KRB STUDY REQUEST 3: *Enjoyable Angling Flows*

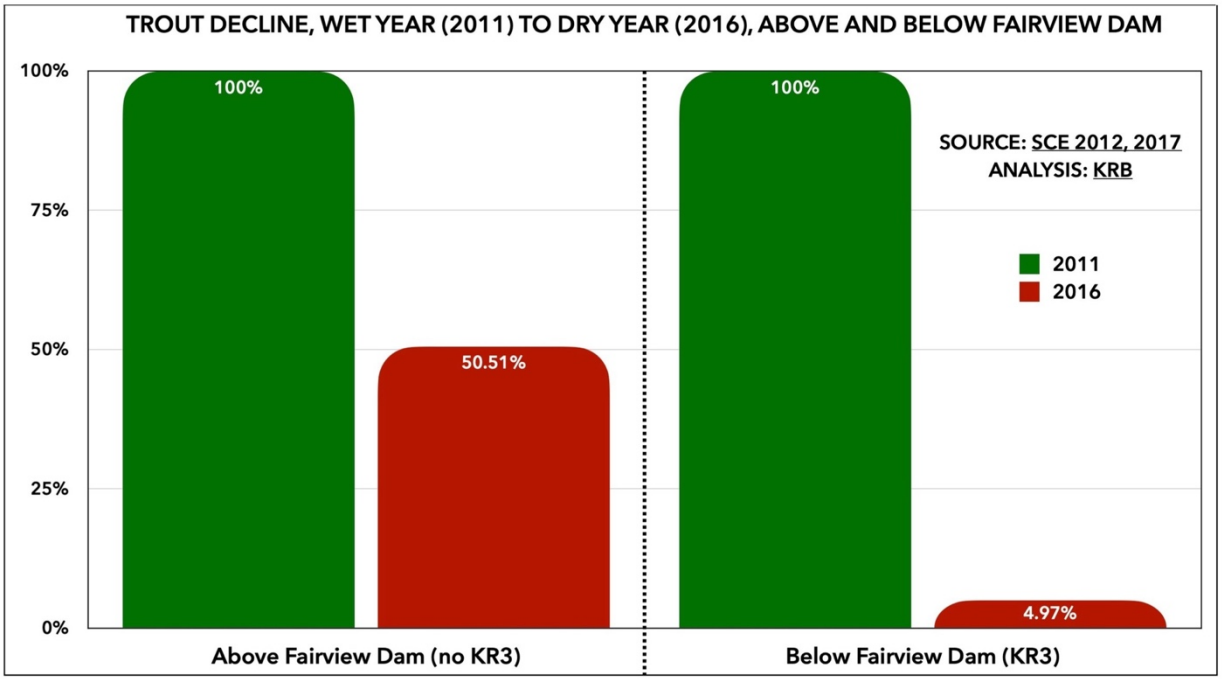
RESPONSE TO COMMENTS

EDISON: *Angling flows have not been raised as an issue, and KR3 is a run-of-river Project that has a variable flow regime.* (PSP at 30.)

KRB: Edison is not fairly characterizing the record:

(1) FERC has been in receipt of many formal comments indicating that fishing is unenjoyable in the dewatered reach for months.[178]

(2) Edison's 2016 fish monitoring study showed an incredible difference between the effect of the drought on trout above and below Fairview Dam: trout above the dam suffered a 50% reduction, while below suffered a 95% reduction. The inference is undeniable: project operations killed (almost) all the trout:



The Drought Killed about Half the Fish; Fairview Dam and KR3 Killed (Almost) All the Rest

It should be no surprise that anglers find this fishery unenjoyable.

(3) The most analytical member of the oldest fly-fishing club on the Kern — Mr. Rich Arner — has repeatedly opined *outside of this relicensing proceeding* that flows below 100 cfs are simply inadequate for enjoyable fishing, as flows that low lower pool depths, decrease water speeds, and increase predation:

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Flows (50 cfs) are very low on section 5 below Fairview and there is lots of wadable water there, however, the extremely low flows have given natural predators a distinct advantage over unwary rainbows. (11/20/19.)

Also the low flow section has been dropped to just 45 cfs. That's nearly a trickle and natural predators are having easy pickings on trout that surface often and do not find good lies in deeper pools with cover. (11/07/19.)

Section 5 is flowing very low (just 85 cfs) and deeper hiding water is becoming less abundant. Dries not getting as many grabs. Shallower water is giving herons a distinct advantage in spotting unwary planters.
(10/22/19.)

We love section 5 to wade but flows have dropped down to just 86 cfs, above Fairview on section 6 flows are holding steady at 350 cfs. . . . There is a lot more moss in the river, especially on section 5 where water temps exceeded 70 degrees the last month of summer. This moss had larvae strewn in it. Did this lunker consume the moss to get at the aquatics insects or just dive into the moss containing larvae trying to evade landing? Who knows? (10/03/19.)

We hit a favorite spot on section 5 that should have been stocked last week. Water was very low and 50 degrees. We hit every spot that has held trout in the past with nary a tug nor rise. There was quite a bit of moss covering the river rocks (1/4 – 1/2" thick) that I can't say I've ever seen before. Made traction better but did not seem to provide more aquatic insect activity? Not sure what biologically is going on. It was pretty obvious to us that the water on section 5 is too low to sustain trout for long. If trout planted on much of this section weren't harvested by fishers it sure would be easy pickings for herons and hawks. There is very little holding water more than 3' deep with these very low flows around 50 cfs. We tried another social media posted spot further up river on section 5 to see if there were any trout left there but no trout tugs were procured. So up to section 6 where there has been some catching reported the last month. . . . We tried another often stocked area low on section 5 on the way home and covered a good 1/2 mile stretch with no grabs nor trout seen scooting. The water is just too low to hold trout for long. (11/8/18.)

> [F]lows between Fairview Dam and KR3 power generation station are just 50 cfs today. That's as low as we can remember. Any trout left (very few survived 80 degrees temps last summer) on that stretch are going to find it hard to avoid being taken by natural predation and other harvesters. (03/06/16.)[179]

(4) The agencies are now in possession of additional opinions from the Kern River Fly Fishing Club that flows on the NFKR are inadequate for angling, including a catch rate of 10% of what it used to be, a lack of desire to spend time and fish there due to inadequate flows, the flows making the river a shadow of what it once was, a steady decrease in fish population over the years, never fishing below the dam because there is not enough water, not fishing there anymore because of high water temperatures and the diversion of water to a hatchery that is closed, rarely fishing there because of inconsistent fish and flows, degraded conditions because of flows inadequate to sustain a trout fishery, fishing not being as good there in recent years due to excess algae and low flows, not fishing there because of no fish and low flows, recent degradation of conditions from murky warm water and algae, the recent depletion of trout to catch in the river, the river being unproductive due to slow pools and no fish, the degradation of the river over time from a Class A stream to a small stream due to the diversion, and increasingly poor fishing due to low water, temperature, and lack of fish.[180]

(5) Project operations radically decrease flows in the dewatered reach: natural flows at Fairview Dam fall below 125 cfs just 5% of the time, but project operations plunge flows under 125 cfs a whopping 44% of the time — a figure that would have been even larger had the project not been offline so much in the current term. Such substantial dewatering inarguably increases temperatures, lowers pool depths, constrains or eliminates riffles, and causes other phenomenon likely to decrease angler enjoyment.[181]

Edison also posits that the dewatered reach "has a variable flow regime." This "variable" regime only varies on six occasions during the course of each year. That does not mimic a natural hydrograph, does not provide adequate flows for fish survival, and has resulted in an unenjoyable fishery, as evinced above. Further, the minimum level of flow for enjoyable fishing has never been studied in the history of this project. Current Edison consultant John Gangemi is a listed author on the guide for conducting such studies: *Flows and Recreation: A Guide to Studies for River Professionals* (Whittaker 2005). The results of that study may dovetail with the results of other studies or information about enjoyable whitewater recreation, water quality, environmental flows, and aesthetics — all pointing to a substantial increase in minimum flows. Edison has a plain interest in not admitting there

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[179] http://www.kernriverflyfishers.com/fishreports.htm
[180] FERC eLibrary No. 20220531-5308
[181] KRB SD1 at 5-11 & 34-45

to be a problem or conducting any studies along these lines. But the managing agencies are charged by statute and management plans with pursuing the public interest, and they need to know what the minimum and optimum flows for angling are in this currently under-watered public resource. For these reasons, we ask that the Commission direct Edison to implement our updated enjoyable angling study request.

KRB SP-3: ENJOYABLE ANGLING FLOWS
UPDATED STUDY PROPOSAL

Criterion (1) – Describe the goals and objectives of each study proposal and the information to be obtained.

The goal of this study is to evaluate the effect that project operations have on angler enjoyment of fishing in the 16-mile dewatered reach below Fairview Dam. The amount of water present in a fishery can significantly impact an angler's enjoyment of a fishing outing. This proposal focuses on situations where Edison's diversion of water from the North Fork Kern may leave a quantity of water in the riverbed that is so low as to render an angling outing for a typical person less than enjoyable.

Criterion (2) – If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.

Not applicable.

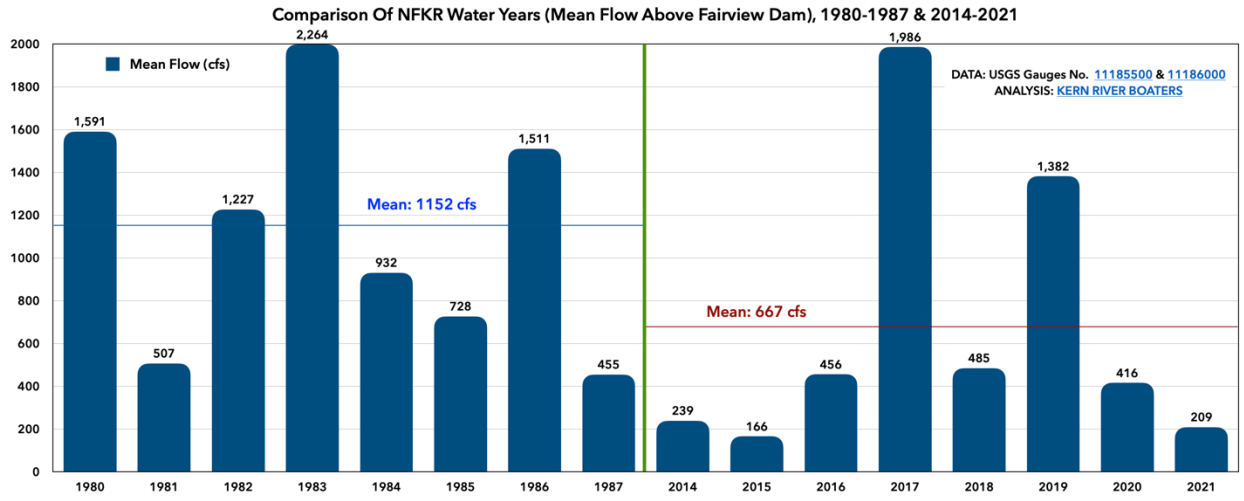
Criterion (3) – if the requester is not a resource agency, explain any relevant public interest considerations in regards to the proposed study.

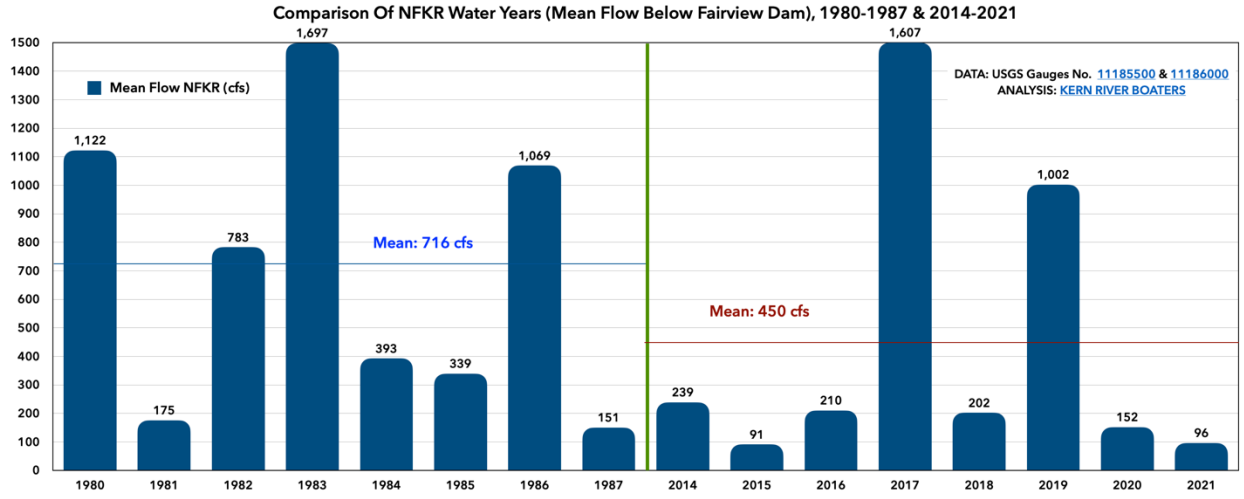
The Federal Energy Regulatory Commission is charged with giving equal consideration in this proceeding to the public goods of recreation and river health as it gives to the social utility of power generation. The Commission cannot afford equal consideration of without fully capturing and evaluating the losses generation causes to recreation. One of those losses inadequate flows for enjoyable fishing in the dewatered reach.

The United States Forest Service is charged under Section 4(e) the Federal Power Act with establishing in any FERC license issued those conditions required for the enjoyment of public lands. USFS cannot understand what is required with regards to fishing recreation on the North Fork Kern without understanding when flows are too low for a quality fishing experience. The North Fork Kern is popular as a fishery. If anglers are avoiding the dewatered reach of that river for lack of water when running at minimum instream flow levels, the public interest in forest enjoyment is being injured by the project. Properly establishing the flow level at which angler enjoyment decreases can enable managing agencies to mitigate the injury.

USFS is also responsible under Section 7 of the Wild and Scenic River Act with evaluating whether a proposed license renewal for KR3 would cause any direct and adverse consequences on the outstanding resource values provided by the North Fork Kern. This study would help address the information-gathering obligation raised by complaints about angling on the North Fork Kern. USFS should want to adequate information on which to determine whether any new license for the project directly and adversely impacts the fishery. And to be clear, recreational fishing is an outstanding resource value identified by USFS in its Wild and Scenic environmental analysis, record of decision-making, and management plan for the dewatered reach of the North Fork Kern (called "Segment 4" in those documents): The 1994 FEIS sates, "The outstandingly remarkable values for Segment 4 include fishing, camping, picnicking, Whitewater boating, hiking, driving for pleasure, and enjoying the scenic beauty."[182] The 1994 ROD states, "Segment 4, was identified as possessing outstandingly remarkable recreational values because of the variety of opportunities it 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)."[183] The 1994 Plan directs 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."[184] As far back as the 1982 FEIS, USFS stated that designation of all segments — including segment 4 — "will ensure that [it] continue to provide a riverine (free-flowing) type of fishery."[185] Finally, flows back at the time of designation were higher than those experienced presently, and the agencies need to know flow levels for enjoyable angling to re-establish the outstanding angling values that led to this segment's designation:

[182] 1994 USFS N&SFKR W&SR FEIS at "Affected Environment" 61 [.pdf 113]
[183] 1994 USFS N&SFKR W&SR ROD&CMP at ROD 10
[184] 1994 USFS N&SFKR W&SR ROD&CMP at CMP 24, 48-49
[185] 1982 USFS NFK W&SR FEIS at 57





Criterion (4) – Describe existing information concerning the subject of the study proposal, and the need for additional information.

Edison does not describe the quality of angling experiences at minimum instream flow levels.

There has never been an "angler study" consistent with the contemporary methodology established by Whittaker, *et al.*, *Flows and Recreation: A Guide to Studies for River Professionals* (2005). The need for one is demonstrated by the following:

(1) FERC has been in receipt of many formal comments indicating that fishing is unenjoyable in the dewatered reach for months.[186]

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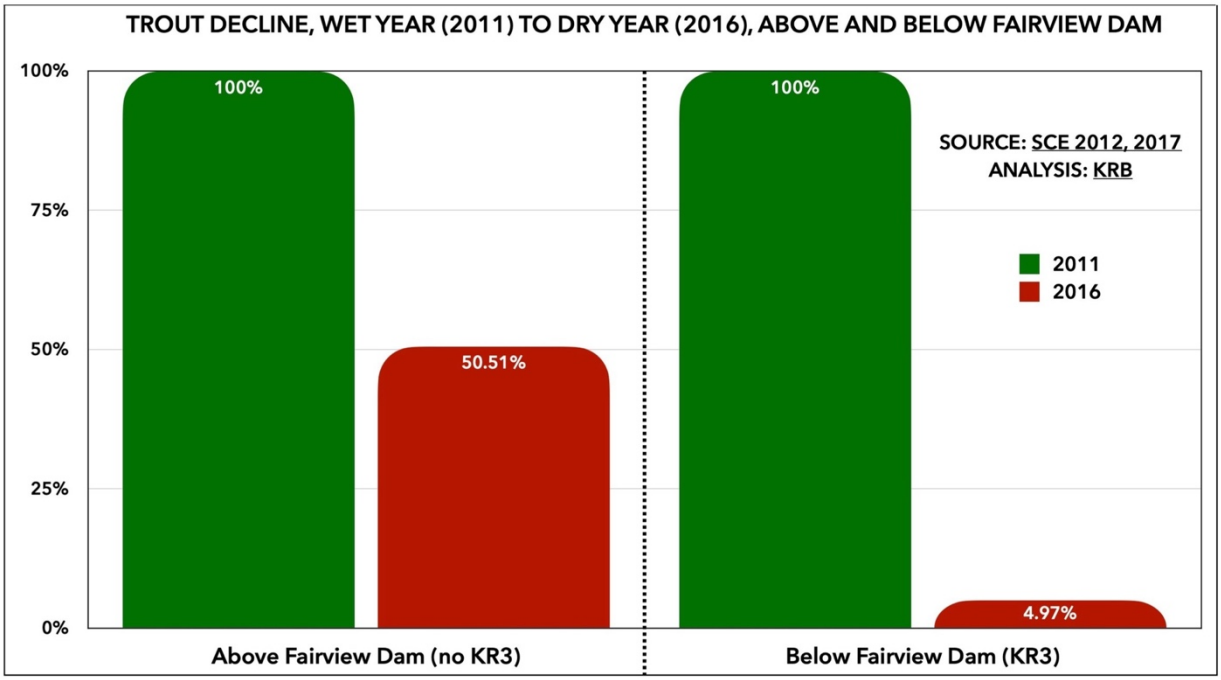

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Criterion (5) – Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

After accounting for minimum instream flows between 40 cfs (four months) and 130 cfs (two months), the Kern River No. 3 hydroproject is authorized to divert the next 605 cfs from the riverbed. Over the POR for this license, the average daily flow above Fairview Dam fell below 100 cfs just 151 days out of 8,766 — about 1.7% of the time. During the same period, the average daily flow in the dewatered reach below the dam fell short of 100 cfs on 2,790 days — about 31.8% of the time. The project turns exceedingly improbable low flow levels into a typical occurrence, impacting the fishery and angler enjoyment of it. As stated by USFS, "the greatest impacts on fish habitat come from livestock grazing *and water diversion*."[190] (Italics added.)

The requested study would inform the questions of when flows are too low for an enjoyable angling experience and what level of enjoyment exists at different flow levels, thus helping managing agencies understand the full extent of project effects and provide them a basis upon which to gauge mitigation project effects with updated minimum instream flow requirements. The results may also dovetail with information about aesthetically pleasing minimum flows, environmentally sound minimum flows for riparian habitat, water quality minimum flows, and other vectors indicating that the current MIF regime should be reformulated.

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[188] FERC eLibrary No. 20220531-5308
[189] KRB SD1 at 5-11 & 34-45
[190] 1994 USFS N&SFKR W&SR ROD&CMP at CMP 48

Criterion (6) – Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

Basic Methodology: Desktop studies to the extent feasible, followed by on-water, targeted flow studies. The quality of angling experiences should be studied at several incremental levels of flow below Fairview Dam: we propose 100, 150, 200 & 300 cfs, but the final targets can await the conclusion of the level 1 and 2 components. The study should employ anglers with varying levels of skill, technique, and expertise. Study participants should rate their experiences at different flow levels to evaluate how future project operations can better meet public recreation needs. Details on methodology would be consistent with Whittaker, "Flows and Recreation" (2005). Edison maintains a significant ability to shape flows below Fairview Dam for these purposes. Based on available data, there appear to be a vast inventory of days at which various flow levels in the riverbed can be obtained — more than three months of days at each level, including more than half the year at flows below 225 cfs[191]:

MEAN DAYS PER YEAR FLOWS ARE SUITABLE FOR TESTING WITHIN GIVEN RANGES (NFKR WY 1997-2021)			
RANGE (CFS) LOW	HIGH	TOTAL DAYS	DAYS PER YEAR
100	124	6529	261
125	149	6311	252
150	174	5659	226
175	199	4987	199
200	224	4634	185
225	249	4247	170
250	274	3878	155
275	299	3489	140
300	324	3140	126
325	349	2853	114
350	374	2536	101
375	399	2266	91

[191] Spreadsheet available: https://www.kernriverboaters.com/s/KRB_KR3_SHAPE_FLOWS.xlsx

Criterion (7) – Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

The level and effort of cost, estimated at $40,000 to $60,000, is commensurate with the protected status of the North Fork Kern and the public interest in it as a source of angling. Only an evaluation of minimum flow scenarios can effectively determine whether large inventories of enjoyable angling days are lost to project operations. The cost is justified by the statutory duty of the managing agencies to balance and adapt the proposed license to mitigate the effects of the project on this outstanding recreational public resource. There is no proposed alternative study.