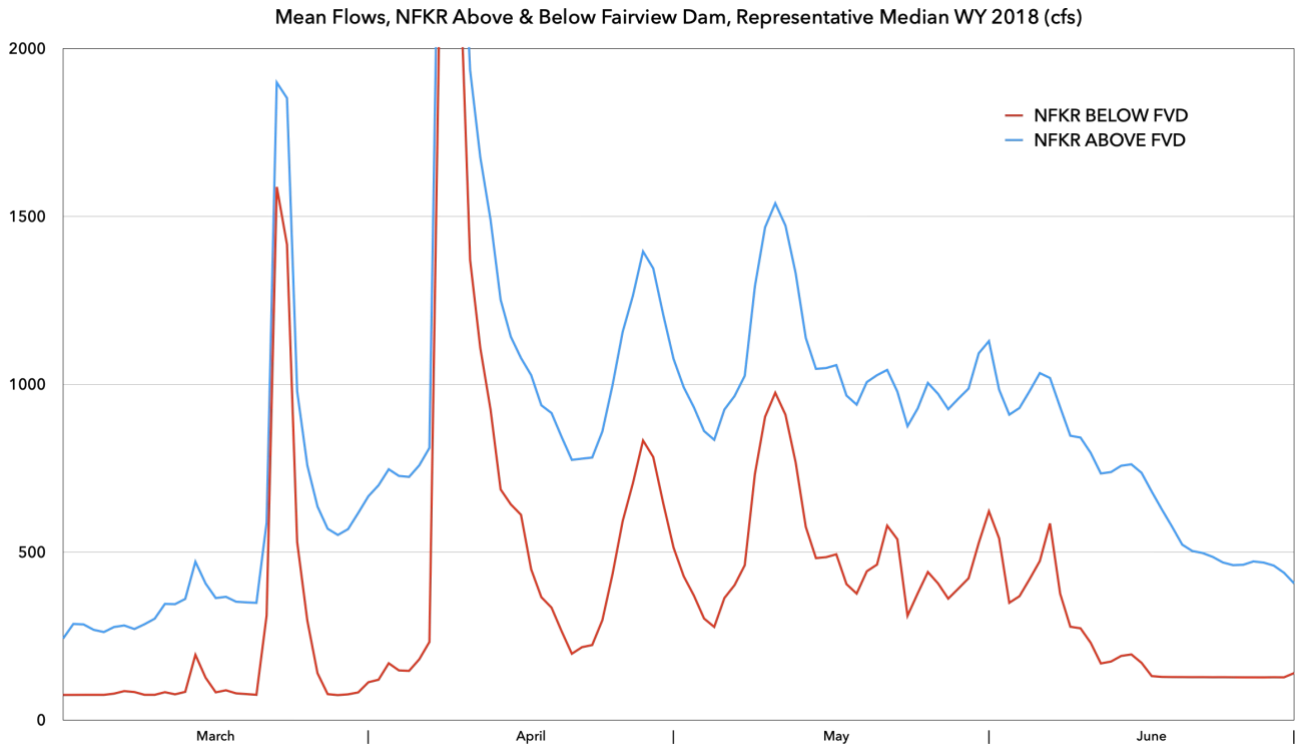
Here is a representative dry year (2013), showing that the project removes all potential boating days, including about a month of boating days above 600 cfs and almost four months of boating days above 400 cfs[157]:

[157] KRB-DLA-ISR, Sheet 23.



Here, too, is a representative moderate water year (2018), showing there to be about two months of inflows above 700 cfs and three above 500 cfs. The project took away *almost two-thirds of both opportunities,* and was authorized to remove more[158]:

[158] KRB-DLA-ISR, Sheet 23.



Contrary to SCE's claim, KR3's effects are felt every year, but most severely in moderate and dry years, when the project removes the lion's share of opportunities to boat what the snowpack has to offer.

SCE: *Notes: Periods with reduced generation capacity due to extended maintenance outages are as follows:*
c March and May 2005: Project was off-line intermittently to install new cooling water system.
d August 2006 to April 2007: Unit 2 was off-line for repairs.
e August 2007 to March 2008: Unit 1 was off-line for repairs.
f July 2009 to May 2011: Unit 2 was off-line for repairs.
g September 2010 to February 2011: Project was off-line for automation upgrades.
h August 2013 to mid-December 2014: Project was off-line for upgrades and repairs at Fairview Dam and along water conveyance system.
*i August 2022 to November 2022: Unit 1 was off-line for repairs. (*DLA Vol.2 P1 at 7-237*.)*
KRB: KR3's had an extraordinary rate of outages in the current license term. More than 23% of all hours in its hourly data set show a complete outage (diversion under 3cfs), and 25% of all hours in that data set show a generation outage (diversion under 40 cfs). Those figures do not include times when one turbine was down, reducing potential generation by almost half.

SCE characterizes the reason for these outages as "maintenance," suggesting that such an incredibly high rate is typical. The suggestion is false, and the rate of outages for the last license term is abnormally high.

The biggest outage KR3 sustained in the current license term was not for routine maintenance or other contingency, but rather for the "rehabilitation" of Fairview Dam and its 13-mile conveyance. That rehabilitation project resulted in a complete and total outage of the project for 16 consecutive months in 2013 & 2014. That project was more akin to overhaul and reconstruction — *i.e.*, a capital improvement of deteriorating assets. Indeed, SCE said the purpose of the project was to "*improve* the structural integrity of the dam, tunnel, and sandbox."[159] The rehabilitation project required *five* contemporaneous FERC submissions[160] involving "more than 175 engineering drawings."[161] With no evidence in the record suggesting otherwise, this massive rehabilitation project is unlikely to be repeated in the next license term and was self-identified as being aimed at "improving" project reliability — *i.e.*, decreasing the rate of outages going forward.

Furthermore, repair techniques and technology, both in their implementation and the robustness of their results, should be expected to improve over time. There is no reason to think these factors do not apply to KR3 or that KR3's managers will not seek to use them to improve project reliability. Indeed, unlike here — where SCE argues that a 23% rate of outages is somehow typical and capital improvements never occur — SCE has boasted to the California Public Utilities Commission that its hydro fleet sustains outages at a rate of

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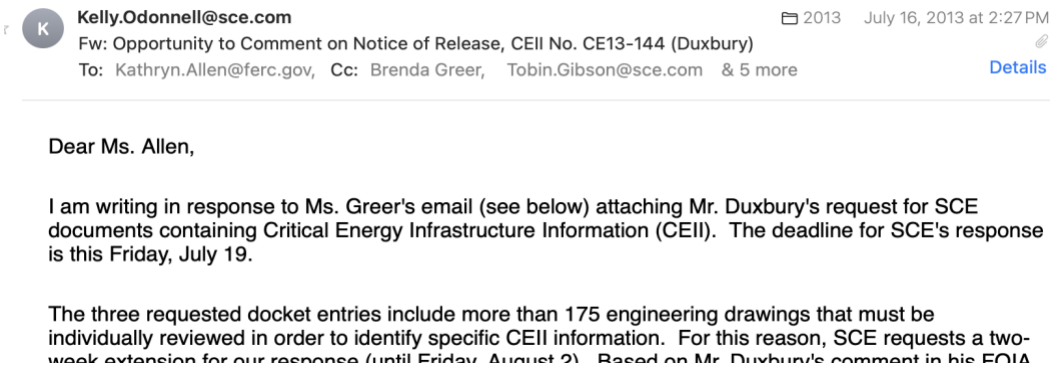
159 FERC Accession No. 20130806-5052 at .pdf p. 10 (italics added).

160 See FERC Accession Nos. 20130620-4014, 20130620-4015, 20130625-0422, 20130625-0424 & 20130626-0301.

161 July 16, 2013 email from SCE to FERC:


Kelly.Odonnell@sce.com 2013 July 16, 2013 at 2:27 PM
Fw: Opportunity to Comment on Notice of Release, CEII No. CE13-144 (Duxbury)
To: Kathryn.Allen@ferc.gov, Cc: Brenda Greer, Tobin.Gibson@sce.com & 5 more Details

Dear Ms. Allen,

I am writing in response to Ms. Greer's email (see below) attaching Mr. Duxbury's request for SCE documents containing Critical Energy Infrastructure Information (CEII). The deadline for SCE's response is this Friday, July 19.

The three requested docket entries include more than 175 engineering drawings that must be individually reviewed in order to identify specific CEII information. For this reason, SCE requests a two-week extension for our response (until Friday, August 2). Based on Mr. Duxbury's comment in his FOIA

just 13%[162] — and that figure includes the pro-rating of generation outages. The 23% figure includes no pro-rating. SCE also boasts to CPUC: "Capital projects performed during this period have been effective in improving the performance of SCE's Generation fleet."[163] That is quite different from the picture Edison paints to the Commission.

SCE has provided no evidence that KR3's excessive rate of outages will be repeated in a coming license term. Rather, SCE has offered hand-waving assertions at the ISR level about maintenance and insinuations ["lack of understanding"] about groups that use evidence to challenge those assertions. SCE is capable of providing an evidence-based estimation of outages going forward. It has not. Absent such evidence, a model of flows authorized by prior and potential future licenses fills an essential knowledge gap in project effects as KR3 recovers from a particularly ineffective period of time during which the environment was spared the full force of project diversions. An authorized flows hydrology is at minimum a bookend of potential project effects when coupled with the hydrology of flows from this last term. The truth going forward may lie in between the two, but decisionmakers should be aware of how much more damage this project is capable of doing to the river hydrology below Fairview Dam. Indeed, we simply cannot presume that a similar outage rate will occur in the next license term — just look at the blue linear trendline over SCE hourly data set in the following graph[164]:

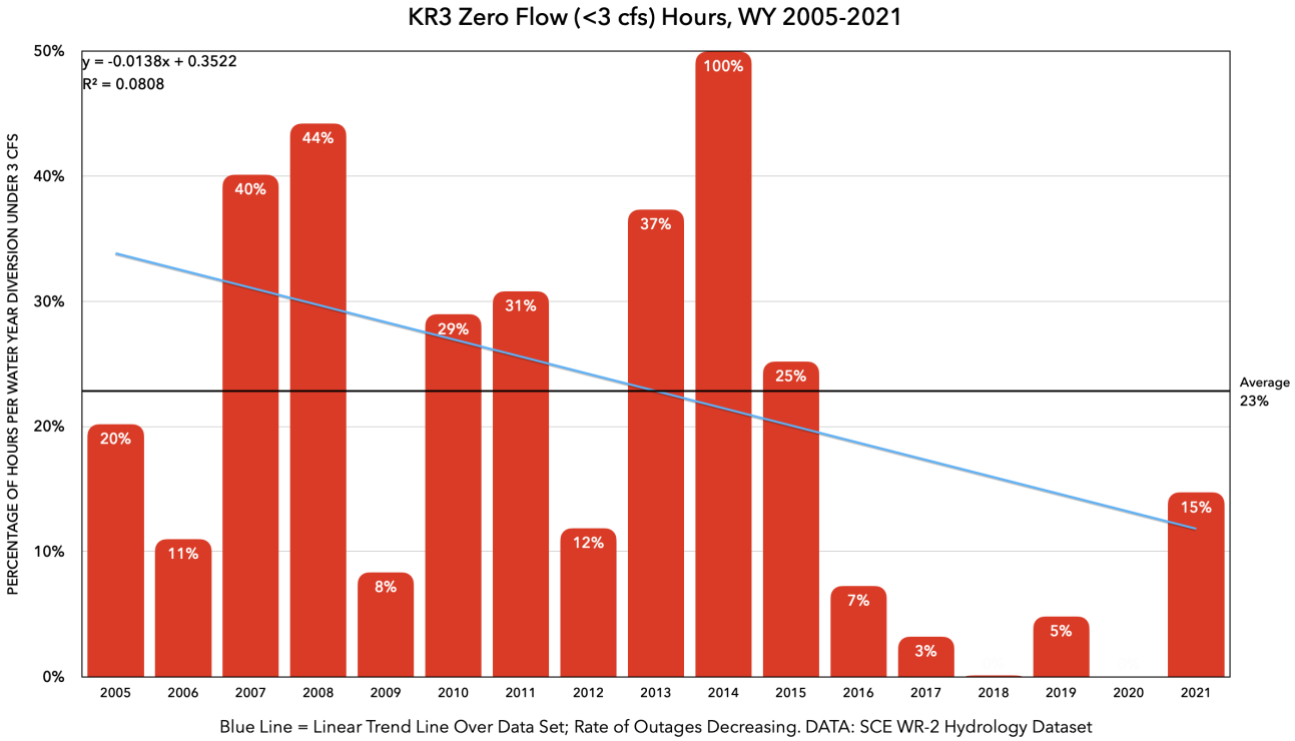
[162] See SCE 2025 Rate Case (May 12, 2023), SCE05V01 at 14-16 & fn. 18 [01FEB24 accessed version archived here]. "EAF [86.6%] is the percentage of time that a generating asset is available for operation. . . . EAF and EFOF include derates (*i.e.*, partial outages), whereby the duration of such outages is measured on an "equivalent" or pro-rata basis (*e.g.*, a two-hour derate outage of half of the plant's MW capacity is equivalent to a one-hour outage involving the plant's total capacity)."

Table I-6
Generation BPE – 2013-2022 EAF and EFOF Performance

Line No.	Generation BPE	SCE		Industry	
		EAF	EFOF	EAF	EFOF
1	Hydro	86.62	5.16	80.83	5.11

[163] SCE 2025 Rate Case (May 12, 2023), SCE05V01 at 15 [01FEB24 accessed version archived here].

[164] KRB-DLA-ISR, Sheet 9.

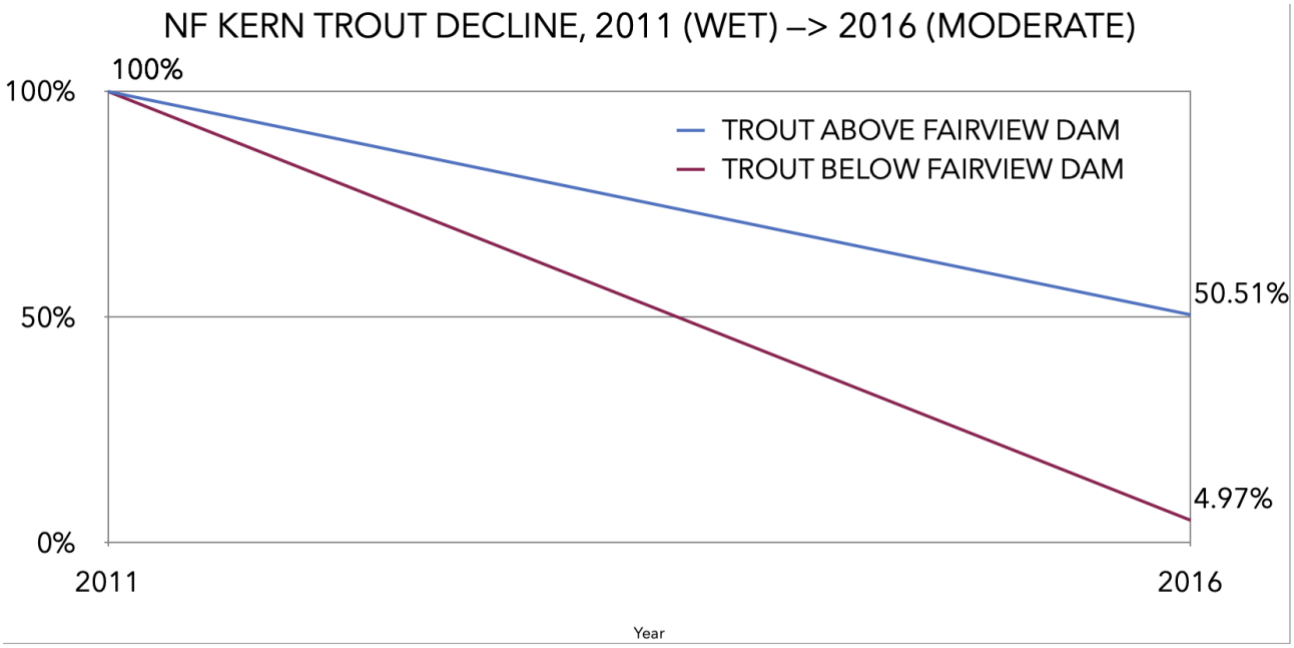


SCE: *Daily manifest forms were not available in the Iron Rangers at river access sites during the May and August 2023 site visits or the Kernville District Ranger office. The SQF does not record the daily manifests or tabulate the number of non-commercial boaters using the NFKR. As a result, annual non-commercial whitewater use numbers are not available for the NFKR at this time.* (DLA Vol.2, P1 at 7-241.)
KRB: SQF has not provided manifests at Iron Rangers in over 15 years. A FOIA request *circa* 2010 revealed that even when such manifests were provided, SQF did not compile, analyze, or use the data obtained.

SCE: *In general, flows between 150 and 800 cfs are preferred as they provide a range of opportunities to anglers with different experience levels and different methods of fishing. . . . At the low end of the range,* ***interviewees identified 100 cfs as the minimum angling flow****, but noted that water temperature was also a consideration at lower flows.* (DLA Vol.2, P1 at 7-247.)
KRB: SCE's acknowledgment that preferred angling flows range between 150 and 800 cfs, with 100 cfs identified as the *minimum* for angling, dovetails with the broader record on angling preferences in the region. The angling community, including members of the Kern River Fly Fishing Club, has informed the Commission that the Minimum Instream Flow (MIF) regime for the North Fork Kern is inadequate for sustaining a healthy fishery and enjoyable angling. Their comments include observations of a significant reduction in fish populations, degraded water quality, and an overall decline in fishing experiences due to

low flows and elevated water temperatures. These public comments provide valuable qualitative insights that reflect the deep concern within the community: catch rates are down to 10% of what they once were; many anglers no longer fish below Fairview Dam due to insufficient water flows; excessive algae and poor water quality have made the river unproductive for fish and undesirable for anglers; and a host of similar complaints stemming from too-low-minimum-flows.[165]

These concerns are substantiated by scientific data, most notably from the 2016 fish monitoring study[166], a year with flows close to the median, which showed a 50% reduction in trout population above Fairview Dam but a 95% reduction below[167]:



TROUT POPULATION FIGURES NORMALIZED TO 2011 (100%)
SOURCE: SCE FISH MONITORING STUDIES (2012 & 2017)

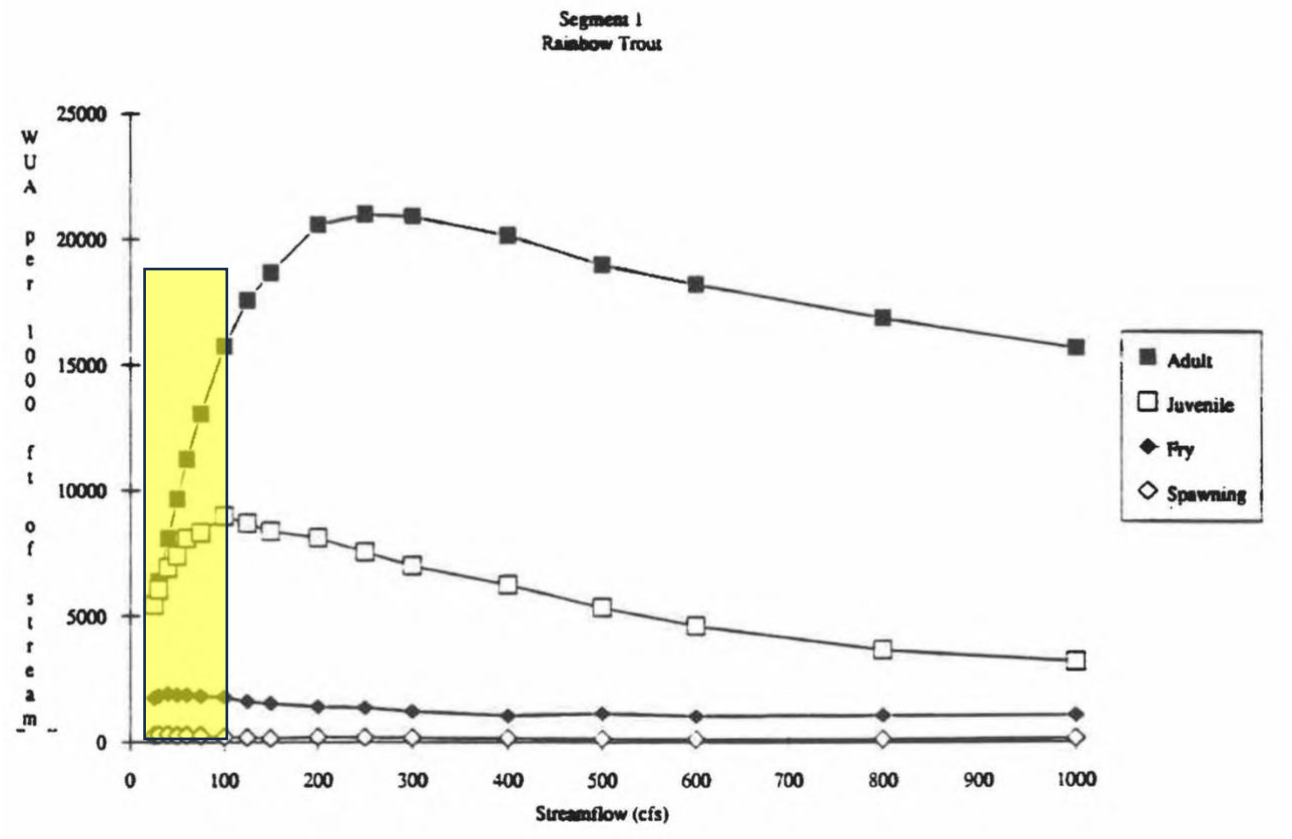
The disparity in trout populations above and below Fairview Dam is a clear indictment of the negative impact of the KR3 diversion on downstream fisheries (SCE PAD at 5-63). The

[165] FERC Accession No. 20220531-5308. See also FERC Accession Nos. 20220120-5089, 20220121-5040, 20220121-5004, 20220120-5168, 20220120-5099, 20220120-5007, 20220120-5006, 20220119-5018, 20220120-5001, 20220120-5002, 20220120-5028 & 20231113-5010.

[166] The fact SCE avoided conducting fish monitoring studies during low water years in 2021 and 2022 — by obtaining postponements — raises concerns about its willingness to present a complete and accurate picture of the project's effects on the river's fish populations. These studies would have provided critical data to assess the full impact of low flows on trout recruitment and survival.

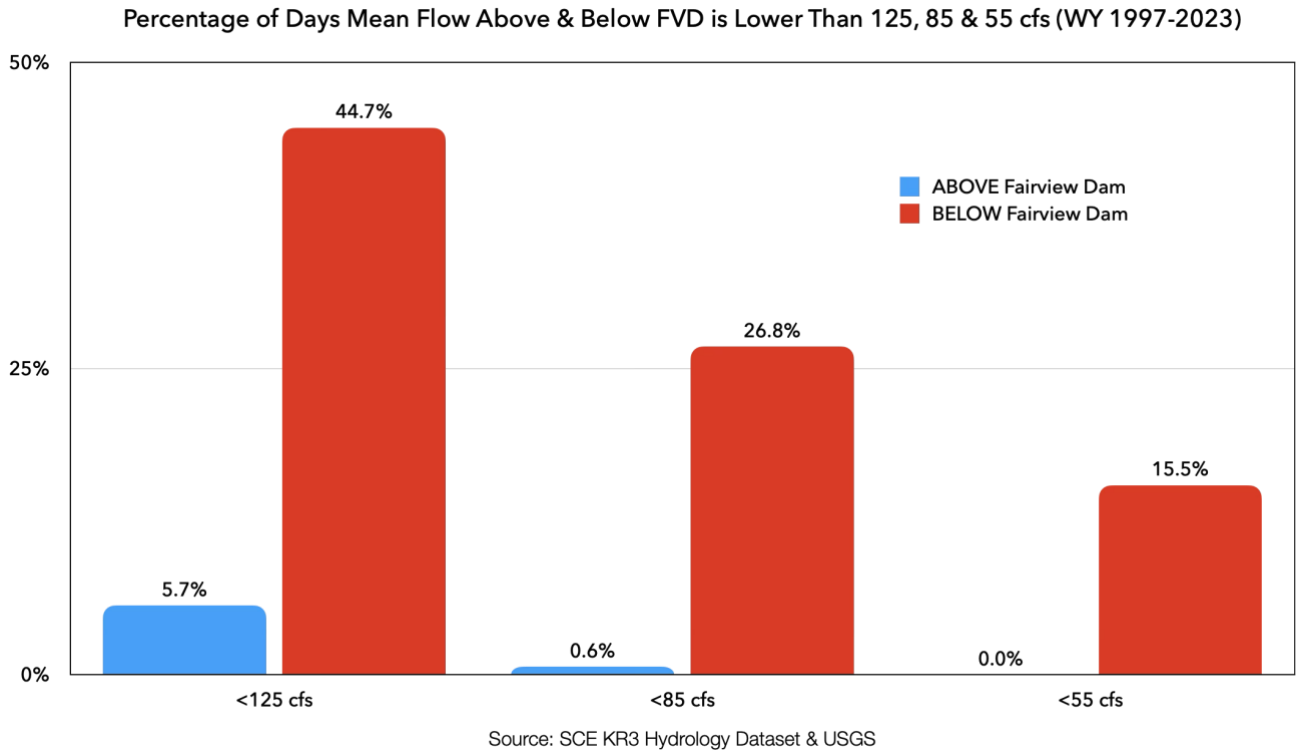
[167] KRB-DLA-MIF, Sheet 7.

1991 IFIM study[168] further supports these findings, demonstrating that trout habitat declines sharply when flows drop below 100 cfs (SCE Application for New License, December 1991, p. E-3-74).



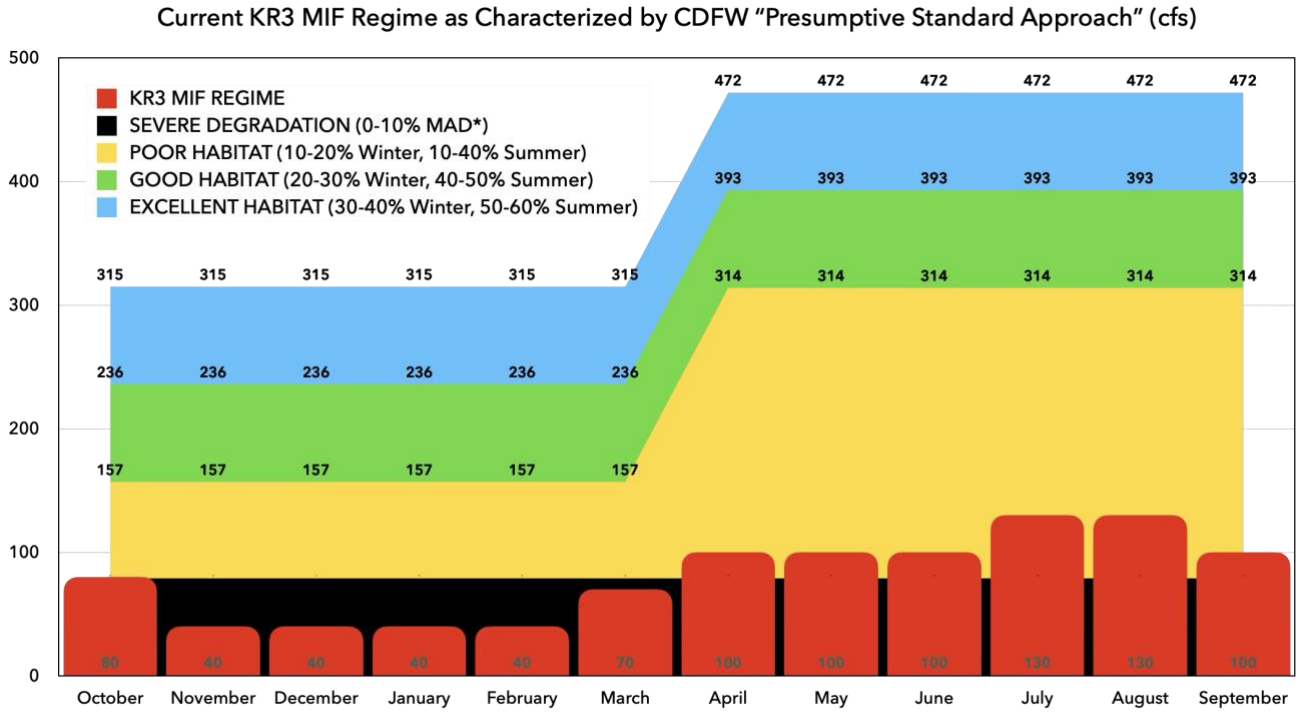
These results also align with the conclusions drawn by the U.S. Forest Service, National Park Service, and California Department of Fish and Wildlife in their 1995 Upper Kern Basin Fishery Management Plan, which found that the reach below Fairview Dam is capable of supporting a self-sustaining wild trout fishery, but for the low flows and high water temperatures caused by the KR3 diversion.[169] The diversion routinely reduces flows below Fairview Dam to levels extremely rare or unheard-of above the dam[170]:

[168] Application for New License, SCE (1991) at E-3-74 [.pdf p. 655], accelerated decline highlighted.
[169] Upper Kern Basin Fishery Management Plan, USFS, NPS & CDFW (1995) at IV-4.
[170] KRB-DLA-ISR, Sheet 8.



These conditions have led to a river that is degraded from its natural state, as predicted by CDFW's Instream Flow Program Presumptive Standard metric[171]:

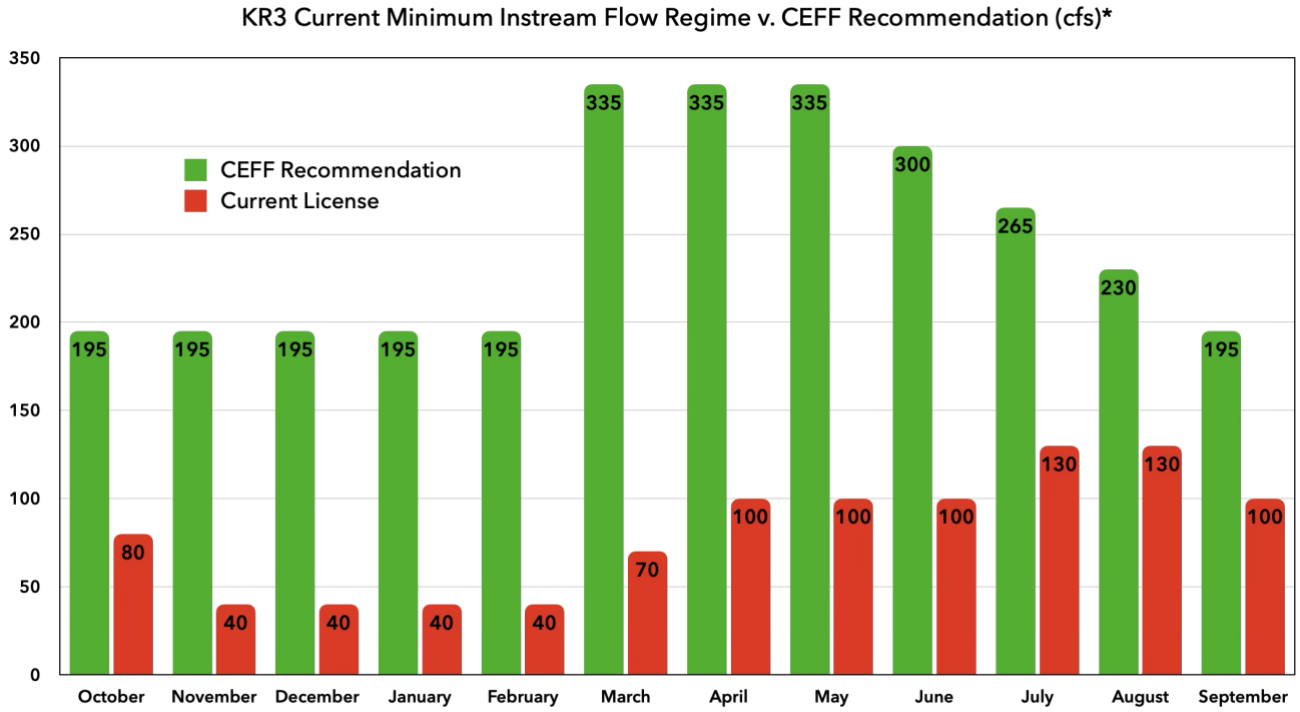
[171] KRB-DLA-MIF, Sheet 6. CDFW IFP Presumptive Standard. See also SWRCB [using the presumptive standard].



The current KR3 MIF regime leads to poor riverine habitat seven months of the year and severe degradation the other five according to the CDFW presumptive standard approach. This does not account for further reduction of the MIF in dry year summers when the precedence of the Hatchery Flow also drops flows to the level of severe degradation. *MAD is the "mean annual discharge" of the NF Kern river at Fairview Dam. Source: SCE WR-2 Hydrology Dataset.

The KR3 MIF similarly fails to come close to satisfy the California Environmental Flows Framework baseflow recommendations for functioning ecosystems[172]:

[172] KRB-DLA-MIF, Sheet 6.

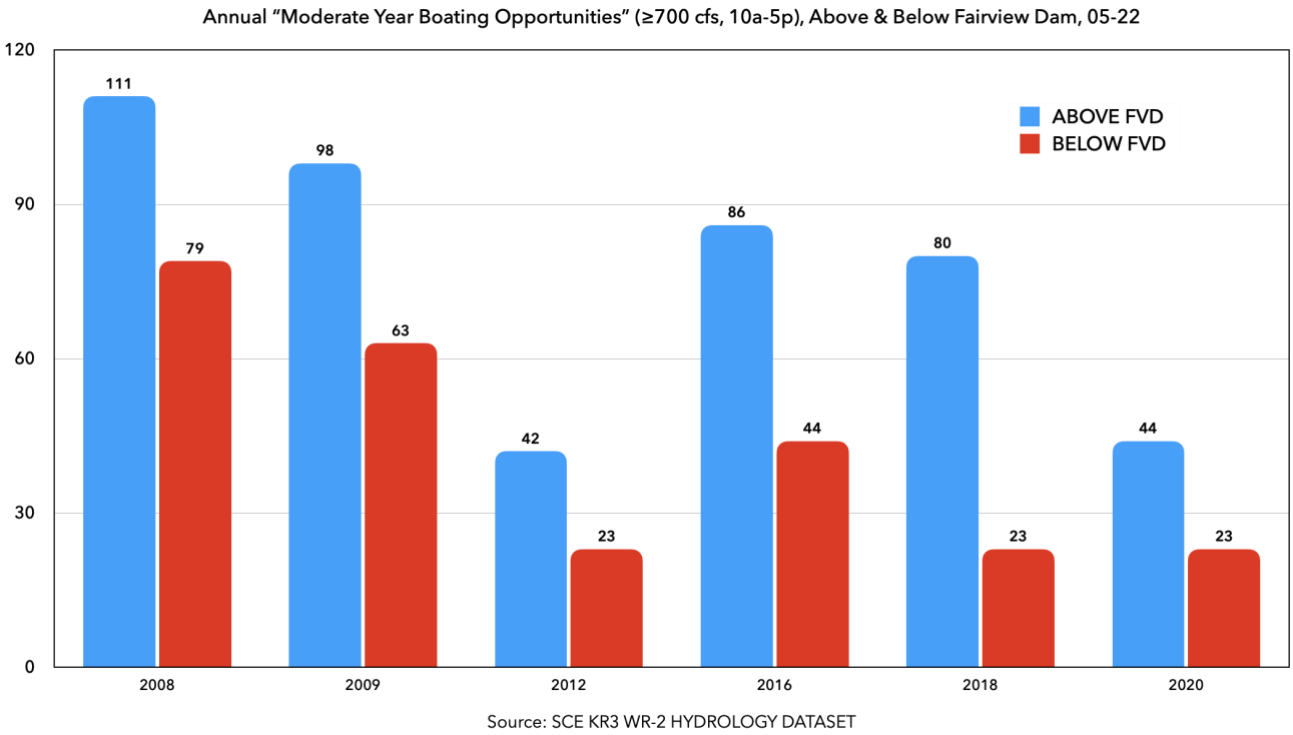


*Required minimum flows are typically the target denoted or the available natural flow, whichever is less. Note that the current regime is frequently not met due to the precedence of the environmentally damaging "hatchery flow" during the hottest times of the driest years. Methodology at https://ceff.ucdavis.edu/tools-products.

The dewatering below Fairview Dam narrows the river, slows water velocities, increases algae and pond scum, raises water temperatures, and lowers dissolved oxygen (DO) concentrations—creating a stressful and often lethal environment for trout. These factors together contribute to the river's decline from a thriving Class A fishery to a severely degraded system. It is important to highlight the perspectives of experienced anglers, such as Rich Arner of the Kern River Fly Fishers' Club, who has repeatedly commented on the inadequacy of flows below 100 cfs for maintaining a healthy trout fishery: "Flows (50 cfs) are very low… the extremely low flows have given natural predators a distinct advantage over unwary rainbows." (November 20, 2019.) "Section 5 is flowing very low (just 85 cfs) . . . shallower water is giving herons a distinct advantage in spotting unwary planters. (October 22, 2019.) "The water on section 5 is too low to sustain trout for long… there is very little holding water more than 3' deep with these very low flows around 50 cfs." (November 8, 2018.) These firsthand observations, combined with the results of scientific studies and agency predictive tools, clearly show that the current MIF is insufficient to sustain the river's trout populations and angling quality. The California Environmental Flows Framework recommendations provide a more appropriate flow regime that would better support the ecological and recreational values of the North Fork Kern River. CEFF's recommendations call for higher base flows year-round, which would not only enhance fish habitat but also improve conditions for anglers, who are currently discouraged from fishing due to low flows and degraded water quality.

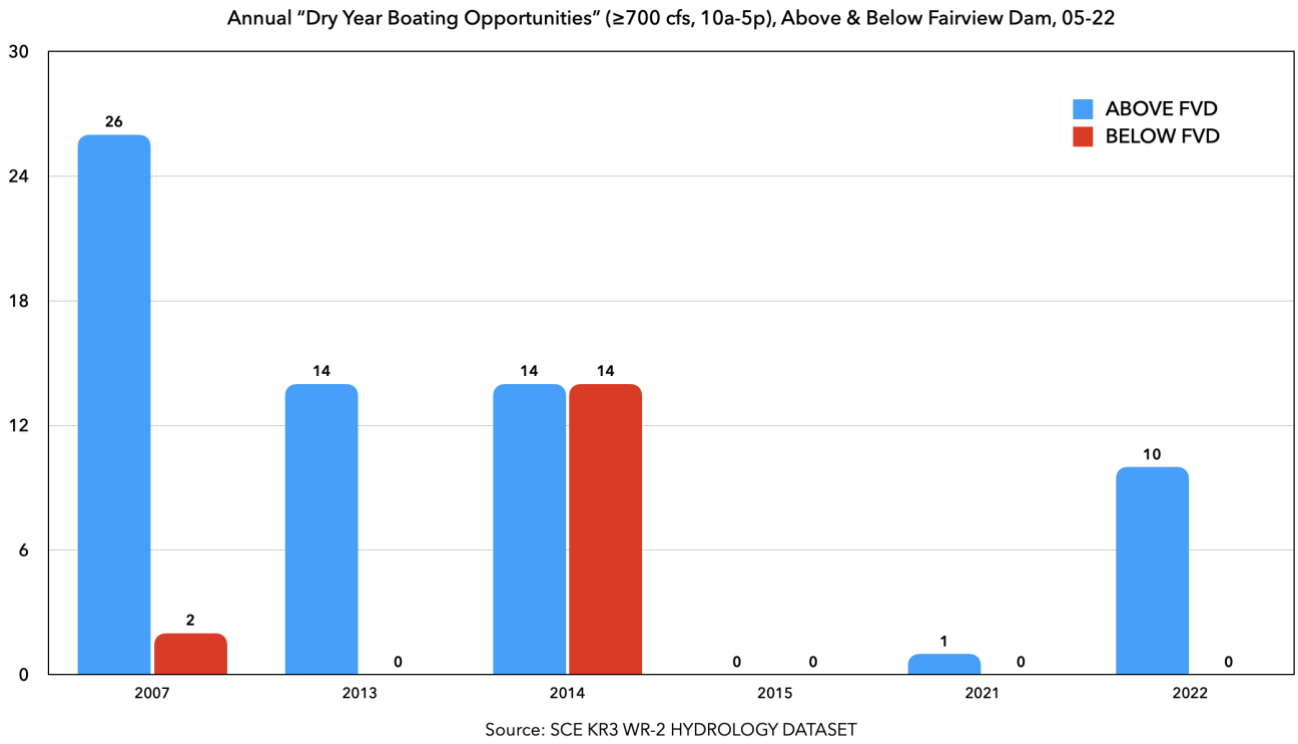
SCE: *Approximately **33 percent of the years between 2005 and 2022** provided more than 100 natural spill events > 700 cfs annually into the Fairview Dam Bypass Reach that lasted at least 7 hours between 10 am and 5 pm.* (DLA Vol.2, P1 at 7-257.)
KRB: SCE's focus on the 33% of years that offered over 100 natural spill events is a strategic attempt to draw attention away from the other two-thirds of the time when its operations have far more significant impacts on whitewater boating opportunities. While it is true that during wet years, large inflows somewhat mask the effects of the KR3 diversion given that the diversion is capped at 600 cfs, SCE remains silent about the recreational losses during the overwhelming majority of years — the other two-thirds of the years that are moderate and dry when boating opportunities are far scarcer due to project operations.

Using SCE's own methodology (≥700 cfs, 10 a.m. to 5 p.m.), our analysis reveals the stark reality: the project eliminates a significant portion of boating opportunities during moderate water years and most during wet years. In moderate water years, KR3 removes 45% of the available boating days[173]:



[173] KRB-DLA-REC, Sheet 15.

These are not just missed opportunities for casual recreation but represent a meaningful loss for the local economy, outfitter businesses, and community members who rely on consistent river conditions for their livelihoods and enjoyment. The situation is even more pronounced in dry years, where the project removes the lion's share of opportunities[174]:



This is critical: if the project had been online during 2014 (it being offline that whole year demonstrates it is not a strategically necessary generator), it would have removed *all but two* dry year boating opportunities.

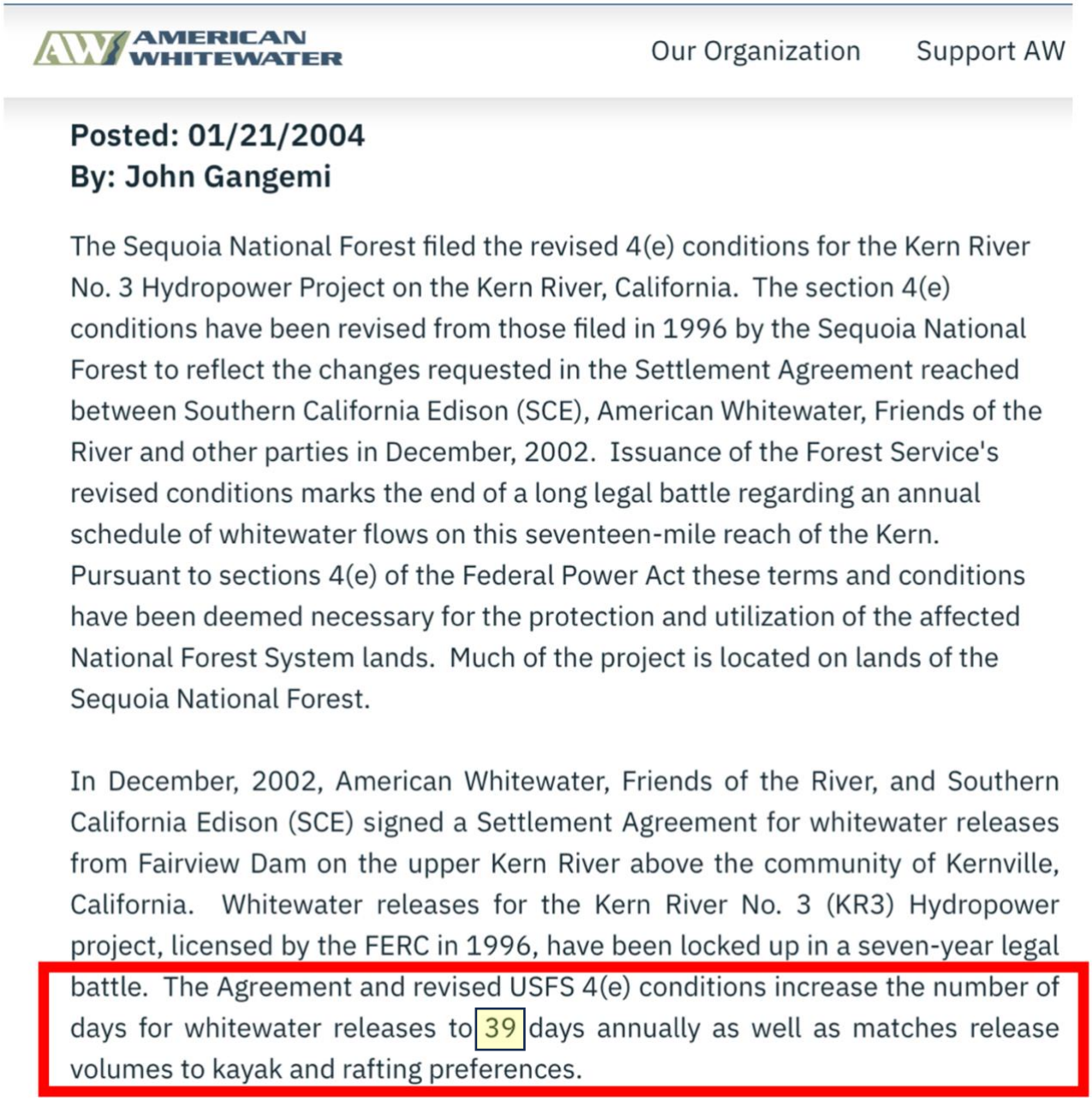
SCE's attempt to highlight the 33% of years with favorable conditions downplays the broader, more troubling reality: in most years, KR3 consistently reduces the public's access to the river. In the current term, it has taken away almost half the boating days during moderate water years and almost 80% during dry years. But for outages, those figures would have been much worse for the public: almost 60% of moderate year and 100% of dry year boating days would have been removed by KR3. During spring, when energy demand is low, the limited energy produced by KR3 from daytime diversions could easily be replaced by renewable sources that are currently curtailed. In exchange for so little return in energy production, the whitewater community and surrounding economy face significant losses in recreational opportunities. For those reasons, we have proposed a rec regime that unlocks the potential of the NF Kern at a cost of less than 4% of KR3's wholesale revenue.

[174] KRB-DLA-REC, Sheet 15.

SCE: *Whitewater boating opportunities associated with natural spill flows during winter storm events are shorter in duration but typically forecasted in advance allowing boaters several days' notice. SCE would continue to provide* ***real-time flow information*** *allowing boaters to take advantage of whitewater boating opportunities associated with natural spill events in the Fairview Dam Bypass Reach.* (DLA Vol.2, P1 at 7-257.)
KRB: SCE's claim of providing "real-time flow information" is misleading and in need of clarification. What SCE actually offers is an hourly summary of the previous hour's average flow, which is not the same as providing real-time flow data. While this hourly summary has some utility, it falls short of what the whitewater boating community truly needs for both planning and safety, particularly during the unpredictable and often fast-changing conditions of winter storm events. Boaters would be far better served with actual real-time flow readings, updated in 15-minute increments. These shorter intervals are critical for accurate trip planning, particularly when conditions can change rapidly during storm events. The difference between current flow data and an hourly average can be significant, especially during high water or storm surges. Relying on a summary of past flows can lead to misjudgments about the current river conditions, potentially resulting in unsafe situations on the water. Moreover, presenting hourly averages rather than real-time data increases the likelihood of confusion, with many boaters mistakenly interpreting those averages as real-time conditions. This not only limits the usefulness of the information for immediate planning but also undermines safety, as boaters cannot make fully informed decisions based on up-to-the-minute conditions. The solution is straightforward: we propose implementing real-time flow monitoring, available in 15-minute increments, both above and below Fairview Dam. This would provide boaters with the timely and accurate information they need to safely plan trips and navigate storm conditions, improving not only the recreational experience but also ensuring that boaters can respond appropriately to rapidly changing flows during critical moments. We also propose that SCE host these provisional figures in an online repository to foster transparency and ensure compliance and public trust.

SCE: *Proposed Measure WR-5 includes a* ***10-day Project shutdown*** *(outage) for annual maintenance on a pre-determined date. The scheduled Project shutdown would provide predictability that boaters have stated they would prefer over the current boating flow release schedule. The early spring timing Project outage would allow boaters to take advantage of flows on the rising limb of spring recession flows.* (DLA Vol.2, P1 at 7-258.)
KRB: SCE's proposed Measure WR-5, which includes a 10-day scheduled maintenance outage, is being presented as an enhancement to whitewater recreation opportunities on the NF Kern. However, it falls significantly short when compared to both past negotiations and current whitewater recreational needs.

In the previous relicensing proceeding, SCE's present recreation consultant touted[175] the acquisition of **39** recreational flow releases, not 10:



AMERICAN WHITEWATER Our Organization Support AW

Posted: 01/21/2004
By: John Gangemi

The Sequoia National Forest filed the revised 4(e) conditions for the Kern River No. 3 Hydropower Project on the Kern River, California. The section 4(e) conditions have been revised from those filed in 1996 by the Sequoia National Forest to reflect the changes requested in the Settlement Agreement reached between Southern California Edison (SCE), American Whitewater, Friends of the River and other parties in December, 2002. Issuance of the Forest Service's revised conditions marks the end of a long legal battle regarding an annual schedule of whitewater flows on this seventeen-mile reach of the Kern. Pursuant to sections 4(e) of the Federal Power Act these terms and conditions have been deemed necessary for the protection and utilization of the affected National Forest System lands. Much of the project is located on lands of the Sequoia National Forest.

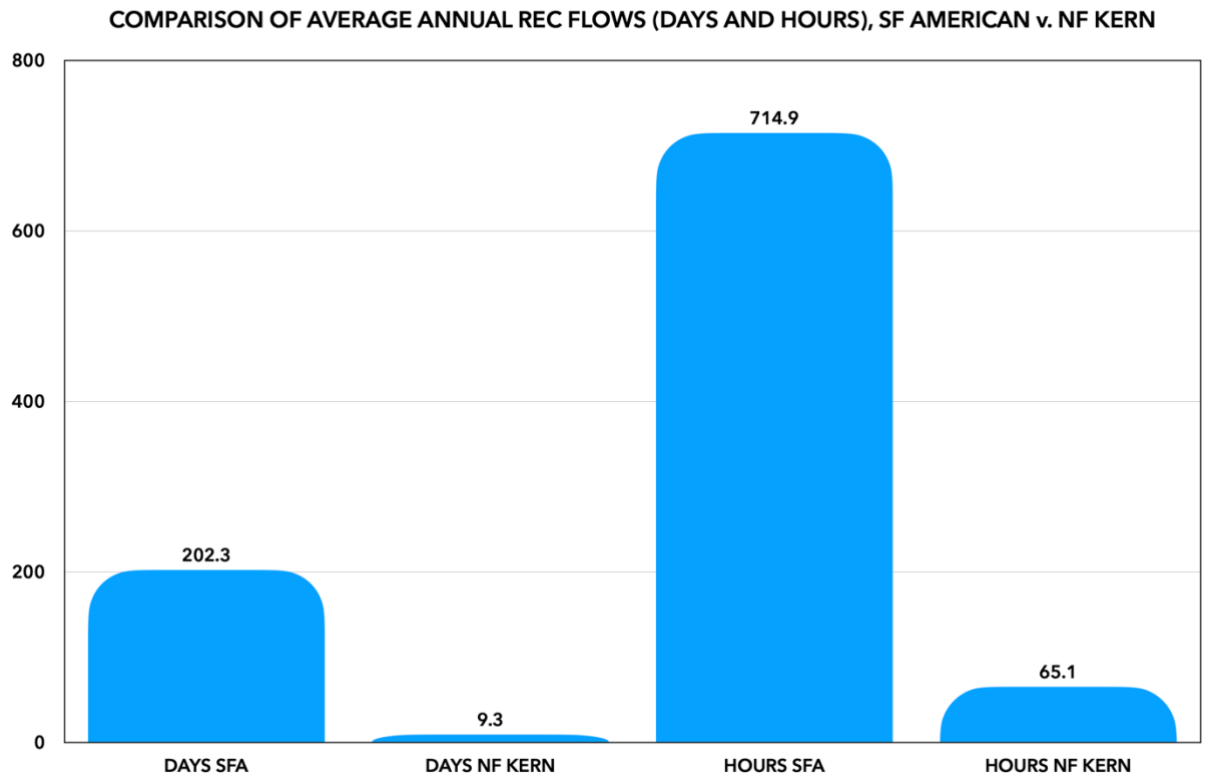
In December, 2002, American Whitewater, Friends of the River, and Southern California Edison (SCE) signed a Settlement Agreement for whitewater releases from Fairview Dam on the upper Kern River above the community of Kernville, California. Whitewater releases for the Kern River No. 3 (KR3) Hydropower project, licensed by the FERC in 1996, have been locked up in a seven-year legal battle. The Agreement and revised USFS 4(e) conditions increase the number of days for whitewater releases to 39 days annually as well as matches release volumes to kayak and rafting preferences.

Now, SCE's proposal has regressed down to a mere 10-day shutdown for maintenance. It is difficult to view a mandated maintenance shutdown as a recreational "enhancement." Annual maintenance outages are standard operational requirements for hydropower

[175] American Whitewater KR3 Page [accessed September 20, 2024].

facilities, not recreational bonuses. For SCE to frame these 10 days as a benefit to the whitewater community is disingenuous, especially when such a meager offering is unlikely to satisfy the recreational needs of Southern Californian boaters.

The central issue with the current recreational flow release schedule is not its unpredictability, but its extremely limited scope. Single-digit recreational release days each year fall far short of expectations and the modern reality of hydropower's diminished value during the spring season. By comparison, the South Fork American River (SFA) enjoys an extensive and consistent whitewater recreational flow schedule.[176] Despite the storage differences between the Chili Bar Reservoir on the SFA and Fairview Dam, we can still make a meaningful comparison of recreational opportunities. The SFA offers an average of 202 recreational days per year with over 700 hours of scheduled releases, while the NF Kern barely manages 9.3 recreational days with just 65 hours. This stark contrast highlights how poorly whitewater recreation is accommodated on the NF Kern despite it being the second most popular whitewater river in the state, serving a population of over 25 million people in Southern California[177]:



[176] https://www.smud.org/en/Corporate/Environmental-Leadership/Power-Sources/Upper-American-River-Project

[177] KRB-DLA-SFA, Sheet 1.

What is most striking, however, is that SCE's proposal ignores the evolving grid realities that lessen the operational importance of the KR3 project. Spring energy demand is low, and the energy generated by KR3 could be easily replaced during daylight hours by renewable energy sources that are already being curtailed. Meanwhile, the social and recreational value of the river continues to rise as more people seek outdoor and whitewater activities. This mismatch between the actual demand for KR3's power and the public's need for recreational opportunities suggests that the Project's flow regime could — and should, as we propose — prioritize the latter during times of solar glut.

SCE: *Proposed Measure WR-1 would enhance current habitat conditions downstream of Fairview Dam for native fishes by shifting the timing of greater MIFs from the summer months of July and August to the spring months of May and June to align with the spring snowmelt and the natural hydrograph (Figure 7.3-10). This modified release schedule is* ***intended to enhance water temperatures*** *for native cyprinids, including hardhead, by slightly increasing water temperatures into more suitable ranges in the lower portions of the Fairview Dam Bypass Reach during the summer months. However, native cyprinids are generally not targeted by anglers. Rainbow trout, which are heavily stocked in the Fairview Dam Bypass Reach and targeted by anglers, generally prefer colder waters. Rainbow trout can tolerate water temperatures from 0°C to 27°C, although long-term exposure to water temperatures greater than 24°C can be lethal (Moyle, 2002).*
The daily mean water temperatures upstream of Fairview Dam was frequently above 20°C in the summer, and when upstream water was slightly below 20°C, water temperatures would exceed 20°C several miles downstream of Fairview Dam (ENTRIX, 2003). Modeling results from the ENTRIX (2003) temperature study found that releases of 100 cfs would result in peak water temperatures of less than 23°C in normal run-off and normal air temperature conditions (less than 0.5°C increase from current conditions), but could reach a peak of 25°C under low run-off years in hot conditions (Figures 7.3-11 through 7.3-13 in Section 7.3.3.2, Water Quality, subsection, Water Temperature; ENTRIX, 2003). In low run-off and hot conditions, the water temperature model results indicate that water temperatures in August would increase up to 1°C under proposed Measure WR-1 in the lower portions of the bypass reach, and warmer water temperatures would also likely be observed farther upstream. Although these warmer water temperatures would follow patterns associated with the natural hydrograph and are expected to benefit native transitional zone fish species, particularly hardhead, the shift in peak MIFs from summer to spring may have a minor, local, and short-term reduction in rainbow trout habitat distribution in the lower portions of the bypass reach. (DLA Vol.2, P1 at 7-258 & 7-259.)
KRB: SCE's Proposed Measure WR-1 significantly fails to address the needs of the recreational fishing community and trout populations that are the primary species targeted

by anglers. While WR-1 aims to shift flows to the spring months to mimic the natural hydrograph and purportedly support native cyprinids like hardhead, it does so at the expense of the cold-water habitat that is essential for rainbow trout survival during the critical summer months. The increased water temperatures resulting from WR-1, particularly in July and August, pose a serious threat to the trout population in the Fairview Dam Bypass Reach. SCE's claim that the temperature impacts will be "minor, local, and short-term" is baselessly optimistic and ignores the immediate and cumulative, long-term damage it will commit on the fishery. Trout are highly sensitive to elevated water temperatures, especially when they exceed 20°C, and even more so when temperatures approach 24°C or higher. A regime that allows daily average water temperatures to consistently reach 23°C and even 25°C in low runoff years — with daily maximum temperatures rising even higher — will create stressful, and potentially lethal, conditions for trout. This is especially concerning during the peak of summer, a critical period when trout are already vulnerable due to lower flows and higher air temperatures. The suggestion that this regime change would only marginally reduce trout habitat in the lower portions of the reach glosses over the broader ecological implications. The long-term exposure to higher temperatures during the summer months — coupled with low flows — will diminish the overall health of the trout population, leading to a degraded fishery. These impacts will not be limited to a small area or short-term timeframe but would likely result in a sustained reduction in the quality of the fishery throughout the bypass reach. No agency or management plan has called for what SCE proposes — a radical increase in summer temperatures below Fairview Dam.

More concerning is the fact that WR-1 entirely disregards the California Environmental Flows Framework (CEFF) baseflow recommendations, which provide a science-based and ecologically sound approach to setting flow regimes. The CEFF recommendations call for increased baseflows that consider not only the needs of native species but also those of recreationally important species like trout. By failing to engage with these recommendations, WR-1 is inherently misaligned with the broader ecological needs of the river system. Furthermore, SCE's WR-1 proposal ignores critical data from other reliable sources. The California Department of Fish and Wildlife (CDFW) Instream Flow Program's presumptive standard similarly calls for higher minimum instream flows (MIFs) than those currently in place or proposed. The 1991 IFIM model also highlights that flows below Fairview Dam are insufficient to maintain adequate adult trout habitat. Moreover, the 2016 fish monitoring study presents clear evidence of the damage the current flow regime has already caused, with a 50% reduction in trout populations above the dam and a staggering 95% reduction below it. These data points demonstrate that the current flow levels are woefully inadequate for sustaining the trout fishery, and WR-1's proposed flow adjustments would only exacerbate this problem. Ultimately, the problem lies in SCE's narrow focus on the immediate needs of a single native species (hardhead) it

has conveniently and belatedly chosen to champion without consideration of the multi-species, integrated ecosystem approach embodied in the CEFF framework. By aligning the flow regime with the CEFF's recommendations and the best available science from the CDFW, IFIM, and recent fish studies, as we propose, a more balanced and ecologically sound solution can be achieved.

SCE: *The proposed Project would* ***not result in unavoidable adverse effects on recreation*** *resources.* (DLA Vol.2, P1 at 7-259.)

KRB: SCE's assertion is a mistake at best and dismissive at worst. SCE has conceded that the proposed project would reduce the number of recreation releases and further degrade trout populations in the bypass reach. These concessions indicate adverse effects on both recreational opportunities and the quality of the fishery, which are key resources for the local community and visitors alike. This is simply not a serious assertion.

7.8 Land Use Management and Resources

SCE: *The 2023 SQF LMP updates the management direction of the 1994 CMP for the designated wild and scenic river within the jurisdictional boundaries of the SQF, including the Fairview Dam Bypass Reach (Forest Service, 2023). The LMP also notes that existing hydroelectric projects that were licensed by FERC at the time of a designation* ***may continue to operate.*** (DLA Vol.2, P1 at 7-265.)

KRB: SCE's reference to the 2023 SQF Land Management Plan (LMP) and its allowance for continued operation of hydroelectric projects licensed prior to wild and scenic river designation does not negate FERC's and the Forest Service's statutory obligations under the Federal Power Act (FPA) and the Wild and Scenic Rivers Act (WSRA). The language in the LMP does not supersede the overarching mandate for FERC and the USFS to secure the public interest, particularly in the management of outstanding public resources such as the North Fork Kern River.

As explicitly stated in the FPA, hydropower development is not to be considered the absolute priority: "power development is not to be considered an absolute priority under the Act or given undue weight. It is intended that the Commission give significant attention to, and demonstrate a high level of concern for, all environmental aspects of hydropower development, even, if necessary, to the point of denying an application on environmental grounds."[178] This legislative directive makes clear that environmental protection, recreational values, and public access must be prioritized equally alongside hydropower generation. Moreover, projects licensed many years earlier are not exempt from today's environmental and social standards. Relicensing is not a mere formality to continue operations but is instead a re-evaluation of whether the project aligns with contemporary

[178] H.R. Conf. Rep. No. 934, 99th Cong., 2d. Sess. at p. 21-25.

values and legal requirements: "Projects licensed years earlier must undergo the scrutiny of today's values as provided in this law and other environmental laws applicable to such projects."[179] The relicensing process is akin to making a new and irreversible commitment of a public resource, with all the responsibilities that entails: "Relicensing involves a new commitment of the resource, which in this case lasts for forty years." This means that the current application must be thoroughly examined in the context of modern-day environmental, recreational, and social values, which the original license may not have adequately addressed at the time.[180]

The LMP's allowance for continued hydropower operations does not absolve FERC and the USFS of their duty to balance power generation with the health of the natural and social environments. The Commission must weigh all public interests equally, including environmental protection and recreational use, in determining the best use of this valuable public resource. As such, the relicensing process must not only acknowledge but actively address the growing public demand for sustainable river management, increased recreational opportunities, and enhanced ecological protection. Both FERC and the USFS must approach this relicensing with the same rigor as if it were an original license, ensuring that the future of this river aligns with today's social and environmental values.

SCE: ***[Under Section 7, n]o new features are included*** *as part of the proposed Project and SCE is proposing continuation of several measures so that the Project remains consistent, or in some instances enhance the baseline condition at the time of the wild and scenic river designation.* (DLA Vol.2, P1 at 7-284.)
KRB: SCE fails to analyze under W&SRA Section 7 the effect of the ill-named "hatchery" flow.

SCE proposes to divert 40-45 cfs for the hatchery going forward (35 cfs plus a "buffer"). However, at the time this river was designated Wild and Scenic, the hatchery flow was only 20 cfs[181]:

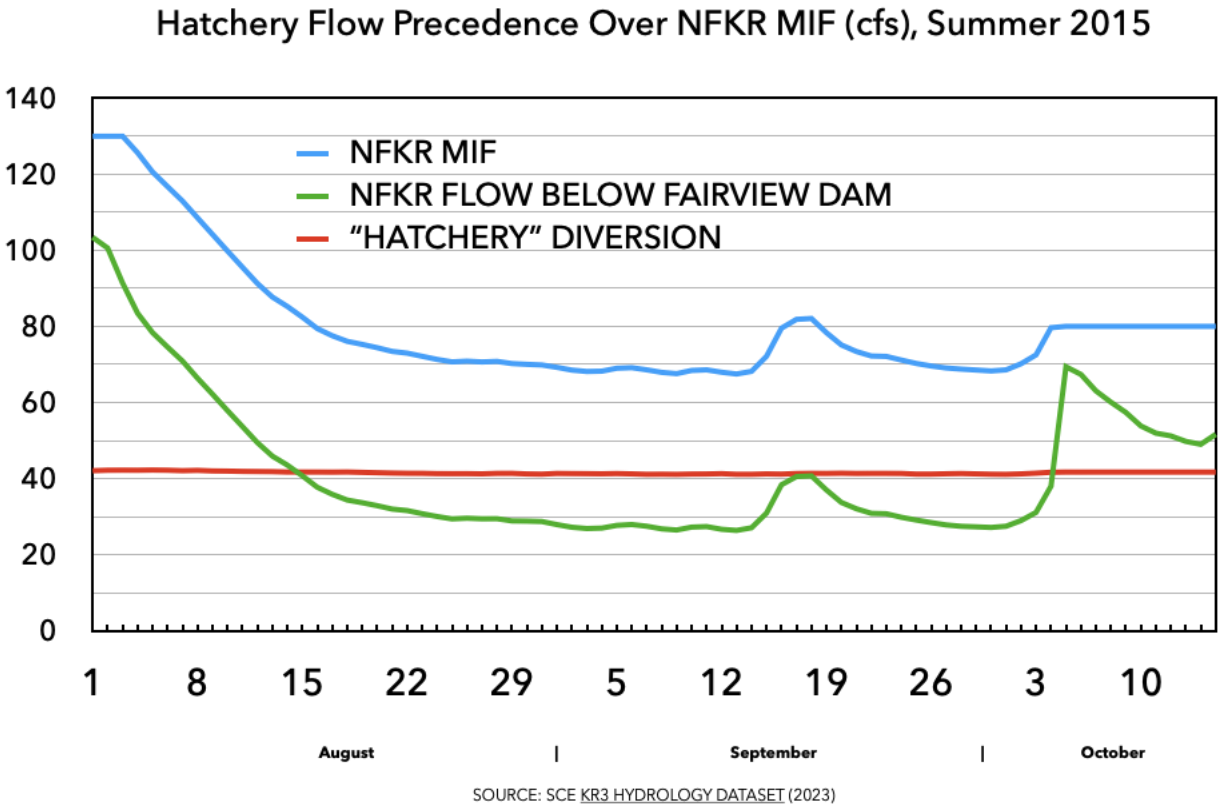
[179] *Id.*, at p. 22 (italics added).
[180] *Yakima v. FERC*, 746. F.2d 466, 476-477 (9th Cir. 1984).
[181] FERC Accession No. 19880803-0308 at 5 [KR3 License in force until 1996]. See also KR3 Application for New License, Edison (December 1991) at E-3-7 [Edison shall deliver at its tailrace "not less than **20 cfs** from the Kern River No. 3 conduit for the operation of the California Department of Fish and Game's Kern River Fish Hatchery"] & FERC Accession No. 19930408-0186, Exh. M at 5 (.pdf p. 14) ["A release valve for the Kern River Fish Hatchery provides **20 cfs** of cool water to the hatchery during low water conditions"].

iv. Kern 3 Powerhouse

SCE is required to release at least 20 cfs at the tailrace of this powerhouse for use by the CDFG for its Kern River Fish Hatchery. The CDFG has an intake just downstream of the tailrace (Photo No. 15).

SCE's assertion that the proposed project would remain consistent with baseline conditions at the time of the Wild and Scenic River designation ignores critical changes in the hydrology and operational impacts of the "hatchery flow" diversion, which has seen significant increases since the designation. At the time of the river's designation, the hatchery flow was only 20 cfs, yet it has now ballooned to 40-45 cfs. This distended increase, combined with the project's normal diversions under an inadequate MIF, significantly reduces the water available in the river during critical summer months when fish populations are already under stress due to high temperatures and low flows.

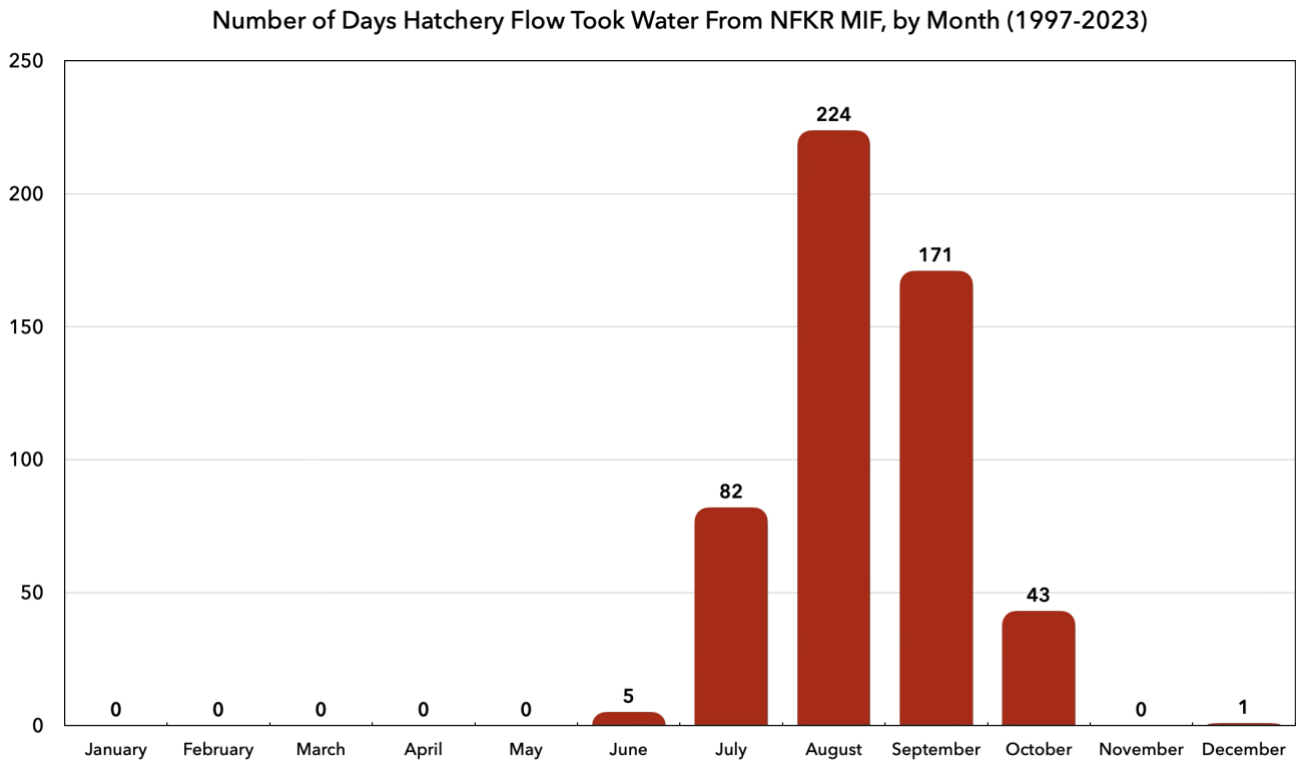
For example, in years like 2015, the hatchery diversion took water during critical low-flow periods, reducing river flows well below the required MIF. According to SCE's hydrology dataset, here were the flows that summer[182]:



SOURCE: SCE KR3 HYDROLOGY DATASET (2023)

[182] KRB-DLA-MIF, Sheet 17.

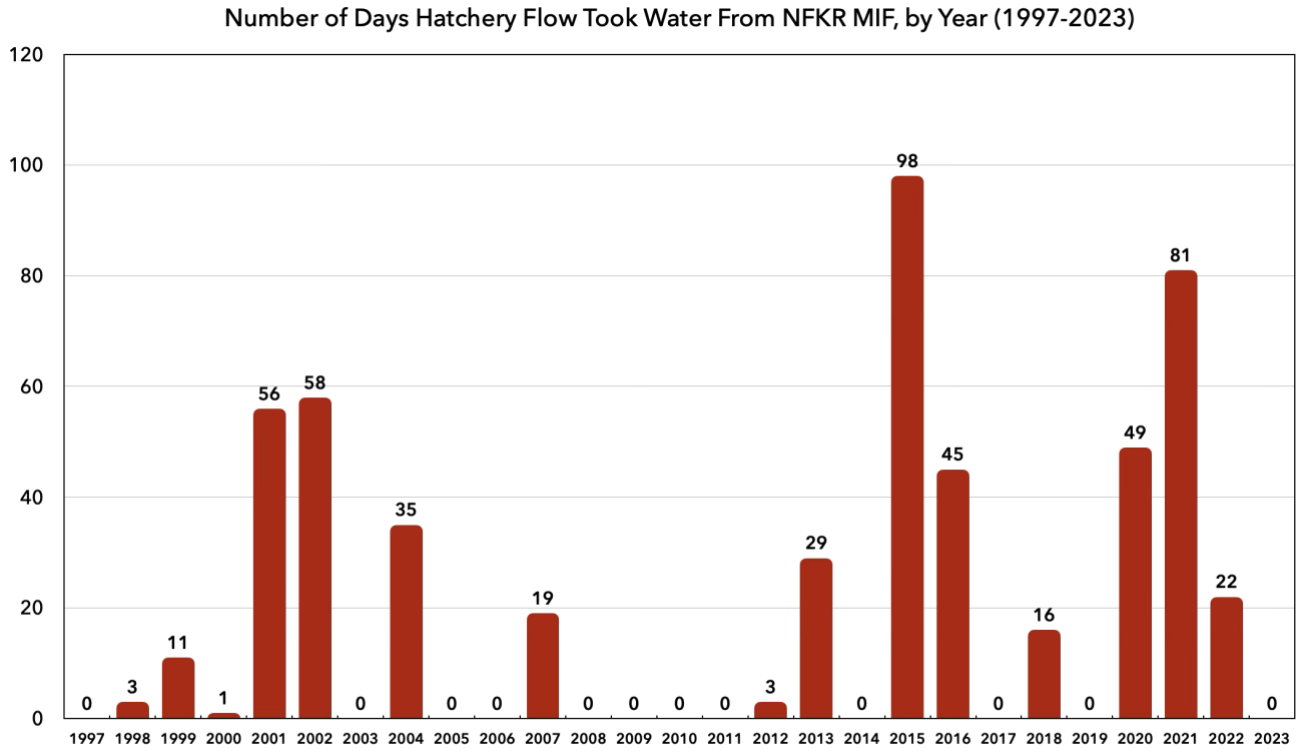
The hatchery flow takes from the river's Minimum Instream Flow during the hottest months of the year, often leaving the river with flows below ecologically sustainable levels. This is particularly harmful during late summer and early fall (July-October), as shown in the data SCE provided, which demonstrates how often and for how long the hatchery flow undermines the MIF[183]:



The Precedence of the Hatchery Flow Over the MIF Depletes the River's MIF During the Hottest Months of the Year
SOURCE: SCE KR3 HYDROLOGY DATASET (2023)

The hatchery flow takes from the MIF not just during dry years, but moderate years as well[184]:

[183] KRB-DLA-MIF, Sheet 17.
[184] KRB-DLA-MIF, Sheet 17.

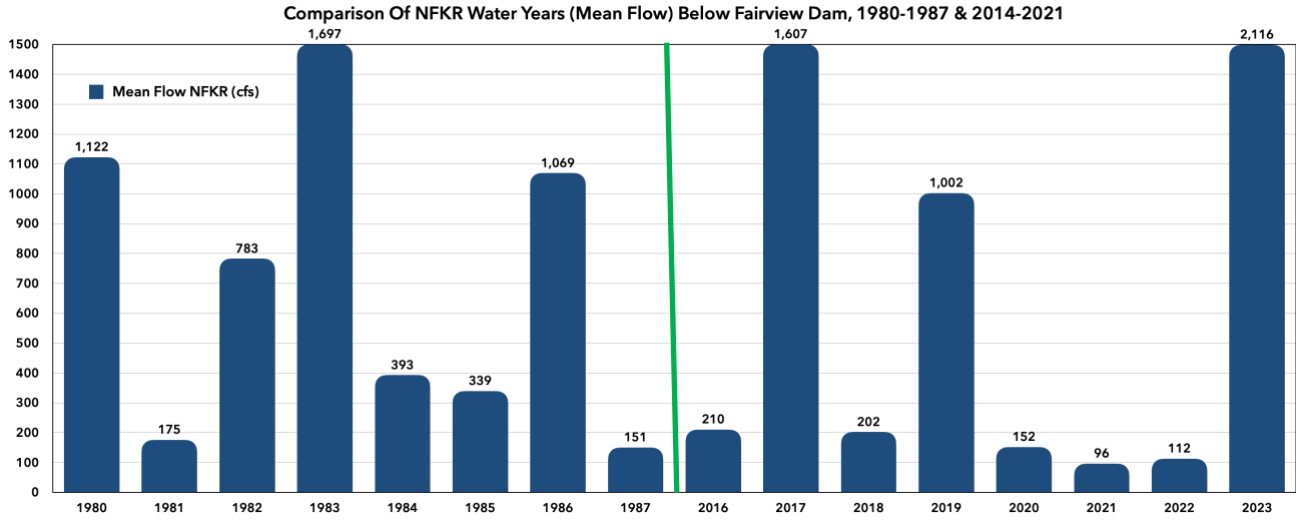


The Precedence of the Hatchery Flow Over the MIF Depletes the River's MIF During All but the Wettest Years
SOURCE: SCE KR3 HYDROLOGY DATASET (2023)

Trout habitat suffers significantly when flows drop below 100 cfs. The 1991 IFIM study and the CDFW presumptive standard clearly predict that trout suffer in the dewatered reach at these levels. The 2016 fish study proves it. The CDFW IFP metric and CEFF baseflows could have predicted it. Yet SCE's proposed hatchery flow will routinely reduce river flows to unsustainable levels during the warmest months of dry and moderate water years, causing water temperatures to spike and oxygen levels to drop. Those conditions were not present as often or as severe at the time of designation when the hatchery flow was just 20 cfs.

SCE fails to consider that the hydrology of the NFKR has changed significantly since the Wild and Scenic designation, with more frequent and severe droughts in recent decades[185]:

[185] KRB-DLA-MIF, Sheet 18.



As shown, the mean annual flow below Fairview Dam during the W&SR study period dropped below the median flow (which is 300 cfs since 1976) just twice. The more recent period of time has seen *five* out of eight water years with mean flows below the median, not two. SCE's failure to account for these changes in hydrology and to adjust its operations accordingly means the project is contributing to the river's degradation at times when it is most vulnerable *more frequently and more severely* than at the time of designation due to climate change. These exaggerated negative project effects must be accounted for under section 7.

SCE: *The proposed Project would* ***not result in unavoidable adverse effects on land use and management.*** (DLA Vol.2, P1 at 7-287.)
KRB: This statement ignores significant realities. The project's water diversions at Fairview Dam have a profound impact on both ecological health and recreational land use dependent on the river's flow.

The diversion regime set forth by SCE does not align with the Center for Environmental Flow's (CEFF) scientifically grounded baseflow recommendations, which are designed to ensure the ecological health of aquatic systems. By diverting substantial flows during critical periods, the project fails to provide the steady and cool water necessary to sustain sensitive species and other aquatic organisms. The adverse effects on these species, particularly in light of higher water temperatures and reduced dissolved oxygen levels, are well-documented and inarguable. These impacts compromise both the biodiversity of the river and its ability to support recreational fishing, which depends on a healthy trout population.

The diversion has significantly reduced recreational opportunities, as lower flows make the river less appealing for activities such as whitewater boating, fishing, and swimming. These impacts on recreational use are compounded by the diversion's effect on

the visual and aesthetic value of the river, a key consideration for users of this Wild and Scenic River.

SCE's environmental analysis fails to consider the cumulative effects of the project's operations in the context of increasing drought frequency and intensity. Droughts exacerbate the already low flow conditions caused by the diversion, placing even greater stress on aquatic ecosystems. In drought years, as flows are reduced to the minimum instream flow (MIF) requirements or even lower due to the precedence of the hatchery flow, the river's temperature rises and dissolved oxygen decreases, creating uninhabitable conditions for fish, amphibians, and other wildlife. These compounded impacts are ignored in SCE's assessment, which falsely claims no unavoidable adverse effects.

Riparian ecosystems depend on consistent water availability for plant species that provide critical habitat for birds, amphibians, and mammals. By reducing water flows and increasing temperatures, the project disrupts these ecosystems, contributing to the degradation of habitat for a variety of species. The diversion's impact on riparian vegetation also reduces the river's natural capacity to regulate water quality and temperature, further compounding ecological stresses.

The project's adverse effects on public land use — by reducing the availability and quality of water on which ecological health and recreational activities tied to the river depend — can be ameliorated by incorporating our two major proposals on rec flows and the MIF into the next license.

7.9 Aesthetic Resources

SCE: *Furthermore, the Project's facilities and structures are generally consistent with the area's current level of development and are* ***not visually dominant or overly obtrusive*** *on the landscape except in specific locations (e.g., on Mountain Highway 99 as motorists pass the KR3 Powerhouse).* (DLA Vol.2, P1 at 7-295.)

KRB: SCE's assertion that the project's facilities are "not visually dominant or overly obtrusive" is an ignorant fiction written by people who don't live here but are paid to downplay project effects. The KR3 forebay and penstocks have a significant negative effect on the local landscape. These structures are far from inconspicuous, and their presence deeply affects the visual integrity of the surrounding environment, which otherwise boasts the natural beauty of the Southern Sierra.

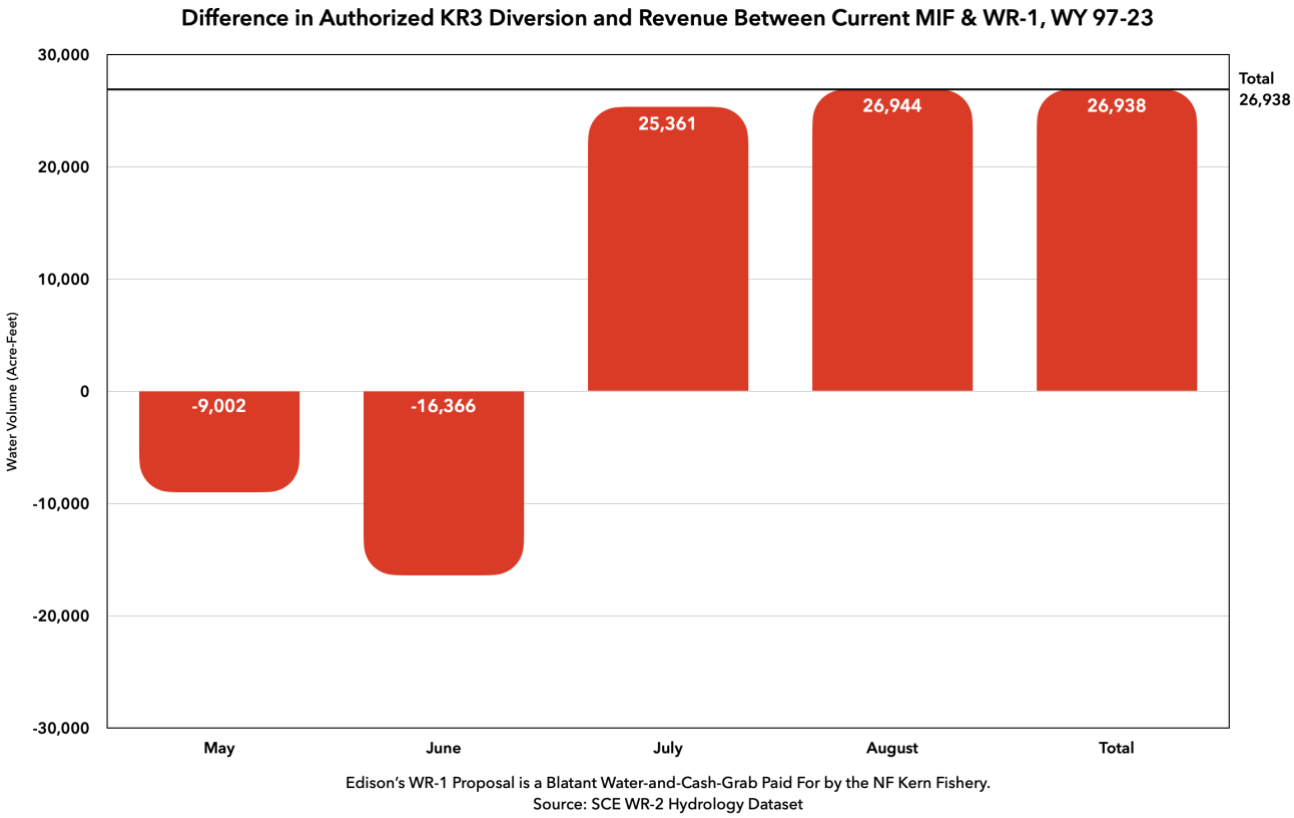
The KR3 penstocks, commonly referred to as "the pipes" by locals, are visible from multiple vantage points, including residential areas in Kernville, commercial areas, and popular recreational spots such as the Whiskey Flat trail. The penstocks traverse hills that would otherwise offer a sweeping, uninterrupted view of the natural Sierra foothills. SCE itself acknowledges that the area has been designated as a "high scenic integrity" zone, where the preservation of natural landscapes is particularly important. The penstocks, however, detract significantly from this integrity, introducing an industrial element to what

would otherwise be an untouched, natural vista. SCE's claim that the penstocks are not "visually dominant" is flatly inaccurate. Locals and visitors alike note the penstocks' extensive visibility from key locations, often describing them as unsightly. For instance, motorists driving along Mountain Highway 99, as well as hikers on the nearby trails, consistently encounter the penstocks as a visual disruption. Some have even compared the penstocks to "a scar on a beautiful face," underscoring the dramatic impact they have on the visual experience of the landscape. The pipes are not confined to one small area but instead dominate views across wide stretches of the valley, making them an unavoidable part of the landscape for those who live in or visit the region. The visual blight caused by the KR3 penstocks may also affect the area's tourism and recreational appeal. Kernville and its surrounding areas rely heavily on outdoor tourism, and visitors often come seeking the pristine natural beauty of the Sierra. The prominent presence of industrial infrastructure, such as the penstocks, detracts from the area's appeal and can negatively influence the overall visitor experience. Their industrial appearance is at odds with the natural environment, particularly in an area designated for its high scenic integrity. This issue must be acknowledged and addressed as part of the project's environmental impact assessment.

SCE: *Given the range of MIF releases would remain unchanged . . . , implementation of the proposed measures would have* ***no adverse effect on the free-flowing condition*** *of the river and may provide enhanced aesthetic opportunities along the Fairview Dam Bypass Reach.* (DLA Vol.2, P1 at 7-297.)

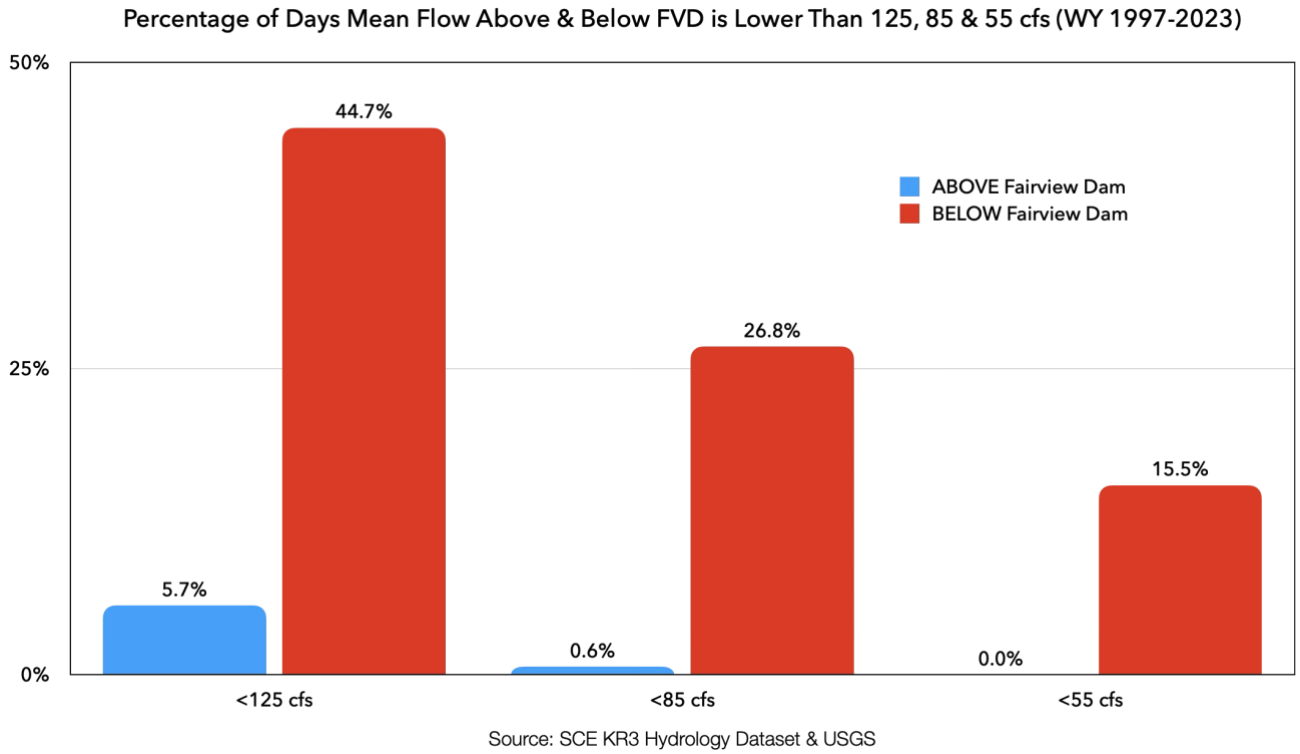
KRB: SCE's assertion that the proposed project will not adversely affect the free-flowing condition of the river is patently false. SCE's own proposal under WR-1 seeks to increase the amount of natural inflow that it can divert, reducing the water left in the bypass reach. This amounts to a blatant water-and-cash grab by SCE, paid for by the health of the NF Kern fishery and the scenic beauty of this incredible public resource. The differences in

authorized diversions across affected months are clearly shown in the data, with increases in the water diverted during summer months — periods that are critical for both the ecology and recreational aesthetics of the river[186]:



Next, the project significantly exacerbates low-flow conditions that diminish the scenic and ecological integrity of the river. Low flows caused by the project, rather than natural variability, frequently result in unsightly and ecologically damaging conditions such as algae blooms, siltation, and bare riverbanks. Consider the frequency of low-flow conditions below the dam: Natural flows above the dam drop below 125 cfs just 5.7% of the time, but below the dam, flows are below that level almost half the time (44.7%). Similarly, flows below 85 cfs are virtually unheard of above Fairview Dam (0.6%) but occur over one-quarter of the time (26.8%) below the dam. The most extreme low flows (<55 cfs), which do not occur naturally above the dam, are observed on **one out of every six days** (15.5%) below Fairview Dam due to the diversion[187]:

[186] KRB-DLA-MIF, Sheet 10.
[187] KRB-DLA-ISR, Sheet 8.



These low flows, particularly when artificially imposed by diversion, create stagnant water, lower pool heights, and expose riverbanks and riverbeds — all of which significantly degrade the aesthetic and ecological values associated with a Wild and Scenic River.

The claim that the project enhances aesthetic opportunities is contradicted by the actual effects of diminished flow. Visitors to the Fairview Dam Bypass Reach expect to experience a scenic, free-flowing river, but what they frequently encounter instead is a river far-too-often reduced to a trickle. Are the authors of SCE's document even aware of Northern California's most important river — the South Fork American below Chili Bar — where fish flows are 275 cfs in dry years and 325 cfs in wet years? Visit the NF Kern four months a year and fish flows are 40 cfs. SCE's WR-5 proposal offers no solution, either. It is ultimately an extremely short-term, 10-day measure that does not address the fundamental issue: the regular, long-term damage to free-flowing conditions caused by water diversion. A meaningful enhancement to scenic and ecological conditions would require alignment with CEFF baseflow recommendations to ensure sustained, higher flows throughout the year, as we have recommended.

SCE: *The proposed Project would have* ***no effect on noise****. Project operations have the potential to generate noise. The Project generates continuous and intermittent noise that is audible in the immediate vicinity associated with the operation of the powerhouse in addition to other noncontinuous or intermittent noise related to road maintenance. Examples of other*

non-Project-related noise sources in the vicinity of the Project include traffic along Mountain Highway 99, recreation use at the numerous developed and dispersed campgrounds and day-use recreation areas, and overhead aircraft (including military training runs along the NFKR). Natural noise sources may occur from flowing water, wind, and wildlife. The proposed Project would not involve significant changes to Project O&M. Therefore, implementation of the proposed Project would have no effect on noise. (DLA Vol.2, P1 at 7-297.)

KRB: SCE's assessment of noise impacts understates the significance of the noise generated by the KR3 project in this sensitive river corridor. SCE downplays the project's contributions by comparing them to other non-project-related noise sources such as traffic, recreational activities, and natural sounds like wind or wildlife. This approach, however, ignores the cumulative effects of noise, which can compound the impacts on the local environment and those who seek to enjoy the peace and solitude of the river. While traffic, recreational use, and natural sounds contribute to the overall sound environment, SCE's operations add an additional layer of continuous and intermittent industrial noise. Cumulative noise from multiple sources — including the constant hum of the powerhouse, road maintenance activities, and traffic along Mountain Highway 99 — leads to a sound environment that can be far more disruptive than any single noise source. By failing to assess the cumulative noise impacts of the project in conjunction with other regional noise sources, SCE underestimates the real-world effect on residents, recreators, and wildlife.

Noise from the KR3 powerhouse, moreover, directly affects the visitor experience for those recreating in and around the North Fork Kern River. Many visitors come to this area to enjoy a natural, tranquil environment — a central aspect of the recreation experience in this Wild and Scenic river corridor. Instead of peaceful immersion in nature, river users near the powerhouse are subjected to industrial noise. This disrupts the sense of solitude and can diminish the quality of the experience for anglers, paddlers, hikers, and campers alike. The potential for enjoyment of the river's outstanding scenic and recreational values is negatively impacted by the steady noise from KR3, especially given the significance of the soundscape in the visitor's overall experience.

SCE also fails to adequately address the noise impacts on wildlife, particularly species that depend on quiet environments for key behaviors such as communication, mating, and foraging. Wildlife species sensitive to noise pollution may be displaced or have their natural behaviors disrupted by constant operational noise. This is especially true for species like birds and amphibians that rely on vocal communication. The loss of quiet habitats can lead to reduced reproductive success or cause species to abandon important areas of their habitat. In an ecosystem already stressed by hydrological alterations, the added pressure of noise could exacerbate negative impacts on wildlife. By not fully addressing these aspects, SCE is understating its noise-related impacts, especially in a region valued for its natural soundscape and wilderness experience.

7.13 Environmental Justice

SCE: *[I]mplementation of proposed Measures WR-5 and RR-1 would have no effect on, and in some instances benefit, socioeconomic resources. The proposed Project* ***would not result in unavoidable adverse effects on socioeconomic resources****.* (DLA Vol.2, P1 at 7-405.)

KRB: SCE's analysis does not consider the broader economic impacts of the project, such as its influence on sectors like fishing, wildlife tourism, and environmental conservation. The local economy might rely on not just whitewater rafting or camping, but also fishing-based tourism and wildlife viewing, both of which are negatively impacted by low water levels and degraded ecological conditions caused by the project's operations, conditions that will be exacerbated by proposals such as WR-1, WR-4 & WR-5. The CEFF baseflow recommendations demonstrate (along with the 1991 IFIM, the 2016 fish monitoring study, and the CDFW IFP presumptive standard metric) that SCE's minimum instream flows (MIF) proposal is insufficient to maintain adequate fish populations or healthy ecological function. Diminished fish populations will continue to lead to a decrease in angling tourism. This loss could be particularly significant during low water years when flows are already minimal and aquatic habitats are stressed. SCE's proposed whitewater boating flows are a step backwards: extremely limited and concentrated to a 10-day period of time that fails to mitigate project effects on boating opportunities and optimal boating flows over much longer periods of time. SCE does not consider how the strictly limited nature of its proposal and the multi-seasonality of project effects affects the long-term economic sustainability of recreation-dependent businesses in this whitewater valley. Not does SCE address how climate change and increasing frequency and severity of drought, shown above, will impact the riverine environment and local economy over the long term without concomitant changes in project operations.

SCE: *The proposed Project is not expected to result in material change for minority and low-income communities within areas that are potentially affected by the Project and that could potentially be subject to disproportionately high adverse human health or environmental effects on minority and low-income populations because SCE does not propose new construction or Project changes in the area of the Project, with the exception of minor adjustments to the FERC Project Boundary (refer to Section 7.8, Land Use and Management, for additional information). While not proposing any specific measures related to EJ communities, SCE does propose to implement environmental measures that would address potential Project effects and, in many cases, provide an enhancement to biological, cultural, and social resources. Therefore, the proposed Project* ***would not result in adverse effects on EJ communities****. . . . The proposed Project would not result in unavoidable adverse effects related to EJ.* (DLA Vol.2, P1 at 7-422.)

KRB: SCE's assertion that the proposed project would not result in adverse effects on Environmental Justice (EJ) communities is not only misguided but also dismissive of the real-world impacts that ongoing water diversions from the Kern River at Fairview Dam have on disadvantaged communities. By narrowly framing its argument around the absence of new construction or operational changes, SCE ignores the cumulative harm that the project has been imposing for decades on low-income communities who heavily depend on the Kern River for free or low-cost recreation and emotional well-being. Low-income communities rely on natural resources like the Kern River for accessible recreation and a connection to nature, both of which are significantly degraded by the current project operations. These populations are often underserved by public recreational infrastructure, and access to free or low-cost outdoor spaces is critical for their quality of life. Unlike wealthier populations, low-income and minority communities cannot simply move to another pristine river system; they are far more reliant on the NFKR. The ongoing degradation of this resource represents a direct and significant loss for these populations, a loss that SCE has failed to acknowledge. KR3 reduces the quality and availability of the recreational opportunities the NFKR has to offer, thus disproportionately affecting these communities, who have fewer alternatives. None of SCE's proposals will help EJ communities; they conspire to further degrade conditions below the dam, as we have discussed above.

SCE's admission that it is not proposing any specific measures related to EJ communities reflects a lack of genuine commitment to addressing these disproportionate impacts. Despite numerous advocates raising concerns about the adverse effects of the project on disadvantaged populations, SCE has ignored the need for meaningful reforms that could enhance recreational access and improve the river's ecological health. This omission is troubling, especially when there are well-documented solutions available, such as: (1) A recreational release schedule aligned with the "belly of the duck curve" to provide more opportunities for recreational activities during times when they are most needed and beneficial to local communities; and (2) Implementing Minimum Instream Flow levels that satisfy CEFF baseflow recommendations, which would help restore and sustain the river's health, thereby improving its recreational and ecological value for everyone, including low-income populations. The fact that SCE has not proposed measures close to these further underscores its disregard for the disproportionate burden that low-income communities bear as a result of the project. The need for these reforms is particularly acute given the potential impacts of climate change, which will further strain water resources and disproportionately affect low-income communities. As water becomes scarcer and ecosystems become more fragile, it is imperative that SCE adopt measures like we have proposed to mitigate these long-term effects and safeguard the river for future generations, especially for those with the fewest alternatives. The NF Kern is a shared public resource,

and the ongoing degradation due to the KR3 project is a disservice to the communities that rely on it most.

8.0 Cumulative Effects

SCE: *According to the Council on Environmental Quality's regulations for implementing NEPA (40 CFR § 1508.7), an action may cause a cumulative effect if its effects overlap in space and/or time with effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time, including hydropower development. FERC did not note any specific resources in its SD2 (FERC, 2022) that have the potential to be cumulatively affected by the proposed Project's continued O&M in combination with other activities within the Kern River Basin.* ***Any potential reasonably foreseeable impacts are discussed in individual resource sections.*** (DLA Vol.2, P1 at 8-1.)

KRB: SCE's assertion that the continued operation of KR3 does not result in cumulative effects is a head-in-the-sand response to significant, well-documented impacts on the environment, recreation, and the local ecosystem. FERC's Scoping Document 2 (SD2) was not a finding that cumulative impacts do not exist, but rather a request for SCE to self-identify these effects. By relying on SD2 as a justification to avoid evaluating cumulative effects, SCE avoids recognizing the multi-layered environmental consequences that have developed over time through the project's long-term water diversions.

Hydropower projects like KR3 contribute to incremental yet compounding environmental changes, especially regarding water temperature and dissolved oxygen (DO) levels in the 16-mile dewatered stretch below Fairview Dam. The steady diversion of water — particularly in summer, when inflows are low and ambient temperatures high — causes water temperatures to spike beyond tolerable levels for cold-water species like rainbow trout. The reduced water volume can absorb less heat, pushing temperatures above 24°C, a threshold that becomes lethal for rainbow trout and other aquatic species dependent on cooler waters. *Over time*, these temperature increases lead to cumulative thermal stress and long-term population declines, as predicted by the CDFW Instream Flow Program, the CEFF baseflows, the 1991 IFIM model — and as we have seen in the recent fish monitoring studies. (DLA Vol.2, P1 at 7-130.) The steady reduction in flow also depletes DO levels, further compounding the impact on the aquatic ecosystem. Lower DO results in less suitable habitat for aquatic life, which, combined with increased temperatures, erodes the health of the river's ecosystem year after year. This steady, incremental degradation is well documented by the 1996 environmental analysis and subsequent monitoring, showing repeated temperature exceedances in critical months. These compounded factors create long-term negative impacts that accumulate over time, causing further fish population

declines as we have seen. KR3 also steadily degrades aquatic habitat below Fairview Dam. Reduced flows eliminate critical features like riffles and pools that fish rely on for shelter, feeding, and spawning. The loss of habitat is exacerbated by sediment accumulation, which is no longer naturally flushed downstream because of flow disruptions. This, too, is a cumulative problem, leading to a long-term decline in habitat quality, further exacerbating the already stressed fish populations, particularly rainbow trout, as we have seen.

SCE's proposal to shift minimum instream flows from summer to spring (WR-1) will only amplify these cumulative effects. Lower flows during the hottest months when water temperatures and oxygen depletion are most critical would further stress aquatic life and eliminate cold-water refuge during peak summer temperatures. This would accelerate the population decline that has already been documented. Reducing summer flows when every scientific metric tells us minimum flows are far-too-low across the board is an unserious environmental response.

KR3's operations also create cumulative impacts on recreational opportunities, particularly whitewater boating and angling, both of which are economically and culturally important to the Kern River Valley. SCE downplays the long-term impacts of diminished water flows on these recreational activities, but the cumulative reduction in flows caused by KR3 operations has steadily decreased the number of days suitable for boating, especially given droughts of increasing frequency and intensity. Furthermore, the quality of these boating opportunities has degraded as flows are frequently far below optimal levels. This reduced recreational quality translates into fewer visitors and declining tourism, which affects the local economy. The cumulative impacts on angling are similarly damaging, with increased water temperatures, lower DO levels, and degraded fish habitats leading to a severe decline in fish populations, as shown in multiple studies, including the 2016 fish monitoring report. The long-term decline in fish populations reduces angling success rates, deterring tourists and diminishing local economic opportunities that depend on a healthy river ecosystem. Moreover, KR3's ongoing water diversions alter the scenic integrity of the river, with diminished flows exposing riverbanks, reducing pool depths, and increasing the prevalence of algae and siltation, all of which degrade the visual appeal of a river system that once supported vibrant recreation.

KR3's operations also contribute to long-term, cumulative erosion and sedimentation issues that have reshaped the physical environment of the river and its surrounding landscapes. Spillway releases and flow diversions have caused significant erosion of riverbanks and destabilization of adjacent hillsides. This cumulative erosion has visibly altered the river's geomorphology and degraded surrounding habitats. Additionally, the reduction of natural sediment transport processes caused by flow disruptions leads to sediment buildup in the riverbed, which smothers spawning grounds and degrades habitat for macroinvertebrates—an essential food source for fish species. Over time, this cumulative erosion and sedimentation create a lasting alteration of the landscape, making it harder for

the ecosystem to recover, even during higher flow periods. This process is compounded by KR3's ongoing operations and steady diversion of water, which continually prevents the river from restoring itself through natural sediment transport.

The continued operation of KR3 unquestionably contributes to significant cumulative impacts on the environment, recreation, and local ecosystems. SCE refusal to meaningfully engage with these cumulative effects reflects an inadequate understanding of the project's long-term impacts on the North Fork Kern River. The operation of KR3 must be evaluated through a comprehensive lens that accounts for these cumulative impacts over time, not just the immediate effects of current or proposed operations. This evaluation should include consideration of alternative flow regimes that better reflect CEFF recommendations and other scientific frameworks that aim to preserve the ecological integrity of the river and its surrounding environment for future generations. It should also include consideration of recreational flows that unlock the potential of the river at times when society is least (if at all) needful of the small amount of energy KR3 generates, as we have proposed.

9.0 Developmental Analysis

SCE: *As specified in the FERC's content requirements at 18 CFR § 5.18(b)(5)(ii)(E), this section compares costs associated with the No-Action Alternative (existing condition) with costs associated with the Proposed Action for the Project. This analysis includes a comparison of economic benefits; costs of new environmental measures, management and monitoring plans, and programs; and power generation between the alternatives. The power and economic benefits of the Project will be refined as part of the FLA. In addition, the analysis in the FLA will include an estimate of the costs of environmental measures and a comparison of costs under SCE's Proposed Action with those associated with the No-Action Alternative. In keeping with FERC policy as described in 72 FERC ¶ 61,027 (July 13, 1995), this economic analysis is based on current electric power cost conditions and does not consider future escalation of fuel prices in valuing the Project's power benefits. In most cases,* ***electricity from hydropower would displace some form of fossil-fuels, solar, or wind generation, in which fuel cost is the largest component of the cost of electricity production.*** (DLA Vol.2, P1 at 9-1.)

KRB: SCE's economic analysis understates the benefits of solar and wind energy by incorrectly framing fuel costs as the largest component of their electricity production costs. This is simply not the case. The dominant costs of solar and wind energy come from capital expenditure (CAPEX), which is the upfront investment required to build infrastructure. Once these renewable energy systems are installed, operating costs (OPEX) are extremely low because sunlight and wind are free. The levelized cost of energy (LCOE) for wind and solar, which measures the average total cost to build and operate a power plant per unit of electricity over its lifetime, is primarily driven by the initial capital investment and not by ongoing fuel costs.

Hydropower, on the other hand, uses water diverted from rivers — a critical natural resource — as its fuel. While water itself is technically free, the environmental and social costs associated with diverting that water are not. These externalities — environmental, recreational, and social costs — are significant, yet they are ignored in SCE's economic assessment. The environmental impacts of KR3's water diversion from the North Fork Kern River are well-documented and include significant degradation of aquatic ecosystems, harm to cold-water fish species like rainbow trout, and loss of recreational opportunities such as whitewater boating and angling. The ongoing environmental costs of operating KR3 are significant, and it is time for these externalities to be internalized, as Commissioner Glick emphasized: "governmental policies that internalize the externalities associated with electricity generation are essential to reaching an efficient market outcome."[188] SCE has not attempted to do so here.

SCE's suggestion that hydropower would displace other forms of generation, such as solar and wind, due to fuel costs is also misleading. SCE ignores the reality of renewable energy curtailment in California. During periods of high renewable generation, such as midday when solar power is abundant, the state grid often curtails (shuts down) excess solar and wind generation to avoid overloading the system. By continuing to divert water for hydropower during these periods, KR3 displaces renewable energy rather than fossil fuels, contradicting SCE's claim that the project supports clean energy goals. Instead of adding value to California's energy mix, KR3 contributes to renewable energy curtailment, ultimately diminishing the impact of other renewable energy sources.

The energy market has undergone profound transformations since 1995, particularly with the rise of solar, wind, and energy storage technologies and the intelligent implementation of energy markets that can pinpoint the social value of generation with far greater granularity and accuracy than in the past. Ignoring the continuing downward trajectory of renewable energy costs and the softening of wholesale energy market pricing leads to a skewed comparison that artificially inflates the benefits of hydropower. SCE fails to capture the true long-term economic context of this very small project, especially considering California's aggressive renewable energy goals (*e.g.*, SB 100, which mandates 100% carbon-free electricity by 2045) that will require the addition of new, rational generators that dwarf KR3's capacity thousands of times over. In a context where it matters not whether KR3 continues to exist (save for SCE's fear of decommissioning costs), the vanishingly small contribution of KR3 to the grid raises questions about whether the ongoing environmental degradation it causes is still justified. This is supposed to be a question squarely and fairly answered by the Commission in the context of the contemporary energy environment — not one hand-waved aside with an outdated boilerplate reference to fossil fuels, as SCE suggests.

[188] 163 FERC ¶ 61,236 (dis. op. Glick, Com.) at 6

SCE: *Total expenses:* ***$5,707,832***. (DLA Vol.2, P1 at 9-1.)
KRB: Without additional information, it appears SCE may be intentionally understating the internal costs of operating the KR3 project, particularly when considering long-term operational risks and the future maintenance burdens associated with an aging infrastructure:

1. O&M Costs: SCE lists an average annual O&M cost of $3,757,052 for the last five years, which may not fully capture future operational challenges. Hydropower facilities, especially older ones like KR3, often require significant and unforeseen repairs and upgrades as they age. These long-term maintenance costs can increase over time, particularly when mechanical and structural components begin to fail. Given the age of the KR3 facility and the increasing wear on infrastructure, future O&M costs could be significantly higher than this five-year average. Aging turbines, spillways, and transmission equipment require ongoing and expensive upgrades to maintain efficiency and reliability. SCE may not have sufficiently accounted for potential increases in O&M due to aging equipment.
2. Depreciation: The depreciation cost listed at $1,444,239 represents actual depreciation for 2023. Depreciation is often used to account for the gradual wear and tear of fixed assets over time. However, if the infrastructure at KR3 is nearing the end of its useful life, the actual depreciation cost could rise. Major capital investments may be necessary in the future to replace or significantly overhaul aging components. SCE might be underestimating future depreciation costs because they may need to factor in potential upgrades or replacements that will become necessary over the new licensing period.
3. Property Taxes and Administrative Costs: Property tax costs at $217,455 seem low for a project that spans a large area, including land and facilities like dams, turbines, and other infrastructure. It's worth examining whether this number reflects all tax obligations or if there are favorable arrangements that could change in the future, increasing the cost. Administrative and general costs ($289,086) also seem conservative for a project of this scale, especially considering compliance with complex environmental regulations, ongoing FERC oversight, and other legal and bureaucratic needs. Indeed, SCE has budgeted $6.1M for the relicensing of KR3, a figure that does not appear to be reflected.[189]
4. Long-Term Viability: There is also the question of whether the project remains financially viable given the broader energy market. With increasing competition from cheaper renewables (solar, wind) that have, in SCE's words, softened the wholesale energy

[189] (Sources: CPUC 2025 Rate Case (May 12, 2023), SCE05V01 at 81, 92 [01FEB24 accessed version archived here]; CPUC 2021 Rate Case (August 30, 2019), SCE05V01 at 50, 65 [01FEB24 accessed version archived here].)

market, and the ongoing decline in hydropower's relative contribution to the grid, KR3's marginal energy generation could face diminishing returns, further complicating the economic justification for the project. Any internal costs not presently reflected (*e.g.*, necessary upgrades, increasing operational risks, etc.) would further diminish the project's value.

We need more evidence-based and transparent numbers to fully understand the operational costs associated with KR3.

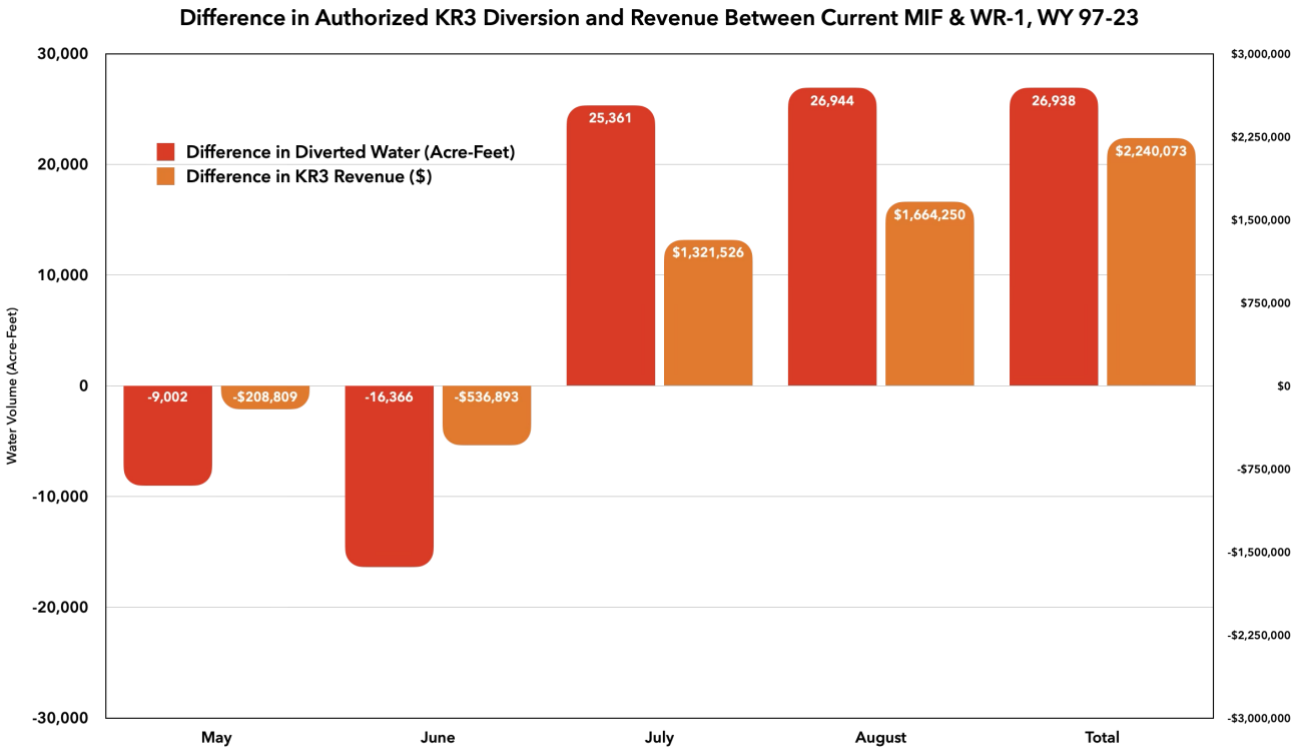
10.0 Conclusions and Recommendations

SCE: *Under the Proposed Action, SCE would implement new environmental measures, management plans, and programs that are designed to protect or enhance environmental and cultural resources over the term of the new license. The annualized costs associated with implementation of the new environmental measures, plans, and programs* ***will be provided as part of the FLA.*** (DLA Vol.2, P1 at 10-2.)

KRB: SCE's decision to delay the full disclosure of annualized costs and economic benefits of its proposals until the Final License Application (FLA) is deeply problematic. This omission not only compromises the integrity of the FERC relicensing process but also misleads the public and stakeholders by hiding the financial windfall SCE stands to gain under the WR-1 proposal.

SCE claims that it will present a more detailed analysis of the costs associated with environmental measures and the comparison between the Proposed Action and No-Action Alternative in the FLA. However, the evidence makes clear that SCE will realize a substantial net increase in water diversion under that proposal, and an enhanced revenue increase from those diversions in that they occur when wholesale market prices are higher. This additional 26,000 acre-feet of water SCE would divert will translate into a potential net revenue increase of $2.24 million over the amount SCE is presently authorized to divert[190]:

[190] KRB-DLA-MIF, Sheet 10.



By withholding these details, SCE prevents FERC and the public from fully evaluating the motives and merits of its proposal during the critical stages of the relicensing process. SCE's failure to disclose the significant financial gains it will achieve through increased water diversion obscures the true nature of WR-1. This lack of transparency: distorts FERC's ability to assess whether the proposal serves the public interest and conceals the fact that "environmental" measures like WR-1 are financially beneficial to SCE, while the costs of environmental degradation will be borne by the river ecosystem, recreation, and local communities. The public has a right to know how much SCE stands to gain from these changes, especially since the environmental and recreational costs will be borne by public resources — namely the North Fork Kern River. The public interest requires full transparency, and SCE's decision to withhold critical financial information until the FLA deprives stakeholders of the ability to engage meaningfully with the proposal. SCE's withholding of the projected financial benefits from WR-1 until the FLA is not a minor procedural detail. It represents a significant breach of transparency that affects FERC's ability to make an informed, balanced decision on the relicensing of KR3. The public and FERC need to know now — not later — how much SCE stands to gain from increased water diversion. We have shown just how much it is authorized to gain under current market conditions — note, that SCE is poised to gain *even more to gain financially from its proposal than we have modeled* if it brings outages down from a 25% rate to a more likely 10%. Hiding this windfall until the final stages of the process — and pretending they don't know

even as a generality — does not serve the public interest, undermines confidence in the fairness of this relicensing proceeding, and undermines confidence in anything SCE has to say, frankly.

SCE: *Section 10(a)(2)(A) of the FPA, 16 USC Section 803 (a)(2)(A), requires FERC to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. In addition, 18 CFR § 5.6(b)(2) requires that a potential applicant exercise due diligence in determining what information exists that is relevant to describing a project's existing environment, including a review of federal and state comprehensive plans filed with FERC and listed on FERC's website. . . . The relevant plan goals and objectives, applicability to the Project, and Project compatibility are summarized in Table 10.5-1.* ***No inconsistencies between these plans and the proposed Project O&M were found.*** (DLA Vol.2, P1 at 10-2.)
KRB: Contrary to SCE's assertion, the proposed project is flatly inconsistent with the following plans:

1. Bureau of Land Management. 2014. Bakersfield Field Office Resource Management Plan: The project's significant water diversion negatively impacts biological resources, particularly fish populations and aquatic habitats, which contradicts the plan's focus on managing a full spectrum of natural resources. KRB's MIF proposal would ensure sufficient flow in the river to sustain aquatic habitats and protect biological resources, in line with BLM's objectives of resource management.

2. California Department of Fish and Game. 2003. Strategic Plan for Trout Management. Reduced MIF under the WR-1 proposal would exacerbate the degradation under current MIF levels, degrading trout populations and negatively impacting recreational fishing opportunities. KRB's MIF proposal aligns with the goal of maintaining sustainable fish populations and providing quality angling opportunities by ensuring flows are adequate to support healthy trout populations.

3. California Department of Fish and Wildlife. 2015. California Wildlife Action Plan: The proposed project exacerbates warming water temperatures and reduced dissolved oxygen, stressing cold-water species like rainbow trout, and thus undermining the plan's goals of maintaining native species distributions and ecosystem integrity. By advocating for a higher MIF and improved flow regimes, KRB's proposals would help maintain suitable habitat for native species, consistent with the wildlife protection goals of the plan and CDFW's own instream metrics.

4. California Department of Fish and Wildlife. 2008. California Aquatic Invasive Species Management Plan: Low-flow stagnant areas created by the project foster environments conducive to invasive species, counter to the goal of minimizing the spread of aquatic invasives. KRB's higher MIF proposal would maintain stronger flows, reducing the risk of stagnation and preventing environments that allow invasive species to thrive, in line with the plan's goals.

5. California Department of Parks and Recreation. 2012. Public Opinions and Attitudes on Outdoor Recreation in California: The project reduces recreational opportunities by limiting flows necessary for whitewater boating and degrading fishing conditions, which conflicts with the public's demand for enhanced outdoor recreation. KRB's recreation and MIF proposals would enhance flows for whitewater boating and improve fishing conditions, thus aligning with the plan's objective of increasing access to high-quality outdoor recreation.

6. California State Water Resources Control Board. 2018. Water Quality Control Plan for the Tulare Lake Basin: The project's water diversions degrade water quality downstream by raising water temperatures and lowering dissolved oxygen levels, violating the plan's objectives of protecting water quality for beneficial uses. KRB's MIF proposal would maintain flows that support cooler water temperatures and higher dissolved oxygen levels, preserving water quality for both ecological health and recreation, consistent with the plan.

7. California State Water Resources Control Board. 2015. ISWEBE Plan (Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California): SCE's proposal reduces flows in the river, leading to warmer water and low dissolved oxygen, which harms aquatic life and diminishes recreational uses, conflicting with the plan's goals of maintaining water quality. KRB's MIF proposal would ensure sufficient flow to maintain cool water temperatures and protect dissolved oxygen levels, thus supporting the plan's goals of maintaining water quality for aquatic life and recreation.

8. Forest Service. 2023. Land Management Plan for the Sequoia National Forest: The project's water diversions degrade aquatic habitats and diminish recreational opportunities, conflicting with the Sequoia National Forest's goal of sustainable resource management. KRB's proposals would improve flows that protect aquatic habitats and enhance recreational activities, aligning with the forest's objective of sustainable land and water use management.

9. Forest Service. No Date. Sequoia and Inyo National Forests Comprehensive Management Plan for the North and South Forks of the Kern River Wild and Scenic River: The project reduces flows and degrades the natural scenic integrity of the river, contrary to the river's Outstanding Remarkable Values under the Wild and Scenic Rivers designation. KRB's MIF proposal would preserve the scenic and recreational values of the Wild and Scenic River, supporting its free-flowing character and protecting it from the adverse effects of excessive water diversion.

10. National Park Service. 1993. Nationwide Rivers Inventory: Though the river isn't directly listed, the project's degradation of water quality, recreation, and habitat is contrary to the values of free-flowing rivers that the NRI seeks to protect. KRB's MIF proposal would support the values championed by the NRI, such as maintaining free-flowing rivers that provide high-quality habitat and recreational opportunities.

11. U.S. Fish and Wildlife Service. No Date. Fisheries USA: The Recreational Fisheries Policy of the U.S. Fish and Wildlife Service: The project's reduction of flows and corresponding impact on cold-water fisheries undermines the USFWS's goal of sustaining and enhancing fisheries for recreational use. KRB's MIF proposal would enhance the health of fish species, supporting a robust recreational fishery, fully consistent with the Fisheries USA policy.

We also note that SCE fails to include the Upper Kern Basin Fishery Management Plan (USFS, CDFW & USFWS, 1995) and the updated Strategic Plan for Trout Management (CDFW, 2022). The Basin Plan states that the reach below Fairview Dam "is capable of producing a self-sustaining wild trout fishery" *but for the low flows and high temperatures caused by the KR3 diversion*.[191] It also states that "At certain times of the year when the flow in the river are low, there appears to be a health concern due to high levels of coliform bacteria."[192] The proposed project's MIF is at odds with these concerns as it fails to improve flow conditions to promote trout habitat and bacterial dilution. CDFW modified its management goals to include "improving wild trout populations" by — specifically — "identifying trout fisheries impaired by dams that could benefit from revised flow regimes [and] more natural flow regimes."[193] The proposed project's MIF is at odds with this goal as it, too, fails to improve flow conditions to promote trout habitat. Implementation of KRB's CEFF-based MIF proposal would help obtain the goals identified in these plans.

[191] Basin Plan at IV-4.
[192] *Id.*, at p. V-3.
[193] Strategic Plan at 29.

OPS-1

SCE: *The tunnel lining, specifically the tunnel invert is potentially the most susceptible for cracking and uplift of concrete fragments during tunnel dewatering and subsequent mobilization further down the tunnel. • While current operational practices have not observed uplift of tunnel invert sections, rapid changes in depth of flow, specifically reducing flow in the conveyance, could have an unfavorable effect on the long-term integrity of section of the tunnel invert. • The KR3 water conveyance should be operated at near-constant flows. If flow reduction is necessary, a ramping rate of 50 cfs per hour or less is recommended when operationally feasible to mitigate long-term potential impacts on the lining invert. • No constraints on ramping rates to increase the flow in the water conveyance were found necessary for tunnel floor integrity.* (DLA Vol.2 P2 at OPS-1 Addendum p. 4.)

KRB: The current rec flow schedule limits the benefits of hydrological mitigation for recreation to a maximum of 300 (less if the tunnel is not full) of the 600 cfs SCE can divert at Fairview Dam. The rationale for this limitation was founded upon a purported "SCE study" that showed "the removal of water from the [KR3 diversion's conveyance] tunnel for whitewater boating on a regular basis will create greater and more frequent damage to the tunnel liner."[194]

From the earliest stages in this proceeding, stakeholders asked to see this mysterious study. John Gangemi, who was American Whitewater's signatory to the 2002 recreation settlement and who has subsequently switched sides to serve as SCE's recreation consultant in the present proceeding, could not recall ever seeing this study.[195] Current AW lead Theresa Simsiman looked for the study in AW's records and could not find it and has never seen it.[196] At the December 09, 2020 TWG meeting, David Moore said SCE would look for the study. At the April 29, 2021 TWG meeting, Moore said SCE could not find and did not have this study. So, no person outside of SCE has ever seen this mysterious study. And no current SCE employee has ever seen it, if it ever existed in the first place.

Why suspect the prior condition was based on a non-existing study? Because now we learn there is no scientific basis for that condition — *i.e.*, there is no reason the tunnels require a "maintenance flow" of 300 cfs, contrary to what we were told the last 20 years. The results of OPS-1 instead tell us that the tunnel cannot be dewatered at a rate greater than 50 cfs per hour. There is strong reason to doubt the validity of this conclusion, as there now is the last.

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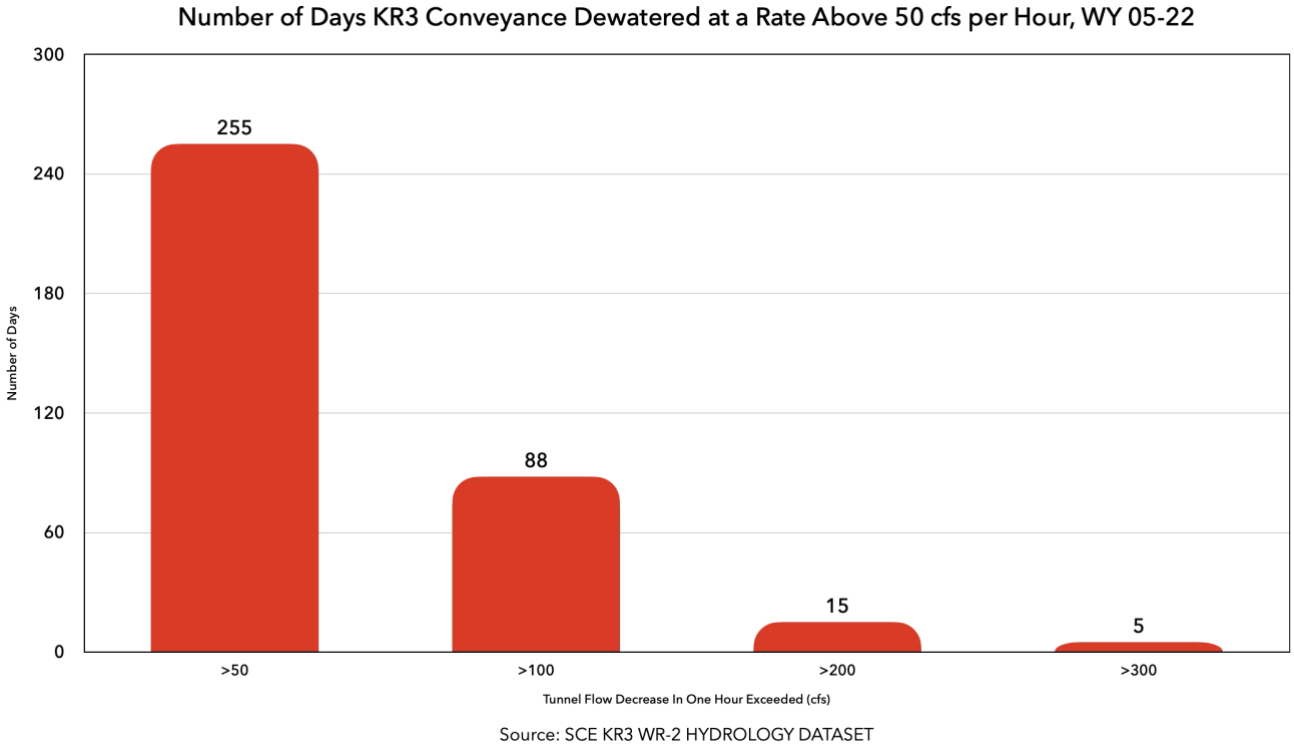
[194] 2002 Whitewater Settlement, Rationale at 2 [FERC Accession No. 20030106-0377].
[195] 09DEC2020 TWG meeting. SCE's David Moore has since switched realms — sliding seamlessly from leading SCE's KR3 effort to an OEP position at FERC. We are confident Mr. Moore and his fellow governing agents at the Commission will adhere to the commonsense ethical norms involving conflicts.
[196] 01DEC2021 American Whitewater meeting.

SCE concedes the 50 cfs dewatering limitation has been exceeded numerous times in the past and has found no adverse effects on the tunnel lining. Indeed, between 2005-2022, SCE dewatered its conveyance at a rate above 50 cfs per hour 255 times, at a rate above 100 cfs per hour 88 times, and at a rate above 200 cfs per hour 15 times[197]:



Source: SCE KR3 WR-2 HYDROLOGY DATASET

The conclusion that exceeding the rate of 50 cfs per hour "could have an unfavorable effect" on the tunnel invert (floor) is entirely speculative. The research cited involves unfavorable conditions on load changes in hydropower plants resulting in significant pressure transients and unsteady flow in the waterway. The main issues were with the water hammer and mass oscillations (e.g., varying flow states). SCE does not identify where and when KR3 has unsteady flow conditions resulting in surge pressures or mass oscillations in the conveyance. Those should be supported by a modeled hydraulic surge analysis that constitutes "sufficient information to ascertain that variations in water level in the power conveyance could lead to unfavorable conditions over the long term." They are not so supported in the public documents. The research cited are also performed on unlined rock formations in a pressurized tunnel system. SCE applies the study conclusions to its lined and unpressurized conveyance. That is illogical and unwarranted. The research simply does not apply to its conveyance. Concrete in granite is typically very stable, even where there is "muck." The assertion that the tunnel invert might crack under varying pore

[197] KRB-DLA-TUN, Sheet 1.

pressure is pure speculation. Flow rates do not change head pressure enough to affect concrete. And except for the siphon and the upper tunnel at flows of 600 cfs, the conveyance operates as an open channel, meaning there would be no significant pressure difference under different flow conditions. SCE appears to be pulling the 50 cfs value out of thin air: why not 35 cfs per hour, or 100 cfs? No answer is provided or referred to in the public documents. An independent engineering analysis by EDM Services, Inc., submitted today, concludes that the calculations presented in OPS-1 are incomplete and inconsistent with industry standards and do not rationally support the conclusions of SCE's consultant. SCE is plainly motivated to make emptying the tunnels a slow and laborious process so that flows cannot easily transition into the river for recreation at times of low market prices and renewable curtailment, as we have suggested in KRB-LC04-REC. The result it obtained does not withstand elementary scrutiny and should not stand in the way of the implementation of our proposal, which models the dewatering of the tunnels at 50 cfs per *half*-hour, as was the original limit in the 1996 license, and dewatering the river at a rate of 30% per half-hour, the current standard and the standard proposed in WR-2.

Respectfully submitted from Kern River Boaters, Kern River Fly Fishers' Council, and Trout Unlimited,

//s// ED
Elizabeth Duxbury, KRB President

//s// JLP
José Luis Pino, KRB Vice President

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Brett Duxbury, KRB Secretary-Treasurer

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DATED: October 01, 2024