ROSSMANN AND MOORE, LLP

Attorneys at Law

380 HAYES STREET, SUITE ONE
SAN FRANCISCO, CALIFORNIA 94102 USA
TEL (01)(415) 861-1401 FAX (01)(415) 861-1822
www.landwater.com

ROGER B. MOORE
ADMITTED IN CALIFORNIA
rbm@landwater.com

ANTONIO ROSSMANN
ADMITTED IN CALIFORNIA
NEW YORK AND
THE DISTRICT OF COLUMBIA
ar@landwater.com

JENNIFER L. SEIDENBERG
ADMITTED IN CALIFORNIA
js@landwater.com

July 29, 2009

Via email and U.S. mail
Dorothy Rice
Executive Director, California State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

RE: Butte County's Comments on the Matter of Water Quality Certification for the Department of Water Resources Oroville Facilities (Federal Energy Regulatory Commission Project No. 2100)

Dear Director Rice:

This letter provides Butte County's (Butte's) comments on the State Board's draft water quality certification, which addresses the Department of Water Resources' (DWR's) application to the Federal Energy Regulatory Commission (FERC) for a new license to operate the Oroville Facilities ("Oroville project," FERC Project 2100). The State Board has not provided a formal comment period. However, Butte County requested, and State Board staff provided, the draft certification that was current on July 9, 2009 ("draft certification"). We appreciate the opportunity to comment.

I. Summary and Overview

The decision to re-license DWR's Oroville project for the next half-century is one of the most momentous in the history of Butte County's environment and economy. Oroville Dam is the State Water Project's primary power generation facility, and Lake Oroville is its "keystone" water storage facility. http://www.water.ca.gov/swp/facilities/Oroville/index.cfm. The Oroville Facilities since their 1968 completion have "altered the hydrology and geomorphology of the Feather River, and impacted the water quality and anadromous fisheries." (Draft certification, p. 1.) They have also imposed millions of dollars annually on Butte in uncompensated environmental and service costs. As detailed below, sensitivity to the environmental and institutional context of the water quality certification decision can help ensure that the next 50 years of history at Oroville will prove to be more equitable and environmentally sustainable than the legacy of the first licensing period.

Butte commends the State Board for its recognition that "certain measures as written" in the March 2006 Settlement Agreement are "either not enforceable, will not fully protect the beneficial

uses, or will not meet water quality standards in a timely manner." (Draft certification, p. 4.) Butte strongly opposes any attempt by DWR to weaken the State Board's conditions of certification. As the Board noted, "[b]eneficial uses currently impacted by the project may not be reasonably protected if the proposed measure has a management plan with unclear or unenforceable standards, an excessively long period prior to implementation, or unspecified implementation dates." (Draft certification, p. 4.)

Adoption of more rigorous conditions in place of vague ones invokes the State Board's independent duty under section 401 of the Clean Water Act (33 U.S.C. §1341) to enforce water quality standards and implementation plans promulgated by the State Board. (33 U.S.C. § 1313.) That duty reflects the mandate of the Clean Water Act (33 U.S.C. §§ 1251-1387) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).) DWR must also demonstrate compliance with the State Board-approved objectives in the Water Quality Control Plan for the Central Valley-Sacramento and San Joaquin River Basins (Basin Plan). Though called "objectives," compliance with these standards and their implementation program is mandatory. (*See State Water Res. Control Bd. v. Office of Admin. Law* (1993) 12 Cal. App. 4th 697, 701-02.) The Basin Plan standards also apply to the entirety of project operations, not just dam discharges. (*PUD No. 1 v. Wash. Dep't of Ecology* (1994)511 U.S. 700, 711-12.)

The Board has noted that to issue a section 401certification, DWR must demonstrate to the Board that DWR will achieve

> compliance with all water quality objectives in the Basin Plan… as well as with other water quality objectives that the Project may affect. DWR must also demonstrate that the Project does not impair the beneficial uses of the Feather River or Lake Oroville. If the Project does not comply with one or more of the water quality objectives, then DWR must describe the actions that it will take to bring its Project into compliance with the applicable water quality requirements in order to protect and maintain the beneficial uses.

Exhibit 1 to this letter (Ex. 1), pp. 1-2.

With appreciation for the Board's advocacy of clear and enforceable standards, Butte outlines grounds to exercise caution before advancing to final approval of the Oroville project's section 401 certification. First, DWR's request for certification should be denied without prejudice as procedurally inadequate. Lead agency DWR's Final EIR is the subject of pending CEQA challenges by Butte and Plumas Counties, which have been consolidated and are pending in the Yolo County Superior Court. (*County of Butte v. Department of Water Resources,* c/w *Plumas County v. Department of Water Resources (Butte v. DWR)*, Yolo County Superior Court, No. CV 09-1258.) However, DWR has failed, in almost a year, to produce the administrative record, which CEQA ordinarily requires in 60 days. (Pub. Res. Code, § 21167.6(b).) That delinquency has deprived Butte of the opportunity to review documents in that still-incomplete record that may be relevant to the Board's section 401decision.

Second, DWR's request for certification does not disclose a fundamental EIR deficiency: refusal to analyze the consequences of climate change. A responsible agency ordinarily assumes that the lead agency's Final EIR complies with CEQA, but any project approval remains "at the applicant's risk pending final determination" of the actions. (Pub. Res. Code, § 21167.3; see also 14 Cal. Code Regs., § 15233.) Here, the State Board must also independently assess whether DWR's project

provides reasonable assurance of compliance with federal and state water quality standards. DWR did not simply refuse to analyze climate change; it reneged on the approach DWR and other agencies have consistently advocated elsewhere. That failure undermined the environmental review, and precludes a finding under section 401 that the project protects beneficial uses and meets water quality objectives.

Third, DWR's refusal to study the Oroville project in the context of other State Water Project operations also undermined the integrity of the environmental review. Despite objections from the State Board, Butte, and others during public comment, DWR improperly attempted to sever the Oroville Project analytically from other foreseeable changes in State Water Project operations. That faulty analysis left major unresolved issues about the nature of project operations, which prevent a final certification that the project is now appropriate for water quality certification.

Fourth, additional steps are needed to address the accumulation of toxic substances within the Oroville Facilities. Despite improvements over DWR's proposed approach, further steps are needed to provide reasonable assurance of compliance with water quality standards and the Basin Plan. This is the case on a matter of pivotal public health importance: accumulation of toxic substances such as methyl mercury and PCBs (polychlorinated biphenyl) within the Oroville Facilities. Before the Board renders its final section 401 certification, nearby communities deserve a more probing examination of whether these substances' intrusion into local fish and the food chain is related to high local cancer rates. Lastly, the treatment of pathogens and water temperature needs further refinement.

II. DWR's request for certification is procedurally inadequate.

A. Procedurally inadequate requests for certification should be denied without prejudice.

The State Board may deny without prejudice applications with "some procedural inadequacy (e.g., failure to provide a complete fee or to meet CEQA requirements)". (23 Cal. Code Regs., § 3837(b); see also 23 Cal. Code Regs., § 3836 (where "the federal period for certification will expire before the certifying agency can receive and properly review the necessary environmental documentation'); *Clean Water Act section 401 Water Quality Standards Certification for Tract Map 30921, City of Moreno Valley, Riverside County* (Regional Water Quality Control Board, Santa Ana Region, June 10, 2008) (earlier application "was denied without prejudice pending resolution of inconsistencies and omission" in environmental document prepared for CEQA compliance).)

B. DWR's extraordinary delay in preparing the CEQA record removed the opportunity to review documents germane to the State Board's section 401 review.

A key purpose of the Oroville Final EIR is for the State Board to "use the information" to "prepare terms and conditions" for its certification decision (FEIR, pp. 1-3 to 1-4.) Yet almost a year after Butte and Plumas Counties filed CEQA cases, DWR has still failed to produce the administrative record, violating a clear requirement of CEQA (Pub. Res. Code, § 21167.6(b).) The original due date, 60 days after Butte's request for record preparation, passed on October 27, 2008. Although CEQA allows the parties to stipulate to a later due date, the last deadline achieved by stipulation passed on February 27, 2009. DWR is now more than six months delinquent in preparing the record.

The CEQA record, when it arrives, will likely include materials highly relevant to the State

Board's water quality determination. In part, Butte challenges DWR's defective assessment of water quality impacts and mitigation. (Ex. 2 (Butte petition), ¶ 55.e (water quality impacts); ¶ 62.e (failure to mitigate water quality impacts).) Final action to approve the project's section 401 certification would deprive Butte of the opportunity to review potentially thousands of pages of relevant documents.

Following Butte's inquiries, DWR announced on July 8, 2009 an anticipated record completion date of September 15, 2009, but stated that the actual date could be later if, for example, there are "unforeseen technical problems." (Ex. 3.) On July 17, 2009, Butte again emphasized the unfairness of deferring the CEQA record until the State Board was required to act on the section 401 certification. Butte noted that "it strains credulity to believe that the extensive record DWR is preparing will have no documents bearing upon the State Board's water quality determination that are worthy of public review." Butte also offered to stipulate to a record extension until September 15, provided that DWR (1) advised the State Board that it was withdrawing its request for section 401 certification; and (2) did not request further action from the State Board on section 401 certification until the completed administrative record in this action has been available for at least 60 days. (Ex. 4.)

DWR refused Butte's offer in a letter dated July 23, 2009. This DWR letter belatedly recognized that documents in its forthcoming CEQA record may have a bearing upon the State Board's water quality determination. Moreover, by DWR's own recognition, two major sections of the record—staff files and email—have not been completed even in index form. (Ex. 5.)

Since information germane to the section 401 certification decision has yet to be made available to Butte or to the State Board, DWR's application should be denied without prejudice. (23 Cal. Code Regs., § 3836(b); 3837(b)(2).) Butte requests that the Board leave the record for the State Board's certification decision open for at least 60 days after the *Butte v. DWR* petitioners receive the CEQA record. The integrity of the State Board's section 401 review requires that DWR not be able to achieve premature final certification before Butte has had a fair opportunity to review the same records that were available to DWR.

III. DWR's request for certification lacks an assessment of the Oroville Project in the context of climate change.

A. California authorities uniformly recognize the need for project assessments to analyze climate change, including its relationship to water quality.

1. Legislation and Litigation

The "harms associated with climate change are serious and well recognized." (*Massachusetts v. Environmental Protection Agency* (2007) 549 U.S. 497, 521.) As the California Legislature recognized when it enacted the landmark 2006 global warming legislation, AB 32, "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." (Health & Saf. Code, § 38501.) Legislation, executive orders from the past several years, as well as actions of the California Attorney General and other state agencies, have reflected California's recognition of the harmful environmental impacts associated with climate change, their relationship to water quality, and the need to integrate climate change analysis into project review and decision-making. See, e.g., Executive Order S-3-05 (June 1, 2005) ("California is particularly vulnerable to the impacts of climate change"); OPR Technical Advisory, *CEQA and*

Climate Change: Addressing Climate Change through CEQA Review (June 19, 2008), http://www.opr.ca.gov/index.php?a=ceqa/index.html ("OPR Technical Advisory").

2. State Board Strategic Update

On September 2, 2008, the State Board adopted its Strategic Update 2008-2012, which commits the Board to consider "the impacts of climate change in our decision-making." (*Id*., p. 7.) Goal 4 of the Strategic Update commits the Board to "describe the connections between water quality, water quantity, and climate change, throughout California's water planning processes." (*Id.*, p. ii.) The Strategic Update also embodies the Board's clear understanding that climate change is closely connected to water quality problems:

> It is widely recognized that changes in temperature and precipitation patterns will impact water availability and quality. Higher air temperatures lead to increases in water demand and changes in hydrologic conditions, resulting in drought and greater levels of wildfires, and reduced snow pack, earlier snowmelt, and a rise in sea level that may cause more seawater intrusion. Higher water temperatures reduce dissolved oxygen levels, which can have an adverse effect on aquatic life. Where river and lake levels fall, there will be less water for dilution of pollutants (i.e., reduced assimilative capacity). Increased frequency and increased intensity of rainfall will produce more pollution and sedimentation due to runoff. In addition, more frequent and intense rainfall may overwhelm pollution control facilities that have been designed to handle sewage and stormwater runoff under assumptions anchored in historical rainfall patterns.
>
> (*Id*., pp. 2, 3.)

3. DWR Studies and Reports

Similarly, DWR has acknowledged in several studies and reports (available through the Department's website, http://www.water.ca.gov/publications/) that climate change is occurring, will have major effects on California's water resources generally and the State Water Project in particular, and must be addressed in any water supply planning study.

- A May 2009 report DWR prepared for the California Climate Change Center, *Using Future Climate Projections to Support Water Resources Decision-Making in California*, assessed possible climate change impacts to State Water Project and Central Valley Project operations, using 12 future climate projections. The report predicted significant reductions in annual Delta exports and reservoir carryover storage, with heavier reliance on groundwater pumping. It noted that the assumption that "future hydrologic variability will be similar to historic variability … no longer holds true under climate change." (*Id*., p. 24.) And it found that "Lake Oroville, the backbone of the SWP, receives much of its inflow from the upper Feather River basin in the Sierra Nevada mountain range … Because snow melting and sublimation are heavily dependent on temperatures, it is important to the operation of Lake Oroville to know how projected future climate conditions can affect both the timing and quantity of flows arriving there." (*Id.,* pp. 25, 26.) DWR used a physical model of the upper Feather Basin to gauge the effect of increased air temperature on precipitation, snow pack, and runoff.

- In an October 2008 report, *Managing an Uncertain Future*, DWR projected that Sierra snow pack would experience a 25 to 40 percent reduction by 2050. (*Id*, p. 4.) The report noted a wide range

of water quality consequences from climate change. Noting that hydrologic variability would probably increase in the new century, DWR candidly recognized that "California has invested in, and now depends upon, a system that relied on historical hydrology as a guide for future water supply and flood protection. However, *due to climate change, the hydrology of the past is no longer a reliable guide to the future."* (*Id.*, p. 4 (emphasis added).)

• In July 2006, DWR published a report entitled *Progress on Incorporating Climate Change into Management of California's Water Resources* ("Progress Report"). The Progress Report acknowledges that climate change is already occurring, is affecting California's hydrology, and will heavily impact water storage projects. The study notes, "DWR is working with other agencies and researchers to provide leadership in incorporating climate change impacts and risks into the planning and management of California's precious water resources." (*Id.*, p. VII.) It presents modeling analysis of the effects of multiple climate change scenarios upon the CVP and SWP—including effects on water temperatures, and Lake Oroville inflow, outflow, and storage. (*Id.*, p. 4-49.)

• In its 2005 *California Water Plan Highlights*, DWR committed that it "will evaluate management responses to potential impacts of global climate change on the State Water Project and California's hydrology" and "will work with climate change experts to develop alternative flow data to help State and regional planners test potential effects of global climate change on different management studies." (*Id.*, p. 5-16.) DWR stated that it would use as a performance measure its "[p]rogress in implementing of the plan responding to the impact of global climate change on the management of the State Water Project." (*Id.*)

• In a 2005 California Water Plan appendix, *Accounting for Climate Change*, DWR's Maurice Roos wrote "the prospects of significant changes warrant examination of how the State's water infrastructure and natural systems can accommodate or adapt to climate changes…." While acknowledging some uncertainty, the report closed by stating that "[i]t is time to try to quantify the effects of projected climate change on California's water resources. (*Id.*, p. 14.) The report also identified changes to be addressed in the Oroville proceeding: "a logical extension would be to apply the new temperature models to evaluate the affect (sic) of a changed climate and runoff scenario, beginning with Lake Oroville and the Feather River." (*Id.*, p. 13.)

These reports confirm the importance of changing climatic conditions to the Oroville project assessment. DWR repeatedly recognized that climate change is occurring and will have major effects on Oroville and SWP operation. DWR also suggested that the tools to conduct analysis of those changes already exist and are improving. This analysis was essential, for changing climatic conditions undisputedly will impact flood control operations, reservoir storage levels, upstream and downstream flow levels, water temperatures, power generation, water quality, fisheries, flood risk, and the value of Lake Oroville and the Feather River as recreational resources.

4. California Attorney General's Enforcement Actions

Emphasizing the potentially devastating consequences of global warming in California to public health, natural resources and infrastructure, the Attorney General's website identifies a number of water-related impacts, including large losses of Sierra snow pack, habitat destruction, and water contamination. Quoting a May 2009 report of the California Climate Change Center, *The Future is Now*, it posits that "[a]bundant evidence now shows that climate change is not just a future problem,

but it is already observable now, with measurable impacts for the state's citizens, natural resources, and economic sectors ... The consequences of taking no action on adaptation and mitigation would be costly for California and the world." (http://ag.ca.gov/globalwarming/impact.php.)

The Attorney General has also filed numerous comment letters with agencies whose environmental reviews did not analyze or mitigate global warming impacts. (http://ag.ca.gov/globalwarming/ceqa/comments.php.) He sued, and later settled with, San Bernardino County based upon its failure to analyze climate consequences of a general plan amendment. The Attorney General argued the county made no attempt "to quantify or even to estimate" current levels of greenhouse gas emissions, and increases in these levels from General Plan. (http://ag.ca.gov/globalwarming/pdf/SanBernardino_complaint.pdf.) In other cases, such as Nestle's then-proposed water bottling plant in McCloud, California, the Attorney General has threatened to sue private companies over the failure to analyze project-related global warming impacts. (http://ag.ca.gov/newsalerts/release.php?id=1591.) The Attorney General also assists those who wish to take climate change seriously by providing mitigation lists and modeling tools. (http://ag.ca.gov/globalwarming/ceqa/modeling_tools.php.)

B. DWR's Oroville EIR evaded assessment of climate change and water quality, ignoring state policy and the recommendations in its own studies.

Oroville, as the SWP's primary storage and power generation facility, plays a central role in SWP operations. Changing climatic conditions will impact Oroville's flood control, reservoir storage levels, upstream and downstream flow levels, water temperatures, power generation, water quality, fisheries, and recreation. Yet DWR's EIR evades analysis of climate change, particularly in its relationship to water quality. DWR's DEIR contains very little discussion of the water quality consequences of operating the project in the context of a changing climate. Indeed, its water quality impacts discussion is almost entirely predicated upon modeling exercises that assumed the *non-existence* of climate change. *See* DEIR pp. 5.2-11 to 5.2-12, App. E at 49.

DWR's Oroville Final EIR evades the issue again, relying upon excuses that are strikingly similar to those DWR and the Attorney General have justly criticized in other settings. For example:

- Rather than recognizing that hydrologic variability is likely to increase in the future, as its own studies have consistently shown, DWR presumes that hydrologic variability *from the previous century* "is expected to continue in the foreseeable future." (FEIR, p. 3-28.)

- Rather than drawing on the analytical and modeling techniques that DWR has employed in other reports on climate change, including reports addressing the Feather River watershed, DWR summarily concludes that "any discussion of potential changes to operation of the Oroville Facilities necessitated by climate change *would be speculative* at this time." (*Id.* (emphasis added).)

- The FEIR suggests that there would be "further opportunities in the future, at the next relicensing period" to "make more definitive statements about the extent of climate change." (FEIR, p. 3-27.) The "next relicensing period" referenced here would take place *half a century after project implementation.*

C. Unresolved climate change issues prevent a conclusion that the project is now appropriate for water quality certification.

The State Board's draft water quality certification does not address climate change. But the certification relies upon DWR's EIR, whose attempted deflection of serious climate change assessment to future generations infected all key elements of the Final EIR, including assessment of the environmental setting, direct and cumulative impacts, feasible alternatives, and mitigation. Due to this error, the FEIR is predicated upon a hypothetical future that DWR knows to be dangerously false. That critical omission also prevents a finding under section 401 that the project meets water quality standards and protects beneficial uses.

IV. DWR's request for certification lacks a thorough assessment of the Oroville project in the context of a changing State Water Project.

A. The Oroville project is an integral and interconnected part of the State Water Project that must be analyzed to take account of changing conditions.

The Oroville project is an integral and interconnected part of the State Water Project. (Wat. Code, § 12934(d).) As the DEIR's executive summary explains, "water stored in Lake Oroville is released from the Oroville project to meet a variety of statutory, contractual water supply, flood management, fishery, water quality, and other environmental obligations. These contractual, flood management, fishery, water quality, and other environmental obligations are defined in numerous operating agreements that specify timing, flow limits, storage amounts, and/or constraints on water resources." (DEIR at ES-3.)

Releases from Lake Oroville must serve a variety of purposes, including (1) compliance with Bay-Delta water quality standards; (2) satisfaction of obligations under environmental laws such as the Clean Water Act and federal and state Endangered Species Acts; and (3) release of water, as available, to meet the needs of State Water Project contractors. (*See* DEIR at p. 2-5.) Operation of the Oroville project is closely tied to downstream needs. If those downstream constraints change, or if DWR discovers that operational changes are necessary to meet existing constraints or comply with legal requirements, changes to the Lake Oroville release schedule are likely to follow.

B. DWR's environmental review improperly attempted to sever the Oroville Project analytically from other foreseeable changes in State Water Project operations.

Having initially recognized the interconnectedness of Oroville Project and the DWP, DWR implausibly proceeded to portray them as analytically distinct. The DEIR described the Oroville Project as "consistent" with existing commitments, and offered the sweeping statement that "no changes to the contractual obligations or to the general pattern of these releases are anticipated." (DEIR at ES-3.) Similarly, the DEIR asserts that the Settlement Agreement was structured "so as not to affect the SWP's ability to meet future water supply needs." (FEIR, ES-3, 5.2-14.)

In its EIR comments, the State Board faulted the DEIR for failing to "include an adequate

discussion of the impact of State Water Project (SWP) operations on the Proposed Project." (FEIR, p. 4-41.) As two illustrations of possible impacts, the Board's letter noted that changes in the quantity or timing of water deliveries could affect the coldwater pool in Lake Oroville, used to protect anadromous fish in the Feather River, and could result in cumulative impacts in combination with the proposed project. (*Id.*) Rather than providing this analysis, the FEIR responds with the generalization that "[a]nalysis of future changes to State Water Project (SWP) statewide operations is outside the scope of the EIR." (DEIR, p. 4-51.)

That response misses the mark. In light of factors ranging from population pressures and climate change to the Sacramento-San Joaquin Delta's pelagic organism decline, downstream deliveries are overwhelmingly likely to change in the future, and these pressures will bring upstream changes to project operation in the Feather River and Lake Oroville. The EIR should have analyzed the Oroville project under a foreseeable range of changing circumstances, and considered what impacts will occur in the Lake Oroville area should changes in downstream deliveries necessitate changes in upstream management. The DEIR should have explored alternatives or mitigation capable of ensuring that changing downstream needs will not result in adverse environmental impacts in the project area. Without that analysis, it is impossible to ascertain, in the face of a changing State Water Project, that implementation of the Oroville project will meet water quality requirements and serve the beneficial uses referenced in the Basin Plan, as required under section 401.

C. Unresolved issues in the operation of the Oroville project within the State Water Project prevent a conclusion that the project is now appropriate for water quality certification.

If recent discussions of the relationship between the Oroville project and the Operations Criteria and Plan (OCAP) are any indication, fundamental questions remain about how the Oroville project would operate in practice. In its FEIR, DWR failed to analyze how changing conditions in the Delta will affect the timing or volume of water releases from its Oroville Facilities. Even though DWR was aware of recent judicial decisions invalidating the OCAP Biological Opinions (BO) for salmonids and Delta smelt, it avoided serious new analysis, based upon speculation that Oroville releases would be "one of many" inputs to Delta hydrology. (FEIR, p. 3-39.)

A recent exchange of letters illustrates differing views of how the Oroville project would operate. On July 6, 2009, the National Marine Fisheries Service (NMFS) issued its Draft BO for the Oroville Dam relicensing. While NMFS made a finding of non-jeopardy for the species studied (Sacramento River Winter-Run Chinook Salmon, CV spring-run Chinook salmon, CV steelhead, and Southern DPS of North America green sturgeon), the Draft BO set forth "reasonable and prudent measures" (RPMs) to reduce the effects of the project's incidental take of these species. In a letter to NMFS dated July 9, 2009, DWR argued that the RPMs had the potential to "significantly affect project operations," affecting water supply, power generation, and even "DWR's ability to implement the relicensing settlement." (Ex. 6.)

By contrast, a letter submitted by the California Sportfishing Protection Alliance (CSPA) on July 21, 2009 takes NMFS to task for issuing a finding of non-jeopardy in its Oroville Dam Draft BO. CSPA contends that the finding of non-jeopardy for Oroville, the "major storage reservoir for the SWP," is inconsistent with NMFS' previous jeopardy finding on the BO for the combined operations of the CVP and SWP. (Ex. 7.) CSPA also argues that the RPMs for the Oroville BO are vague and

lack the OCAP BO's specific performance measures and timelines, particularly in the conditions protecting water temperatures. (*Id.*)

Lastly, CSPA argued that the disconnect between the OCAP BO and the Oroville Draft BO is especially problematic "in light of the Settlement Agreement's allowance for DWR to ease the flow requirements from the Oroville facilities should Oroville drop below 1.5 million acre-feet in storage." (Ex. 7.) According to CSPA, the Oroville Draft BO has a "regulatory gap," because it lacks any defined restriction on human action to avoid operation of Oroville at low pool. This CSPA argument is also of direct relevance to DWR's request for section 401 certification, because a version of the same allowance appears as Condition S8(d) of the State Board's draft conditions:

> If the April 1 runoff forecast in a given water year indicates that, *under normal operation of Project 2100*, Oroville Reservoir will be drawn to elevation 733 feet (approximately 1,500,000 acre-feet), minimum flows in the HFC may be diminished on a monthly average basis, in the same proportion as the respective monthly deficiencies imposed upon deliveries for agricultural use from the Project; however, in no case shall the minimum flow releases be reduced by more than 25 percent.

(Draft certification, p. 29 emphasis added).)

Notably, neither the EIR nor the draft certification defines the "normal operation" of the Oroville project. In light of such recent developments the Delta species decline, enforcement of endangered species law, and the onset of climate change, considerable controversy could ensue over whether the "new" normal or some older version should prevail. Moreover, the disagreement between DWR and CSPA shows that Oroville project operation remains unclear in its SWP context. When NMFS issues its final BO, the restrictions on DWR may remain in the same place, or may become more or less stringent than they are today. Each of these outcomes would bring different terms to Oroville operation, with potentially different implications for water quality. In the face of this continuing uncertainty over what is "normal," final certification under section 401 would be premature.

V. Additional steps are needed to provide reasonable assurance that DWR's approach to problems stemming from methyl mercury, PCBs and other contaminants will meet water quality standards.

A. Overview

DWR's Draft and Final EIR both reveal substantial water quality problems. Accumulation and magnification of toxic substances within the Oroville Facilities, including PCBs (polychlorinated biphenyl) and methyl mercury, are of great public health concern to the County, and are not adequately addressed within either the EIR or the draft certification.

PCBs and methyl mercury contamination in fish commonly consumed by the public has been linked to numerous alarming health effects, including decline in children's IQ and motor skills when a mother is exposed. Early exposure has also been found to trigger Parkinson's and Alzheimer's disease, and children exposed prenatally to PCBs have had compromised immune systems, high infection rates, and weak responses to vaccinations. (Cone, "Scientists Warn of Toxic Risk to Fetuses," *Los Angeles Times*, May 25, 2007(http://articles.latimes.com/2007/may/25/nation/na-fetuses25).) PCBs and methyl

mercury are also widely considered to be carcinogens. (See Centers for Disease Control, www.atsdr.cdc.gov/tfacts46.html#bookmark06; Environmental Protection Agency, www.epa.gov/waste/hazard/tsd/pcbs/pubs/effects.htm.)

Cancer clusters in the Oroville area and a 2009 California Department of Public Health report (hereinafter "DPH report," available at http://www.ehib.org/project.jsp?project_key=OROV01) inform Butte's concern that the accumulation of PCBs, methyl mercury and other toxins in fish consumed by the public in the project area may pose a significant human health risk. In 2004 and 2005, the Oroville area experienced an unexpected spike in the number of citizens diagnosed with pancreatic cancer— 24— more than twice the expected amount. (See "Grief, Fear Touch Families hit by Pancreatic Cancer,"*SacramentoBee*,Jan.31,2008,http://www.redorbit.com/news/health/1236498/grief_fear_touch_families_hit_by_pancreatic_cancer/.) The number of cases since then has also exceeded expectations.

In 2008, the California Department of Public Health partially investigated the cancer clusters. The DPH study noted that 44 percent of the participants diagnosed with pancreatic cancer had consumed non-commercially caught fish, most caught in the Oroville region. (DPH report, p. 19.) Yet, because only one person ate fish more than once a week, DPH concluded that the data "would not suggest that the group would be receiving much exposure from fish consumption." (DPH report, p. 19.) On this basis, DPH generalized that "[l]ocally caught fish were generally not eaten," among the cancer patients. (DPH report at p. 2.) This statement is misleading, since a significant portion of pancreatic cancer patients did eat locally caught fish, a greater proportion than some of the other environmental risk factors that were analyzed.[1] (DPH report at p. 19.) Moreover, the DPH study only investigated diagnoses of pancreatic cancer, and did not look for other health risks associated with PCBs and methyl mercury, such as liver cancer and impacts on prenatally exposed children.

The Oroville community continues to express its concern with the possible link between the fish contaminated with PCBs and methyl mercury caught and consumed from the Oroville facilities and the disturbing spike in area cancer rates. The presence of cancer clusters in the Oroville region, and the DWR data showing biomagnification of these toxins in fish tissue at the project site, ring an alarm bell that DWR and the State Board cannot lawfully ignore.

B. DWR has not met requirements for certification under the Clean Water Act and Basin Plan.

As the State Board's draft certification acknowledges, protection of the beneficial uses identified in the Basin Plan requires "effluent limitations and other limitations on discharges of pollutants from point and nonpoint sources to the Feather River and its tributaries." (Draft Certification, p. 2.)

DWR must demonstrate compliance with Basin Plan objectives in order for the State Board to issue its water quality certification. (DEIR, p. 4.2-14.) One listed beneficial use for Lake Oroville and the Feather River is "Recreation-Contact," composed of activities including bank fishing, boat fishing,

[1] PCBs that bioaccumulate in fish have been found even more carcinogenic than commercial mixtures commonly encountered by workers. Thus the consumption of PCB-contaminated fish may expose people to PCB mixtures even more toxic than the PCB mixtures contacted by workers and released into the environment. (www.epa.gov/waste/hazard/tsd/pcbs/pubs/effects.htm.)

swimming, water skiing and wakeboarding, and use of personal watercraft. (DEIR , p. 4.2-15.) Other beneficial uses relevant to the County's concerns regarding contamination are within the broad categories of wildlife and spawning/fisheries habitat, irrigation, municipal and domestic water supply, and non-contact recreation. (DEIR, pp. 4.2-15 to 4.2-18.)

Based upon DWR's data in the Draft EIR and Final EIR, as well as supporting studies and outside research including the NOAA biological opinion, DWR has not shown that the water quality standards will be met under the operating procedures proposed in the EIR and Settlement Agreement. Further, as detailed below, the mitigation measures outlined in the Settlement Agreement, even as conditioned under the State Board's draft certification, provide no assurance that water quality objectives in the basin plan will be timely met.

1. DWR's operating plans for the Oroville Facilities fail to meet water quality standards established in the Basin Plan.

The basin plan provides for three broad categories of regulation to meet water quality targets in the Sacramento and San Joaquin River basins: provisions against increases in suspended sediment discharges, provisions against deposition of material that adversely affects beneficial uses, and provisions against deposition of substances that produce detrimental effects to humans, plants, animals, and aquatic life. Basin plan objectives of particular concern to Butte in reference to the public health concerns raised in these comments include regulation in the following categories:

- Chemical constituents: the basin plan calls for "Less than maximum contaminant levels (MCLs) for inorganics, fluoride, organics, secondary MCL consumer acceptance levels, and secondary MCLs-ranges." (DEIR, p. 4.2-20.) (See 23 CFR Tables 64431-A and B; 64444-A, 644449-A and B.)

- Pesticides: the basin plan calls for "No adverse affect on beneficial uses; total identifiable persistent chlorinated hydrocarbon < detectable; < allowable by applicable antidegradation policies." (DEIR, p. 4.2-20.)

- Toxicity: the basin plan calls for concentrations of toxins to be "Free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal or aquatic life." (DEIR, p. 4.2-21.)

As outlined below, the studies conducted by DWR in support of its EIR, in particular, Study Plan W1, "Project Effects on Water Quality Designated Beneficial Uses for Surface Waters" ("Study W1"), and Study Plan W2, Phase 2 Report, "Contaminant Accumulation in Fish, Sediments and the Aquatic Food Chain," ("Study W2") find that present water quality conditions do not meet basin standards.[2] Neither DWR nor the SWRCB has argued that the Settlement Agreement or the draft

[2] The aquatic toxicity data of Study W1 indicates that complete ceriodaphnia mortality was observed at several locations even after TIE testing (Targeted Toxicity Identification Evaluation). The key language of the report is data "suggesting non polar organic contaminants were contributing to observed toxicity." (Study W1 at p. 5-32.) Non-polar organic contaminants include PCBs. Given this alarming data, DWR must conduct sufficient testing to ascertain the source of aquatic mortality.

certification's conditions will enable Oroville project operations to meet basin objectives implemented under to the Clean Water Act.

2. DWR's own studies and findings outline a significant public health risk stemming from the contaminants and operating system of the project.

The data collected by DWR for its EIR underscore the risk from bioaccumulation of contaminants within the Oroville facilities. The DEIR summarily states that "[c]urrent operations of the Oroville Facilities supports and reasonably protects, or has no adverse effect on (as in the case of coldwater spawning in Lake Oroville), all beneficial uses specified in the Basin Plan for Project waters." (DEIR 4.2-15.) Yet despite this statement, DWR's studies support a conclusion that contaminants in the Middle and North Fork of the Feather River are amplified by the operation of the Oroville facilities. Study W2, entitled *Contaminant Accumulation in Fish, Sediments and the Aquatic Food Chain* (Study Plan W2, Phase 2 Report), found that "impoundment of the reservoir created conditions in which sediments possibly laden with contaminants are trapped…may contribute to bioaccumulation in downstream organisms." (Study W2, p. 1-2.)

3. DWR found elevated levels of PCBs in fish tissue samples and admitted the likely role of the reservoir in amplifying bioaccumulation of the toxin in local species.

PCB levels in fish tissue in the project area exceed EPA standards, and DWR confirmed that the operation of the reservoir likely created this effect. PCBs "were detected in all fish and crayfish species from all water bodies that were sampled… spotted bass collected from both South Fork arms of Lake Oroville and largemouth bass collected from the Feather River both upstream and downstream from Thermalito Afterbay Outlet to the Feather River, contained total PCBs (as the sum of Aroclors) that exceeded the MTRL [maximum tissue residue level] and screening values of the USEPA and OEHHA." (DEIR, p. 4.2-35.)

Study W2 admits the role of the reservoir in creating conditions for bioaccumlation, noting that "it is clear that coho accumulate PCB's at an increased rate after removal from the hatchery for stocking into Lake Oroville." (Study W2, p. 6-2.)[3] As discussed above, PCBs, methyl mercury and other toxins accumulate and biomagnify at and because of the operations of the Oroville project facilities. Were Lake Oroville and its associated facilities not impeding the flow of these toxins, they would most likely be flushed out into the Bay-Delta before they have a chance to accumulate within the tissue of fish at dangerous levels. (Study W2, p. 1-2; Study W2, p. 6-2.)

4. DWR found elevated levels of methyl mercury throughout the project area.

Methyl mercury is also present throughout the Oroville project area. Indeed, the DEIR admits the presence of methyl mercury and its introduction into the ecosystem and food chain: "methyl mercury was found over the majority of sampling locations… Stations with elevated TOC [total

[3] Without explanation or evidence, DWR speculates that "PCB levels in anadromous Chinook salmon and steelhead….indicate[] uptake of these contaminants most likely occurred during their extended migrations through the Delta and Pacific Ocean." (Study W2, p. 6-3.)

organic carbon] have higher methyl mercury concentrations, signifying greater biomass availability and possibly leading to increased rates of mercury biotransformation." (DEIR, p. 4.2-34 to 35.)

Mercury**,** originally released by upstream gold mining, is most likely transformed into methyl mercury due to action at the reservoir. Increased water temperature is generally associated with an increased presence of bacteria. The presence of "sulfate-reducing bacteria (SRB) in anoxic waters and sediments are the major producers of methylmercury in aquatic systems."[4] A high level of SRBs, particularly in the still water areas of the project, likely contributes to the increase of methyl mercury. Operation of the reservoir also increases water temperature in certain areas, thus indirectly (via the SRBs) increasing methylation of mercury. DWR concedes that "the methylation process may have increased where Lake Oroville now resides due to the reservoir environment." (Study W2, p. 6-4) Yet DWR appears unwilling to address the problem: "Very little can be done to reduce the mercury problem, short of identifying and remediating a large but unknown number of mine sites." (Study W2 at p. 6-4.)

DWR has studied mercury cycles in reference to the Yuba River and Englebright Reservoir and "the assumption is that mercury cycling in other Sierra Watersheds, including the Feather River system is similar to that found in the Yuba. Therefore, much but clearly not all of the mercury remaining from historic gold mining may be unavailable for downstream transport and biomagnification in the Bay-Delta Estuary." (Study W2, p. 1-2). Implicit in this statement is that mercury is not found downstream in the Delta because it is trapped at Lake Oroville, where it accumulates and biomagnifies among the fish species at the various Oroville project sites.

DWR's findings regarding the facilities' impacts on amplifying methyl mercury and PCB impacts may have been more conclusive had DWR's studies been more complete. Instead, the study admits that there was inadequate sampling of fish, noting that "not all sites contained the originally targeted species, nor could the desired numbers of fish be collected at each site." (Study W2, p. 4-1.) In short, even though DWR recognized the reservoir's operations may contribute to bioaccumulation, the agency failed to exhaustively study the issue.

C. DWR cannot provide reasonable assurance that the Settlement Agreement's mitigation measures adequately address the contaminant problem.

Despite the presence of PCBs, methyl mercury and other toxic substances throughout the project area and their accumulation at unsafe levels in commonly consumed fish, DWR concludes its treatment of these water quality issues in the DEIR by stating, "historical water quality data did nor reveal any upward or downward trends for the various water quality parameters." (DEIR, p. 4.2-43.) DWR's premise that water quality has been historically poor in the project area informed its next conclusion, that "[t]here are no reasonably foreseeable actions upstream of Oroville that would result in future changes in water quality other than water temperature." (DEIR, p. 4.2-43.)

Likewise, the Final EIR states that land use practices "upstream of Lake Oroville are expected to continue and result in the continued release of metals into the Feather River and Lake Oroville. These metals would continue to be transported to through the water column, accumulate in the fish and

[4] http://aem.asm.org/cgi/content/full/69/9/5414.

be sequestered within the sediments trapped in Lake Oroville." (FEIR, p. 2-63.) Despite admitting that the dam facilitates toxic accumulation in fish, DWR asserts that the proposed project would not "result in a change to either the rate or the amount of mercury accumulation with the FERC project boundary," and claims that such accumulation is "part of the environmental baseline and would continue to occur at the same rate under all Project alternatives." (FEIR, p. 5-138.)

DWR also claims that there are "no practicable mitigation measures for mercury accumulation." That premise ignores the State Board's direction to numerous Bay Area cities and water districts, to implement just such a clean up.[5] DWR cannot escape responsibility by claiming that a public health hazard is part of the project baseline. Moreover, despite DWR's premise of no practicable mitigation, the State Board has outlined practicable measures for similar problems.[6]

D. Mitigation measures outlined by DWR in the Settlement Agreement are inadequate to timely address significant public health risks stemming from the water quality violations created and exacerbated by the Project.

The Settlement Agreement calls for two measures to address the concerns outlined in these comments, A112- Comprehensive Water Quality Monitoring Program and A114- Public Education Regarding Risks of Fish Consumption. (*See* Draft Certification, p. 3.) Condition S12 in the draft certification only modestly supplements the water quality mitigation measures in the Settlement Agreement, and the problem of timeliness remains unresolved. While most of the provisions in the program will be implemented in the first 1-2 years following licensure, the Water Quality Bioassay Monitoring Plan (WQBMP) would not be implemented until nearly four years after license issuance.

In the first five years of the program, the SA and State Board conditions calls for the production of an annual report on water quality conducted by the Licensee. At the end of this five-year period, the Deputy Director will consider modifications and approve a final version of the Program. Within six months of the approval of this final report, the Water Chemistry Monitoring Plan (WCMP) will begin to be implemented, *nearly six years* after the issuance of the license. Not until three years after approval of the final report—eight or nine years following licensure—will the Fish Tissue Bioaccumulation Monitoring Plan (FTBMP) begin to be implemented.[7] Because the Settlement

---

[5] The State Board issued Tentative Order NO. R2-2008-00XX in relation to NPDES Permit No. CAS612008 for various Bay Area cities and water districts on December 14, 2007. Within that order, the State Board required permittees to control PCBs and outlined provisions for quantifying and reducing PCB loads and their effects through on-site treatment efforts, source control, and other management efforts. (Tentative Order at pp. 70-71.)

[6] Another practicable mitigation measure would be for DWR to instigate "planned high flow events" in order to increase water releases consistent with the natural hydrograph. Such releases would remove bioaccumulating toxic materials, including non polar organic contaminants such as PCBs, from the spawning and fishery habitat below the dam. The State Board should require DWR to study such an effort.

[7] The deadline for the submission of the annual reports to the Deputy Director, etc. on "May 30 of the following year" (S12.c) could also push the deadlines for the programs back by almost one year. For example, if the Program is implemented June 5, 2010, the first annual report would not be required to

Agreement language is vague, these calculations assume that approval and implementation of the program occurs within nine months of the issuance of the license.

In addition to the slow-moving timeline, enough ambiguity exists in the measures as drafted to allow state agencies to further delay implementation of studies and programs vital to protecting the health of the citizens of Butte County. The time frame for consultation with various agencies is not specified, which could extend the preparation process beyond the specified six-month period, unless it is assumed that the consultation is to take place within the specified time.

E. Conditions imposed by the State Board in its Draft Certification strengthen those outlined in the Settlement Agreement, but should be implemented sooner and on a mandatory basis.

The State Board "determined that certain measures as written in the SA are either not enforceable, will not fully protect the beneficial uses, or will not meet water quality standards in a timely manner. Beneficial uses currently impacted by the Project may not be reasonably protected if the proposed measure has a management plan with unclear or unenforceable standards, and excessively long period prior to implementation, or unspecified implementation dates." (Draft certification, p.4.) Butte concurs with the State Board's assessment of the Settlement Agreement measures and the need for speedy implementation and enforceable standards.

The State Board's condition S12 outlines a nearly identical water quality monitoring program which requires the addition of cyanobacteria and cyanotoxins to DWR's monitoring efforts. S13 and S14 call for planning regarding public health pathogen protection and public education. The State Board's condition S14 requires DWR to provide funding for fish tissue consumption advisories, "should it become necessary based on additional data collection." (Draft Certification, p. 13.) Butte does not agree that fish tissue consumption advisories need further study, and urges the State Board to make this condition mandatory immediately should the project be issued a license.

Condition S14 also includes "a reservation of authority" for the State Board to develop a methyl mercury management plan, pending data showing that "the Project increases methylation rates." (*Id*.) The State Board is correct to note the need for a management plan. However, given the data already collected by the DWR for the EIR, including the likely link between reservoir operations and methylation, the County believes that there is no reason to delay development of a methyl mercury management plan.

F. The State Board can strengthen the mitigation conditions it imposes through the certification process without burdening DWR.

The draft certification states "[i]t is not appropriate, however, to require consultation with the Ecological Committee as a condition of this water quality certification" (p. 4). It is questionable why the Ecological Committee (EC) cannot be consulted on water quality issues when this is an area where

---

be submitted until May 30, 2012. Thus, the WCMP would be implemented about seven years after license issuance, and the FTBMP would be implemented about 10 years after license issuance.

members of the EC would have expertise.[8] Butte is a member of the EC and believes that the local government members of the EC have an important role to play in assisting DWR in meeting water quality standards. Therefore, Butte urges the State Board to maintain the Settlement Agreement's commitment to consultation with local governments on the EC, while also requiring consultation with other state agencies as appropriate.

VI. The draft conditions on pathogens and water temperature should be revised.

In addition to the contaminant issues discussed above, Butte offers the following comments on pathogens and water temperature in the draft certification.

A. Pathogen Public Health Protection

Under the settlement agreement, DWR (in consultation with the relevant agencies) has discretion over whether or not a public education program about bacteria in the water is necessary. However, DWR monitoring of bacteria at recreation areas has found "consistently high fecal coliform level that exceeded Department of Health Services (DHS) guidance and Basin Plan objectives" (Draft Certification at p. 13). Furthermore, "nearly every sample from two sites in the North Forebay, and many sites in the South Forebay, exceeded DHS and USEPA criteria for enterococcus bacteria" (Draft Certification at p. 13). In the SA, DWR is required to monitor bacteria levels but is not required to take any action, except notifying the public, if there are unsafe levels of bacteria. Butte urges the State Board to make the public education component mandatory, and require that DWR fund the program.

B. Water Temperature Conditions.

The State Board imposes condition S8, requiring water temperature compliance within 10 years. (Draft Certification, p.28.) This modifies the SA, which stated that the water temperature targets could also be reached upon completion of facilities modifications (Draft Certification, p. 10), but does not have a specific time frame, thus possibly prolonging indefinitely compliance with water temperature targets. The Board's condition is an improvement from the SA, but a 10 year period is not timely. The County recommends a shorter time period of 5 to 7 years. Furthermore, the draft certification does not state when facilities modifications would be completed. (Draft Certification, p. 10.) Based on this indefinite completion of facilities modifications, it is unclear what mechanisms will be used to reach the water temperature targets in 10 years.[9]

Currently, project operation would not completely protect cold-water beneficial uses. The State

[8] For full list of members, see Appendix C, Section 2.1 of the Settlement Agreement.

[9] The water temperature targets in settlement agreement Table 2 are achieved *after* facilities modifications. DWR will use the river valve, among other measures, to control water temperature, as necessary. DWR has agreed to study refurbishment or replacement options for the river valve, but DWR reserves sole discretion in deciding to replace or refurbish it. (Draft Certification, p. 9.) A clear time frame is not established for assessing the river valve. It is also unclear if the river valve is included under facilities modifications, which has a study and implementation plan, but the "SA does not state when the facilities modifications will be completed," making it impossible to assess how DWR will meet temperature targets in the designated time period. (Draft Certification, p. 10.)

Board recognizes "it is necessary to require more specific timelines in the water quality certification for completion of measures to improve water temperature" to protect cold-water beneficial uses. (Draft Certification, p. 10.) In the event that water targets cannot be met due to uncontrollable forces, a provision of the draft certification states that if the Deputy Director finds a pattern of exceeding water temperatures adversely affecting fishing resources, the Deputy Director *may* require the Licensee file a plan to address the issues but is not *required* to do so. (Draft Certification, p. 30.) In light of the likelihood that climate change will impact water temperature, and water temperature's link to other significant public health concerns, addressing these issues should be mandatory upon the Deputy Director's finding of a pattern of high water temperatures impacting fishery resources.

VII. Conclusion

For the foregoing reasons, Butte urges the State Board not to grant DWR its requested certification on the present application. Should the Board move forward with that certification despite this recommendation, the proposed conditions should not be weakened, and Butte's further suggestions outlined here should be incorporated.

Respectfully submitted,

/s./

Roger B. Moore
Counsel to Butte County

cc: Russ Kanz