

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

In the Matter of the Application of)	
)	
YUBA COUNTY WATER AGENCY)	
)	Yuba River
NOTICE OF APPLICATION)	Development Project
READY FOR ENVIRONMENTAL ANALYSIS)	FERC Project No. 2246
SOLICITING COMMENTS, RECOMMENDATIONS,)	
AND PRELIMINARY TERMS AND CONDITONS,)	
AND PRELIMINARY FISHWAY CONDITIONS.)	

COMMENTS OF FRIENDS OF THE RIVER, SOUTH YUBA RIVER CITIZENS LEAGUE, THE SIERRA FUND, NORTHERN CALIFORNIA COUNCIL INTERNATIONAL FEDERATION OF FLY FISHERS, NATIVE FISH SOCIETY, PACIFIC COAST FEDERATION OF FISHERMEN’S ASSOCIATIONS, INSTITUTE FOR FISHERIES RESOURCES, PATAGONIA, AND STOECKER ECOLOGICAL.

Friends of the River, South Yuba River Citizens League, The Sierra Fund, Northern California Council International Federation of Fly Fishers, Native Fish Society, Pacific Coast Federation of Fishermen’s Associations, Institute for Fisheries Resources, Patagonia, and Stoecker Ecological hereby submit comments in response to the NOTICE OF APPLICATION READY FOR ENVIRONMENTAL ANALYSIS AND SOLICITING COMMENTS, RECOMMENDATIONS, PRELIMINARY TERMS AND CONDITONS, AND PRELIMINARY FISHWAY PRESCRIPTIONS for FERC Project No. 2246 (June 26, 2017).

Yuba River Dams Adversely Impact Threatened Anadromous Fish Species.

The threatened Central Valley spring-run chinook salmon, winter-run steelhead, and North American green sturgeon are crucial target management species in the Yuba River. All three species have been listed by the National Marine Fisheries Service (NMFS) as threatened with extinction under the Endangered Species Act and are subject to federal protection and recovery actions.

Four dams on the Yuba River affect the health and recovery of these threatened species. These dams include Daguerre Point and Englebright Dams on the lower Yuba River, New Bullards Bar Dam on the North Yuba River, and Our House Dam on the Middle Yuba River. Englebright and Daguerre Point dams are owned by the U.S. Army Corps of Engineers (USACE). New Bullards Bar and Our House dams are owned and operated by the Yuba County Water Agency (YCWA).

The adverse impacts of the Daguerre Point and Englebright Dams on threatened anadromous fish species have been well documented by various state and federal agencies. Daguerre Point Dam impedes and at certain flows blocks the migration of threatened spring chinook salmon and

steelhead.¹ Also, Daguerre Point dam entirely blocks the migration of threatened green sturgeon to its former spawning habitat further upstream in the Yuba River.² Further upstream, Englebright Dam blocks all access for threatened spring chinook salmon and winter steelhead to their former spawning habitat.³ If salmon, steelhead, and green sturgeon were somehow able to pass the Daguerre Point and Englebright Dams, their migration to former spawning habitat on the North and Middle Yuba Rivers would be blocked by the New Bullards Bar and Our House dams.

Yuba River Anadromous Fish Restoration Requires Passage Around Dams.

The National Marine Fisheries Service (NMFS) has identified the Yuba River upstream of Englebright Dam to be a high priority for reintroduction of threatened spring chinook salmon. The agency also believes that reintroduction of fish to historic habitats will require concerted watershed-scale approaches by FERC, especially in the upper Yuba and other rivers blocked by FERC-licensed hydroelectric dams.⁴ NMFS also identified the Yuba River upstream of Daguerre Point Dam as additional spawning habitat currently inaccessible to threatened green sturgeon.⁵ The USACE is currently developing an ecological restoration plan for the lower Yuba River, which includes possible removal or modification of Englebright and Daguerre Point dams.⁶

An ad hoc working group of regulatory agencies, NGOs, and others formed the Yuba Salmon Forum to consider the reintroduction of anadromous fish upstream of project dams. The Forum completed various preliminary assessments of fish passage, upstream habitat, and potential actions, including the removal or modification of Englebright and Daguerre Point dams.⁷

The USACE and the California Department of Water Resources (CDWR) jointly assessed the feasibility of removing or modifying Daguerre Dam to provide unencumbered anadromous fish passage, while maintaining YCWA's ability to divert water for its contractors. The agencies jointly evaluated various alternatives ranging from no action, to improving or replacing existing fish ladders, notching the dam, creating a bypass channel, or removing the dam and relocating water diversions. The evaluation concluded that modifying or removing the dam is feasible and would cost from \$2.5 million to \$97 million depending on the alternative chosen.⁸ For

¹ California Dept. of Water Resources (CDWR) 2005, Bulletin 250 – Fish Passage Improvement, pg. 4-10.

² U.S. Army Corps of Engineers (USACE) 2014, Yuba River Ecosystem Restoration Section 905(b) Analysis, pg. 17.

³ National Marine Fisheries Service (NMFS) 2014, Recovery Plan for the Sacramento River Winter-Run Chinook Salmon, Central Valley Spring-Run Chinook Salmon and Central Valley Steelhead, pg. 44.

⁴ Ibid, NMFS 2014, pgs. 81, 86.

⁵ NMFS 2009, Final Rulemaking to Designate Critical Habitat for the Threatened Southern Distinct Population of the North American Green Sturgeon, Federal Register page. 52330.

⁶ Ibid USACE 2014, pg. 37.

⁷ Yuba Salmon Forum Technical Work Group 2013, Fish Passage Infrastructure Report.

⁸ CDWR &USAC 2003, Draft Daguerre Point Dam Fish Passage Improvement Project, Alternative Concepts Evaluation.

comparison, the cost of removing the San Clemente dam on the Carmel River to facilitate endangered steelhead passage was estimated at \$84 million.

The Federal Power Act (16 U.S.C. sec. 811) requires FERC to mandate the construction, maintenance, and operation of fish passage facilities as prescribed by NMFS or the U.S. Fish and Wildlife Service (USFWS). In addition to fish ladders, this mandate could include so-called “trap and haul” facilities, modification or removal of obstructing dams, and any other conditions necessary to ensure effective passage. The Act also requires that FERC issue licenses that “adequately and equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat) affected by the development, operation, and management of the project...” (16 U.S.C. sec. 803[j][1]).

NMFS and other regulatory agencies are expected to make fish passage and fish habitat improvement recommendations in response to the Project 2246 REA. Other than a commitment to monitor fish passage at the Daguerre Point dam fish ladders, YCWA’s license application is largely silent on the issue of providing fish passage improvements at the Daguerre Point, Englebright, Our House, and New Bullards Bar dams.

YCWA’s Amended Final License Application (AFLA) does mention the formation of the Yuba Salmon Partnership Initiative (YSPI), which is negotiating a potential settlement agreement focused on reintroduction of anadromous fish upstream of project dams, but these negotiations have not concluded and the cost and feasibility of reintroduction actions is still under evaluation.

Englebright And Daguerre Point Dams Are Project 2246 Facilities.

Although YCWA’s license application materials do not list Englebright and Daguerre Point dams as project facilities. These dams are owned by the USACE. However, YCWA utilizes Englebright dam to divert water and generate hydroelectricity at the Narrows 2 powerhouse, which is a project facility. In addition, Englebright dam reregulates highly variable peak power flow releases from the New Colgate powerhouse, another project facility. Without Englebright dam and reservoir, the highly variable water releases from New Colgate into the Yuba River would significantly impact threatened fish species and their habitat in the lower Yuba River. YCWA stores water in New Bullards Bar reservoir and releases it downstream, to be diverted from the lower Yuba River by Daguerre Point dam to supply irrigation water to YCWA contractors.

The AFLA documents YCWA’s dependence and use of the Englebright dam and reservoir for Project 2246 operations. YCWA must have permission from the USACE for use of Englebright dam to operate the Narrows II powerhouse. The new license will require the renewal of easements and authorities to utilize the dam and reservoir. The AFLA notes that YCWA will pay the USACE \$100,000 annually for the storage of water in Englebright reservoir.⁹

The Federal Power Act (16 U.S.C. section 803) requires FERC to adapt a project license to a comprehensive plan for improving or developing a waterway for the enhancement of fish and wildlife (including related spawning grounds and habitat), and for other purposes. Under this

⁹ YCWA 2017, AFLA Section D, pg. 8.

provision, FERC has the authority to require the modification of any project and of the plans and specifications of the project works before approval.

NMFS has the authority to prescribe fish passage at FERC license projects. NMFS has previously documented its concern about the role of Englebright dam in restricting anadromous fish passage and has repeatedly requested that this facility be considered in the license.¹⁰

According to the State Water Resources Control Board, current Project 2246 operations are dependent on Englebright dam and reservoir, which allows YCWA to regulate releases for downstream water diversions at Daguerre Point dam. YCWA is directly involved in the ongoing operation of Englebright dam and both dams are integral parts of the project authorized by YCWA's water rights. The Water Board also notes that both dams "continue to harm anadromous fisheries by preventing or impeding free passage of anadromous fish...to upstream areas that provide spawning and rearing habitat formerly utilized by salmon and steelhead." In summary, the Water Board states that Daguerre Point dam interferes with migration of anadromous fish and Englebright dam blocks upstream passage entirely.¹¹

Given the clear interrelated nature of the operation of New Bullards Bar, Our House, Englebright, and Daguerre Point dams, the Project 2246 license must consider all potential measures to address the impacts of all these dams on anadromous fish passage to meet the Act's mandate to contribute to an overall comprehensive plan to restore the Yuba River fisheries.

The Project 2246 Environmental Analysis Should Include Volitional Fish Passage.

The Project 2246 environmental analysis should include and fully consider a volitional fish passage alternative. As previously noted, extensive preliminary work and investigations have been conducted to determine the initial feasibility and cost of removing or modifying Englebright and Daguerre Point dams.

Any fish passage alternative should begin in the lower watershed and work its way upstream, starting with Daguerre Point, Englebright, and Our House dams. Fish passage around these dams would access miles of potential habitat on the South, Middle, North and main stem Yuba (below the North and Middle Yuba confluence). This volitional fish passage alternative would also have to consider modifications to and reoperation of New Bullards Bar dam to improve fish flows downstream of the dam.

Dam removal is the best and most biologically effective method of assuring fish passage and reintroduction of threatened and endangered anadromous fish species to historic habitat cut off by these structures. This has been proven time and again with completed dam removal projects on the Elwha, White Salmon, Carmel and various other rivers and streams throughout the west.

Non-Volitional Fish Passage Is Unacceptable.

¹⁰ NMFS Comments on Project 2246 Preliminary Application Document, 2011.

¹¹ State Water Resources Control Board (SWRCB) 2003, Revised Water Right Decision, pgs. 31-32.

As noted previously, the Project 2246 amended final license application essentially offers the YSPI proposal as a placeholder for the fish passage issue. There is no detailed settlement agreement among the six participating parties, but the YSPI's preliminary "term sheet" states the purpose of the YSPI is "to achieve reintroduction of Listed Anadromous Salmonids in the North Yuba River upstream of New Bullards Bar Dam, and the enhancement of Anadromous Salmonid habitat in the lower Yuba River."¹²

Unfortunately, the YSPI's term sheet disavows any "evidence of the reasonable foreseeability" of fish reintroduction in the Yuba watershed. It expressly forbids parties from advocating for reintroduction of anadromous salmonids in the Yuba River downstream of New Bullards Bar Dam. The YSPI solely focuses on the reintroduction of threatened spring chinook salmon but ignores the recovery needs of threatened steelhead and green sturgeon. Further, the term sheet anticipates the need to "pursue a Legislative Action to state that implementation of the (YSPI) Action Plan will not be precluded by a proposed designation (of the North Yuba River) under the Wild and Scenic Rivers Act."

We see no reason for FERC, NMFS, or any other agency involved in the Project 2246 relicensing to seriously consider the YSPI proposal, particularly when the partnership's members cannot even on a preliminary basis claim that its trap and haul proposal will achieve anadromous fish reintroduction in the Yuba River watershed. This provision is understandable given the long history of failure with existing trap and haul programs and the prevailing scientific evidence that questions their effectiveness.

Non-volitional fish passage projects such as trap and haul do not provide for self-sustaining, long-term restoration and recovery of wild salmon and other native fish species. Instead, they invest limited resources into new facilities that must be funded and managed continuously and indefinitely.

The performance record for existing trap and haul programs is inconsistent and replete with problems, including mechanical failures, stress and mortality to fish, and unanticipated impacts to water quality and macroinvertebrate populations.¹³ Transport of juveniles impairs adult orientation and homing abilities. Studies show that significantly lower numbers of transported juveniles successfully return to collection points as adults.¹⁴ Pre-spawn mortality of adult fish transported above barrier dams can be as high as 48%.¹⁵

Any facilities designed to collect and remove fish from the river are inherently prone to both mechanical and biological complications. CDFW's Steelhead Restoration and Management Plan

¹² Yuba Salmon Partnership Initiative (YSPI) 2015, Term Sheet For Framework Of Settlement Agreement, pg. 1.

¹³ Hafele, Rick. 2015, Lower Deschutes River water quality results, for the Dechutes River Alliance and Oregon Wild.

¹⁴ Keefer M.L., C.C. Caudill, C.A. Perry, S.R. Lee 2008. Transporting juvenile salmonids around dams impairs adult migration, *Ecological Applications* 18:1888-1900.

¹⁵ Keefer, M.L., G.A. Taylor, D.F. Garletts, G.A. Gauthier, T.M. Pierce, C.C. Caudil, 2010. Prespawn mortality in adult spring chinook salmon outplanted above barrier dams. *Ecology of Freshwater Fish* 19:361-372.

cites "the history of failure of trap-and-truck operations," and features a paper from the journal *Conservation Biology* that calls the use of such technological solutions, "techno-arrogance."¹⁶

Artificial conditions and stress of concentrating and handling fish in facilities transports are known to be particularly problematic. The Oregon Department of Fish and Wildlife has noted that trap and haul programs can cause long-term evolutionary and population persistence problems as they "impose an artificial selective force and generally reduce fitness."¹⁷

Trap and haul programs do not meet criteria for recovery under the Endangered Species Act or support CDFW's goals for "wild" and "self-sustaining" populations.¹⁸ Guidance documents for implementation of the ESA make it clear that delisting (the official goal of recovery actions) requires adequate wild and self-sustaining populations.¹⁹ NMFS has acknowledged that "allowing for volitional fish passage to the upper watershed is the only way to establish a self-sustaining population" and agency prioritizes "...measures that, once implemented, are self-sustaining."²⁰

Trap and haul programs present a thoroughly unsatisfactory solution from the standpoint of environmental stewardship. There is nothing benign about removing fish from rivers to move them along their way in trucks. Not least among these problems is that there are climate change implications (high energy use and greenhouse gas emissions that result from such operations).

Relocating adult salmon from the lower Yuba River to the North Yuba River, and juvenile salmon from the North Yuba to the lower Yuba does not truly connect existing habitat to historic habitats but rather bypasses 40 miles of river through an artificial system of fish collection and transport. YSPI's plan apparently involves no restoration of the watershed bypassed by trap and haul and pre-empts regulatory processes that may require restoration of those reaches between and below dams for fish recovery and improving watershed health. Implementing the YSPI's trap and haul concept could cost as much as \$500 million. Dam removal or modification may be cost competitive while providing much more biological certainty.

Ultimately, trap and haul fails to adequately address – and in fact, diverts attention away from the root causes of the decline in wild salmonid populations and watershed health, particularly the effects of dams. The recovery of Central Valley Spring-run Chinook, steelhead, and sturgeon requires that these fish populations gain access to historic habitat upstream of Daguerre Point, Englebright, and Our House dams, as well as protection and restoration of adequate flows and habitat conditions below other diversions within the watershed.

¹⁶ CDFW 1996. Steelhead restoration and management plan.

¹⁷ Oregon Dept. of Fish and Game 2006. Revised viability criteria for salmon and steelhead in the Willamette and lower Columbia basins. Review draft with the Willamette/Lower Columbia Technical Recovery Team.

¹⁸ Ibid. CDFW 1996.

¹⁹ USFWS 1990. Policy and guidelines for planning and coordinating recovery of endangered and threatened species.

²⁰ NMFS 2014. Recovery plan for the evolutionary significant units of Sacramento River winter-run chinook salmon and Central Valley spring-run chinook salmon and the distinct population segment of California Central Valley steelhead.

Relying on the YSPI's preliminary trap and haul concept short-circuits the National Environmental Policy Act's (NEPA) requirement for consideration of a full range of alternatives. Pursuant to NEPA, federal agencies must consider alternatives to the proposed action. To date, a comprehensive and watershed-based study looking at all Daguerre Point and Englebright dam removal and sediment management options, along with improved flood protection and upstream dam management options, has not been carried out. CEQ regulations refers to the alternatives analysis as the "heart" of the environmental impact statement. No analysis would be complete without a full and unbiased review and comparison of volitional and non-volitional fish passage alternatives.

By announcing a substantive decision to pursue non-volitional fish passage in the context of a framework for a "settlement agreement," before any analysis has been conducted of other alternatives, NMFS and CDFW threaten to undermine the legitimacy of its decision and future efforts and is directly counter to the Ninth Circuit Court of Appeals ruling warning that the NEPA process not be twisted "to rationalize a decision already made." NEPA also requires federal agencies to fully consider alternatives to proposed actions.²¹

The YSPI term sheet also violates the intent of the National Wild and Scenic Rivers Act. The Act was passed by Congress in 1968 to protect selected free flowing rivers with outstanding natural and cultural values be protected for the benefit and enjoyment of future generations. Congress also declared that the policy of dam construction on some rivers be complemented by a policy that protects other rivers in their free-flowing state. This policy statement is particularly appropriate for the Yuba, which is controlled by dams throughout much of its watershed, except for the free-flowing portion of the North Yuba River upstream of New Bullards Bar dam.

The 1990 Tahoe National Forest Plan is cited as a qualifying comprehensive plan in the Project 2246 relicensing. In response to an appeal settlement agreement, this plan was amended in 1999 by the Forest Service to recommend National Wild and Scenic River protection for 45 miles of the North Yuba River from its source near Yuba Pass to Wambo Bar.²² Apparently, the YSPI partners believe that their trap and haul plan is sufficiently incompatible with the National Wild and Scenic Rivers Act to propose legislative action to ensure that the program be implemented despite its possible adverse effects on the North Yuba's free flowing character and outstandingly remarkable scenic, recreation, fish, vegetation, and heritage values.

The cost, effectiveness, and legality of using the YSPI as the fish passage alternative for the Project 2246 is entirely in question. We urge that volitional fish passage alternatives be considered.

All Alternatives Must Be Analyzed Under Real Climate Change Conditions.

Any environmental analysis of the Project 2246 license must fully and realistically consider the impacts of climate change on water flow and temperatures, minimum flows released from project dams, fish habitat, and fish passage (volitional or non-volitional). It's possible that climate-

²¹ 42 U.S.C. sec. 4321 *et seq.*, 42 U.S.C. sec. 4332(2)(C)(iii), (2)(E).

²² U.S. Forest Service, Tahoe National Forest 1999. 22 Westside Rivers Wild & Scenic River Study Report, Final Environmental Impact Statement.

change induced temperature rise and reduced snow pack may make the North Yuba River and other Yuba forks unsuitable for salmon spawning and holding, except where these factors can be mitigated by a large storage reservoir. Cold water storage and releases from New Bullards Bar dam and reservoir may be the only way to sustain salmon, steelhead, and green sturgeon in the Yuba River, but only if the facility is modified and the license changed to establish suitable minimum flows between New Bullards Bar dam and the New Colgate powerhouse.

Flows Must Be Improved Downstream Of New Bullards Bar Dam

Except when the New Bullards Bar dam is spilling, minimum flow releases from the dam are limited by the capacity of the New Bullards Minimum Flow Powerhouse to a paltry 5 CFS. We know of no major river in the Sierra Nevada with flows controlled by an upstream dam with this exceptionally low minimum flow. Not only is the minimum flow contrary to basic scientific understanding of aquatic ecosystems, it violates state regulations requiring dam owners/operators to allow sufficient water to pass over, around or through a dam, to keep in good condition any fish that may be planted or exist below the dam.²³ The inadequate minimum flow from New Bullards Bar violates the public trust provision of the California Constitution. The Project 2246 environmental analysis must fully analyze the basic flow needs of fish and wildlife, and the aquatic ecosystems needed to sustain them, downstream of the dam, and include project alternatives that improve flows downstream of the dam.

Recommendations

- Recognize that combined YCWA operations depend on project and non-project dams, including Englebright and Daguerre Point.
- The Project 2246 environmental analysis and license must consider the impacts of Englebright and Daguerre Point on threatened fish species and propose measures to ensure fish passage.
- Fully analyze and compare the cost and effectiveness of volitional and non-volitional fish passage alternatives for all project and non-project dams.
- At the minimum, include as a placeholder in the Project 2246 license future actions for Daguerre Point and Englebright dams that will be recommended in the USACE's Yuba River Ecosystem Restoration Program.
- Avoid any Project 2246 measures or actions that infringe on the Forest Service's National Wild and Scenic River recommendation for the North Yuba River upstream of New Bullards Bar Reservoir.
- Use existing protocols for projecting future water quality and fish habitat changes due to climate change, assess how alternatives will impact native fish habitat and reservoir conditions for at least 50 years.
- Fully consider the effects of climate change on project operations and environmental measures, including fish passage and the suitability of fish habitat upstream and downstream of project dams.
- Fill data and assessment gaps and assess how previously submitted water use, energy, and flood protection can achieve both improved and more climate resilient project

²³ California Fish and Game Code 5937.

operations over the next 50 years.

- Estimate water quality and quantity, and fish habitat quality within the Yuba River and tributaries below project and headwater damns with different dam modification and removal alternatives.
- Specifically compare how ongoing reservoir sedimentation and loss of capacity, evaporation, and further warming of Englebright reservoir will impact the availability and quality of water released downstream for 50 years. Compare these results to alternatives that eliminate or reduce the size of the reservoir and increase free flowing river habitat and cold water releases from New Bullards Bar dam.
- The Project 2246 environmental license must restore flows for fish, wildlife, and recreation downstream of New Bullards Bar Dam.

CONCLUSION

We respectfully submit these comments in response to the Project 2246 Notice of Application.

Dated this 25th day of August

Respectfully submitted,

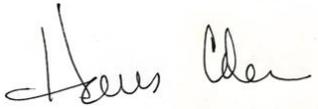


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**BEFORE THE
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

In the Matter of the Application of)	
)	
Yuba County Water Agency (YCWA))	
)	
)	FERC Project No. 2246
For new major license for the)	
Yuba River Development Project)	

Certificate of Service

I hereby certify that the foregoing comments by Friends of the River, South Yuba River Citizens League, The Sierra Fund, Northern California Council International Federation of Fly Fishers, Native Fish Society, Patagonia, and Stoecker Ecological in the above-captioned proceeding has this day been filed online with the Federal Energy Regulatory Commission and served via email or surface mail upon each person designated on the Service List compiled by the Commission Secretary for this Project.

Date: August 25, 2017



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