California Sportfishing Protection Alliance – Trout Unlimited – American Rivers – American Whitewater - Merced River Conservation Committee – Friends of the River- Golden West Women Flyfishers – The Sierra Club

May 29, 2015

By electronic filing

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, D.C. 20426

Re: Merced River Hydroelectric Project, FERC Project No. 2179
Merced Falls Hydroelectric Project, FERC Project No. 2467

Comments on Draft Environmental Impact Statement of California Sportfishing Protection Alliance, Trout Unlimited, American Rivers, American Whitewater, Merced River Conservation Committee, Friends of the River, Golden West Women Flyfishers and the Sierra Club

Dear Ms. Bose:

Attached for filing with the Federal Energy Regulatory Commission please find the response to the Draft Environmental Impact Statement of California Sportfishing Protection Alliance, Trout Unlimited, American Rivers, American Whitewater, Merced River Conservation Committee, Friends of the River, Golden West Women Flyfishers and The Sierra Club (collectively "Conservation Groups") in the above-captioned proceedings.

Please contact me with any questions.

Sincerely,

Chandra Ferrari

Chandra Ferrari
Water Policy Advisor/Staff Attorney
Trout Unlimited

Enclosure

Cc: Service List, Project Nos. 2179, 2467

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Merced Irrigation District Merced River Hydroelectric Project	)	P-2179-043
Pacific Gas & Electric Co. Merced Falls Hydroelectric Project	)	P-2467-020

CONSERVATION GROUPS' COMMENTS AND RECOMMENDATIONS
DRAFT ENVIRONMENTAL IMPACT STATEMENT

May 29, 2015

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Via electronic filing

Dear Ms. Bose:

California Sportfishing Protection Alliance, Trout Unlimited, American Rivers, American Whitewater, Merced River Conservation Committee, Friends of the River, Golden West Women Flyfishers and the Sierra Club (hereinafter "Conservation Groups") respectfully respond to the Draft Environmental Impact Statement (DEIS) for the relicensing of Project 2179, the Merced River Hydroelectric Project operated by Merced Irrigation District (Merced ID or Licensee) and Project 2467, the Merced Falls Hydroelectric Project by Pacific Gas & Electric Company (PG&E). In these comments we refer to these projects collectively as "the Projects." We refer to the Merced River Hydroelectric Project as "the Project" and the Merced Falls Hydroelectric Project as "the Merced Falls Project."

Background

The Conservation Groups have been active relicensing participants in the relicensing of the Projects since before the formal commencement of the Integrated Licensing Process for each proceeding. Several of the Conservation Groups have participated in dozens of face-to-face relicensing meetings since 2008. The numerous filings submitted by Conservation Groups in this proceeding prior to June 4, 2012 are enumerated in the Petition for Declaratory Relief filed

by several of the Conservation Groups into the FERC docket and included as an attachment to this filing (Attachment A).[1]

On February 22, 2012, PG&E filed a Final License Application with the Commission for the Merced Falls Project.[2]

On February 26, 2012, Merced ID filed a Final License Application (FLA) with the Commission for the Merced River Hydroelectric Project, FERC Project P-2179 (Project).[3] On April 23, 2014, Merced ID filed an Amended Final License Application for the Project.[4] The Project's facilities are located on the main stem of the Merced River and they generate approximately 350,956 gigawatt-hours of power annually.

The Commission issued the "Notice of Application Accepted for Filing, Soliciting Motions to Intervene and Protests, Ready for Environmental Analysis, and Soliciting Comments, Recommendations, Preliminary Terms and Conditions, and Preliminary Fishway Prescriptions" for the Projects on March 24, 2014.[5] On May 15, 2014, the Commission extended the period for comment via notice to FERC participants.[6] On July 22, 2014, the Conservation Groups filed comments and recommendations in response to the Ready for Environmental Analysis.[7] On December 5, 2014, Merced ID submitted a response to Comments, Preliminary Terms and Conditions and Preliminary Fishway Prescriptions filed by other parties in the proceeding.[8] On March 30, 2015, the Commission issued the "Notice of Availability of the Draft Environmental Impact Statement for the Merced River and Merced Falls Hydroelectric Projects."[9]

Executive Summary

The Conservation Groups appreciate the fact that Commission staff (staff) thoroughly reviewed the recommended terms and conditions submitted by the parties to this proceeding. The Staff Alternative improves on the Licensee's proposal in several important ways. For instance, staff's proposal to expand the scope and membership of the Anadromous Fish Resources Group increases the likelihood of effective and collaborative post-licensing outcomes. Additionally, we agree with staff's conclusion that high spring flows are necessary to protect critical life stages of aquatic resources (although we have substantial disagreements with staff's proposed magnitude, frequency and duration of such flows).

Despite these and other additions, the Staff Alternative does little to functionally improve conditions for aquatic resources or alter the alarming trajectory of excessive and unsustainable water demand in the Merced River system. The Commission's preponderant limitation of its view of project effects to direct effects and its continuing restrictive view of its own authority

[1] *See* eLibrary no. 20120604-5053.
[2] *See* eLibrary no. 20120224-3013.
[3] *See* eLibrary no. 20120227-5057.
[4] *See* eLibrary no. 20140423-5220.
[5] *See* eLibrary nos. 20140324-3026 and 20140324-3024.
[6] *See* eLibrary no. 20140507-3034.
[7] *See* eLibrary no. 20140722-5058. Hereinafter, "Conservation Groups' REA Comments."
[8] *See* eLibrary no. 20141205-5164.
[9] *See* eLibrary no. 20150330-3013.

combine to produce an alternative that is terribly skewed toward maintaining the status quo. The status quo is not a viable long-term solution and is unlikely to survive the continuing challenges of drought and climate change. Without a thoughtful water management strategy in place, fish and wildlife, irrigators and water users alike will suffer.

Pursuant to its obligations under the Federal Power Act (FPA) to balance the beneficial uses of the waterways consistent with the public interest, the Commission should consider measures that promote a long-term sustainable water management strategy for the Merced River. To that end, these comments recommend strategies and measures that the Commission should adopt.

I. The Staff Alternative Fails to Equitably Balance Beneficial Uses

The Commission has an obligation to balance the beneficial uses of a waterway consistent with the public interest. Unfortunately, staff has adopted an overly restricted view of its authority to balance certain uses, leaving it with a self-inflicted inability to fix the institutional problem in the Merced River. That problem is unsustainable water demand, which systemically threatens the health of fish and wildlife resources that inhabit and utilize the Merced River, and which ultimately threatens the sustainability of the agricultural economy in eastern Merced County.

A. The Staff Alternative conducts its balancing exercise around existing water supply demand.

Merced ID's annual irrigation demand as reported in the Water Balance Model Technical Memorandum, Attachment 2-2A Water Balance Model Validation Report, is generally in excess of 450,000 AF per year,[10] just over half the annual unimpaired inflow to Lake McClure; median annual unimpaired inflow to Lake McClure is 850,000 AF per year.[11] Storage capacity in Lake McClure is 1,024,000 AF. As noted in Conservation Groups' REA comments, these are enormous annual demands compared both to the average annual yield of the watershed and to project storage.[12] This fact is particularly pronounced during sequential dry-years; at current levels of irrigation demand, any dry-year sequence of two years or more significantly stresses the system.

The DEIS describes the condition as follows:

> In general, although the project directly affects flows and temperatures in the lower Merced River downstream of Crocker-Huffman diversion dam, the ability of the project to reduce water temperatures during the irrigation season (March through October) is

[10] Attachment 2-2A Water Balance Model Validation Report, table 5, pp. 20-21. The Amended FLA states: "In more recent years, canal diversions typically range between 400 and 500 thousand ac-ft." p. E3.3.2-54.
[11] State Water Resources Control Board, "*Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives*" (February, 2012). Prepared in support of the Substitute Environmental Document for Phase I of the update of the Bay-Delta Water Quality Control Plan. Table 2.1, page 2-3. Available at: http://www.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/docs/scientific_report.pdf. Hereinafter, "SWRCB, Technical Report".
[12] Conservation Groups' REA Comments, pp. 12-14.

> limited by non-hydroelectric project withdrawals, which account for up to 52 percent of the average annual unregulated discharge from the watershed and limit availability of water for instream flows (Stillwater Sciences, 2002).[13]

However, the DEIS does not reach the analytical conclusion: the inconvenient reality that Merced ID must reduce water demand over the long-term to restore balance to the Merced River system and the multiple resources that depend on it.

Those who have worked for many years in the lower San Joaquin River system and its tributaries have encountered similar situations before. In 1996, the Commission ordered increases to flows on the lower Tuolumne River following a settlement agreement for the New Don Pedro Project among licensees, the City of San Francisco, resource agencies and several non-governmental organizations. In 2000, the Vernalis Adaptive Management Program began a twelve year program of pulse flows in the April-May period of each year to benefit fisheries in the lower San Joaquin River and its tributaries, with much of the water provided for these flows sourced in the Merced River. Representatives of the San Joaquin Tributaries Authority and its predecessor the San Joaquin River Group Authority, and their supporters, have subsequently made repeated arguments that these flow increases in these waters were wasted because affected fisheries did not improve. The Staff Alternative sets up the same paradigm: a timid flow increase in an increasingly degraded biological and hydrologic system does not reach a threshold that can begin to reverse the downhill spiral of tributary fisheries. The incremental flow approach of the DEIS will not do the job; a qualitative improvement is needed. The incremental approach in this case only reinforces the perception and the argument that the condition is hopeless and cannot be improved.

Staff acknowledges that its flow measures would reduce water available for irrigation deliveries.[14] In addition, the Staff Alternative would reduce water in storage in Lake McClure in many years, particularly in dry year sequences. In the absence of operating rules for apportioning reduced water availability between storage and irrigation deliveries in any given year, it is impossible to define how these impacts would apply in practice. Thus, although the DEIS claims that staff's flow alternative would create an average annual reduction of water available for irrigation of 20,000 acre-feet per year, this assumes that irrigation deliveries would always be prioritized over storage levels for Lake McClure. When the staff alternative is modeled according to these priorities carryover storage in Lake McClure is often lower than storage levels for Lake McClure under Conservation Groups' flow proposal in our REA Comments and Recommendations.

In sum, while the staff flow alternative would somewhat reduce water available for irrigation or storage in some years, the DEIS does not analyze the prospective aquatic benefits, the likely operational changes that flow requirements would require, or what measures the Merced ID and other local entities might take to manage a reduced water supply. The DEIS shows no modeling output to suggest possible operational scenarios. The DEIS states that "Conservation Groups embed irrigation restrictions into most of its [sic] flow recommendations," with the apparent implication that this is unworkable or unacceptable, but staff offers no options

[13] DEIS, p. 162.
[14] DEIS, p. 395.

for how else Merced County farmers are going manage with reduced water available.[15] Thus there is no informed way to evaluate the impacts of the staff flow proposal, leaving a politically motivated barrage of written and spoken comments to the Commission on the "devastating" impacts of reduced water availability to fill the analytical vacuum.

B. Staff's general acceptance of excessive water demand in the Merced watershed leaves few options for resource protection.

In accepting a framework of water scarcity, staff completely ignores the concept of restoring fundamental aspects of the natural hydrograph, the concept that is central to the State Water Resources Control Board's announced approach to flow in both the update of the Bay-Delta Water Quality Control Plan and the §401 Water Quality Certification for this relicensing. In so doing, staff effectively abandons restoration of the Merced River's fishery resources. For lack of water budget, staff proposes flow requirements so low that the Staff Alternative plays resources off against each other and scales back measures to the point that they cannot fulfill their stated intended functions.

The DEIS rejects higher flows that replicate the natural hydrograph in March and April as recommended by Conservation Groups:

> NMFS and the Conservation Groups' minimum flow regimes during March and April are generally higher than those recommended by California DFW, and although higher flows could further enhance the lower Merced River temperature regime, it would come at the cost of reduced water storage in Lake McClure, which means that there would be less water available during the irrigation season and reduced cold pool water for late spring temperature enhancement.[16]

Staff is unabashed in stating its rationale: "As stated previously in this section, establishing an appropriate minimum flow regime in the lower Merced River entails attempting to balance habitat values with the water demands of irrigators."[17]

Conservation Groups developed a flow regime for our REA recommendations based on the record of the State Water Board's Delta Flow Criteria proceeding in 2010 and the Board's record for Phase I of the update of the Bay-Delta Water Quality Control Plan. In our REA Comments, Conservation Groups cited to the findings of the State Water Board in the Phase I proceedings, as follows:

> In its "Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives" (February, 2012; "Technical Report"), the State Board concluded:
>
> > The State Water Board has determined that higher and more variable inflows during the February through June time frame are needed to support existing

[15] DEIS, p. 392.
[16] DEIS, p. 157.
[17] DEIS, p. 158.

> salmon and steelhead populations in the major SJR tributaries to the southern Delta at Vernalis. This will provide greater connectivity to the Delta and will more closely mimic the flow regime to which native migratory fish are adapted. Water needed to support sustainable salmonid populations at Vernalis should be provided on a generally proportional basis from the major SJR tributaries (Stanislaus, Tuolumne, and Merced Rivers).[18]
>
> . . . A more natural flow regime is anticipated to improve a number of ecosystem attributes such as (but not limited to): 1) native fish communities; 2) food web; 3) habitat; 4) geomorphic processes; 5) temperature; and 6) water quality.[19]

The Staff Alternative, on the contrary, adopts the approach proposed by the California Department of Fish and Wildlife, stating:

> The California DFW flow regime seeks to: (1) enhance physical Chinook salmon spawning and incubation habit during late fall and early winter when water temperatures are not overly constraining; (2) consider density-dependent variables as fry emerge from spawning gravel in late January through February; (3) enhance water temperatures for smoltification during the spring; and (4) provide reasonable physical habitat for *O. mykiss* juveniles and adults during the summer.[20]

However, although the Staff Alternative claims to build its flow proposal on DFW's approach, staff greatly scales back DFW's spring flows (designed by DFW to improve water temperature) to the point that DFW's temperature rationale no longer corresponds to staff's version of the measure in the spring.

The Staff Alternative also proposes a spring pulse flow, basing its rationale in part on Conservation Groups' Critically Dry year proposal for a pulse flow. Conservation Groups' REA Comments recognized that a spring pulse flow is a weak triage measure that would accomplish on a limited basis only one of the major functions of the percent-of-unimpaired approach, namely facilitating outmigration of salmon and perhaps steelhead. Again, the staff flow alternative truncates the budget for this measure under the rationale that: "selecting the most appropriate spring pulse flow approach necessitates balancing environmental benefits against the effects on available storage in Lake McClure for use during the primary irrigation season."[21]

The DEIS provides a rationale for staff's proposed spring pulse flow measure that is not accurate, stating:

> This spring pulse flow would also … provide some geomorphic functions, and enable salmonids to gain access to food sources and cover when flows exceed 1,000 cfs (the flow at which flows begin inundating the floodplain). [22]

[18] SWRCB, Technical Report, p. 3-1.
[19] *Id.*, p. 3-41.
[20] DEIS, p. 155.
[21] DEIS, p. 407.
[22] *Id.*

Floodplain in the small recently restored area upstream of Snelling requires about 2000 cfs to inundate; the restored Robinson section of the river is only substantially inundated at 4000 cfs. As we described and documented in our REA Comments, bedload mobilization in the reach above Snelling begins at 1600-2000 cfs, and in the reach downstream of Snelling incipient motion is reached at about 4800 cfs. We thus concluded: "Thus, restoration-based estimates of ~2,000 cfs should be considered minimum mobilization flows for the Merced River based on localized conditions only, and flows approximating 5,000 cfs will provide more reach-scale sediment transport for long term maintenance." [23]

Staff's pulse flow proposal with only a "2 or 3 days maximum followed by a gradual decrease in flows,"[24] would thus provide almost no geomorphic function or floodplain inundation. A 3000 cfs flow for 3 days would burn about 18,000 acre-feet out of the proposed 30,000 acre-foot budget, leaving little water for a "gradual decrease." We do not know where staff believes that 1000 cfs inundates floodplain on the Merced River. The fact is that staff's "balancing" leaves almost no "environmental benefits" against an irrigation demand that is left almost entirely intact. Staff avers, "[w]e recognize that there is natural variability in the magnitude of spring pulse flows during different water years and mimicking this variability would be ideal. However, the lower Merced River is regulated … ."[25] Let's be clear: nobody is talking about anything "*ideal*." As quoted above, the State Water Board has "determined" that restoring natural variability is necessary to "support *existing* salmon and steelhead populations."[26]

For summer flows, staff concedes defeat on water temperature from the outset: "With the relatively high staff recommended spring minimum flows as described previously, we expect there to be little if any Lake McClure cold pool water available to provide temperature enhancements to the lower Merced River during the summer."[27] This accepts the frequent frame of Merced ID and even some Resource Agency staff that water for one aquatic resource or life stage can only come by depriving another aquatic resource or life stage. In a similar effort to preserve irrigation deliveries, the Staff Alternative proposes "… that a reasonable guiding principal [sic] in establishing an appropriate minimum flow during dry or critically dry water years would be to have no minimum flow exceed the average monthly unregulated flow (table 3-12). These represent the flows that would occur without the Merced River or Merced Falls Projects."[28] Limiting spring flows because "the lower Merced River is regulated," staff then turns around and limits summer flows to unregulated levels. Staff's proposal for summer flows in Dry and Critically Dry years would reduce August and September flows to a point where water temperatures would limit usable habitat for *O. mykiss* populations to about a mile or two downstream of Crocker-Huffman, even with liberally stretched temperature standards. This would entrench for another fifty years the current pattern on the Merced River where a recreational trout fishery downstream of Crocker-Huffman Dam has no consistency, and where

[23] Conservation Groups' REA Comments, *Appendix I-Gravel Augmentation and Rehabilitation* p. 8.
[24] *Id*.
[25] *Id*.
[26] SWRCB, Technical Report, p. 3-1. Emphasis added.
[27] DEIS p. 394.
[28] DEIS p.158.

abundance of *O. mykiss* in the lower river is so low that restoration of an anadromous *O. mykiss* (steelhead) population is exceedingly unlikely.

Finally, the Staff Alternative proposes reductions in flow requirements compared to current conditions in November, December and the first half of January in all water year types, and throughout January and February in Dry and Critically Dry years, compared to current conditions required by the Davis-Grunsky agreement, reducing spawning and incubation habitat for salmon.

C. Staff's acceptance of existing levels of water demand in the lower Merced River watershed portrays groundwater overdraft as a potential impact of restoring flows to the Merced River, rather than as an essential baseline condition that will shortly be remediated.

In response to the Notice of Ready for Environmental Analysis and to the DEIS, Merced Irrigation District, on its website and in direct requests, solicited District farmers and others to submit comments to the Commission opposing flow increases for the lower Merced River except any changes recommended by Merced ID. Merced ID provided templates and language for an introduction and a conclusion, and asked its supporters to fill in the blanks with additional personal discussion.

One of the consistent themes in these form letters, both in the text provided by Merced ID and in the more individual narratives, is that increased flows in the Merced River will increase groundwater demand and reduce surface water available for groundwater recharge. The language provided by Merced ID says that flows recommended in the DEIS "present a direct hindrance to water storage needed for agriculture and groundwater recharge in our community." Some letters go so far as to request that FERC-required flows not "divert additional water away … from our farms."

The DEIS accepts this upside-down frame, analyzing increased demand for groundwater as a likely impact of restoration of flow to the river.

> The groundwater resources in the Central Valley are under increasing demand because of the limited availability of surface water (California DWR, 2014). We consider it uncertain that groundwater would be available to compensate for reduced deliveries by Merced ID during dry or critically dry water years, or that groundwater use for compensation would be recommended in future years. If irrigation water available for delivery by Merced ID to farmers is decreased because of increased flows to the Merced River downstream of Crocker-Huffman diversion dam, it would likely result in increased demand for groundwater by farmers to make up for this shortfall.[29]

As we pointed out in our REA Comments[30], groundwater depletion in Merced County is an existing condition, and in some areas of the County is significantly worsening. It is a symptom of the same excessive (in fact, increasing) water demand that leaves too little water in

[29] DEIS, p. 188; the DEIS repeats this language on p. 410.
[30] Conservation Groups' REA comments, p. 17, footnote 21.

storage at Lake McClure and in the Merced River in most years, even today, under existing conditions. It is an unsustainable business model.

One local resident speaking at the April 30, 2015 DEIS comment meeting convened by staff frankly acknowledged the worsening condition of groundwater in Eastern Merced County, the increase in planted almond acreage, and the fact that reduced water supplies would hasten, not cause, a crisis of Merced County agriculture.[31]. Indeed, the comment from Yosemite Farm Credit explicitly cautions that Merced County agriculture is already facing large scale changes:

> While FERC is contemplating regulations that increase the levels of additional flows down the Merced River (into the ocean) while at the same time, the State of California is implementing the Sustainable Groundwater Management Act of 2014. The action of reducing the potential for surface water recharge will work directly against a process for groundwater management. Less surface water means more groundwater pumping, until that too is limited by full implementation of the Sustainable Groundwater Management Act. With that, in a few short years agriculture as we know it will be unsustainable.[32]

A banker above all should understand that one cannot increase savings while continually overdrawing the checking account. Overdraft protection only goes so far: at a certain point, a responsible business needs to reduce spending.

In fact, the implied assumption in the DEIS that District groundwater resources will suffer if increased flows are dedicated to river restoration describes past practice in California rather than California's future[33] during the term of this license. The Sustainable Groundwater Management Act of 2014[34] authorizes the creation of Groundwater Sustainability Agencies (GSAs)[35] with authority and responsibility to manage groundwater.[36] The Act charges the GSAs with the responsibility to create plans for sustainable groundwater management.[37] Such management means "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results."[38] Among

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[31] *See* the comments of Linda van Merveldt, transcript of FERC-sponsored April 30, 2015 evening meeting to take comments on the DEIS, eLibrary no. 20150430-4006, pp. 81-84.

[32] *See* comment of Yosemite Farm Credit, eLibrary no, 21050505-0019.

[33] "It is the intent of the Legislature [t]o provide for the sustainable management of groundwater basins." (California Water Code §10720.1(a)).

[34] The Act amended the California Water Code (CWC) and California Government Code, effective January 1, 2015. A summary of the Act and the text of the Act, both prepared by the Association of California Water Agencies, has been added to the record for use by FERC staff and licensing participants. See eLibrary no. 20150527-5111.

[35] Local agencies in the Merced ID area have until June 30, 2017 to form a GSA (CWC §10735.2 (1). If no GSA has been created, the State Water Resources Control Board is required to designate the basin as probationary (CWC §10735.2 (1)) and may develop an interim groundwater sustainability plan (CWC §10735.8).

[36] It is the intent of the legislature "[t]To provide local groundwater agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater" (CWC §10720.1(d)). GSAs are given broad authority to undertake actions necessary to do so (CWC §10725 & §10726). If the GSAs do not create and begin to implement a Groundwater Sustainability Plan by January 30, 2020 or 2022 (CWC §10720.7 (a)(1&2), the State Water Resources Control Board can step in and undertake this effort (CWC §10735 & 10736).

[37] CWC §10727 requires the creation of a Groundwater Sustainability Plan. If no Groundwater Management Plan is created, the State Water Resources Control Board has a responsibility to do so (CWC §10735 & 10736).

[38] CWC §10721(u).

the definitions for "undesirable results" are chronic lowering of groundwater level, degraded water quality levels, and land subsidence.[39]

In a nutshell, the option of continued or increased unsustainable groundwater use will no longer be available to the groundwater pumpers during the tenure of this license. The loss of this unsustainable option is not regrettable. Fortunately, Merced ID, local governments, and the local Groundwater Sustainability Agency will have three obvious management tools to respond to identified supply and demand disparities, whether the authorities are old or new, or whether they result from licensing actions or not: (1) reduce demand so that it is in long-term balance with surface and groundwater supply,[40] (2) develop and implement more effective groundwater recharge programs to better utilize wet-year diversion opportunities, and (3) reduce or eliminate sales of storable or rechargeable water to out-of-GSA-basin users.

D. Staff's balancing process is further hampered by application of criteria regarding project effects that are at best inconsistent and that generally mitigate only for direct project effects.

The Commission's ability to equitably balance the beneficial uses of the Merced River is further constrained by its earlier determinations related to project effects. As discussed in great detail in the Conservation Groups' Petition for Declaratory Relief (Attachment A), staff adopted Licensee's narrow view of the Commission's licensing authority under the Federal Power Act by determining that project impacts related to non-power operations are not direct effects of the Project for purposes of environmental analysis. Staff made this determination despite the fact that the flow releases for water supply come from project storage and generate power before they are diverted for water supply downstream. The effect of this decision was to deem the direct effects of the Project on timing and quantity of water releases, and thus the effects on water quality and coldwater fish, to be significantly more limited than if water supply and power generation were considered to be integrated project operations.

Accordingly, the Staff Alternative is consistently inconsistent, in that staff on the one hand proposes limiting mitigation measures only for direct project effects, and more specifically to the effects of project operations for power generation only, while on the other hand staff makes a more pragmatic recognition that power and non-power effects are inseparable.

The most obvious pragmatic precedent is the retention of Shaffer Bridge as the compliance point for instream flow requirements. The DEIS states staff's reasoning on this point:

> The minimum flow compliance point in the current license is an existing gage at Shaffer Bridge. The reach upstream of Shaffer Bridge to Crocker-Huffman diversion dam currently includes the best spawning and rearing habitat for fall run Chinook salmon, as well as numerous water diversion points. Therefore, we consider Shaffer Bridge to be an

[39] CWC §10721(w).
[40] The most obvious authority to limit groundwater extractions are stiff civil penalties under CWC §10732.

> appropriate compliance point for a minimum flow regime because protective flows would be in the channel regardless of diversions that may occur upstream of Shaffer Bridge, including those associated with the Cowell Agreement.[41]

Staff's rationale for making Shaffer Bridge the compliance point is itself inconsistent, both internally and with previous decisions. The DEIS states:

> In its April 1, 2011, study plan determination, Commission staff found that the effects of hydroelectric project operation are outweighed by other non-project factors downstream of Shaffer Bridge. We agree with staff's previous findings and find no basis to recommend that Merced ID be responsible for any habitat enhancement measures downstream of Shaffer Bridge.[42]

In fact, the April 1, 2011 study plan determination found that the effects of hydroelectric project operation upstream from Shaffer Bridge to Crocker-Huffman Dam were outweighed by "other non-project factors" except during the non-irrigation season, and declined numerous studies in that reach because they addressed resources during the irrigation season.[43]

The only discernable logic here is precedent: where the Staff Alternative thus expands the scope of mitigation, it is apparently bounded by retreating to the comfort of where the original project license drew lines in 1964.

However, although staff makes a reasonable decision about flow compliance based on aquatic resources, and has to acknowledge reduced water available for delivery and storage, on numerous issues staff retreats in its balancing because of mental gymnastics in considering project effects. Thus staff finds: "Monitoring flows at interim locations or downstream of Shaffer Bridge, as recommended by NMFS, would not have a relationship to hydroelectric project operation."[44]

More significantly, staff limits gravel augmentation to the estimated amount of material deposited in Lake McClure annually:

> Our analysis in sections 3.3.1.2 indicates that gravel augmentation amounts equal to at least the transport capacity of the supply-limited lower reaches, estimated to be 2,600 cubic yards (~2,200 tons) per year, would offset the ongoing coarse-sediment entrapment behind the Merced River Project dams that has a direct effect on spawning habitat quantity. A larger initial placement of coarse sediments in the lower reaches would potentially benefit spawning habitat; however, doing so would address legacy effects not necessarily attributed wholly to past project effects and certainly not influenced by future project-related operation, construction, and maintenance activities. We also conclude that

[41] DEIS, p. 158
[42] DEIS, p. 200.
[43] April 1, 2011 Director's Study Plan Determination, See eLibrary no. 20110401-3042, esp. p. 5: "Existing information indicates that during the irrigation season, non-jurisdictional withdrawals account for up to 52% of the average annual unimpaired discharge from the watershed, limiting the available water supply for instream flow needs. Therefore, direct hydropower effects are seasonally dependent."
[44] DEIS p. 170.

the contribution of the Merced Falls Project to the paucity of spawning gravel downstream of the Merced Falls is negligible.[45]

Certainly *some* of the "legacy" effects of sediment loss and embeddedness in the lower Merced River are attributable to 50 years of project existence and operation, plus additional effects of the much older Merced Falls Project in capturing sediment Restoration is necessary before a maintenance regime will improve conditions. Using staff's stated rationale, certainly an initial replenishment of 110,000 tons is minimal (50 years times 2200 tons annually) before scaling back to an annual maintenance budget. Conservation Groups continue to recommend an initial augmentation between 270,000 and 410,000 tons; see discussion of gravel below.

In terms of hatchery improvements, the DEIS ignores the fact that the hatchery was established as mitigation for Merced ID's operations, and denies any contribution by Merced ID for the hatchery: "given the lack of a connection to hydroelectric project operation, we have no justification for adopting the recommended hatchery measures under the staff alternative."[46] This conclusion again overlooks the reality on the ground. Hatchery operations on the Merced River provide necessary supplements to wild fish production in the river reach managed by Merced ID between Crocker-Huffman Dam and Shaffer Bridge. Including hatchery measures recommended by the Conservation Groups and Resource Agencies in the final license is not only appropriate but warranted.

II. The DEIS does not contain a reasonable range of alternatives.

A. The DEIS is flawed because it does not include a fish passage alternative; the FEIS should include such an alternative.

NEPA expressly requires that a NEPA document consider a reasonable range of alternatives to the proposed action which would achieve a given purpose. *See* 42 U.S.C. § 4332(2)(E); 40 C.F.R. § 1508.9(b). An EIS must include those reasonable alternatives that "are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."[47]

FERC is also required to "[i]nclude reasonable alternatives not within [its] jurisdiction." *See* 18 CFR § 1502.14. However, the DEIS does not analyze likely changes that may affect the Merced River's aquatic resources outside of staff's perception of the Commission's jurisdiction.

For instance, in considering fish passage at Crocker-Huffman Dam, staff states:

Crocker-Huffman diversion dam (RM 52.0) represents the upstream barrier to resident and anadromous fish in lower Merced River. Merced ID owns and operates the diversion

[45] DEIS p. 414.
[46] DEIS, p. 438.
[47] *See* Center for Environmental Quality, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Fed. Reg. 18026 (Mar. 23, 1981), Question 2a.

dam and the Main Canal as part of its water supply system and both facilities are not related to hydropower operation.[48]

The staff analysis simply reiterates lack of jurisdiction: "The Crocker-Huffman diversion dam and any associated features, including the Main Canal, are not related to hydropower operation and are not included in the existing license."[49] The DEIS then washes its hands of the matter.

In our REA Comments and Recommendations, Conservation Groups recommended that the DEIS include a fish passage alternative that analyzes as one component reopening the fish ladder at Crocker-Huffman. We also noted, "… both California Department of Fish and Wildlife and National Marine Fisheries Service have requested that Merced ID restore the existing Crocker-Huffman fish ladder to operable condition." [50] Of perhaps even greater significance for the NEPA analysis, the State Water Board included a measure in its draft Water Quality Certification that would require Merced ID to either provide a working fish ladder at Crocker-Huffman or else improve water temperatures for O. mykiss downstream of Crocker-Huffman; staff dismisses the latter option in the DEIS.

Though a final Water Quality Certification is likely some years away, the State Board has already disagreed with the Commission that Crocker-Huffman is not "related to hydropower operation." We point out that part of the reason that the State Board will require additional CEQA documentation and analysis for this project is because staff ducks this issue. Additional analysis would not be duplicative; it would be analysis the Commission declined to do (and, we argue, improperly so). The Commission cannot lay delay in relicensing at the doorstep of the State Board when staff's NEPA analysis leaves gaps that the State Board will need to fill.

The Commission cannot avoid its legal obligations under NEPA by disclaiming jurisdiction over Crocker-Huffman Dam or re-affirming that staff did not previously order studies related to fish passage. The legal standard under NEPA is whether fish passage at Crocker-Huffman is reasonably foreseeable. The DEIS must consider the incremental impact of the Projects "when added to other past, present, and reasonably foreseeable future actions" as part of its cumulative effects analysis (*see* Section III infra).[51] With the likely development of a

[48] DEIS, p. 189.
[49] *Id.*
[50] Conservation Groups' REA comments, p. 53. *See also* e-Library no. 20091118-5023: In November 2009, the CDFW requested that Merced ID work collaboratively with it to restore passage of resident and anadromous fish over Crocker-Huffman Diversion Dam as required by Fish and Game Code (FGC) §5935. This section of the FGC states: "the owner of any dam upon which a fishway has been provided shall keep the fishway in repair and open and free from obstructions to the passage of fish at all times". On November 10, 2010 NMFS also requested that Merced ID, along with Pacific Gas & Electric Co., work with Resource Agencies to collaboratively resume seasonal fish passage at both Crocker-Huffman Dam and Merced Falls Dam. This request was partly based on NMFS's inspections as described in NMFS's December 27, 2011 filing, which determined low cost engineering options are available to restore fish passage through both the Crocker-Huffman and Merced Falls facilities. See eLibrary no. 20111227-5006. Unfortunately, there has been no progress on the development of a fish passage plan for the lower Merced River.
[51] *See* 40 C.F.R. § 1508.7. "Cumulative impact" is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency... undertakes such other actions."

fish passage plan at Crocker-Huffman Dam pursuant to the Water Quality Certification, and the repair and opening of the fishway in accordance with state law, it is reasonably foreseeable that anadromous fish will gain access upstream to Merced Falls Dam during the term of the new license. Therefore, the Commission has an obligation to analyze the effects of the relicensing when added to the restoration of access of anadromous fish to Project waters. As noted above, the Commission also has an obligation to include reasonable alternatives in the DEIS irrespective of whether they fall within the Commission's jurisdiction. Inclusion of a fish passage alternative in the FEIS will facilitate the required effects analysis and help ensure that a reasonable range of alternatives is considered. Additionally, it will allow the Commission to properly balance all public interest values and support a finding that the new license is "best adapted to a comprehensive plan for improving or developing a waterway or waterways." (*See* Section IV infra.)

To that end, the Conservation Groups recommend that the FEIS evaluate the fish passage recommendation of the Conservation Groups as a reasonable alternative. Specifically, the Conservation Groups recommend that Merced ID: (1) open the Crocker-Huffman fish ladder on a temporary basis for seasonal use by *O. mykiss* when fall-run Chinook salmon are not present and develop monitoring and reporting protocols to quantify fish passage at this dam; (2) develop a plan for infrastructure needed for long-term upstream and downstream *O. mykiss* passage at Crocker-Huffman Dam; and (3) develop a plan fortransporting adult anadromous fish from the lower Merced River to upstream of Lake McClure and juvenile anadromous fish from upstream of Lake McClure to downstream of Crocker-Huffman Dam.

B. The DEIS if flawed because it does not include a Bay-Delta Water Quality Control Plan Alternative; the FEIS should include such an alternative.

In our REA Comments and Recommendations, Conservation Groups also recommended that the DEIS include a "Bay-Delta Water Quality Control Plan Alternative" that includes analysis of actions of the State Board under Phase I of the update of the Bay-Delta Water Quality Control Plan, the Conservation Groups' flow recommendations with similar actions on the Tuolumne and Stanislaus rivers, and a reduced exports alternative consistent with such action under Phase II of the update. However, the update of the Bay-Delta Plan gets mention in the DEIS only where it might in the future change measures recommended by an entity now or ultimately required under the new license. For instance, the DEIS notes that water year types could change under a Bay-Delta Plan requirement[52] and that DFW reserved the right to modify its 10(j) recommendations for flow following the Bay-Delta Plan update.[53]

The practical effect *for its NEPA analysis* of staff's observation that "the effects of hydroelectric project operation are outweighed by other non-project factors downstream of Shaffer Bridge"[54] is that staff and the DEIS simply punt on all issues relating to cumulative effects downstream of river mile 32.5 in the Merced River.

[52] DEIS, p. 143.
[53] DEIS. p. 469.
[54] DEIS, p. 435.

In the April 30, 2015 DEIS evening meeting, Merced ID's General Manager Sweigard stated to Commission staff:

> I have an outstanding major concern with the State Water Resources Control Board, which as you know, Matt, has Clean Water Act authority to issue the 401 water quality certification for the project and mandatory conditioning authority. We want to ensure that you guys understand that there are limits to that authority that they have. It is only supposed to be related to water quality as it relates to the hydro project.[55]

Contrary to this misplaced admonition to staff concerning the authority of the State Water Board, and contrary to the absence of the Water Quality Control Plan and analysis of specific draft proposals for the Water Quality Certification in the DEIS, the Board has broad authority to address the "whole of the action," as settled in *PUD No. 1 of Jefferson County v. Washington Department of Ecology*, 511 U.S. 700 (1994). Over the course of the FERC proceeding, Merced ID has made multiple efforts to keep information to inform the Board's exercise of its water quality authority out of the record, and Commission staff has on multiple occasions erred in acceding to these efforts. Staff's failure to analyze the issues related to the Board's exercise of its Clean Water Act authority compounds these errors. The FEIS should include and analyze the Water Quality Control Plan and Fish Passage alternatives recommended by Conservation Groups in our REA comments.

Our REA Comments and Recommendations were not the first instance in which Conservation Groups raised these issues. In our *Petition for Declaratory Relief by California Sportfishing Protection Alliance, Trout Unlimited, American Rivers, Northern California Council of the Federation of Flyfishers, and Merced River Conservation Committee; Merced River Project, Project No. 2179*, June 1, 2012, we asked the Commission to step in and require staff to analyze these issues in the DEIS.[56] Merced ID responded on July 3, 2012 that the petition "inappropriately asks the Commission to preempt and usurp the OEP Staff's ongoing responsibilities to develop the NEPA analysis for the Project relicensing, well before the evidentiary record for the relicensing has been completed."[57] It is three years since we filed that petition almost to the day, and staff's draft NEPA document today makes many of the errors our petition asked the Commission to address.

In that petition (Attachment A), we summarized the need to develop alternatives based on the update of the Bay-Delta Plan:

> The Commission should direct OEP Staff to commit to use the information being developed by the State Water Board in the Bay-Delta Plan Update as the starting point for its own alternatives analysis. The State Water Board is developing information regarding alternatives that would require February through June flow in the lower Merced River at 20%, 40%, and 60% of unimpaired flow. Staff should also develop the record for

[55] Transcript of FERC-sponsored April 30, 2015 evening meeting to take comments on the DEIS, op cit, p. 93.
[56] *Petition for Declaratory Relief by California Sportfishing Protection Alliance, Trout Unlimited, American Rivers, Northern California Council of the Federation of Flyfishers, and Merced River Conservation Committee; Merced River Project, Project No. 2179*, June 1, 2012, eLibrary no. 20120604-5053. Hereinafter, "Petition."
[57] Merced ID Answer to Petition for Declaratory Relief, July 3, 2012, eLibrary no. 20120703-5160.

and consider alternatives that address resources outside the temporal or geographic scope of the State Water Board's actions, or that better address aquatic resources not adequately addressed by the State Water Board.[58]

III. The DEIS does not adequately analyze cumulative effects.

The Cumulative Effects section of the DEIS does not adequately address past cumulative impacts of the Projects and other watershed activities including mining, energy generation, debris management, water supply, and flood control on Central Valley spring-run Chinook salmon and Central Valley steelhead.

The Commission's NEPA document must address cumulative effects, which are defined as:

> "The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." (40 C.F.R. § 1508.7.)

The DEIS states:

> "Based on our review of the Merced River license application and agency and public comments, we identified water quantity, water quality (primarily DO, temperature, and total suspended solids), aquatic habitat, and Central Valley steelhead (*Oncorhynchus mykiss*), which is federally listed as threatened, as having the potential to be cumulatively affected by the proposed project in combination with other past, present, and foreseeable future activities."[59]

The DEIS continues:

> "We selected Central Valley steelhead as a cumulatively affected resource because many historical and current factors influence the abundance of this threatened species in the Merced and San Joaquin Rivers. Historical factors that have influenced Central Valley steelhead populations include the construction of *Crocker-Huffman, Merced Falls,*[60] McSwain, and New Exchequer dams *without provisions for upstream and downstream fish passage*, removal of spawning gravel associated with aggregate and gold mining, and agricultural encroachment on the river channel. Ongoing factors that potentially affect

[58] Petition, p. 34.
[59] DEIS, p. 59.
[60] These dams have non-functioning fish ladders that were operated until California Department of Fish and Game (now Fish and Wildlife or CDFW) ordered them closed in 1971 with the construction of the artificial spawning channel at Merced River Hatchery. Subsequently, CDFW declared the artificial spawning channel to be non-functional. For the protection of Central Valley steelhead, Resource Agencies and Conservation Groups recommended developing a plan for restoring fish passage at Crocker-Huffman and Merced Falls Dams. Staff dismisses those recommendations, without analysis, as being too costly and having no nexus to hydroelectric operations. Merced Falls Dam has a fish ladder identified as a portion of the project works in the Merced Falls FERC license.

> Central Valley steelhead include numerous diversions from the Merced River at and downstream of Crocker-Huffman diversion dam, altered flow regimes due to upstream hydropower and flood control operations, predation by non-native fish such as striped bass, ocean growth and mortality from fishing and other factors, competition for available habitat by native and hatchery-reared fall Chinook salmon, and gravel augmentation and other lower Merced River stream enhancement initiatives."[61]

As noted in Conservation Groups' REA comments, the new licenses, in conjunction with present water supply operations, will cumulatively affect fish and wildlife and recreation resources. Yet the DEIS's cumulative effects analysis is perfunctory. The facts clearly point to past and on-going activities in the watershed that require further detailed cumulative effects analysis specific to the Merced River watershed as a whole. The well-known history of mining, energy generation, water supply, and flood control projects in the Merced River watershed began with the development of water diversions and impoundments to provide water for hydraulic mining and hydroelectric power generation. Prior to the construction and licensing of the Merced River Hydroelectric Project, passage of anadromous fish occurred up to old Exchequer Dam. New Exchequer and McSwain dams were constructed without fish passage, blocking migration of anadromous species to their spawning grounds in the lower Merced River.

Upper Merced River water diversions and impoundments first constructed for mining were converted to the dual purposes of hydropower generation and water supply.[62] Instream flows in these projects were managed for hydropower generation and water supply without consideration of effects on anadromous species or the health of the watershed as a whole. In addition, FERC licenses were issued in 1964 without consideration of project effects on anadromous species in part because they did not exist above Exchequer Dam at the time. There was still a poor fall-run and spring-run Chinook salmon population in the lower Merced River prior to the construction of New Exchequer and McSwain Dams, which were completed in 1967. A 1961 DFG Report described the lower Merced salmon fishery as follows:

> "Due to irrigation diversions, the Merced River is at present a marginal salmon stream. There is a lack of water at critical times of the year. This stream has a poor fall run and poor spring run. No numerical estimate has been made of the spring run. All fall run counts and estimates were made by the Department of Fish and Game. Incomplete counts were made in 1940 and 1941. Estimates have been made every year since 1953. Since 1953 the highest estimate has been 4,000 fish in 1954. In all other years it has been below 500."[63]

Taken together, the cumulative effects of past Project and other watershed activities, including mining, energy generation, water supply, and flood control within the Merced River

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[61] DEIS, p. 60. Emphasis added.

[62] *Report XIV of the State Mineralogist - Mines and Mineral Resources of Portions of California, Chapters of State Mineralogist's Report - Biennial Period 1913-1914*, Part IV. "The Counties of Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus," by F. L. Lowell, Field Assistant (field work in July, 1914), San Francisco, California, July, 1915, California State Mining Bureau, San Francisco, California, 1916, pp. 173-370.

[63] Fry, DH. 1961. King Salmon Spawning Stocks of the California Central Valley, 1940-1959. *California Fish and Game* 47(1):55-71.

watershed as a whole and other project-affected streams resulted in and continue to result in or significantly contribute to:

> 1) Elimination of access to historic spawning habitat of Central Valley spring-run Chinook salmon and steelhead;
> 2) Diminution of the historic spawning and rearing habitat of one species (Central Valley steelhead); and
> 3) The demise and extinction of the second species (spring-run Chinook salmon) throughout its historic range in the Merced River watershed.

An appropriate Cumulative Effects analysis would be consistent with stated Commission policy, as given in the *Interagency Task Force Report on NEPA Procedures in FERC Hydroelectric Licensing* issued May 5, 2000, which states:

> Past Conditions/Effects for Cumulatively Affected Resources-
> In accordance with the Council on Environmental Quality's regulations, FERC will include and utilize information regarding past conditions/effects, where applicable, in its cumulative effects analyses. FERC will request this information and include it in its cumulative effects analysis and in its evaluation of measures appropriate to protect, mitigate damages to, and enhance resources affected by the project.[64]

The *Report* continues:

> Scope of Cumulative Assessment-
> Where relevant, the NEPA document will identify other watershed activities including hydropower projects and will analyze the effects of the proposed project and alternatives in combination with other projects and activities.[65]

In summary, FERC must provide a cumulative impacts analysis specific to the Merced River watershed as a whole and also to the San Joaquin River that "…will identify other watershed activities including hydropower projects and will analyze the effects of the proposed project and alternatives in combination with other projects and activities" on Central Valley Chinook salmon and Central Valley steelhead. The Commission should consider reasonably foreseeable future actions in its analysis, such as actions to restore fish access above Crocker-Huffman and/or New Exchequer Dam, the State Water Resources Control Board's update of the Bay-Delta Water Quality Control Plan, the San Joaquin River Restoration Program, and foreseeable changed operations at Don Pedro Dam.[66] Additionally, the Commission should consider the impacts of the alternatives in combination with reduced exports at the State Water Project and Central Valley Project south Delta pumps. Export reductions have been utilized in the past (e.g.,Vernalis Adaptive Management Plan) and proposed for future conditions in

[64] Work Group on the Coordination of Federal Mandates, *The Interagency Task Force Report on NEPA Procedures in FERC Hydroelectric Licensing*, May 22, 2000, p. 5.
[65] *Id*., p.6.
[66] *See* Conservation Groups' REA Comments pp. 47-59.

ongoing proceedings (e.g., Bay-Delta Water Quality Control Plan) as an effective mechanism to support San Joaquin Basin salmon population abundances.[67]

Results of the analyses recommended above may require development of mitigations that include the return of and reintroduction of these species to their historic range and identification of actions necessary to mitigate cumulative effects on them.

IV. The DEIS does not analyze its consistency with two relevant comprehensive plans.

FPA section 10(a)(1) requires that a project must be "best adapted to a comprehensive plan for improving or developing a waterway or waterways" for beneficial uses, including fish and wildlife uses.[68] Additionally, FPA section 10(a)(2)(A) requires the Commission 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.[69] The DEIS notes that staff reviewed 17 comprehensive plans that are applicable to the Projects and found "no inconsistencies."[70] However, the DEIS fails to consider all applicable comprehensive plans or all relevant parts of the plans, and consequently its conclusion that the Projects are best adapted to a comprehensive plan for the waterway is unsupported. The omissions compromise the ability of the Commission to equitably balance the beneficial uses of the Projects' waterways consistent with the public interest.

A. The DEIS fails to analyze its consistency with the National Marine Fisheries Service's 2014 Final Recovery Plan for Anadromous Salmonids.

The DEIS does not consider or evaluate whether relicensing the Projects would be consistent with the "*Final Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead*" (Final Recovery Plan)[71], a FERC-recognized comprehensive plan.[72] The Final Recovery Plan is a comprehensive plan that articulates a vision and concrete actions for improving and/or recovering populations of spring-run Chinook and Central Valley Steelhead sufficiently to support their removal from listing under the Endangered Species Act (ESA).[73] The plan contains detailed descriptions of each watershed, including the Merced River, where recovery actions can take place to aid in a listed species recovery.

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[67] *See id.*, pp. 50-51 for more discussion.
[68] 16 U.S.C. § 803(a)(1).
[69] 16 U.S.C. § 803(a)(2)(A).
[70] DEIS, p. 498.
[71] The Recovery Plan was filed with the Commission in the dockets for the Projects. *See* eLibrary no. 20141006-5095.
[72] List of Comprehensive Plans December 2014. Federal Energy Regulatory Commission, Office of Energy Projects. Available at: http://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf
[73] *Id*.

Despite its relevance, the DEIS does not consider whether the proposed new licenses are consistent with the Final Recovery Plan and its recommended actions for anadromous fish in the Merced River. This is not consistent with the Commission's obligations under the FPA. The Commission must consider all relevant comprehensive plans, and it must do more than make a conclusory finding that its decision is consistent with all applicable plans. It must demonstrate the consistency of its proposed license terms with the specific strategy and objectives contained in each comprehensive plan, including the Final Recovery Plan.

The FPA's comprehensive planning requirements are intended to produce more than a rubber stamp finding of consistency prior to license issuance. They also serve as a meaningful mechanism to help ensure the Commission fulfills its obligation to balance power and non-power uses like fish and wildlife in a manner that best serves the public interest by providing the Commission useful context in which to conduct its analysis. For instance, section 10(a)(1) gives the Commission "sweeping authority and a specific planning responsibility, ... instead of piecemeal, restrictive, negative approach of ... federal laws previously enacted.[74] This allows the Commission to consider not only the stretch of river directly affected by the project, but also the potential impacts in a watershed context. [75]

The Final Recovery Plan contains specific strategies and actions for several watersheds, including the Merced River, that are intended to recover anadromous fish populations. For instance, Lindley *et al.*[76], a peer-reviewed, technical recovery team report which is cited in the Recovery Plan, states that, "*To recover Central Valley salmon and steelhead … some populations will need to be established in areas now blocked by dams or insufficient flows*." The Final Recovery Plan and other multi-agency collaborative processes, including the 2014 and 2015 Merced River *O. mykiss* rescue efforts in the face of drought, demonstrate that anadromous fish resources in the Merced River Merced River watershed are a high priority for the federal government, state agencies, and other stakeholders active in these watersheds. As such, the Commission must consider the consistency of its proposed measures with the strategies and actions outlined in the Final Recovery Plan, including an analysis of the impacts of the Projects on current anadromous fish habitat and reintroduction to historic habitat.

The Commission's duty to analyze the impacts to anadromous fish habitat and the impacts of reintroduction is not limited to existing conditions; rather, the Commission must consider future conditions over the 30- to 50-year term of the new licenses. The final EIS should include a description of the Final Recovery Plan, an analysis of the consistency of its measures with the specific strategies and actions of the Final Recovery Plan, and an analysis of benefits and costs of reintroduction of listed and threatened anadromous fish to the Merced River above Crocker-Huffman Dam.

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[74] *Scenic Hudson Preservation Conference v. Federal Power Commission*, 354 F.2d at 613-14.

[75] This is consistent with state and federal agency direction. *See, e.g.*, "Unified Federal Policy for a Watershed Approach to Federal Land and Resource Management," 65 Fed. Reg. 62565 (Oct. 18, 2000).

[76] Lindley, S.T., R.S. Schick, E. Mora, P. B. Adams, J. J. Anderson, S. Greene, C. Hanson, B. P. May, D. McEwan, R. B. MacFarlane, C. Swanson, and J. G. Williams. 2007. Framework for Assessing Viability of Threatened and Endangered Chinook Salmon and Steelhead in the Sacramento-San Joaquin Basin. San Francisco Estuary & Watershed Science Volume 5, Issue 1. Article 4: California Bay-Delta Authority Science Program and the John Muir Institute of the Environment. Lower Putah Creek Coordinating Committee. P. 20.

B. The DEIS fails to analyze its consistency with the Central Valley Regional Water Board (Water Board) 2011 Water Quality Control Plan for the Sacramento and San Joaquin Basins (Basin Plan)

The DEIS references the Central Valley Regional Water Board's Water Quality Control Plan for the Sacramento and San Joaquin Basins (Basin Plan), but does not recognize it as a relevant comprehensive plan.[77] The Basin Plan is a comprehensive, scientifically supported document that addresses the beneficial uses of Project-affected reaches of the Merced River and should be acknowledged as a relevant comprehensive plan by the Commission. The analysis that does occur in the DEIS related to the Basin Plan is deficient.

First, the DEIS does not consider whether the proposed FERC licenses are consistent with the Basin Plan. According to the Basin Plan, existing designated, beneficial uses from McSwain reservoir downstream to the San Joaquin River include: municipal and domestic water supply, stock watering, industrial process and service supply, hydropower generation, contact and non-contact recreation, *warm and cold freshwater habitat, migration of warmwater and coldwater aquatic organisms, spawning of warmwater and coldwater fishes*, and wildlife habitat.[78] Commission staff evaluates some but not all of the stated beneficial uses in the reach from McSwain Reservoir to the confluence of the San Joaquin River; specifically, it omits discussion of warm and cold freshwater habitat, and migration and spawning beneficial uses. This failure to consider all beneficial uses puts the proposed FERC licenses in conflict with the Basin Plan. For instance, two existing and inoperative fish ladders on Crocker-Huffman and Merced Falls dams prevent volitional migration of colder water species (steelhead trout, Chinook salmon, and Pacific lamprey) in the subject reach. Yet the DEIS fails to propose measures sufficient to protect the overlooked beneficial uses, and is thus at odds with the goals of the Basin Plan.

The DEIS analysis compounds this omission by failing to include in the staff alternative the State Water Resources Control Board's preliminary mandatory condition requiring a plan for the provision of volitional fish passage at Crocker Huffman and Merced Falls dams.[79] Inclusion of this requirement would not only help remedy the Staff Alternative's deficiencies by providing a mechanism to help protect the omitted beneficial uses, but would help ensure adequate analysis of all parts of the license for the project, given that all mandatory conditions must be included in that license.[80] The Commission should evaluate all beneficial uses contained in the Basin Plan, evaluate whether the proposed FERC licenses are consistent with the Basin Plan, and include adequate analysis of all mandatory conditions in its FEIS.

Further, the FEIS should reconsider other previously discounted enhancement/mitigation measures[81] proposed by the Water Board, NMFS, United States Fish and Wildlife Service

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[77] DEIS, p. 78. The DEIS fails to mention the Basin Plan in its list of comprehensive plans. DEIS, pp.498-500.
[78] DEIS, p. 78. Emphasis added.
[79] Under the Staff Alternative, the Project would also include *most of the State Water Board's mandatory water quality certification conditions* with the exception of the following due to cost and project nexus considerations: (1) a gravel augmentation plan for Merced Falls reach; (2) a fish passage plan; and (3) a review of federally listed and special-status species lists. DEIS, pp. xxxviii, 365, and 371.
[80] *See American Rivers v. FERC*, 129 F.3d 99.
[81] DEIS, page 371.

(FWS), California Department of Fish and Wildlife (CDFW),[82] and Conservation Groups as credible mechanisms to help ensure that all beneficial uses articulated in the Basin Plan are sufficiently protected, including migration of aquatic organisms. Part of the rationale provided in the DEIS for omitting the measures is staff's estimated costs to implement passage.[83] However, the estimated annual costs of maintenance and operations of volitional passage facilities appear grossly overestimated. Staff should better describe its cost estimation assumptions, and should re-evaluate the costs as appropriate.

V. Comments on additional specific measures recommended in the DEIS.

Conservation Groups recommend that Merced ID and the Commission consider the following changes and additions to ensure the legal sufficiency of the Commission's NEPA analysis (*see* 18 C.F.R. § 380.3) and to ensure that the new license is in the public interest and best suited to a comprehensive plan of development for the river consistent with Section 10(a) of the FPA (*see* 16 U.S.C. § 803(a)(1)).

A. The new project license should require a technical advisory committee with the membership and scope of action described in the DEIS.

We appreciate the fact that the Staff Alternative in the DEIS includes a measure for the establishment of a Merced River Technical Advisory Committee. We thank both the Commission and Merced ID for recognizing the value of such a committee and for taking steps to include it in the new license. The Conservation Groups strongly believe that existence and actions of this committee will produce solid returns in terms of achieving effective post-licensing outcomes and avoiding protracted disputes, irrespective of any disagreements the parties may have during the relicensing process. We strongly support the Commission's recommended modifications to Merced ID's proposed measure. The Commission's measure proposes to:

> [e]stablish a Merced River technical advisory committee (T&E2) *that expands the scope beyond measures that pertain only to anadromous fish downstream of the Crocker-Huffman diversion dam (such as topics that pertain to resident fish, aquatic and terrestrial monitoring results, and actions that could affect BLM-managed land, including Lake McClure water level management); establish guidelines for conducting meetings that provide ground rules for decision making; and add BLM and the Park Service to the entities invited to participate on the committee because Lake McClure water management affects resources within the jurisdiction of these two agencies* (Commission modifications in italics).[84]

In particular, we support expanding the scope of the committee (as compared to the measure proposed by Merced ID) and the inclusion of one conservation group representative on the committee. We recommend that there be a license article devoted to the Technical Advisory

[82] CDFW did not make a recommendation for fish passage in its 10(j) recommendations. However, CDFW clearly indicated that there would be "foreseeable reintroduction of anadromous species above Crocker-Huffman Diversion Dam." *See* CDFW 10(j) recommendations, eLibrary 20140721-5150, p. 17, and Enclosure B, p. 49.
[83] DEIS, Table 4-5 gives Capital costs as $3,500,000; *Annual Costs $2.500,000; Levelized Annual Costs $2,766,000*.
[84] DEIS, p. 381.

Committee that defines its membership and responsibilities. The draft license articles establish the committee in a footnote, and refer to its responsibilities only in the context of specific other license requirements. A license article devoted to the committee would provide clarity and definition of roles and responsibilities. We suggest some language below, from our REA Comments.

> [The Committee] shall be consulted at least annually on the implementation of license measures, implementation of monitoring plans, review and evaluation of monitoring data, and review and evaluation of required facility modifications. The date of the annual consultation meeting will be mutually agreed to by Merced ID and the Resource Agencies, but in general should be held by April 15. At least 30 days in advance of the meeting, Merced ID shall notify the operator of the adjacent Merced Falls Project (Commission Project No. 2467) and other interested stakeholders of the meeting location, time and agenda. Merced ID shall attempt to coordinate the meeting so interested agencies and other stakeholders may attend.
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> Merced ID shall make available to [the Committee], at least two weeks prior to the meeting, an operations and maintenance plan for the year in which the meeting occurs. In addition, Merced ID shall present results from current-year monitoring of special status species as well as any additional information that has been compiled for the Project area, including progress reports on other resource measures. The goals of this meeting are to share information, mutually agree upon planned maintenance activities, identify concerns that Resource Agencies or other [Committee] members may have regarding activities and their potential effects on sensitive resources, and reach consensus on any measures required to avoid or mitigate potential effects. In addition, the goal of the meeting shall be to review and discuss the results of implementing the instream flow and reservoir-related conditions, results of monitoring, and other issues related to preserving and protecting ecological values affected by the Project.
>
> Consultation shall include, but not be limited to:
>
> - A status report regarding implementation of license conditions, including those instream flow measures that have specific timing and duration components that require annual adjustment.
> - Results of any monitoring studies performed over the previous year in formats agreed to by the Resource Agencies and Merced ID during development of implementation plans.
> - Review of any non-routine maintenance.
> - Discussion of any foreseeable changes to Project facilities or features.
> - Discussion of any necessary revisions or modifications to implementation plans approved as part of this license.
> - Discussion of needed protection measures for species newly listed as threatened, endangered, or sensitive, or changes to existing management plans that may no longer be warranted due to delisting of a species or, to incorporate new knowledge about a species requiring protection.

- Discussion of elements of current-year maintenance plans, e.g. road and trail maintenance.
- Discussion of any planned pesticide use.[85]

B. The new Project license should adopt a drought plan.

On the Merced River and in the Merced ID service area, there is a systemic drought caused by excessive demand for water. The existing management paradigm of promising to meet full demand in relatively wet water years reduces carryover storage necessary to guard against dry year inflow, creates permanent pressure for over-delivery, and increases pressure on an extremely stressed groundwater basin. License articles should be designed to the degree possible to be appropriate in multiple dry year sequences, including reducing this systemic over-demand. The DEIS proposes that a drought plan be designed to take effect whenever there are back-to-back Dry or Critically Dry years in any combination. Two consecutive Dry or CD years should not constitute a meteorological drought in Central California. Conservation Groups proposed in our REA comments that a Dry year preceded by a Dry or Critically Dry year be considered a Critically Dry year. We believe that this is the appropriate first level of response to multiple Dry year sequences.

The purpose of the drought plan should be to limit, not facilitate, variances from license conditions. We understand part of the intent of the Drought Plan proposed in the DEIS to be to avoid *ad hoc* decisions for project management based exclusively on agency consultation; we support this concept. We are concerned, however, that a drought plan that does not include consideration of reduced irrigation deliveries will be one-sided and have an inequitable effect on fish and wildlife resources. We recommend that a drought plan consider the general parameters of such reductions, recognizing that there will not be a simple or uniform solution in any multiple dry year sequences.

C. The FEIS should reconsider water-year type designation based on how the FEIS addresses other resource issues as compared to the DEIS.

Staff, the Licensee, Resource Agencies and Conservation Groups agree that a water-year type designation system should be specific to the Merced River.

Merced ID proposed a very conservative method for determining water-year type in order to store water in February and March when there is greater uncertainty about annual water supply. Merced ID's proposed water-year type designation is similar to the 60-20-20 San Joaquin Index currently used by the Department of Water Resources, but looks at the Merced River watershed alone, rather than combined flow in the San Joaquin watershed. Merced ID's method also proposes using the Department of Water Resources' Bulletin 120 90% predicted exceedence for April-July unimpaired inflow downstream of Lake McClure in February and March, and 75% exceedence in April and May; April-July inflow represents the "60" portion of the Index. Merced ID's method would if implemented categorize about 45% of all Februarys as Critically Dry.

[85] Conservation Groups' REA Comments, pp. 30-31. In our comments, we named the Committee the Merced River Ecological Resources Group; we substitute the term "Committee" in this quote.

The California Department of Fish and Wildlife proposed a more traditional method of water-year type designation based on the Department of Water Resources' Bulletin 120 50% predicted exceedence for annual unimpaired inflow downstream of Lake McClure, with break points for types determined by CDFW. This method has been named the "Hughes method" by relicensing participants, and the DEIS adopts this term.

Conservation Groups proposed a method similar to that of Merced ID, except that, similar to the San Joaquin Index percentages, Conservation Groups recommend that the index be 75% in February and March as well as April and May. Similar to both Merced ID and CDFW, Conservation Groups' recommended water-year type method is based on hydrology in the Merced River watershed alone.

Based on the record in the State Water Board's Delta Flow Criteria proceeding and the Board's Phase I of the update of the Bay-Delta Water Quality Control Plan, Conservation Groups believe that it is biologically vital to require aggressive flow releases from the Merced River in February and March whenever possible. For that reason, Conservation Groups optimized our water-year type designation method to such an aggressive flow schedule, and made our water-year type methodology significantly more conservative than the Hughes method (though without the excessive conservatism of Merced ID's proposed method, which transfers all risk to aquatic resources).

We continue to maintain that our optimization approach is appropriate, and recommend that the Commission adopt our water-year type designation method. The greatest aquatic benefits (floodplain, geomorphic, migration, predator avoidance, diversity of life history, and others) come with the largest and most variable flows. However, the flaw in the State Board's uniform application of a percent-of-unimpaired flow in all water year types in its Phase 1 update of the Bay-Delta Plan is that in drier water years and dry year sequences, the system becomes quickly stressed for all uses, without a corresponding aquatic benefit. It was for this reason that we proposed pulse flows in Critically Dry years to perform limited important functions.

In analyzing the hydrology, Conservation Groups recommended in our REA Comments that a nominally Dry year immediately preceded by a Critically Dry year or a Dry year be classified as a Critically Dry year. We continue to believe that this is appropriate for the Merced River watershed. We believe that this would pre-empt many of the potential issues that staff proposes to address instead with a Drought Plan.

In terms of comprehensive planning, we again point out that a variation on the San Joaquin Index would continue to make the water-year type for the three major San Joaquin tributaries more consistent, though as we have stated previously, we recognize that it is not equitable to base the Merced water-year type in part on unimpaired inflow on the Stanislaus, Tuolumne and mainstem San Joaquin.

In sum, the water-year type designation method should be iteratively customized to the flow schedule, as was ours. We disagree with staff that the Hughes method is substantially more

rigorous than Merced ID's proposed method,[86] though we do agree that the Hughes method is more equitable in circumstances where required flows are relatively low. We also disagree with both staff and CDFW that it is appropriate to look at water-year type in the Merced system without considering the previous year; basing one of the "20" portions of a "60-20-20" index on the previous year's index incentivizes a licensee to carry over storage, but does not allow a licensee to game the following year by drawing down carryover storage.

Ultimately, our main issue with staff's decision on water-year type designation is that it is tied to the Staff Alternative's anemic flow schedule. The more water that goes in the river, the more difference a water-year type designation will make. Staff's flow proposal provides just enough additional water to claim that it is an improvement. We repeat our request that staff analyze the aquatic benefits of Conservation Groups' flow recommendation, as well as a rigorous impacts assessment, as a NEPA alternative in the FEIS.

D. The Commission should require the monitoring recommended in the DEIS, and in addition should require some additional monitoring.

Conservation Groups recommend the following anadromous salmonid monitoring methods on the Merced River. These methods are consistent with standard procedures on other San Joaquin River tributaries, as well as the Mokelumne River. They provide consistency and comparability of data and evaluations conducted previously on the Merced River and other San Joaquin River tributaries. They are recommended by federal[87,88] and state fisheries agencies.[89] While the DEIS recommends many of these measures, it does not recommend all of them, and is somewhat lacking in detail.

Merced ID should:

a. Conduct rotary screw trap monitoring near Hopeton and Hageman from January through June.

b. Install and modify traps or the streambed to provide adequate trap capture efficiencies at all flows.

c. Ensure that traps rotate continuously by removing accumulated debris.

d. Conduct sufficient capture efficiency tests at all flows with all fish sizes and with sufficient numbers of fish to ensure adequate confidence intervals

e. Operate traps annually from at least mid-January through the middle of June.

f. Weigh and measure a representative sample of the juveniles; determine sample size by statistical analysis.

g. Report all rotary screw trap monitoring to state and federal fisheries agencies on at least a monthly basis.

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[86] DEIS, p. 392. Use of a longer period of record does not substantially change the methodology.

[87] *See* United States Department of Interior, Review of Application Accepted for Filing and Ready for Environmental Analysis, eLibrary no. 20140722-, pp. 45-46.

[88] *See* National Marine Fisheries Service, NOAA Fisheries Service's Resource Management Goals and Objectives; our Federal Power Act Preliminary § 18 Prescriptions, § 10(j) Conditions, and § 10(a) Recommendations, eLibrary no. 20140722-5067, pp. 93-94

[89] See California Department of Fish and Wildlife, Response to Notice of Ready for Environmental Analysis, eLibrary no. 20140721-5150, pp. 22-23.

h. Continuously operate a fish counting weir from September through May to estimate salmon and CCV steelhead escapement, to provide data on the percentage of females, and to catalogue migration timing.

i. Conduct otolith analysis of adult Chinook salmon and *O. mykiss* annually to estimate the contribution of naturally produced fry-, parr-, and smolt-sized migrants to the adult populations, the percentage of hatchery fish in the populations, the percentage of anadromous *O. mykiss*, and the source of adult salmon strays collected in the Merced River.

Of particular concern in the staff recommendations for monitoring is the limitation of adult (weir) upstream migration monitoring to the September through December time period. Considerable controversy has occurred regarding the presence of anadromous *O. mykiss* in the Merced River. No one will find adult *O. mykiss* migrants in the Merced if no one looks for them; they are likely to be present from January through May. In addition, extension of weir monitoring in this time period will allow evaluation of the entrance of spring-run Chinook into the Merced River, either as a product of straying from the San Joaquin re-introduction program or as a product of other factors, since spring-running Chinook are already present in small numbers in the Tuolumne and Stanislaus rivers.

Of equal concern in the staff recommendations for monitoring is the limitation of downstream monitoring to one screw trap. Successful in-river migration from a location near spawning habitat to a location near the mouth of the Merced River is likely the single most important metric that will allow the Technical Advisory Committee to evaluate success of flow and other measures. The new license should require annual monitoring with two screw traps on the Merced River.

E. The FEIS should reconsider Conservation Groups' proposed fish stocking and hatchery management measures.

The DEIS concludes that angling is a primary recreational activity associated with the Projects and that its demand is projected to increase.[90] The DEIS proposes that licensees develop fish stocking plans for each project that consider changes in recreational use, angling demand, availability of hatchery fish, and future CDFW fish stocking management targets. Conservation Groups generally support this approach; fish stocking in Lake McClure and McSwain ensures that the recreational fishery is maintained for the term of the new licenses. Additionally, the DEIS recommends maintaining the *status quo* for stocking at PG&E's Merced Falls Project for two years while a fish stocking plan is developed in consultation with stakeholders.[91] We support this measure and recommend that it also apply to the Merced River Project.

Conservation Groups request that the FEIS reconsider the Conservation Group's recommendation for fish planting. The DEIS incorrectly interprets parts of the Conservation Groups' recommendation on the fish planting programs for the Projects, leading to an inadequate analysis of the merits of the measure. We were alerted to the issue by staff's qualitative remark that the Conservation Groups' recommendations for proposed stocking numbers for Lake

[90] DEIS, p. 327.
[91] DEIS, p. 442.

McClure seem excessive in comparison to those suggested by other commenters.[92] It appears that Staff made a mistake in the evaluation of fish numbers by comparing numbers of adult fish versus juvenile fish to be planted. The cost of 10 to 12 small fish (juveniles in the 3 to 4 inch range) is equal to the cost of one large fish (catchable,12 inch) produced in the hatchery. Our cost estimates (by utilizing fingerling trout and salmon, aka "throw and grow") are commensurate with current expenditures for project fish stocking of Merced ID and CDFW. Additionally, the Conservation Groups' planting plan is numerically consistent with on-going CDFW lake stocking programs in other watersheds, such as the upper Owens River. CDFW plants between 400,000 and 500,000 rainbow trout in the 3" to 10" size range in Crowley Lake annually.[93] Crowley Lake is a man-made impoundment on the Owens River with a storage capacity of 183,743 acre-feet,[94] or approximately 18% the volume of Lake McClure. Thus the numbers proposed by Conservation Groups are consistent with those of current lake stocking practices of CDFW.

The DEIS is vague in its description of a fish stocking plan for Lake McClure, Lake McSwain and the Merced Falls impoundment. Conservation Groups believe that in the foreseeable future fish stocking throughout the Merced River watershed is going to become increasingly restricted, due to environmental concerns about hatcheries and the need to conserve threatened populations. Stocking programs and their support hatcheries are likely to be increasingly limited to native Merced River Rainbow Trout (MRRT) similar in genetic origin to those that occurred in the watershed historically, and part of the geographic focus is likely to be underutilized but high quality historic habitats.[95]

Several studies are underway to determine the feasibility of modernizing hatchery operations on the Merced River, including costs, facility location and design, and availability of broodstock. The Merced River watershed has not been studied for presence of original MRRT stocks. All of the historical planting programs, including those of the Projects, have used non-native rainbow trout.

In our REA Comments, Conservation Groups described various tasks that will be required to modernize hatchery operations in the Merced River watershed.[96] We continue to recommend these measures, implemented in consultation with the Merced River Technical Advisory Committee. They include evaluation of habitat suitability of waters within the Projects and a genetic analysis of Merced River watershed rainbow trout populations (seeking an appropriate broodstock). Once a broodstock is identified, planning and implementation of a MRRT production hatchery would follow.

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[92] DEIS, p. 327.
[93] Fly Fishing the Sierra Crowley Lake, http://stevenojai.tripod.com/crowley.htm, accessed on 5/17/2015.
[94] California Regional Water Quality Control Board, Lahontan Region. 2005. Recommendation to De-list Crowley Lake for Nitrogen and Phosphorus. Crowley Lake, Mono County http://www.swrcb.ca.gov/lahontan/water_issues/programs/tmdl/crowley_lake/docs/staffreport.pdf, accessed 5/15/2015.
[95] Such an effort is ongoing in the Kern River watershed where United States National Park Service and California Department of Fish and Wildlife are pursuing reintroduction of the native Kern River Rainbow Trout to areas which non-native rainbow trout have been introduced. http://parkplanning.nps.gov/projectHome.cfm?parkID=342&projectID=58192, accessed May 20, 2015.
[96] Conservation Groups REA comments, pp. 25-29

To be clear, Conservation Groups' recommendations do differ from other proposals by shifting to smaller and more numerous fish, and also in proposing that Merced ID and CDFW plant fish that are native to the watershed (i.e., genetically compatible). However, as noted above, the projected costs of our proposed program are commensurate with current expenditures for project fish stocking of Merced ID and CDFW. Therefore, the FEIS should reconsider our recommendation for fish planting consistent with these comments.

F. Staff's approach to development of a Large Woody Debris Management Plan is reasonable.

The Staff Alternative supports the development of a Large Woody Debris (LWD) and Large Woody Material (LWM) management plan and includes a measure requiring that such a plan be developed through a collaborative technical advisory committee. Conservation Groups generally support this approach.

The DEIS correctly states:

> Large Woody Materials provide habitat structure in streams and can influence sediment storage and channel morphology through its effects on flow, water velocity, and sediment transport. LWM provides cover and holding habitat for fish, serves as substrate for the growth of algae and invertebrates (which are important components of the aquatic food web), and affects patterns of sediment deposition and scouring. Loss of LWM can result in reduced complexity of aquatic habitat and reduced carrying capacity for aquatic biota.[97]

Conservation Groups agree that LWD and LWM provide multiple benefits for aquatic species. Strategic increase of such material should be a requirement of the license. To that end, we generally favor the approaches and details contained in the Large Woody Material measure we recommended in our REA comments,[98] as well as the approaches and details recommended by NMFS. However, addressing LWM and LWD issues through a collaborative technical advisory committee, as suggested by the Commission, may be a logical means to develop a LWM and LWD management plan. As noted above, we support representation on the committee of a broad group of interested stakeholders, including an NGO representative. Additionally, we support development of the details of the plan on a defined timeline.

G. Staff's proposed gravel augmentation is inadequate.

Merced ID proposes no specific measures to enhance spawning habitat through gravel augmentation. The Staff Alternative includes a gravel augmentation measure, but uses faulty logic (including a tortuous effects analysis discussed more fully above in section I(D) of these comments) to recommend a sediment quantity that is wholly insufficient.

[97] DEIS, pp. 445-446.
[98] Conservation Groups' REA Comments, pp. 35-39.

Staff's analysis in the DEIS suggests that gravel augmentation amounts equal to at least the transport capacity of the supply-limited lower reaches, estimated to be 2,600 cubic yards (~2,200 tons) per year, would offset the ongoing coarse-sediment entrapment behind the project dams that has a direct effect on spawning-habitat quantity.[99] Staff acknowledges that a larger initial placement of coarse sediments in the lower reaches would potentially benefit spawning habitat; however, staff declines to require it, noting that doing so would address legacy effects not necessarily attributed wholly to past project effects and not influenced by future project-related operation, construction, and maintenance activities.[100] Staff incorrectly ignores the historical sediment transport deficits caused by the Merced River projects' dams, for which no substantive mitigation has been implemented. The project dams have historically caused, currently cause, and will continue to cause sediment deficiencies of a substantially larger magnitude than staff's recommended "maintenance-level" amounts. In agreement with most Resource Agencies, and consistent with the Water Board's preliminary mandatory condition requiring a gravel augmentation plan that is consistent with the amount of gravel trapped annually behind New Exchequer and McSwain dams, Conservation Groups recommend an alternative that addresses the historic deficit caused by the Merced River and Merced Falls Projects, between 270,000 and 410,000 tons.[101]

Most relicensing participants' comments reflect the need for initial large-scale gravel augmentation, followed by a maintenance-level augmentation which will improve salmonid spawning habitat in the lower Merced River.[102] Yet staff specifies an insufficient quantity of sediments[103] for spawning habitat/floodplain recovery, without conducting any serious evaluation of the costs and benefits of the proposed measure or alternatives. Staff estimates the levelized annual cost for its proposed plan to be about $127,280, and finds the benefits worth the cost considering the known spawning activity of Chinook salmon and potential for the federally listed Central Valley steelhead to spawn in the lower Merced River.[104] However, the estimate doesn't appear to fully consider costs associated with implementation of the plan, including management costs (such as a review committee) and monitoring/reporting costs. The FEIS should include a more detailed technical and cost/benefit analysis of its recommended gravel augmentation plan and recommended alternatives, including definition of specific expected spawning habitat/floodplain benefits.

Additionally, the FEIS should clarify the geographic scope of its proposed gravel augmentation measure. It is currently expressed in two contradictory ways: 1) required augmentation from Merced Falls Dam to Shaffer Bridge[105] and 2) no gravel augmentation in the

[99] DEIS, p. 195.
[100] *Id*.
[101] This is the amount of deficit citied in Stillwater Sciences. 2002, Merced River Corridor Plan. February 2002.
[102] This includes FERC staff. *See* DEIS, p. 195.
[103] *Id.*, p.192, footnote 30. Commission cites the Stillwater Sciences (2002 @ pp. 6-12 to 6-13) recommendation for gravel augmentation for the Dredger Tailing Reach at 2200 tons. This figure is the annual maintenance-level amount, after initial gravel infusions of 270,000-410,000 tons. At an annual rate of 2200 tons, it would require between 123 to 186 years to rehabilitate the lower Merced River.
[104] Staff selected one alternative gravel augmentation plan and did not evaluate any alternatives. The plan selected is deficient in regard to the amounts of gravel replenishment necessary to remediate the lower Merced River spawning habitat. *Id.*, p. 415.
[105] *Id.*, pp. xxxv and 47.

"Merced Falls reach."[106] It is unclear which "Merced Falls reach" staff has in mind: a) the reach between McSwain Dam and Merced Falls Dam; or b) the reach between Merced Falls Dam and Crocker Huffman Dam. The channel armoring study identified the Merced Falls Dam to Crocker-Huffman Diversion Dam as the "Merced Falls reach."[107] However it is named, Conservations Groups support gravel augmentation for improvement of spawning habitat between Merced Falls Dam and Crocker-Huffman Dam, as well as downstream of Crocker-Huffman Dam.

In summary, the FEIS should include all preliminary mandatory conditions, including the Water Board's gravel augmentation measure, and should provide additional detailed technical and cost/benefit analysis of its both staff's recommended gravel augmentation plan and alternatives recommended by others. The FEIS should reconsider the Conservation Groups alternative that would include addressing the historic gravel deficit of between 270,000 and 410,000 tons.

H. The DEIS does not analyze final language for BLM's "Limestone Salamander Sensitive Areas Management Plan and Studies" condition, and does not adequately analyze project impacts to Limestone Salamanders.

1. The DEIS does not analyze BLM's final language for the "Limestone Salamander Sensitive Areas Management Plan and Studies."

The DEIS fails to correctly identify and include in the staff alternative all elements of the agreed-on BLM Preliminary Condition No. 15: Limestone Salamander Sensitive Areas Management Plan and Studies.

Merced ID informed the Commission on March 10, 2015 that it had agreed with BLM pm the following language for BLM Preliminary Condition No. 15, Limestone Salamander Management Plan:

> Licensee shall develop a Limestone Salamander Sensitive Areas Management Plan for the BLM land within the FERC Project Boundary. The plan shall include *a provision for limestone salamander surveys* using the same methods used by Licensee during limestone salamander relicensing surveys, and limestone salamander surveys will be conducted in the first full calendar year after license issuance and then once every seven years.
>
> Licensee shall provide the relevant state and federal agencies with a minimum 30-day comment period on the plans. The final plans shall include documentation of consultation with the relevant state and federal agencies, all comments made by relevant state and federal agencies, and a description of how the final plan and/or final report incorporates or addresses the comments made by the relevant state and federal agencies. Licensee shall submit the final plan to BLM for approval. Upon approval by BLM, licensee shall

[106] *Id,. p.* 53.
[107] Merced Irrigation District. 2011. Technical Memorandum 1-1. Channel Armoring. Merced Hydroelectric Project FERC Project No. 2179. Available at: http://www.eurekasw.com/MID, p. ES-2.

file the approved final plan to the Commission for approval. Upon Commission approval, Licensee shall implement the Limestone Salamander Sensitive Areas Management Plan.[108]

The FEIS should include this measure and should analyze its costs and benefits.

2. The DEIS makes unsupported conclusions regarding the potential impacts of Project operations on limestone salamanders and their habitat.

The DEIS makes the following statement about potential impacts from Project operations on limestone salamanders and their habitat (i.e., flooding and submergence of limestone salamanders and their habitats):

> Results of the limestone salamander survey (Merced ID, 2012d) indicate that while reservoir elevations occasionally inundate suitable habitat for limestone salamanders, these inundations rarely occur during periods when the salamanders are above ground. During rare periods when high water levels coincide with above-ground activity, it is likely that salamanders would be able to relocate upslope to avoid submersion. Therefore, project operation is expected to have minor effects on this species and no protection measures would be necessary.[109]

This analysis is conjectural at best. The exact language of the Technical Report from Merced ID states the following about flooding:

> During the rest of the year, when limestone salamanders are not active at the surface, these same areas have been flooded about 3 percent and 7 percent of the time, respectively, in the period of record, with highest water usually occurring in June or July (Figure 4.2-2). *Habitats of limestone salamanders at Site 2 during the subterranean period are not known,* but may be within highly fractured bedrock formations which mostly occurred above the NMWSE. *Accumulated loose rock below the NMWSE at Site 2 may not provide suitable subterranean habitat* that is consistently cool and moist except in the few areas where relatively deep talus occurs.[110]

The report draws no conclusions regarding the impacts or effects of submersion on limestone salamanders. In fact, it states that the extent of limestone salamander habitat at Site 2, the extent of suitable subterranean habitat at Site 2, and the location of periodic inundation by the Project (3 to 7 % of the time from 1969-2006 or between 400 to 932 days), is unknown.[111] It is unclear what sources, if any, staff uses to support its conclusion in the DEIS regarding the impacts of submersion by Project operations. In contrast, Conservations Groups have contacted

[108] Merced ID Contingent Withdrawal of Certain Alternative Conditions, eLibrary no. 20150310-5198, p. 10. Emphasis added.
[109] DEIS, p. 257.
[110] Technical Memo 7-9, CESA-listed Amphibians – Limestone Salamander Second Year Surveys, eLibrary no. 20121030-5112, p. 22. Emphasis added.
[111] *Id*.

several recognized expert limestone salamander scientists regarding inundation and potential Project impacts to the limestone salamander, one of whom wrote:

> Salamanders are deep underground during the months when the most water is flowing in the Merced River. Salamanders *would drown as water level* increased because it would be too hot and dry for surface activity.[112]

In addition, Conservation Groups located a report on limestone salamanders, which states:

> Some limestone salamanders did not move at all. Some moved from under a particular rock, then came back to the same rock. The greatest distance moved was 30 meters (in the entire 3-year of study). In one year (1982), the average distance between capture sites was 6.4 meters if all data are counted but only 2.0 meters if the three individuals which moved the farthest are not counted. There were 27 animals recaptured. Three individuals that roamed far distances. If they were removed from the average, the average distance moved was about 2 meters (6 feet).[113]

Experts concur that drowning of salamanders is probable with the rise of the reservoir because the reservoir will inundate salamander habitat during the warm late-spring and summer months when salamanders are known to be below ground. This is particularly true for salamanders that may be aestivating and thus in a period of dormancy, therefore, particularly vulnerable to rising waters because of their inactivity.[114] This is also the time of year that limestone salamander eggs are likely to be present and vulnerable to inundation by the reservoir.

This information clearly suggests that, contrary to the conclusions in the DEIS, Project operations can and do impact limestone salamanders and their habitat.

In summary, the DEIS's conclusion that Project operations (lake inundation) have "minor effects" on the limestone salamander is unsupported by science. The conclusion that "no protection measures" are necessary to protect limestone salamanders is arbitrary. Conservation Groups recommend that the consultations between Merced ID and the Resource Agencies include scientific support from recognized scientists with experience concerning limestone salamanders and their life histories and habitats. While Resource Agencies have the legal

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[112] Theodore Papenfuss, Ph.D., Museum of Vertebrate Zoology, University of California, Berkeley, e-mail to Michael Martin, Ph.D., Merced River Conservation Committee August 21, 2012 commenting on Conservation Groups' recommended measures for Limestone Salamander Sensitive Area Management Plans.

[113] Walter Tordoff, Ph.D., Professor of Zoology, California State College, Stanislaus. 1980-1983. Annual Reports of Study of Limestone Salamanders conducted under Memorandum of Understanding between California State College, Stanislaus and the California Department of Fish and Game. Typed Reports. 24 p.

[114] Aestivation (from Latin *aestas*, summer, but also spelled "estivation" in the USA) is a state of animal dormancy characterized by inactivity and a lowered metabolic rate, that is entered in response to high temperatures and arid conditions. It takes place during times of heat and dryness, the hot dry season, which is often but not necessarily the summer months. Invertebrate and vertebrate animals are known to enter this state to avoid damage from high temperatures and the risk of desiccation. Both terrestrial and aquatic animals undergo aestivation. *Aestivation*, Wikipedia, http://en.wikipedia.org/wiki/Aestivate (last visited July 5, 2011); David B. Wake & Theodore J. Papenfuss, *Hydromantes brunus*, AmphibiaWeb, amphibiaweb.org (last visited July 5, 2011).

responsibility for the protection of the limestone salamander, few, if any, agencies have limestone salamander experts on staff. Conservation Groups also recommend that the FEIS be modified to correct the findings of Merced ID with respect to potential limestone salamander impacts. Additionally, the proposed License measure should be amended to include continuing studies of potential impacts, including consultation with at least two qualified scientists well-versed on the science concerning limestone salamanders.

I. Conservation Groups support the Amended Recreational Facilities Plan.

The DEIS partially includes Merced ID, Bureau of Land Management (BLM) and relicensing participants' mutually-agreed upon PM&E measures largely contained in the BLM's preliminary 4(e) conditions. Conservation Groups wish to commend Merced ID, BLM, National Park Service (NPS), and individual licensing participants for the productive focused discussions that produced the measures.

Conservation Groups participated in a number of facility-development discussions. Among them are the following.

- Provide at Shepherd's Point primitive area:[115]
    - gravel parking area with 10 spaces, including at least 2 trailer spaces;
    - two-unit vault restroom; and
    - take-out trail or path from the reservoir/river to the parking area.
- Construct an upstream takeout facility at Sherlock Creek recreation area:[116, 117]
    - gravel parking area with 10 spaces;
    - two-unit vault restroom; and take-out trail or path from reservoir/river to the parking area.
- Provide at McSwain recreation area:[118]
    - non-motorized shoreline trail between the day use area and New Exchequer dam (about 4.1 miles, native surfaced);
    - information board at existing, native-surfaced parking areas and directional signs on Lake McClure Road;
    - paved bicycle lane (about 5 miles) on Lake McClure Road from County Road J16 to near New Exchequer dam.
- Maintain existing Merced River Trail from the project boundary to the Bagby trailhead and provide:[119]

[115] DEIS, p. 30.
[116] Merced ID proposes to develop an upstream take-out facility at Sherlock Creek only if BLM is able to secure public access to Mosher Road and ensures the road condition is suitable for vans/buses with trailers.
[117] DEIS, p. 30.
[118] *Id.*, p. 30.
[119] *Id.*, p. 31.

- interpretive and educational display at Bagby trailhead;
- pedestrian bridge over Merced River near Sherlock Creek; and
- new trail segment on the south side of Merced River to the Bagby recreation area.[120,121]

- Construct a parking area with an unspecified capacity and install river access directional signage at the existing gravel-surfaced parking area at Merced Falls Road near Crocker-Huffman Dam (proposed as part of Merced ID measure RR2).[122]

- Develop a conceptual plan to align the existing Merced River Trail to a new trail segment that would follow along the shoreline of Lake McClure and McSwain reservoir.[123]

The DEIS did not include the following PM&E measure agreed to by Merced ID, BLM, and relicensing participants; this measure is also part of the BLM 4(e) preliminary conditions:

Proposed Railroad Grade Connector Trail and Trailhead (New)[124]

Within 3 years after license issuance, Merced ID will continue to allow and maintain existing public access adjacent to the north end of Highway 49 bridge to the existing railroad grade where it connects to the day use trail. In addition, Merced ID will improve the existing trail and develop a formal trailhead, as follows:

- Develop a parking area for 10 passenger vehicles immediately off Highway 49 with a sign directing trail users to the formal trailhead further down the trail
- Re-grade and construct a new connector trail segment and bridge to allow for access above the high water mark at the trailhead, across the existing slough to the existing railroad grade remnant below the high water line.

- Develop a trailhead along the new connector trail (off of Highway 49), including the following amenities:

    - An information kiosk with a trail map, trail information and regulations, and Bagby area interpretive information.
    - A picnic table
    - A single-unit restroom

[120] Merced ID proposes to construct and maintain the pedestrian bridge and south side trail only if all lands necessary have legal access through ownership or easements to allow public access to Bagby recreation area and BLM agrees to construct a bridge across the North Fork of the Merced River to allow safe public crossing during spring snow melt off and storm events.
[121] DEIS, p. 319.
[122] *Id.*, p. 31.
[123] The existing Merced River Trail terminates at Bagby.
[124] Merced ID Contingent Withdrawal of Certain Alternative Conditions, eLibrary no. 20150310-5198, pp. 3-18.

- If Merced ID cannot get authorization to build a day use site at Highway 49 Bridge, Merced ID will build a day use site that meets the criteria listed above on BLM land.

As we understand it, this measure is a BLM 4(e) preliminary condition and should therefore be included and analyzed in the FEIS.

CONCLUSION

In our REA Comments, we described Merced ID's flow proposal as follows:

> Effectively, Licensee proposes to make two kinds of water years: very wet water years, where flood releases dominate the hydrograph for many months (as was the case historically in 1995, 1998 and 2011), and functionally critically dry water years (which would effectively be all the rest of the years, the vast majority). In these functionally critically dry water years, there would be no geomorphic flows, no floodplain inundation, no flow variability, and no spring pulses to encourage and aid in outmigration. There would be no natural flow recession at the end of the peak of the natural hydrograph that would aid in cottonwood recruitment. In April and May, the lower Merced River – San Joaquin River migration corridor downstream of Highway 59 would effectively become a warm water lake, perfect habitat for bass and other piscivorous fish that Merced ID and its associates in the San Joaquin Tributaries Association have highlighted as a major reason for lack of survivorship by juvenile salmon. In over half of water years, summer habitat for juvenile *O. mykiss* would almost entirely dependent on flows provided for the Cowell diversions, and there would be effectively no summer flow from the Merced River that reached Vernalis on the lower San Joaquin River.[125]

Leaving aside the "very wet years where flood releases dominate the hydrograph for many months," the flow proposal in the Staff Alternative would make some of the years what we might call "Almost Dry" years, rather than "functionally Critically Dry years."

Under the flows proposed in the Staff Alternative, there would be almost no geomorphic flows, maybe a couple of days of limited floodplain inundation but only in the six miles of river downstream of Crocker-Huffman Dam, and some small spring pulses to stimulate outmigration. There would be no natural flow recession at the end of the peak of the natural hydrograph, and any bump (not peak) in spring flows would be substantially earlier in the year than under the natural hydrograph. Except in years dominated by flood flows, the lower Merced River migration corridor would continue to effectively be a warm water lake. In almost half the water years, summer flows in August and September would not support juvenile rainbow trout or steelhead more than a mile or two downstream of Crocker-Huffman Dam, and effectively no summer flow would reach Vernalis. In almost all water years, because of a combination of low flows in the Merced River and Delta export operations, almost no water from Yosemite Valley and the Merced River would reach the Golden Gate.

[125] Conservation Groups' REA Comments, p. 19.

We understand the impulse of some Resource Agency staff to see the glass half full. Unfortunately, the staff flow proposal is considerably less than half full, and we cannot countenance the improvement simply because it is better than the proposal of the licensee. The staff proposal is frankly not much better than the status quo; in several months, it is worse.

We thank Merced ID for some successful focused negotiations with Conservation Groups and Resources Agencies, and for its candor in negotiations that up till now have been less successful. FERC staff has made a few good calls; we especially appreciate its recommendations for the Technical Advisory Committee. But this relicensing has been hobbled by a series of decisions by staff to narrow the scope of the proceeding. Some of these decisions have even been inconsistent with assumptions that the Commission's predecessor adopted in the original licensing. Merced ID has advocated for an even narrower view of the proceeding's scope.

The limited scope is reflected in the narrow range of project alternatives and the limited restoration aspirations envisioned in the DEIS. Conservation Groups, Resource Agencies, and the State Water Resources Control Board have consistently advocated a broader scope for this relicensing. As a result, it appears that FERC is on course to leave the hard problems of this relicensing to others.

Our recommendation, of course, is for the Commission to consider carefully its own rules, with the hope that FERC will choreograph the full licensing proceeding, including the necessary inclusion and consideration of mandatory conditions and the Water Quality Certification, as well as a serious effort to consider comprehensive plans, 10(j)s, and its own comprehensive planning responsibility under the Federal Power Act. Although late in the process, it is not too late for the Commission to regroup and approach this relicensing with a focus that recognizes that there is much to be gained in viewing the Commission's responsibilities under the Federal Power Act expansively.

We can guess, but cannot really know, why staff has chosen to leave to others the hard issues that will have to be confronted by someone else. We recognize that restoring a meaningful measure of health to El Rio de Nuestra Señora de Merced could mean changes to dam facilities, and most importantly to changes to the way that Merced ID operates the comprehensive list of District facilities: from canals to diversions to reservoirs to upstream passage projects. That conversation has so far been abandoned to what, unfortunately, is all too common in the later stages of an extended relicensing, in which the Commission's role is sharply reduced.

Thank you for the opportunity to provide comments and recommendations in response to the Draft Environmental Impact Statement for the relicensing of the Merced River Hydroelectric Project and Merced Falls Hydroelectric Project.

Respectfully submitted,

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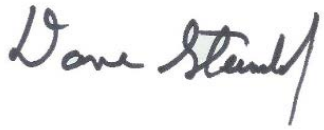

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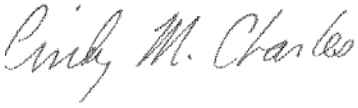

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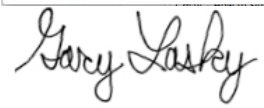

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BEFORE THE
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Merced Irrigation District Merced River Hydroelectric Project	)	P-2179-043
Pacific Gas & Electric Co. Merced Falls Hydroelectric Project	)	P-2467-020

CERTIFICATE OF SERVICE

I hereby certify that the foregoing Comments on the Draft Environmental Impact Statement of California Sportfishing Protection Alliance, Trout Unlimited, American Rivers, American Whitewater, Merced River Conservation Committee, Friends of the River, Golden West Women Flyfishers and the Sierra Club in the above-captioned proceeding has this day been filed online with the Federal Energy Regulatory Commission and served via email or surface mail upon each person designated on the Service List compiled by the Commission Secretary for this Project.

Dated at Bellingham, WA this 29th day of May, 2015.

Rich Bowers
Western Region Coordinator
Hydropower Reform Coalition

Appendix A

Petition for Declaratory Relief by California Sportfishing Protection Alliance, Trout Unlimited, American Rivers, Northern California Council of the Federation of Flyfishers, and Merced River Conservation Committee; Merced River Project, Project No. 2179