

**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

_____)	
Nevada Irrigation District)	
Yuba-Bear Hydroelectric Project)	P-2266-102
)	
Pacific Gas and Electric Company)	
Drum-Spaulding Hydroelectric Project)	P-2310-193
_____)	

**California Sportfishing Protection Alliance, Trout Unlimited, and American Rivers’
Motion for Additional Investigation and
Supplemental Draft Environmental Impact Statement**

California Sportfishing Protection Alliance, Trout Unlimited, and American Rivers hereby request that the Commission direct OEP Staff to make specific findings in a supplement to the Draft Environmental Impact Statement (DEIS) regarding (1) the Yuba-Bear and Drum-Spaulding Hydroelectric Projects’ direct, indirect, and cumulative effects on anadromous fish habitat in the South and Middle Yuba Rivers; and (2) feasibility of alternative measures to mitigate the projects’ effects on anadromous fish and their habitat in the South and Middle Yuba Rivers once fish are reintroduced into these project-affected waters.

The record presently does not contain adequate evidence on which to base specific findings regarding anadromous fish and their habitat. We request that the Commission require Staff to complete the record through direction to Pacific Gas & Electric Company (PG&E) and Nevada Irrigation District (NID), as the license applicants, or independent investigation. In addition, we request that Staff consider new evidence provided herein that could serve as a record basis for such findings. Given that this information is material to Staff’s finding that the proposed new licenses are best adapted to a comprehensive plan of development, and is sufficient to show that the Projects affect anadromous fish habitat to a significant extent not addressed in the DEIS, we request that the Commission publish a supplemental DEIS for comment prior to issuing the FEIS.

**I.
MOVANTS**

American Rivers is a national not-for-profit organization working to protect and restore our rivers and streams for the benefit of people, fish and wildlife. Since 1973, American Rivers has helped protect and restore more than 150,000 miles of rivers through advocacy, science and on-the-ground projects with local partners. Headquartered in Washington, D.C., American Rivers has offices across the country, including Berkeley and Nevada City, California. It has more than 100,000 supporters, members, and volunteers nationwide. Members of American

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Rivers enjoy the Yuba River and its watershed for angling, boating, swimming and hiking. American Rivers has invested many years of work to restore anadromous fish to the upper Yuba River.

California Sportfishing Protection Alliance (CSPA) is a non-profit, public benefit fishery conservation organization incorporated in 1983 to protect, restore, and enhance the state's fishery resources and their aquatic ecosystems. CSPA works to ensure that these renewable public fishery resources are conserved to enable public sport fishing activity. As an alliance, CSPA represents over a thousand members that reside in California. Many CSPA members fish in the Yuba River and its watershed and enjoy other recreational activities in its environs. CSPA has played a leading role in the relicensing of the Yuba-Bear and Drum-SpaULDing projects.

Trout Unlimited (TU) is the nation's oldest and largest coldwater fisheries conservation organization. TU is a non-profit corporation organized under the laws of the state of Michigan. Its national office is in Arlington, Virginia, and it maintains California offices in Berkeley, Salinas, Fort Bragg, and Truckee. TU has more than 140,000 members nationwide and is dedicated to protecting, conserving, and restoring North America's trout and salmon resources. TU has more than 10,000 members in California. TU has been an active participant in the relicensing of the Yuba-Bear and Drum-SpaULDing projects.

II. **BACKGROUND**

A. Yuba-Bear and Drum-SpaULDing Projects Affect Coldwater Habitat.

1. Description of Projects

NID's Yuba-Bear Project and PG&E's Drum-SpaULDing Project are primarily located on the South Yuba River and Bear River basins.¹ "In addition, some Yuba-Bear Hydroelectric Project facilities are located in the Middle Yuba River basin, and some Drum-SpaULDing Project facilities are located in the North Fork of the American River and Sacramento River basins."²

The Yuba-Bear Project consists of four developments: Bowman, Dutch Flat, Chicago Park, and Rollins. NID operates the Yuba-Bear Project in coordination with PG&E's Drum-SpaULDing Project to generate power with water that is managed principally for water supply.³

The Drum-SpaULDing Project is comprised of a complex system of ten developments.⁴ PG&E operates the project's largest reservoirs for storage of rain and snowmelt during the spring and summer months, and then slowly draws the reservoirs down through summer and fall month for power generation, irrigation, and domestic consumption purposes.⁵ PG&E delivers most of

¹ See "PG&E's Final License Application (FLA)," eLibrary no. 20110412-5005 *et seq.*, Ex. E, p. E2-1.

² *Id.*

³ "NID FLA," eLibrary no. 20110415-5017, p. B-34.

⁴ See PG&E FLA, p. B-2.

⁵ See *id.*, p. E6.2-8.

the water that is stored by the project to NID and to Placer County Water Agency (PCWA) pursuant to water purchase contracts.⁶

Together, the Projects export a combined average of over 400,000 acre-feet per year (afy) from the Middle and South Yuba watersheds for use in the Projects' hydropower system on the Bear River. NID's Yuba-Bear Project alone diverts an average of 60,000 afy from Middle Yuba into the Milton Bowman Tunnel, which conveys the water to Spaulding Reservoir and the Bear River hydropower facilities.

The Projects' water supply and power operations cumulatively affect aquatic resources in the South Yuba River downstream of the confluence with Canyon Creek:

Under existing conditions, a transitional fishery, driven primarily by stream temperature, exists in the lower section of the river. Rainbow trout are relatively abundant in the upper portions of the river below Canyon Creek, but transition to warm water species in the lower reaches as water warms.⁷

The projects do not directly block fish passage to the upper Yuba River. The U.S. Army Corps of Engineers' (Corps) Englebright Dam at river mile 24 of the mainstem Yuba River presently is the terminal barrier to fish passage.

2. Project Relicensings

On May 22, 2008, OEP Staff issued Scoping Document 1 (SD1) for the relicensing of both the Drum-Spaulding and the Yuba-Bear projects.⁸

On August 11, 2008, Movants submitted comments on SD1.⁹ Movants stated:

Currently, only four of 19 populations of Central Valley Spring-run Chinook remain and NMFS has identified the Yuba as a primary recovery opportunity. Accordingly, the EIS should analyze the Projects' effects and alternatives for "reasonable and feasible" salmon recovery in the Upper Yuba during the term of the Projects' licenses. There are a number of studies and efforts that point to the reasonable and feasible recovery of salmon to the Upper South and Middle Yuba. These should be addressed in the EIS.¹⁰

Scoping Document 2 noted, but did not respond to this comment.¹¹

⁶ See PG&E FLA, p. E3-4. One of the contracts is set to expire in 2013. *Id.*

⁷ PG&E FLA, p. E6.3-312.

⁸ See eLibrary no. 20080522-3011.

⁹ See eLibrary no. 20080811-5122. Filings in this coordinated proceeding by Movants have been made as part of the Foothills Water Network (FWN) coalition of non-governmental organizations. Movants have signed each of these coalition filings individually in addition to signing as part of the FWN coalition. FWN is not a Movant.

¹⁰ *Id.*, p. 10.

¹¹ See "Scoping Document 2," eLibrary no. 20081006-3034.

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On January 23, 2009, PG&E¹² and NID¹³ filed separate Revised Study Plans for their respective projects. Despite comments and requests from the Resource Agencies and FWN¹⁴ in response to the Proposed Study Plans, the Revised Study Plans did not include studies to inform reintroduction of anadromous fish to project-affected waters or habitat for anadromous fish in project-affected waters.

On February 19, 2009, PG&E filed modifications to its Revised Study Plan pursuant to an agreement reached with relicensing participants.¹⁵ The agreement did not include the Anadromous Fish Ecosystems Effects study¹⁶ requested by the National Marine Fisheries Service (NMFS). The Licensees declined to undertake this study because they claimed there was inadequate nexus between the requested study and the Projects. NID stated that “NMFS has provided no information to support its conclusion that ‘existing information demonstrates that the habitats in the Middle, South and North Yuba River are suitable for the reintroduction of anadromous fish’ nor is Licensee aware of imminent plans by NMFS to do so.”¹⁷ None of the 34 studies agreed to by relicensing participants analyzes habitat conditions specifically for anadromous fish.

¹² eLibrary no. 20090123-5108.

¹³ eLibrary no. 20090123-5109.

¹⁴ See eLibrary no. 20081224-5011, p. 11. Spring-run Chinook require colder water for summer holding and for spawning and incubation than do *O. Mykiss* with an anadromous life history (steelhead) or with a resident life-history (rainbow trout). The different species also prefer different habitat types and utilize different sizes of spawning gravel.

¹⁵ eLibrary no. 2009019-5054. Thirty-four of the thirty-five studies applied to both the Drum-Spaulding and Yuba-Bear projects.

¹⁶ The objectives of the proposed study were to:

- 1) determine the volume of water diverted by the projects in the Yuba River, Bear River, or eastern Placer County stream basins occupied by ESA-listed anadromous fishes, designated as critical habitat under the ESA, or as essential fish habitat (EFH) under the Magnuson-Stevens Act (MSA), and determine the effects of those diversions or additions on those resources; 2) assess the incremental degree of hydrologic effect of current project operation on stream flows that would occur absent the project; 3) develop a hydrological model to determine the incremental degree of hydrological effect of simulated project operation scenarios on flow volumes, timing, magnitudes, and rate of change in streams where ESA-listed or ESA/MSA designated habitat exists; 4) determine the effects of project-caused hydrologic changes on anadromous fish related habitat availability applying quantitative flow versus habitat area models, either existing or feasibly developed; 5) develop the ability to determine the incremental effects of simulated project flow scenarios on anadromous fish habitat availability, including holding, spawning, incubation/emergence, fry/juvenile rearing, and fry/juvenile outmigration for spring- and fall-run Chinook and steelhead/rainbow trout; 6) determine the effects of existing project-caused hydrologic alterations, water storage and simulated flow scenarios on stream water temperatures and mitigation capabilities; and 7) assess the effects of project-caused hydrologic alterations and simulated project flow scenarios on forage productivity in the Yuba and Bear river basins and western Placer County streams.

See “Study Plan Determination,” eLibrary no. 20090223-3023, p. 22.

¹⁷ NID Revised Study Plan, Attachment 3A, p. 339.

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On February 23, 2009, the OEP Director issued the Study Plan Determination.¹⁸ The Director declined to require the Anadromous Fish Ecosystems Effects study based on Licensees' rationale that there was inadequate nexus between the requested study and the Projects.¹⁹

On July 23, 2010, following PG&E's²⁰ and NID's²¹ Initial Study Reports, the Commission issued its Determination on Requests for Modifications to Study Plan.²² The Determination did not require any study related to anadromous fish.

On November 3, 2010, PG&E filed its Draft License Application (DLA). On November 8, 2010, NID filed its DLA. Neither application proposed measures to address the potential for reintroduction of anadromous fish to the Yuba River above Englebright Dam.

On April 12, 2011, PG&E filed its FLA.²³ NID filed its FLA on April 15, 2011.²⁴ Neither application proposed any measures to address the potential for reintroduction of anadromous fish to the Yuba River above Englebright Dam.

On February 29 and January 19, 2012 respectively, OEP Staff accepted PG&E's FLA²⁵ and NID's FLA²⁶ and issued Notices of Readiness for Environmental Analysis (NREA).

On June 18, 2012, PG&E²⁷ and NID²⁸ separately filed Amended FLAs. Neither proposed measures to address the potential for reintroduction of anadromous fish to the Yuba River above Englebright Dam.

On July 29, 2012, the Department of the Interior filed Comments, Preliminary 4(e) Conditions, and 10(a) Recommendations on behalf of the Bureau of Land Management (BLM) and the Bureau of Reclamation (BOR); and Comments, 10(a) Recommendations, and a reservation of authority under FPA Section 18 on behalf of the U.S. Fish and Wildlife Service (USFWS) for the Yuba-Bear and Drum-Spaulling Projects.²⁹ BLM, BOR and USFWS reserved their authority to modify their conditions in the event of reintroduction.³⁰

¹⁸ See eLibrary no. 20090223-3023.

¹⁹ See *id.* at 22.

²⁰ eLibrary no. 20100317-5039.

²¹ eLibrary no. 20100317-5040.

²² eLibrary no. 20100723-3033.

²³ eLibrary no. 20110412-5005 *et seq.*

²⁴ eLibrary no. 20110415-5018 *et seq.*

²⁵ eLibrary no. 20120229-3048.

²⁶ eLibrary no. 20120119-3065.

²⁷ eLibrary no. 20120618-5022.

²⁸ eLibrary no. 20120618-5134.

²⁹ eLibrary no. 20120802-5122.

³⁰ eLibrary no. 20120802-5152, Enclosure A, p. 12; eLibrary no. 20120802-5122, Enclosure A, p. 10. The BLM Condition states: "The BLM, as appropriate, reserves the right to modify these conditions to respond to any Chinook salmon or steelhead trout listed under the Endangered Species Act to stream reaches through BLM lands where the flow is controlled by this Commission licensed facility."

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On July 30, 2012, the California Department of Fish and Wildlife (CDFW) filed Section 10(j) and 10(a) recommendations for each project.³¹ CDFW recommended flow measures to enhance cold water availability for fisheries in the South Yuba and Middle Yuba Rivers.

On July 31, 2012, FWN filed NREA comments for both projects.³² FWN's flow recommendations for the South Yuba and Middle Yuba Rivers are effectively identical to those recommended by CDFW.

On July 31, 2012, NMFS filed "Comments, Motion to Intervene, Reservation of Federal Power Act Fishway Prescription Authority, and Preliminary Protection, Mitigation, and Enhancement Measures for the Yuba-Bear Hydroelectric Project (P-2266) and the Drum-Spaulding Hydroelectric Project (P-2310)."³³ NMFS recommended flow measures to support reintroduction of spring-run Chinook and steelhead into the South Yuba and Middle Yuba Rivers.

On July 31, 2012, the U.S. Forest Service (Forest Service) filed its Preliminary 4(e) Terms and Conditions and its 10(a) Recommendations for the Drum-Spaulding Project.³⁴ It filed preliminary terms and conditions and recommendations for the Yuba Bear Project a few days later.³⁵ The conditions included a "supplemental flow" condition for the benefit of existing aquatic species in the South Yuba River. The Forest Service also reserved its authority to modify the prescriptions for both projects in the event of reintroduction.³⁶

On August 24, 2012, the Forest Service filed Revised Preliminary Terms and Conditions Section 4(e) and Revised Recommendations under Section 10(a) for both projects.³⁷ The revised 4(e) conditions for the Drum-Spaulding Project included a revised "supplemental flow" condition for the benefit of existing aquatic species South Yuba River. This revised condition reduced the reliability of the delivery of cold water to the South Yuba during the summer, compared to the initial Preliminary 4(e) conditions. Neither Licensee has contested the revised flow condition for the South Yuba River. However, NID subsequently objected to Forest Service and Interior's reservations of authority to address Chinook salmon and steelhead trout.

On August 30, 2012, FWN filed Alternative Conditions for both projects with the Forest Service.³⁸ FWN requested consideration of its own and CDFW's recommended flows to cool summer water temperatures in the South Yuba and Middle Yuba Rivers. FWN submitted modeling results that showed no negative impact to power generation and virtually no impact to

³¹ eLibrary nos. 20120730-5174, 20120730-5181.

³² eLibrary no. 20120731-5132.

³³ eLibrary no. 20120731-5212.

³⁴ eLibrary no. 20120731-5114.

³⁵ eLibrary no. 20120824-5006.

³⁶ eLibrary no. 20120731-5114, p. 32, 20120824-5006, p. 31. "FS reserves the right to modify these conditions to respond to any Chinook salmon or steelhead trout listed under the Endangered Species Act to stream reaches through NFS lands where the flow is controlled by this Commission licensed facility." *Id.*

³⁷ eLibrary nos. 20120824-5005 (Drum-Spaulding), 20120824-5006 (Yuba-Bear).

³⁸ eLibrary nos. 20120831-5132 (Drum-Spaulding), 20120831-5126 (Yuba-Bear).

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PCWA or NID water supply as a result of its proposed measures, when compared to the Forest Service’s proposed flows.

On September 14, 2012, PG&E replied to comments, terms, and conditions filed in the Drum-Spaulding docket.³⁹ PG&E objected that reintroduction of anadromous fish to the South Yuba River is not reasonably foreseeable.⁴⁰ PG&E stated that FERC should wait to analyze the environmental impacts of relicensing on anadromous fish until details of reintroduction are known.⁴¹ Notwithstanding its objection, PG&E submitted modeling results that analyze the impacts of NMFS’s flow alternatives for the South Yuba River, Middle Yuba River, and Canyon Creek on power generation and water supply.⁴²

On September 14, 2012, NID replied to comments, terms, and conditions filed in the Yuba-Bear docket.⁴³ NID restated its objection that reintroduction of anadromous fish is not reasonably foreseeable,⁴⁴ is uncertain, and so should not be analyzed until a specific project is known.⁴⁵ Notwithstanding its objection, NID also submitted modeling results that analyze the impacts of NMFS’s flow alternatives for the South Yuba River, Middle Yuba River, and Canyon Creek on power generation and water supply.⁴⁶

On September 14, 2012, PCWA replied to NMFS’s preliminary terms and conditions and other recommendations.⁴⁷ PCWA objected that NMFS’s 10(j) recommendations were inappropriate because reintroduction was not “imminent.”⁴⁸ PCWA submitted modeling results that show the effects of NMFS’ flow alternative as compared to existing conditions. However, PCWA did not model the effects of NMFS’s flow alternative as compared to Forest Service’s alternative.

On September 12, 2012, FWN replied to comments, terms and conditions, and alternative conditions filed in both dockets.⁴⁹ FWN objected to NID’s proposal to eliminate conditions relating to reintroduction of anadromous fish. FWN argued that reintroduction of anadromous fish to the South Yuba and Middle Yuba Rivers is reasonably foreseeable, and that the Commission must analyze project effects on anadromous fish habitat in these rivers and the effects of reintroducing anadromous fish into these rivers.

On May 17, 2013, the Commission issued the DEIS for the Drum-Spaulding and Yuba-Bear Projects.⁵⁰ The DEIS does not analyze the Projects’ effects on habitat for anadromous fish

³⁹ eLibrary no. 20120914-5126.

⁴⁰ *Id.* at 23.

⁴¹ *Id.* at 34-35.

⁴² *Id.* at 35-47.

⁴³ eLibrary no. 20120914-5152.

⁴⁴ *Id.* at 26-28.

⁴⁵ *Id.* at 30, including footnote 54.

⁴⁶ *Id.* at 32-43.

⁴⁷ eLibrary no. 20120914-5057.

⁴⁸ *Id.* at 144.

⁴⁹ eLibrary nos. 20120912-5217 (Yuba-Bear), 20120912-5224 (Drum-Spaulding).

⁵⁰ eLibrary nos. 20130517-3010, 20130517-4001.

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in the Upper Yuba River. Instead it concludes that reintroduction of anadromous fish is not imminent and that any recommendation to protect them is “premature because it depends upon future reintroduction of anadromous fish that may never occur.”⁵¹

On May 31, 2013, PG&E, on behalf of itself, four resource agencies, PCWA, and FWN filed a request for a two-month extension of the comment period for the DEIS.⁵² PG&E provided several grounds for this request, including opportunity for relicensing participants to discuss the DEIS, to provide meaningful comments on multiple projects, and to reach further collaborative agreement. The Forest Service made a similar request in the Yuba-Bear docket by letter dated June 17, 2013.⁵³

On May 31, 2013, PG&E filed a “Non-Material License Application Amendment Requesting the Issuance of a Separate License for the Lower Drum Developments.”⁵⁴

On June 20, 2013, the Commission sent letter of inconsistency under FPA section 10(j) to CDFW under the Drum-Spaulding and Yuba-Bear dockets, and to NMFS under the Drum-Spaulding docket.⁵⁵

B. Access to coldwater habitat is a limiting factor for anadromous fish in the Yuba River.

We describe below the status of anadromous fish that were likely present in project waters, along with pending efforts to protect them.

The Sacramento River Basin, in which the Yuba River watershed is located, formerly sustained large salmon runs. Due to changes to the natural hydrograph and habitat degradation, NMFS has listed several species as endangered or threatened under the federal Endangered Species Act (ESA).⁵⁶ On September 16, 1999, NMFS listed the Central Valley evolutionary significant unit (ESU) of spring-run Chinook salmon as threatened.⁵⁷ Critical habitat was designated for Central Valley spring-run Chinook salmon on September 2, 2005.⁵⁸ It includes stream reaches on the Yuba River. NMFS listed the Central Valley steelhead Distinct Population Segment as threatened on January 5, 2006.⁵⁹ Critical habitat was designated for steelhead on September 2, 2005 and includes stream reaches on the Yuba River.⁶⁰

In addition to their formal listing under the ESA, a recent study found that “[a]ll California populations [of anadromous fish] are being adversely impacted by the shrinking

⁵¹ *Id.* at 623-25, 687-89.

⁵² eLibrary no. 20130531-5277.

⁵³ eLibrary no. 20130619-5058.

⁵⁴ eLibrary no. 20130531-5303.

⁵⁵ eLibrary nos. 20130620-3007, 20130620-3009, 20130620-3006.

⁵⁶ NMFS, Final Rule, 59 Fed. Reg. 440 (Jan. 4, 1994).

⁵⁷ NMFS, Final Rule, 64 Fed. Reg. 50394 (Sept. 16, 1999).

⁵⁸ NMFS, Final Rule, 70 Fed. Reg. 52488 (Sept. 2, 2005).

⁵⁹ NMFS, Final Rule, 71 Fed. Reg. 834 (Jan. 5, 2006).

⁶⁰ NMFS, Final Rule, 70 Fed. Reg. 52488 (Feb. 16, 2000).

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availability of coldwater habitats.”⁶¹ “The majority of salmonid species [in California] are declining rapidly and, if present trends continue, 78% ... are likely to be extirpated from the state in coming decades.”⁶² “Depending on the rate at which climate change and human impacts continue to alter California’s aquatic environments, it is possible that a majority of California’s endemic salmon, trout and steelhead could follow coho salmon to extinction within 50 to 100 years.”⁶³ To take Chinook salmon as an example:

Historically, there were 18 or 19 viable independent populations of spring-run Chinook salmon in the Central Valley, with 11 of those populations occurring in the Northern Sierra Nevada Diversity Group, including the Yuba River population that historically spawned at elevations higher than 500m (Lindley et al. 2004). Currently, there is only 1 viable independent spring-run Chinook salmon population (Butte Creek) in the Central Valley.⁶⁴

NMFS stated, “[i]t is clear that more viable independent populations of spring-run Chinook salmon are needed to recover that species.”⁶⁵ In addition, a recent scientific evaluation concluded that the risk of extinction for salmon and steelhead threatened ESUs cannot be reduced without providing access to historical habitats, and cited “restoring access to the Yuba River above Englebright Dam” as a single example for reintroduction.⁶⁶

Blockage of access to historic coldwater habitat is a factor in these species’ dramatic decline:

Numerous water development projects blocked the upstream migration of Chinook salmon and steelhead, and altered flow and water temperature regimes downstream from terminal dams. An extensive network of reservoirs and aqueducts has been developed throughout much of California to provide water to major urban and agricultural areas. The largest system of surface reservoirs and aqueducts in California is in the Central Valley

It has been estimated that 1,126 miles of main stream lengths presently remain of the more than 2,183 miles of Central Valley streams that were originally available to

⁶¹ Jacob Katz, Peter Moyle et al., *Impending extinction of salmon, steelhead, and trout (Salmonidae) in California*, ENVT. BIOLOGY OF FISHES (Jan. 31, 2012), p. 8.

⁶² *Id.* at 6.

⁶³ *Id.* at 7.

⁶⁴ See S.T. Lindley et al., *Population Structure of Threatened and Endangered Chinook Salmon ESUs in California’s Central Valley Basin*, NOAA Technical Memorandum (2004).

⁶⁵ “NMFS, Biological Opinion for the Corps’ operation and maintenance of Englebright and Daguerre Point dams and Englebright Reservoir on the Yuba River,” (Englebright BiOp) (Feb. 29, 2012), eLibrary no. 20120727-5014, p. 5.

⁶⁶ See S.T. Lindley et al., *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 (Feb. 20, 2007).

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Chinook salmon –indicating an overall loss of at least 1,057 miles (48 percent) of the original total (Yoshiyama *et al.* 2001)⁶⁷

As stated above, the Corps’ Englebright dam currently blocks passage of spring-run Chinook and steelhead to habitat in the Upper Yuba River, including project waters.

1. **NMFS Issued a Biological Opinion for Daguerre Point and Englebright Dams that Determined Restoration of Passage is Essential to the Recovery of these Salmonids.**

On February 29, 2012, NMFS issued the Final Biological Opinion for the Corps’ operation and maintenance of Englebright and Daguerre Point dams and Englebright Reservoir on the Yuba River (BiOp).⁶⁸ The BiOp concludes that the continued operation and maintenance of Englebright and Daguerre Point dams and Englebright Reservoir on the Yuba River are likely to jeopardize the continued existence of federally listed Threatened Central Valley spring-run Chinook salmon, threatened Central Valley steelhead, and threatened North American green sturgeon.

NMFS found that fish passage above Englebright Dam was essential to the recovery of the affected salmonids.⁶⁹ It required the Corps to undertake a step-wise approach to achieving a permanent solution to effectively reintroduce fish to the upper Yuba River by January 31, 2020.⁷⁰

The Yuba County Water Agency (YCWA) filed for judicial review of the BiOp on January 9, 2013.⁷¹ The complaint stated that YCWA was aggrieved in part because the BiOp interferes with YCWA’s investments in habitat improvements for anadromous fish on the Yuba River:

YCWA has made substantial investments to evaluate and improve existing habitat for fish in the Yuba River (e.g. the Yuba Accord, River Management Team science, and Feather and Bear River setback levees) as well as to evaluate potential habitat expansion (e.g. Yuba Salmon Forum, Upper Yuba Studies Group, and North Yuba Reintroduction Initiative). Thus, in addition to YCWA’s direct economic interests that are impacted by the 2012 BiOp, the 2012 BiOp and RPA also irreparably harm YCWA’s continued efforts and investments in improving habitat on the Yuba River.⁷²

YCWA has further elaborated:

⁶⁷ Draft Recovery Plan, p. 3, *Available at* http://swr.nmfs.noaa.gov/recovery/cent_val/Public_Draft_Recovery_Plan.pdf.

⁶⁸ See Englebright BiOp (Feb. 29, 2012), p. 1.

⁶⁹ *Id.* at 220.

⁷⁰ *Id.* at 231.

⁷¹ Yuba County Water Agency’s Complaint for Declarative and Injunctive Relief, *available at* <http://www.ycwa.com/res/docs/04-Complaint.pdf>.

⁷² *Id.* at ¶ 41, p. 12.

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Unfortunately, the 2012 BiOp's recommended fish passage programs would prevent YCWA and others in the watershed from playing a meaningful role in developing a collaborative science-based approach for planning salmonid recovery actions in the watershed, including possible reintroduction in the Upper Yuba River.⁷³

In addition to the litigation brought by YCWA, the South Yuba River Citizens League and Friends of the River have filed a separate suit seeking to enforce the BiOp.⁷⁴

2. Licensees and Stakeholders Are Working on Strategies to Reintroduce Anadromous Fish to the Middle and South Yuba Rivers.

There are ongoing, collaborative efforts aimed at evaluating science-based strategies to reintroduce salmonids to the Middle and South Yuba Rivers. As described below, these efforts and a prolonged earlier effort have produced essential information regarding upstream fish passage engineering alternatives, habitat suitability, and the feasibility of potential reintroduction strategies.

a. Yuba Salmon Forum

The Yuba Salmon Forum is a multi-party forum comprised of State and Federal agencies, water and power purveyors, and environmental groups collaborating to develop science-based measures to conserve salmonids in the Yuba River watershed. OEP Staff has supported the Forum's efforts and has attended some of the meetings of its plenary.

The Yuba Salmon Forum has worked to identify suitable habitat for salmonids both upstream and downstream of Englebright Dam. It has also evaluated the feasibility of fish passage at Englebright Dam.

The Forum has produced several Habitat Reports and has developed Habitat Matrices that quantify salmonid habitat in the South Yuba River, Middle Yuba River, North Yuba River upstream of New Bullards Bar Dam, the reach of the North Yuba River and Main Yuba River between New Bullards Bar Dam and Englebright Reservoir, and the lower Yuba River downstream of Englebright Dam.⁷⁵ The matrices are based on such metrics as the number of thermally suitable river miles of over-summer holding habitat for spring-run Chinook salmon, number of holding pools within those river miles, amount of available spawning gravel, and amount of juvenile rearing habitat.⁷⁶ The Forum members will use the Habitat Reports, along with other reports that analyze fiscal and legal constraints, to identify and prioritize the feasible

⁷³ "Frequently Asked Questions The National Marine Fisheries Service 2012 Biological Opinion on the U.S. Army Corps of Engineers Daguerre Point Dam and Englebright Dam (FAQ January 9, 2013)," YCWA, p. 6, available at <http://www.ycwa.com/res/docs/02-FAQ.pdf>.

⁷⁴ *South Yuba River Citizens League, et al. v. NMFS, et al.*, Case No.: 2:13-CV-00059-MCE-EFB.

⁷⁵ We provide a declaration by Chris Shutes explaining the draft habitat matrices as Attachment 1, and the matrices as Attachment 2. The draft Habitat Matrices were distributed to the Yuba Salmon Forum Technical Working Group on June 20, 2013. We have not altered the substance of the matrices, but have altered some of the non-substantive properties of the electronic file.

⁷⁶ See Attachments 1, 2.

recovery actions in the Yuba River watershed. The Forum members have committed “to seek to achieve implementation” of the recommended actions.⁷⁷

b. 2007 Upper Yuba River Watershed Chinook Salmon and Steelhead Habitat Assessment

The Upper Yuba River Studies Program (UYRSP) was a joint Federal and State investment aimed at determining the feasibility of re-introducing salmon and steelhead into the South and Middle Yuba Rivers. The Upper Yuba River Studies Program Study Team conducted an in-depth analysis of the ability of existing and enhanced (50 cfs) flows to support steelhead and Chinook salmon in the South and Middle Yuba Rivers. The analysis produced habitat assessment reports that indicate the upper Middle Yuba River could support substantial populations of spring-run Chinook salmon and steelhead with a reasonable increase in flow.⁷⁸ In addition, the U.S. Geological Survey (USGS) characterized the sediment behind Englebright Dam. This information will be useful to develop plans for remediation and sediment removal if the dam is modified to provide for passage.

3. Fish Passage May Be Required in the Yuba River Development Project FERC Relicensing.

The Yuba River Development Project (P-2246) is currently in the pre-application phase of relicensing. Although the Yuba River Project is related to current proceedings, and contributes to the cumulative impact on fish in the Yuba River, the process has not been timed to coincide with the YBDS relicensing. FWN and NMFS allege that the new license should be conditioned on fish passage at Englebright. FWN alleges that the basis for such a condition is that the project relies on Englebright reservoir as an afterbay for one powerhouse and a forebay for a second powerhouse.⁷⁹ In addition, both FWN and NMFS have alleged that it is appropriate to evaluate fish passage at Englebright Reservoir as a potential mitigation and enhancement measure.⁸⁰ This issue is still pending. The new license is due to be issued in 2016.

4. NMFS Has Independently Evaluated Strategies to Reintroduce Anadromous Fish to the Upper Yuba River Watershed.

a. NMFS Draft Recovery Plan

In 2009 NMFS published the “Public Draft Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-

⁷⁷ See Yuba Salmon Forum Charter, February 3, 2011, p. 1.

⁷⁸ See “Upper Yuba River Watershed Chinook Salmon and Steelhead Habitat Assessment,” available at http://www.water.ca.gov/fishpassage/docs/yuba/yuba_salmon.pdf. The appendices are particularly well-documented. A fundamental calibration error in the UYRSP temperature model for the South Yuba River led to a disputed analysis for the South Yuba.

⁷⁹ See “Comments of FWN on Proposed Study Plan,” eLibrary no. 20110718-5013, pp. 4-13.

⁸⁰ *Id.* See also “NMFS comments on scoping for the Yuba River Development Project,” eLibrary no. 20110307-5180, enclosure E.

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Run Chinook Salmon, and the Distinct Population Segment of Central Valley Steelhead” (Draft Recovery Plan).⁸¹ The Draft Recovery Plan included an extensive analysis of the status of these species and addressed aspects of habitat condition in the Yuba River watershed. Specifically, the plan lists the Upper Yuba River watershed as a “Priority Area for Reintroduction” of spring-run Chinook salmon. The Plan states:

The upper Yuba River has long been recognized for offering perhaps the best opportunity to create a viable population in the Northern Sierra Diversity Group, that is wholly separate from other populations and many of the catastrophic risk factors other populations face. Several initiatives are underway to develop engineering alternatives to allow upstream passage, develop reintroduction plans, and collaborate with watershed stakeholders to develop a reintroduction strategy.⁸²

The Recovery Plan identifies the following goals for the Yuba River:

1.9.6 YUBA RIVER

1.9.6.1 Develop and implement a phased approach to salmon reintroduction planning to recolonize historic habitats above Englebright Dam. Implement actions to: (1) enhance habitat conditions including providing flows and suitable water temperatures for successful upstream and downstream passage, holding, spawning and rearing; and (2) improve access within the area above Englebright Dam, including increasing minimum flows, providing passage at Our House, New Bullards Bar, and Log Cabin dams, and assessing feasibility of passage improvement at natural barriers. The phased approach should include:

- Conduct feasibility studies
- Conduct habitat evaluations
- Conduct 3-5 year pilot testing program
- Implement long-term fish passage

1.9.6.2 Improve spawning habitat in the lower river by gravel restoration program below Englebright Dam and improve rearing habitat by increasing floodplain habitat availability.⁸³

NMFS expects to finalize the plan in 2013. Once finalized, NMFS will use the plan to formulate requirements and recommendations for reintroduction and to support other recovery strategies.⁸⁴

⁸¹ Draft Recovery Plan.

⁸² See Draft Recovery Plan, p. 215.

⁸³ *Id.*, p. 161.

⁸⁴ See *id.*

b. Englebright Dam Fish Passage Studies and Designs

NMFS commissioned a report on fish passage at Englebright Reservoir in February 2010. The report by the engineering firm Montgomery Watson Harza analyzed several fish passage options for Englebright Reservoir and provided preliminary cost estimates.⁸⁵ The production of this report stimulated interest in the broader collaborative evaluations currently underway in the Yuba Salmon Forum.

c. 2011 Stillwater Sciences Draft Habitat Capacity Modeling in the Upper Yuba River Watershed

NMFS funded a study to model the anadromous fish habitat capacity of the Upper Yuba watershed, which resulted in the report, “Modeling habitat capacity and population productivity for spring-run Chinook salmon and steelhead in the Upper Yuba River watershed” (Stillwater Sciences 2012).⁸⁶ The report concluded that under moderately enhanced flow conditions (as compared to existing flow requirements) there is some habitat for spring-run Chinook salmon in the South Yuba River and substantial habitat for spring-run Chinook salmon in the Middle Yuba River. The model output from the draft technical report provides a metric of the population potential of historical habitat blocked by Englebright and New Bullards Bar dams.

III.
ARGUMENT

Information in the record shows that the Projects have direct, indirect, and cumulative effects on habitat for anadromous fish in the Upper Yuba River. As stated below, reintroduction of anadromous fish into project waters is reasonably foreseeable during the term of the new license. However, there is insufficient information in the record for Staff to make findings in the EIS regarding the full extent of project effects on anadromous fish habitat and the feasibility of any alternatives measures to mitigate those effects. As a result, the Commission cannot support a determination that the proposed new licenses will be best adapted to a comprehensive plan of development as required by Federal Power Act (FPA) section 10(a)(1).⁸⁷

Prior to issuing the new licenses the Commission must undertake a thorough study of alternatives to ensure that the alternative it selects is indeed best adapted.⁸⁸ The Commission must ensure that the record is complete for purposes of the evaluating alternatives and contains

⁸⁵ See “Yuba River Fish Passage: Conceptual Engineering Project Options,” Montgomery Watson Harza (Feb. 2010), eLibrary no. 20120731-5222.

⁸⁶ See “Modeling habitat capacity and population productivity for spring-run Chinook salmon and steelhead in the Upper Yuba River watershed,” Stillwater Sciences (Feb. 2012), eLibrary no. 20120731-5222. NMFS released a second version of the Stillwater Technical Report on June 6, 2013, which incorporated numerous improvements based on comments and responses from its first report.

⁸⁷ 16 U.S.C. § 803(a)(1); see also *Scenic Hudson Preservation Conf. v. FPC*, 354 F.2d 608, 612-13 (2d. Cir. 1965) (*Scenic Hudson*).

⁸⁸ *Scenic Hudson*, 354 F.2d at 612.

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substantial evidence to support the Commission’s findings.⁸⁹ The Commission has not done so here.

The DEIS does not even show that the Commission has complied with its procedural obligation under NEPA to take a “hard look” at the environmental consequences of its proposed action.⁹⁰ Under NEPA, FERC is required to prepare a supplement to an EIS if “[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.”⁹¹ FERC “[m]ay also prepare supplements when the agency determines that the purposes of [NEPA] will be furthered by doing so.”⁹² FERC should prepare a supplement here because the DEIS did not consider information that shows the proposed new licenses will affect the environment, namely anadromous fish and their habitat, to a significant extent not already considered.⁹³

The Commission should direct OEP Staff to obtain additional information and provide a full and complete analysis of project effects, mitigation measures, and reasonable alternatives, in a supplement to the DEIS. It should not further delay the recovery of listed salmonids by failing to evaluate the Projects’ effects on anadromous fish habitat as part of the relicensing proceedings.

A. The Commission Must Ensure that the New Licenses Are Best Adapted to a Comprehensive Plan of Development for all Beneficial Uses.

The DEIS does not consider whether the proposed new licenses will be best adapted for anadromous fish in the Yuba River. This is wrong because the Commission must assure that the new licenses balance power and non-power uses like fish and wildlife in a manner that best serves the public interest in these waters. Anadromous fish, while not currently present in project waters, are nonetheless an important resource for the Yuba watershed and so must be considered prior to license issuance.

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 power generation and environmental quality.

A license under the Act empowers the licensee to construct, for its own use and benefit, hydroelectric projects utilizing the flow of navigable waters and thus, in effect, to appropriate water resources from the public domain. The grant of authority to the Commission to alienate federal water resources does not, of course, turn simply on whether the project will be beneficial to the licensee. Nor is the test solely whether the region will be able to use the additional power. *The test is whether the project will be in the public interest. And that determination can be made only after an exploration of all*

⁸⁹ *Id.*; 16 U.S.C. § 825l(b).

⁹⁰ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 390 (1989) (*Robertson*).

⁹¹ 40 C.F.R. § 1509(c)(1)(ii).

⁹² 40 C.F.R. § 1509(c)(2).

⁹³ *See Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989).

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*issues relevant to the ‘public interest,’ including future power demand and supply, alternate sources of power, the public interest in preserving reaches of wild rivers and wilderness areas, the preservation of anadromous fish for commercial and recreational purposes, and the protection of wildlife.*⁹⁴

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.⁹⁵ The Commission must not only consider the stretch of river directly affected by the project, but must consider the potential impacts in a watershed context. This is consistent with guidance that has been issued by other Federal agencies.⁹⁶ The Commission must also consider effects over time: “[t]he totality of a project’s immediate *and long-range effects* ... are to be considered in a licensing proceeding.”⁹⁷

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. As stated in the Draft Recovery Plan and shown by the multi-year collaborative processes like the Yuba Salmon Forum, the reintroduction of listed anadromous fish to the North, Middle, and South Yuba Rivers has been prioritized by the federal government, state agencies, and other stakeholders active in these watersheds. Given this interest, the Commission cannot determine that the Projects are best adapted to a comprehensive plan of development with respect to fish resources without addressing anadromous fish.

A “plan” by definition refers to a proposed future course of action. A plan can exist even if the implementation timeline for anticipated actions is uncertain or details are undecided. The Commission’s definition of a comprehensive plan for purposes of Section 10(a)(2) recognizes this by requiring that the plan, among other things, include a description of the significant resources of the waterway, a description of the various existing and *planned* uses for these resources, and a discussion of goals, objectives, and recommendations for improving, developing, or conserving the waterway in relation to these resources.⁹⁸

Some relicensing participants have argued incorrectly that a comprehensive plan can only apply to conditions that are imminent or that can be immediately measured or quantified.⁹⁹ This argument undermines the benefits of planning. It is a disservice to licensees as well as to other stakeholders to view the next 30 to 50 years as though conditions will not change; the only

⁹⁴ *Udall v. FPC*, 387 U.S. 428, 450 (1967) (emphasis added).

⁹⁵ *Scenic Hudson*, 354 F.2d at 613-14.

⁹⁶ *See, e.g.*, “Unified Federal Policy for a Watershed Approach to Federal Land and Resource Management,” 65 Fed. Reg. 62565 (Oct. 18, 2000).

⁹⁷ *Scenic Hudson*, 354 F.2d at 620 (emphasis added).

⁹⁸ Commission Order No. 481-A, revising Order No. 481 (April 27, 1988).

⁹⁹ *See, e.g.*, “PCWA reply comments,” eLibrary no. 20120914-5057, Enclosure 2, p. 4. PCWA argues: “NMFS’s Preliminary § 10(j) recommendations are inappropriate. They do not apply to any tangible, measurable, or imminent introduction of endangered and threatened fish species and therefore cannot be deemed consistent with the FPA or with a comprehensive plan for the waterways in question.” *Id.*

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certainty this approach would provide to Licensees is that license terms inadequate to address changed conditions will be contested.

The exploration of issues relevant to the public interest must occur pre-license.¹⁰⁰ That is, the Commission must assure the *pre-licensing* record with regard to all relevant factors is adequate to support findings that the new license adequately mitigates the project's impacts on specific resources, and the legal conclusion that the new license is best suited to a comprehensive plan for developing the waterway for the term of the new license. Conversely, post-licensing study is not an adequate basis for the Commission's licensing decision.¹⁰¹

Reopener does not provide a comparable opportunity to relicensing to evaluate and mitigate the Projects' effects on anadromous fish. In *Confederated Tribes*, the court rejected the Commission's arguments that deferring fishery issues for post-licensing resolution would protect the fishery.¹⁰² It also rejected the Commission's claims that a reopener or modification proceeding offered the same opportunity to protect fisheries as the relicensing proceeding:

First, a modification proceeding is not the same as a relicensing proceeding. Subject to the requirement that its decision be in the public interest, the Commission has broad discretion to impose fish protection conditions when it issues a new license. Notwithstanding a reopener clause, FERC may not "amend" a license in a modification proceeding without the licensee's consent. 16 U.S.C. § 799. Plainly, therefore, the Commission's discretion is curtailed in a modification proceeding. Also, as a practical matter, the method used by FERC here removes the incentive for a speedy and efficient resolution of fishery issues. If these issues must be examined and resolved prior to licensing, the licensee has an incentive to submit all the required data as quickly as possible. The same incentive is not present in the procedure used here where fishery issues are deferred to the future. The licensee may very well attempt to forestall the imposition of protection measures because these might affect the project's power production. See *Environmental Defense Fund v. Andrus*, 596 F.2d 848, 853 (9th Cir. 1979).¹⁰³

Deferral of analysis until fish are actually in the South Yuba and Middle Yuba Rivers decreases the likelihood that license amendments will occur on a timetable that ensures adequate protection of these imperiled fish. The Commission has previously stated that it is under no obligation to reopen a license or issue a final decision regarding license amendment on a specific

¹⁰⁰ *Confederated Tribes and Bands of Yakima Indian Nation v. FERC*, 746 F.2d 466 (9th Cir. 1984) (Confederated Tribes).

¹⁰¹ *LaFlamme v. FERC*, 852 F.2d 389 (9th Cir. 1988).

¹⁰² *Confederated Tribes, supra*, 746 F.2d at 472.

¹⁰³ *Id.* at 473. PG&E previously has sought to distinguish these proceedings from the one at issue in *Confederated Tribes*. It says that in *Confederated Tribes* the Commission deferred consideration of *all* fishery issues until post-licensing, whereas here PG&E "has submitted extensive studies and analysis of existing information." See "PG&E reply comments," eLibrary no. 20120914-5126, p. 70. PG&E has submitted information that anadromous fish are currently not present in certain reaches affected by the project. However, PG&E has not submitted available information regarding anadromous fish *habitat* that exists in reaches affected by its project, and whether or not such habitat for anadromous fish is affected by the project.
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schedule.¹⁰⁴ It has stated that its discretion to amend the license is constrained by the FPA's requirement that mutual agreement must be reached with the licensees: "under section 6 of the FPA, licenses may be altered 'only upon mutual agreement between the licensee and the Commission after thirty days' public notice.'"¹⁰⁵ The Commission has effectively set a very high bar to reopen a proceeding by requiring extensive analysis regarding the harm that will befall the affected resource should revised measures not be imposed. Such a threshold is fundamentally different than the FPA's requirement that a new license as a whole must be best adapted to a comprehensive plan for the development of a waterway and balance public uses.

The Commission has previously stated that significant legal and procedural hurdles may delay or prevent the initiation of a reopener proceeding and implementation of the outcome of such proceeding support analysis of project effects on anadromous fish habitat as part of this relicensing.¹⁰⁶ Staff has not made any showing that analysis undertaken now could not be used as the basis for future management actions. To the contrary, information gathered now could be used to inform the Commission's future decisions regarding the scope of any reopener and further environmental analysis once the fish are present in project waters. If further analysis were deemed necessary in connection to a specific proposal for reintroduction, it would be limited to effects not previously considered.¹⁰⁷

In summary, the Commission is required to find that a project is "best adapted to a comprehensive plan for improving or developing a waterway or waterways" for all beneficial uses. The public interest requires exploration of issues relevant to this finding occur pre-license, not deferred to an indefinite reopener. Therefore, the Commission should direct its Staff to analyze information related to the Projects' impacts on anadromous fish habitat and reintroduction to ensure that the Commission can properly balance all public interest values prior to issuing a license.

¹⁰⁴ *Turlock Irrigation Dist. and Modesto Irrigation Dist.*, 140 FERC ¶ 61207 (Sept. 20, 2012). The Commission explained to NMFS why it had elected not to act to order interim flows in the Lower Tuolumne River, even though a targeted reopener provision in the Don Pedro license provided legal basis for so doing. The Commission affirmed that the decision whether to initiate a reopener is entirely within its discretion: "[t]he fact that the Commission suggested the possibility that interim measures may be needed in the future does not bind the Commission to imposing any measures." *Id.* at 7. In addition, the Commission indicated that there is no enforceable timeline for a reopener proceeding. The Commission explains in its order: "[w]e explained that a decision was not unreasonably delayed because no action was called for in these circumstances." *Id.* at 6.

¹⁰⁵ *Id.* at 8 (quoting 16 U.S.C. § 799).

¹⁰⁶ For example, the Commission explained to NMFS in the Don Pedro proceeding:

NMFS overlooks the fact that we could not act under the FPA to reopen the license without notice and an opportunity for a hearing, and we could not require the requested flow regime without first conducting a full environmental review of the impacts of the flows and any alternatives. Thus, contrary to NMFS's suggestion, we lack the authority to take immediate action in this case.

Id. at 12-13.

¹⁰⁷ "Refers to the coverage of general matters in a broader EIS with subsequent narrower statements or environmental analyses (ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared." CEQ NEPA Regulations, 40 CFR § 1508.28.

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B. The DEIS Concludes Incorrectly that Reintroduction of Anadromous Fish is not Reasonably Foreseeable.

The DEIS finds that “the implementation of a long-term reintroduction program for either [Spring-run Chinook or CV steelhead], particularly in the upper Yuba River, is, at best, uncertain”¹⁰⁸ It rejects measures to study or mitigate project effects on anadromous fish as “premature.”¹⁰⁹ The DEIS cites to the “considerable uncertainties regarding the variability and implementation program set forth in the draft recovery plan (NMFS, 2009a) and the Central Valley Project and State Water Project biological opinion (NMFS, 2009b)” as the factual basis for this conclusion. *Id.* It does not cite to any legal basis for this conclusion. The DEIS’ conclusion does not comply with NEPA’s standard for reasonable foreseeability. When the proper standard is applied, the facts of this case show that reintroduction is reasonably foreseeable.

The purpose of an EIS is to assure that agencies take a “‘hard look’ at environmental consequences,” and “provide for broad dissemination of relevant environmental information.”¹¹⁰ NEPA requires consideration of “every significant aspect of the environmental impact of a proposed action.”¹¹¹

Cumulative effect analysis is a required element of any EIS:

[CEQ] regulations also specify that an EIS should consider any cumulative impacts of agency action. 40 C.F.R. § 1508.25(c). “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.” *Id.* § 1508.7.¹¹²

A “likely” or “reasonably foreseeable” effect is interpreted to mean, “that the impact is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision”¹¹³ Thus, even though fish are not currently in project waters, the Commission has an obligation to analyze the effects of the relicensing on anadromous fish habitat, if reintroduction is reasonably foreseeable during the terms of the new licenses.

The duty to analyze cumulative impacts is not limited to actual proposals.¹¹⁴ It is not limited to anticipated actions with defined timetables for implementation.¹¹⁵ Instead, the

¹⁰⁸ DEIS, p. 609.

¹⁰⁹ *Id.*

¹¹⁰ *Robertson*, 490 U.S. at 390 (quoting *Kleppe v. Sierra Club*, 427 U.S. 390, 410, n.21 (1976)). *Biodiversity Conservation Alliance v. BLM*, 404 F.Supp.2d 212, 216 (D.D.C.2005). The Commission is a federal agency subject to NEPA, and it has adopted regulations implementing NEPA at 18 C.F.R. Part 380.

¹¹¹ *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 97 (1983) (quotation omitted).

¹¹² *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1st Cir. 1992).

¹¹³ *Id.*

¹¹⁴ *See Texas Committee on Natural Resources v. Van Winkle*, 197 F. Supp.2d 586, 617 (2002) (citing *Oregon Natural Res. Council v. Marsh*, 832 F.2d 1498 (9th Cir. 1987), *rev’d on other grounds*, 490 U.S. 360 (1989)). *Conservation Groups’ Motion for Additional Investigation and Supplemental DEIS NID’s Yuba-Bear Project (P-2266-102) PG&E’s Drum-Spaulding Project (P-2310-193)*

cumulative impacts of a proposal must be analyzed even if certain details of the proposal are unknown.

An agency should not interpret any uncertainty to mean the agency does not have to evaluate future impacts. In *Texas Committee on Natural Resources v. Van Winkle*, the court held that the Corps' discussion of cumulative impacts in an EIS for a flood control project was inadequate because it did not examine the cumulative impacts that foreseeable future river projects would have on the environment.¹¹⁶ In reaching this holding the court rejected the Corps' conclusory treatment of the cumulative impacts:

Even if the exact future of these other projects is uncertain, uncertainty alone does not excuse the COE's failure to address the cumulative impacts of these projects in connection with the DFE project. See *Scientists' Inst. for Pub. Info., Inc. v. Atomic Energy Comm'n*, 481 F.2d 1079, 1092 (D.C.Cir.1973) (stating that "we must reject any attempt by agencies to shirk their responsibility under NEPA by labeling any and all discussion of future environmental effects as 'crystal ball inquiry' "); see also *Natural Res. Defense Council, Inc. v. Callaway*, 524 F.2d 79, 87-90 (1975) (rejecting the district court's conclusion that the environmental impact of the proposed project could be considered in isolation from other similar projects in the same area that the district court characterized as tentative or speculative in nature)....

Defendants' argument that the "projects were evaluated to the extents known" is also incorrect. (Defs.' Resp. at 21.) Most of the projects were not even *mentioned*, much less *evaluated*. The future projects that were mentioned were only discussed in conclusory terms. See *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir.1998) (stating that "general statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definite information could not be provided"). Furthermore, Defendants' claim that the cumulative impacts of the other projects were not analyzed because the projects had not been developed to the point where foreseeable cumulative impacts could be determined is not persuasive. See *Neighbors of Cuddy Mountain*, 137 F.3d at 1380 (stating that it is not "appropriate to defer consideration of cumulative impacts to a future date" because "NEPA requires consideration of the potential impact of an action *before* the action takes place"). According to the federal regulations, even if an agency has incomplete or unavailable information, the agency is required to reveal the facts and explain that such information is incomplete or unavailable. See 40 C.F.R. § 1502.22 (2000). The discussion of cumulative impacts in the 1999 EIS fails to satisfy NEPA's requirements because it consists only of "conclusory remarks, statements that do not equip a decisionmaker to make an informed decision about alternative courses of action, or a court to review the

¹¹⁵ *Sierra Club v. U.S. Dept. of Energy*, 255 F.Supp.2d 1177 (D. Colo. 2002). The court considered whether a mine should have been analyzed as a cumulative impact of an easement grant because it was a "reasonably foreseeable future action." In its analysis the court stated that it was not pertinent when the mining company will begin operations, as long as action is "still reasonably foreseeable.

¹¹⁶ 197 F. Supp.2d at 620.

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[COE's] reasoning." See *Defenders of Wildlife v. Babbitt*, 130 F.Supp.2d 121, 138 (D.D.C.2001).¹¹⁷

Staff has refused to undertake the requested analysis based on the fact it does not know the exact circumstances of reintroduction. Contrary to Staff's assertions,¹¹⁸ it does not need to know the details or the exact timing of reintroduction to evaluate whether streamflows proposed by the Licensees would support lifestages of anadromous fish if and when they are reintroduced to project-affected waters. The precise mechanisms and exact dates for reintroduction do not affect whether proposed streamflows below Milton Diversion and Spaulding Dam are sufficient to provide thermally suitable holding habitat or adequate spawning habitat for spring-run Chinook. Indeed, Staff does not find that analysis of the Projects' effects on anadromous fish habitat is not possible now. It does not find that such analysis would not be useful once specific plans for reintroduction are known.

The DEIS relies on the uncertainty of the Draft Recovery Plan and Englebright BiOp to find that reintroduction is not reasonably foreseeable. The DEIS's finding does not consider other, significant initiatives to reintroduce salmon and steelhead to project-affected waters within the term of the new license. See Section II (B)(3), *supra*. For example, the Yuba Salmon Forum, led by YCWA and joined by OEP Staff and other stakeholders, has successfully identified suitable habitat in the South and Middle Yuba Rivers for anadromous fish. Members of the Yuba Salmon Forum have committed to identify and prioritize recovery actions in the Yuba River watershed, including feasible anadromous fish reintroduction actions.

The Commission should direct OEP Staff to supplement the analysis in the DEIS to evaluate the reasonably foreseeable reintroduction of listed steelhead and salmon during the terms of the new licenses.

C. The Commission Must Make Findings Regarding the Projects' Effects on Habitat for Anadromous Fish in the South Yuba and Middle Yuba Rivers Based on Record Evidence.

The DEIS finds incorrectly finds that the reintroduction of anadromous fish to the Upper Yuba River is too uncertain to warrant study of project effects on anadromous fish habitat in the Upper Yuba River, or alternative operations to mitigate those effects. As a result, the DEIS does not contain adequate information on which to base specific findings regarding the full extent of project effects on anadromous fish habitat. The DEIS also does not contain sufficient information to conduct a thorough study of alternative operations and measures that better balance anadromous fish and other competing uses of water. The Commission should direct Staff to obtain and consider information necessary to correct these deficiencies. This should include consideration of the evidence provided herein regarding holding habitat, spawning habitat, rearing habitat, and migration corridors under a variety of alternative flow scenarios for the South and Middle Yuba Rivers.

¹¹⁷ *Texas Comm. on Nat. Resources, supra*, 197 F. Supp. 2d at 619-20.

¹¹⁸ DEIS, p. 608.

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Under the FPA, the Commission’s licensing order must be based on substantial evidence.¹¹⁹ The Integrated Licensing Process generally directs the license applicant to gather and present the information on which the Commission will base the findings in its NEPA document and final licensing order.¹²⁰

However, if OEP Staff does not require the license applicant to provide and/or study potential project effects, including cumulative effects, or alternatives to the proposed project, then the obligation to assure a complete record falls to the Commission:

The agency does not do its duty when it merely decides upon a poor or nonrepresentative record. As the sole representative of the public, which is a third party in these proceedings, the agency owes the duty to investigate all the pertinent facts, and to see that they are adduced when the parties have not put them in The agency must always act upon the record made, and if that is not sufficient, it should see the record is supplemented before it acts. It must always preserve the elements of fair play, but it is not fair play for it to create an injustice, instead of remedying one, by omitting to inform itself and by acting ignorantly when intelligent action is possible¹²¹

Thus, the Commission should either direct the Licensees to provide, or Staff to otherwise obtain, information regarding project effects on anadromous fish habitat that is necessary to support the Commission’s licensing decisions.

1. The Existing Record Does Not Include Adequate Information on which to Base Specific Findings Regarding the Extent of Project Effects on Anadromous Fish Habitat.

The DEIS does not consider project effects on habitat for anadromous fish. For example, it does not consider the Projects’ effects on water temperature, which is an essential habitat component for anadromous fish species. These effects are shown in the draft Yuba Salmon Forum habitat matrices (Attachment 2).¹²²

¹¹⁹ See 16 U.S.C. § 825I(b).

¹²⁰ Exhibit E, specifically, must include extensive information regarding the environmental effects (direct, indirect, and cumulative) of the proposed project based on existing information gathered in the PAD and studies conducted according to the approved study plan. 18 C.F.R. § 5.18; *see also* 18 C.F.R. § 380.3. OEP Staff has said that the purpose of the study process is to “provide a sound evidentiary basis on which the Commission and other participants in the process can make recommendations and provide terms and conditions” for the new license. 68 Fed. Reg. 51070, 51078(Aug. 25, 2003).

¹²¹ *Scenic Hudson*, 354 F.2d 608 at 621. “In viewing the public interest, the Commission’s vision is not to be limited to the horizons of the private parties to the proceeding.” *Id.*

¹²² Under existing operations in the South Yuba River, using a metric of 65° F (MWAT) as the upper tolerable holding temperature for spring –run Chinook salmon, temperature monitoring showed that there was no thermally suitable holding habitat in 2008 and 2009 for spring-run Chinook salmon. As modeled, the Licensees/Forest Service flows would increase thermally suitable habitat by only 0.2 miles in 2008, with no suitable habitat in 2009. Modeling shows that the CDFW/FWN flows would increase thermally suitable habitat by 1.1 miles in 2008, and 1.3 miles in 2009. Modeling shows that the NMFS flows would increase thermally suitable habitat by 2.2 miles in 2008

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The Licensees did not develop habitat suitability criteria (HSC) curves for anadromous fish for the instream flow study on the Middle Yuba and South Yuba Rivers. Their studies of water temperatures did not consider thermal thresholds for lifestages of salmon and steelhead. A migration study on the South Yuba analyzed migration barriers for resident trout, but not for larger salmon or steelhead. There is no information in the record that analyzes the suitability of spawning gravels in the South and Middle Yuba Rivers, and their tributaries, for salmon and steelhead. This does not comply with the Commission's obligations under the FPA and NEPA to assure a record adequate to evaluate the projects' environmental effects and determine which alternative will be best adapted to a comprehensive plan of development.

2. The Existing Record Does Not Include Adequate Information on which to Base Specific Findings Regarding the Availability and Feasibility of Reasonable Alternatives and other Measures to Mitigate the Projects' Effects on Anadromous Fish in the Middle and South Yuba Rivers.

The DEIS does not consider alternative operations and measures to mitigate project effects on habitat for anadromous fish because Staff concludes that the reintroduction of anadromous fish is uncertain.¹²³

Under FPA section 10(a)(1), the Commission has an obligation to study alternatives to determine which is best adapted.¹²⁴ NEPA also requires the Commission to analyze reasonable alternatives to the proposed license.¹²⁵ Under this section an EIS must

present the alternatives to the proposed action. This discussion-of-alternatives requirement is intended to provide evidence that those charged with making the decision have actually considered other methods of attaining the desired goal, and to permit those removed from the decisionmaking process to evaluate and balance the factors on their

and 2 miles in 2009. *See* Attachment 2, Table 8, Cells 22 E,F; I,J; M,N; and Q,R. Modeled values are for comparative purposes; each set of increases is in relation to temperatures monitored under existing conditions.

In the Middle Yuba River, again using a metric of 65° F (MWAT) as the upper tolerable holding temperature for spring-run Chinook, temperature monitoring showed that there were 5.3 miles of thermally suitable holding habitat under existing project operations in 2008 and 5.0 miles in 2009. Modeling shows that the Licensees/Forest Service flows would increase thermally suitable habitat to by 1.5 miles in 2008, and 1.1 miles in 2009. Modeling shows that the CDFW/FWN flows would increase thermally suitable habitat by 2.9 miles in both 2008 and 2009. Modeling shows that the NMFS flows would increase thermally suitable habitat by 6 miles in 2008, and 3.9 miles in 2009. *See* Attachment 2, Table 7, Cells 20 E,F; I,J; M,N; and Q,R. Figures cited here are adjusted for an over-prediction of temperature in the YBDS water temperature model for the Middle Yuba River. *See* Attachment 2, Table 7, footnote 4. Modeled values are for comparative purposes; each set of increases is in relation to temperatures monitored under existing conditions.

¹²³ *See, e.g.,* DEIS, p. 687. For each 10(j) recommendation of NMFS that is designed to protect anadromous fish, staff concludes: "No, the recommendation is premature because it depends upon future reintroduction of anadromous fish that may never occur."

¹²⁴ *Scenic Hudson*, 354 F.2d 608 at 612.

¹²⁵ 42 U.S.C. 4332(2)(C)(iii).

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own. A thorough consideration of all appropriate methods of accomplishing the aim of the proposed action is expected.¹²⁶

Under NEPA section 102(2)(D) all agencies are required to:

“study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” This requirement ... seeks to ensure that each agency decision maker has before him and takes into proper account all possible approaches to a particular project ... which would alter the environmental impact and the cost-benefit balance.¹²⁷

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.”¹²⁸ “A ‘viable but unexamined alternative renders [the] environmental impact statement inadequate.’”¹²⁹

¹²⁶ *Sierra Club v. Morton*, 510 F.2d 813, 825 (5th Cir. 1975) (internal citations and notes omitted). In order to achieve a “thorough consideration” of alternatives, CEQ requires that an EIS must

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
- (d) Include the alternative of no action.
- (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
- (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

40 C.F.R. § 1502.14.

¹²⁷ *Calvert Cliffs' Coordinating Comm., Inc. v. U. S. Atomic Energy Comm'n*, 449 F.2d 1109, 1114 (D.C. Cir. 1971). Further, NEPA section 102(2)(E) requires that the federal lead agency “study, develop, and describe appropriate alternatives to recommended course of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources” 42 U.S.C. § 4332(2)(E). The duty to consider alternatives under NEPA 102(2)(E) is “at least as broad” as the duty under NEPA section 102(2)(C)(iii). The purpose is “to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project or of accomplishing the same result by entirely different means.” *Environmental Defense Fund v. U.S. Army Corps of Engineers*, 492 F.2d 1123 (5th Cir. 1974); see Mandelker, *supra* § 9:22, p. 9-53.

¹²⁸ “Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations,” 46 Fed. Reg. 18026 (Mar. 23, 1981) (hereafter, “Forty Questions”), Question 2a. Further, “reasonable alternatives” are not limited to those that contain all elements of the proposed action. Daniel R. Mandelker, *NEPA Law and Litigation*, THOMPSON WEST (2003), § 9:18, p. 9-43. Indeed, under administrative practice and case law,

[a]lternatives can be divided into primary and secondary categories:....

A primary alternative is a substitute for agency action that accomplishes the action in a different manner. Increased coal production is a primary alternative to the construction of a nuclear power plant....Agency opponents presenting a secondary alternative concerned that the agency action is necessary but suggest that

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Successful environmental management requires that problems be addressed in a holistic rather than piecemeal fashion:

What NEPA infused into the decision-making process in 1969 was a directive as to environmental impact statements that was meant to implement the Congressional objectives of Government coordination, a comprehensive approach to environmental management, and a determination to face problems of pollution ‘while they are still of manageable proportions and while alternative solutions are still available’ rather than persist in environmental decision-making wherein ‘policy is established by default and inaction’ and environmental decisions ‘continue to be made in small but steady increments’ that perpetuate the mistakes of the past without being dealt with until ‘they reach crisis proportions.’ S.Rep.No.91-296, 91st Cong., 1st Sess. (1969) p. 5.¹³⁰

So, while “the discussion of environmental effects of alternatives need not be exhaustive,” it must present information sufficient “to permit a reasoned choice of alternatives so far as environmental aspects are concerned. As to alternatives not within the scope of authority of the responsible official, reference may of course be made to studies of other agencies- including other impact statements.”¹³¹

a. The EIS Must Analyze the Effects of Each Alternative on Habitat for Spring-Run Chinook Salmon and for Steelhead.

As stated above, the DEIS does not specifically consider the adverse impacts or benefits to anadromous fish habitat in weighing the alternative flow schedules. In order to support a finding regarding which flow schedule is best adapted to a comprehensive plan of development, Staff must obtain information necessary to compare the flow alternatives effects on anadromous fish habitat.

it be carried out in a different manner. They may offer a secondary alternative that requires a different location for a project, or project changes that mitigate harmful environmental impacts.

Id.

¹²⁹ *Muckleshoot Indian Tribe, supra*, 177 F.3d at 814 (quoting *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)) (emphasis added).

¹³⁰ *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972). The consideration of reasonable alternatives outside of the lead agency’s sole jurisdiction is important to the EIS’ utility as a comprehensive planning document. *Id.* at 834.

While the consideration of pertinent alternatives requires a weighing of numerous matters, such as economics, foreign relations, national security, the fact remains that, as to the ingredient of possible adverse environmental impact, it is the essence and thrust of NEPA that the pertinent Statement serve to gather in one place a discussion of the relative environmental impact of alternatives.

Id.

¹³¹ *Id.*
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To facilitate this analysis, the EIS should specifically evaluate data developed during these relicensing proceedings and in other venues in the context of habitat and life history (migration, holding, spawning, incubation, and juvenile rearing) requirements for spring-run Chinook salmon and for steelhead.

For example, water temperature modeling performed during the relicensing provides extensive data that demonstrates the impacts of different flows and flow regimes on water temperatures in the Middle and South Yuba Rivers. The water balance model demonstrates how much water is available for migration at various seasonal periods in each year in each river.

In addition, the Yuba Salmon Forum has already done much of the analysis that specifically relates modeling data to habitat conditions for anadromous species in the South and Middle Yuba Rivers.¹³² It has produced reports on spawning, juvenile rearing, and migration for salmon and steelhead, and summer holding for spring-run Chinook. These reports are based on habitat criteria for various lifestages of salmon and steelhead. The criteria include upper optimal and upper suitable thermal thresholds for various lifestages, as well as suitable spawning gravels.

The data gathered and analyzed in the Yuba Salmon Forum reports and matrices provide explicit comparisons of the effects on anadromous fish habitat of specific flow regimes for the South Yuba and Middle Yuba Rivers proposed in relicensing. The matrices compare habitat under the following flow alternatives: (1) flows agreed to by the Licensees and submitted as revised preliminary 4(e) conditions by the Forest Service; (2) flows recommended by CDFW under FPA Section 10(j) and supported by FWN under FPA Section 10(a); and (3) flows recommended by NMFS under FPA Section 10(j).

For example, on a comparative basis, Table 7 of the matrices shows that the number of holding pools available at optimal temperature to spring-run Chinook in the Middle Yuba River in 2008 and 2009 would have been 0 under the “Agreed FERC Flows,” 6 under the CDFW/FWN flows, and 15 or 14 under NMFS’s flows.¹³³ Spawning habitat in the Middle Yuba River available to spring-run Chinook, if based on proximity to a modeled Upper Tolerable temperature metric for holding habitat, would increase by two to three miles under CDFW/FWN flows as compared to Agreed FERC flows, and would increase another 1-3 miles under NMFS’s recommended flows.¹³⁴

In addition, Staff should consider the Yuba Accord’s River Management Team extensive database and series of reports regarding salmon and steelhead in the lower Yuba River.¹³⁵ It should consider habitat assessment reports and other information developed through the Upper Yuba River Studies Program.¹³⁶ Finally, Staff should consider reports prepared by NMFS that

¹³² See Attachment 2.

¹³³ See Table 7 in Attachment 2, cells 23 I and J, 23 M and N, and 23 Q and R.

¹³⁴ See Table 7 in Attachment 2, cells 29 I and j, 29 M and N, and 29 Q and R.

¹³⁵ See <http://www.yubaaccodrmt.com/default.htm>.

¹³⁶ See “Upper Yuba River Watershed Chinook Salmon and Steelhead Assessment, California Department of Water Resources,” available at http://www.water.ca.gov/fishpassage/docs/yuba/yuba_salmon.pdf.
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describe fish passage barriers, holding habitat, and spawning habitat for spring-run Chinook salmon and steelhead, as well as engineering options for fish passage past Englebright Dam.¹³⁷

b. The EIS Must Include a Complete NEPA Alternative that Analyzes Reintroduction of Spring-run Chinook and Steelhead to the South Yuba and/or the Middle Yuba Rivers.

The DEIS is limited to consideration of three alternatives for each project: Applicant's Proposal, Staff Alternative; and No Action Alternative.¹³⁸ It does not consider an alternative that provides for reintroduction of anadromous fish, even though the reintroduction of anadromous fish is reasonably foreseeable and would have effects on overall project operations. This does not comply with the Commission's obligations under the FPA and NEPA.

The EIS must include a Salmon and Steelhead Reintroduction Alternative that analyzes flow schedules for the South Yuba and Middle Yuba Rivers that would support each lifestage of spring-run Chinook salmon and steelhead. The EIS must in turn analyze these flow schedules for their potential impacts to power generation for PG&E and NID, and for water supply for NID and PCWA. The EIS must consider beneficial impacts on other instream resources and, if there are any, negative impacts on other instream resources.

The Reintroduction Alternative should disaggregate the flow and other impacts by species and by lifestage. It should also disaggregate sub-alternatives for reintroduction into (1) both the South Yuba River and the Middle Yuba River; (2) the South Yuba River only; and (3) the Middle Yuba River only.¹³⁹

Consideration of a Reintroduction Alternative prior to license issuance is important to Staff's balancing of the competing power and non-power uses of these waters. As stated above, the Commission must ensure that the new licenses strike the optimal balance between competing uses. It cannot provide such assurance if it has failed to include a critical use, i.e., anadromous and other coldwater fish habitat, in its analysis.

For example, the DEIS finds even the "potential detriment" to foothill yellow-legged frog to outweigh known benefits to resident rainbow trout.¹⁴⁰ It further finds that the benefits of providing additional coldwater habitat "would result in an uncertain and potentially adverse

¹³⁷ See eLibrary no. 20120731-5222 (Supporting Documents: "Yuba River Fish Passage: Conceptual Engineering Project Options" Montgomery Watson & Harza (2012), and "Modeling Habitat Capacity and Population Productivity for Spring-run Chinook and Steelhead in the Upper Yuba River Watershed," Stillwater Sciences (February, 2012)). On June 6, 2013, NMFS released a version 2 of the latter document, which incorporates recommendations from diverse stakeholders.

¹³⁸ See DEIS, Executive Summary, p. lvi (Drum-Spaulding) and p. lxxviii (Yuba-Bear).

¹³⁹ In their respective September 14, 2012 Reply Comments, neither PG&E nor NID disaggregated the developmental effects of NMFS's proposed flows in the South Yuba and Middle Yuba to support reintroduction. The two river reintroduction scenario presents greater effects on power generation and water supply than would single river scenarios.

¹⁴⁰ DEIS, p. 240.

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effect on various aquatic resource species at the expense of project operations.”¹⁴¹ There would appear to be an inadequate record basis for these findings because Staff has not specifically analyzed the benefits of providing additional coldwater habitat for anadromous fish. Further, Staff does not explain why it prioritized FYLF over coldwater habitat. The missing explanation is important because OEP Staff reached the opposite conclusion in the 2008 Draft Environmental Analysis for the relicensing of the DeSabra – Centerville Project.¹⁴²

CONCLUSION

The Conservation Groups request that the Commission grant this Motion and direct OEP Staff to make specific findings in a supplement to the DEIS regarding (1) the Yuba-Bear and Drum-Spaulling hydroelectric projects’ direct, indirect and cumulative effects on anadromous fish and their habitat in the South and Middle Yuba Rivers; and (2) feasibility of alternatives measures to mitigate the Projects’ effects on anadromous fish and their habitat in the South and Middle Yuba Rivers once they are reintroduced into project-affected waters. We request that the Commission require Staff to complete the record through direction to the license applicants, independent investigation, and/or consideration of the information submitted by Movants. The Commission should direct OEP Staff to provide its revised analysis in a supplement to the DEIS. The Commission should not wait until the fish are actually present to determine what project modifications may be necessary to protect and contribute to the recovery of the fish.

Dated: June 21, 2013

Respectfully submitted,



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¹⁴¹ *Id.*

¹⁴² See “Draft Environmental Analysis for the DeSabra – Centerville Project,” pp. 206-07, eLibrary no. 20081229-4001. Foothill yellow-legged frogs are relatively abundant in the affected reach of Butte Creek, and the Commission required flow in a tributary to protect them. However, when the water temperature concern for spring-run Chinook salmon was balanced against frogs and developmental values, the licensee, Commission, agencies and other stakeholders were unanimous in supporting water temperature reduction.
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CERTIFICATION OF SERVICE

**Nevada Irrigation District's Yuba-Bear Hydroelectric Project (P-2266-102) and
Pacific Gas and Electric Company's Drum-Spaulding Hydroelectric Project (P-2310-193)**

I, Nicholas Niiro, hereby certify that I have this day served the foregoing document, "California Sportfishing Protection Alliance, Trout Unlimited, and American Rivers' Motion for Additional Investigation and Supplement to the Draft Environmental Impact Statement," by electronic mail upon each person with an email address designated on the official service lists compiled by the Secretary in the P-2266 and P-2310 dockets.

Dated: June 21, 2013

By:



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DECLARATION OF CHRIS SHUTES

I, Chris Shutes, declare the following:

1. The purpose of my declaration is to provide an explanation of the draft Yuba Salmon Forum habitat matrices¹ to assist the reader in interpreting the matrices.
2. I am the FERC Projects Director for the California Sportfishing Protection Alliance (CSPA). I have held this position for seven years. My responsibilities include representing the interests of CSPA in the relicensing of hydroelectric projects and the implementation of project licenses in California. I also serve as the Vice-Chair of the California Hydropower Reform Coalition.
3. I have represented CSPA in the Yuba Salmon Forum since the Forum's inception in 2010. I have participated in both the plenary and the Technical Working Group. My explanation of the draft Yuba Salmon Forum habitat matrices is based primarily on my participation in the Technical Working Group.
4. The Yuba Salmon Forum habitat matrices and a Yuba Salmon Forum report describing these habitat matrices have been under development since January, 2013. I expect the final matrices and report to be issued in July, 2013. The final Yuba Salmon Forum report will provide extensive technical detail about the data itself, the derivation of the data presented, and the decisions that are embedded in the matrices.
5. While the Yuba Salmon Forum Technical Working Group has reviewed and discussed the matrices, and has generally approved the metrics by which the matrices measure different habitat criteria, the matrices have not yet been approved as final by either the Yuba Salmon Forum Plenary or Technical Working Group, or by their individual members.
6. The data presented in the draft Yuba Salmon Forum habitat matrices were designed for purposes of comparison, to evaluate the relative merits of recovery actions and to develop recovery strategies. They should be considered in the way that the water operations model and the water temperature models were used in the Yuba-Bear and Drum-Spauldung relicensings, to compare various alternatives, not to ascribe or predict absolute values.
7. The Yuba Salmon Forum developed habitat matrices to provide one-page displays of the habitat information that the Forum's Technical Working Group developed over two years of work.

¹ The draft Yuba Salmon Forum habitat matrices were distributed to the Yuba Salmon Forum Technical Working Group on June 20, 2013. They are being provided as Attachment 2 to the California Sportfishing Protection Alliance, Trout Unlimited, and American Rivers' Motion for Additional Investigation and Supplemental Draft Environmental Impact Statement.

8. The Excel file contains six tabs. Tabs labeled “Table 6,” “Table 7,” and “Table 8” present habitat data for spring-run Chinook salmon. The tab labeled “Redd Sensitivity App F” provides alternative potential metrics for calculating the size of spring-run Chinook salmon redds, thus potentially increasing or decreasing the number of redds shown in Tables 6, 7 and 8. The tab labeled “Table 9” presents habitat data for steelhead in mainstem river reaches. The tab labeled “Table 11 Steelhead trib” shows the number of miles of potential steelhead habitat in tributaries of the North Yuba, Middle Yuba, and South Yuba Rivers.

9. For spring-run Chinook salmon, Table 6 provides habitat data for existing conditions; Table 7 provides habitat data for both existing conditions and modeled flow scenarios for the Middle Yuba River; and Table 8 provides habitat data for both existing conditions and modeled flow scenarios for the South Yuba River. For steelhead, Table 9 provides habitat data under existing conditions and also under modeled flow scenarios in the Middle Yuba and South Yuba Rivers.

The Columns in the Spring-Run Chinook Salmon Matrices (Tables 6, 7 and 8)

10. Each entry in Column B of each table describes a Life Stage or a Physical Habitat Feature that is analyzed in the row to the right.

11. Columns C and D provide temperature criteria that are used to analyze thermal suitability. The values given are based on the Maximum Weekly Average Temperature (MWAT). “UO” is upper optimum temperature; “UT” is upper tolerable temperature; “UT Butte Creek” presents an alternative upper tolerable temperature that derives from “a specific analysis of the average MWAT in years when there was not obvious summer holding mortality temperature observed at Butte Creek due to temperature.”

12. The output in the rows is given:

- (1) As a date until which habitat at the bottom of an affected reach is no longer thermally suitable (in Table 6, rows 10-13 and 16-17);
- (2) The river miles that provide thermally suitable habitat for the spring-run Chinook lifestage (in Table 6, rows 19-21, 26-28, 35-36, and 41-42; or
- (3) The amount of a given physical habitat feature available within thermally suitable areas; the feature and its unit of measurement are described in Column B.

13. The temperature data is based on water temperature modeling in some cases and on water temperature monitoring in other cases. Temperature modeling data was used for the Middle Yuba and South Yuba Rivers for the years 2008 and 2009 for flow scenarios other than existing conditions, but is not available for 2010 and 2011. “NA” means that data is “not available.” Temperature monitoring data was used for “existing conditions” in the Middle Yuba and South Yuba Rivers in 2008, 2009, 2010 and 2011. Technical leads for the matrices made a slight adjustment for modeled data for the Middle Yuba, because monitoring showed that the Middle Yuba water temperature model slightly over-predicts the actual temperatures. This adjustment is reflected in values shown in parentheses on the Middle Yuba matrix (Table 7).

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14. “NL” means that the Technical Working Group agreed that water temperature was not a limiting factor during the lifestage shown in Column B.

15. The next seven columns to the right in Table 6 (Existing Conditions) analyze seven stream reaches. From left to right across the top of the Table 6 is a column for each of seven river reaches:

- (1) North Yuba River upstream of New Bullards Bar Reservoir;
- (2) Middle Yuba River upstream of Englebright Reservoir (and also upstream of confluence with North Yuba River);
- (3) South Yuba River upstream of Englebright Reservoir;
- (4) North Yuba River downstream of New Bullards Bar Reservoir (and also upstream of confluence with Middle Yuba River);
- (5) Yuba River downstream of confluence of North Yuba and Middle Yuba, and upstream of Colgate Powerhouse;
- (6) Yuba River from Colgate Powerhouse to Englebright Reservoir; and
- (7) Lower Yuba River from Englebright Dam downstream to confluence with the Feather River.

16. Tables 7 and 8 evaluate Existing Conditions and Modeled [Flow] Scenarios for the Middle Yuba River (Table 7) and the South Yuba River (Table 8). From left to right across the top of Tables 7 and 8, there is a column for each of six flow scenarios:

- (1) Existing conditions i.e. flow conditions under flows required by the existing FERC licenses for the Yuba-Bear Project (Middle Yuba River) and the Drum-Spaulding Project (South Yuba River). These are the conditions that are analyzed on the first matrix (Table 6); the information from Table 6 is transposed to Tables 7 and 8 in this column.
- (2) “Agreed FERC flows,” flows submitted by the licensees in their Final License Applications² and also submitted by the Forest Service in its Revised Preliminary 4(e) Conditions on August 24, 2013³. The flows analyzed in the matrix do not include any “block flows” or “supplemental flows” in either the Middle Yuba River or the South Yuba River.
- (3) CDFW/FWN flows. Both the California Department of Fish and Wildlife (CDFW) and the Foothills Water Network (FWN) recommended these flows.⁴ These flows are identical to the “Agreed FERC flows,” except that the CDFW/FWN flows also make available up to 2500 acre-feet of water per year (afy) from Jackson Meadows Reservoir for summer water temperature management in the Middle Yuba River, and up to 2500 afy from Spaulding

² See Amended FLA for Yuba-Bear, eLibrary no. 20120618-5134, p. E3-13; Amended FLA for Drum Spaulding, eLibrary no. 20120618-5022, p. E7-9.

³ See FS Revised Preliminary 4(e) Conditions, eLibrary no. 20120824-5006 (Yuba-Bear), p. 19; eLibrary no. 20120824-5005 (Drum-Spaulding), p. 19.

⁴ See DFG’s Section 10(j) recommendations, eLibrary no. 20120730-5174 (Yuba-Bear), p. 5; eLibrary no. 20120730-5174 (Drum-Spaulding), p. 5.

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Reservoir for water temperature management in the South Yuba River. For purposes of temperature modeling, YSF assumed that the target temperature of 19° C would be met at the Wolf Creek confluence (Middle Yuba) and Canyon Creek confluence (South Yuba), respectively.

- (4) NMFS flows. These flows were recommended by the National Marine Fisheries Service (NMFS) explicitly to support spring-run Chinook salmon and steelhead in the Middle Yuba and South Yuba Rivers. NMFS also included the possibility of additional flows for cooling Middle Yuba and South Yuba water temperatures, but these were not included in modeling for the YSF habitat matrices.⁵
- (5) Unimpaired flows.
- (6) Modeled base case flows. The flows analyzed in this last column differ from “Existing Conditions” because these are based on modeled conditions (like all modeled data, available for 2008 and 2009 only), whereas the “Existing Conditions” flows are based on empirical water temperature data.

The Rows in the Spring-Run Chinook Salmon Matrices (Tables 6, 7, and 8)

17. The rows in Tables 6, 7 and 8 are defined in Column B of each matrix. Each table starts by showing the first terminal barrier to upstream fish passage. Moving down, each table then provides data for each life stage as labeled in a shaded field. The row numeration is slightly different on each table in order to present various details.

18. The life stages for which data is quantified in the rows are: vAdult Migration (April – August), Adult Holding (April – August), Adult Spawning (September – November 15), Juvenile Rearing and Downstream Movement (Year-Round), and Smolt Emigration (October – May 15).

19. Some of the most important characteristics of each these life stages as described in each row are shown below:

- (1) The “Adult Migration” rows first identify the most downstream location in the river reach that adult spring-run Chinook would have to pass. These rows then give the last date of the respective spring/summer that water temperatures at that location were at or below the temperature criteria for the adult migration lifestage.
- (2) The “Adult Holding” rows give the number of river miles that were thermally suitable for spring-run Chinook salmon holding in the river reach and the respective year stated at the top of the column. The following row presents the number of holding pools in that thermally suitable river reach.
- (3) The “Adult Spawning” rows first show the number of river miles of spawning habitat available to spring-run Chinook salmon in the river reach and the respective year stated at the top of the column. This number is calculated by adding 2.2 miles to the amount of thermally suitable holding habitat for that reach

⁵ See NMFS’s Section 10(j) recommendations, eLibrary no. 20120731-5212, p. 3 (Middle Yuba), 6 (South Yuba and Canyon Creek).

for that year. This metric was based on an analysis of holding and spawning data in Butte Creek, which shows downstream migration of spring-run Chinook as they move from holding to spawning locations. The Technical Working Group agreed that this was a reasonable estimate of the extent of downstream migration. Moving down, the rows for the “Adult Spawning” lifestage present the amount of spawning gravel within the available spawning habitat, and the number of spawning redds that this gravel would support based on an average redd size of 94 sq. ft. Finally, the matrices present an alternative metric for spawning habitat, showing the number of miles during the September 15-30 time period in which the median MWAT temperature was at or below a threshold temperature for spring-run Chinook spawning.

- (4) “Embryo Incubation” is given rows to show that the Technical Working Group evaluated it, but the Technical Working Group determined that temperatures during this life stage are not limiting.
- (5) “Juvenile Rearing and Downstream Movement” addresses juvenile fish that do not leave the river before summer. For Chinook, this applies to “yearling” or “river type” fish that over-summer in the river. The matrix presents data for number of thermally suitable miles and for the number of thousands of square feet of rearing habitat.
- (6) “Smolt Emigration” is also given a row to show that the Technical Working Group evaluated it, but the Technical Working Group determined that temperatures during this life stage are not limiting.

The Columns and Rows in the Steelhead Matrix (Table 8)

20. The columns for the section of the steelhead matrix entitled “Existing Conditions – All Reaches” are the same as in Table 6. The columns for the section of the steelhead matrix entitled “Middle and South Yuba River Existing Conditions and Modeled Scenarios” are the same as in Tables 7 and 8.

21. The rows in the steelhead matrix consider only the length of river downstream of the first complete fish passage barrier, and the amount of thermally suitable habitat for the juvenile rearing and downstream migration life stage. The matrix presents data for number of thermally suitable miles and for the number of thousands of square feet of rearing habitat. These numbers are slightly higher than respective numbers for spring-run Chinook, because juvenile steelhead can tolerate slightly higher temperatures, and thus have a longer length of river available for rearing.

22. I declare under penalty of perjury of the laws of the State of California and the United States of America that the foregoing is true and correct and that this declaration was executed June 21, 2013 in Berkeley, California.

Respectfully submitted,



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See Excel spreadsheet “Habitat Matrices_042413_v4.xlsx” filed concurrently.