



August 25, 2015

David Murillo  
Regional Director  
Bureau of Reclamation  
2800 Cottage Way  
Sacramento, CA 95825

**RE: Request to Withdraw Reclamation's Submission to Congress for the Shasta Lake Water Resources Investigation**

Dear Regional Director Murillo:

On behalf of the Natural Resources Defense Council, Defenders of Wildlife, Sacramento River Preservation Trust, Friends of the River, Pacific Coast Federation of Fishermen's Associations, and the Golden Gate Salmon Association, and our millions of members and activists, we are writing to comment on and renew our substantial objections to the Bureau of Reclamation's final feasibility report and final environmental impact statement ("FEIS") for the Shasta Lake Water Resources Investigation, which proposes to expand Shasta Lake by raising the dam. First, Reclamation's Final Feasibility Report is not consistent with state and federal law because the proposed project would flood segments of the McCloud River (in violation of State law which protects the river under the state's Wild & Scenic River Act). Second, as discussed below and extensively discussed in our prior comments on the project, the Bureau has failed to comply with National Environmental Policy Act ("NEPA"), and the dam expansion would significantly harm and, in some cases, destroy Native American cultural resources and sacred sites and have significant adverse impacts on various rare and protected wildlife and plant species. Further, the dam is not economically feasible. Finally, Reclamation's transmittal to Congress violates the Fish and Wildlife Coordination Act because it fails to incorporate the findings of state and federal wildlife agencies and include a final Fish & Wildlife Coordination Act report in the transmittal to Congress. As

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such, we respectfully request that you withdraw the Final Feasibility Report and FEIS for this project and terminate the project.

- I. Because state law prohibits the Proposed Project, including prohibiting water districts from paying for construction of the project, it is not financially or environmentally feasible:

Reclamation's Final Feasibility Report improperly concludes that the project is environmentally and economically feasible, see Final Feasibility Report at ES-33. However, the Report acknowledges there are problems, stating that:

Specifically, an agreement with project participants must be negotiated that addresses an up-front cost-share consistent with the beneficiary pays principle. There are also potential conflicts with State law, fish and wildlife concerns, and tribal considerations that must also be addressed.

Final Feasibility Report at ES-32. Despite this statement, Reclamation has failed to meaningfully address the conflict with state law and fish and wildlife concerns, and the project is neither economically nor environmentally feasible.

First, NRDC, as well as numerous stakeholders and state agencies, have explained that raising the dam would violate provisions of state law protecting the McCloud River. Those legal requirements not only prohibit inundation of the protected segment of the McCloud River, but they also prohibit any agency or department of the State from assisting or cooperating in the planning or construction of any dam that would affect the free flowing condition of the McCloud River and its wild trout fishery. Cal. Pub. Res. Code § 5093.542. Water districts in California are agencies of the state. See Cal. Gov. Code § 16271(d). Moreover, the Westlands Water District is expressly identified as a public agency of the State. Cal. Water Code § 37823. Because Westlands Water District and other water districts in California are agencies of the state, they are prohibited from assisting or cooperating in the planning for or construction of the project, including through loans or payment for construction costs. In addition, the 2014 water bond (Proposition 1) prohibits funding for the expansion of Shasta Dam. Because no public water district in California can lawfully participate in funding for the project, and because the 2014 water bond prohibits funding for this project, the project is not economically feasible.

Second, the Final Feasibility Report concludes that the project is environmentally feasible. However, that conclusion is contradicted by the fact that the project violates state environmental laws and that, as we discuss below, the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and other expert wildlife and environmental protection agencies have concluded that the project would have significant environmental impacts and would not have substantial benefits for salmon or other fish and wildlife. In addition, pursuant to section 3406(b)(2) of the Central Valley Project Improvement Act, the Bureau of Reclamation is required to operate the CVP "to meet all obligations under state and federal law." As a result, Reclamation is prohibited from filling an expanded Shasta dam in a manner

that impairs the McCloud River and its trout fishery. For these reasons, the Report's conclusion that the project is environmentally feasible is contradicted by the administrative record and by law.

Third, the Final Feasibility Report assigns 49% of the construction costs to fish and wildlife enhancement. Final Feasibility Report at ES-35. Yet raising the dam violates state environmental laws, and, as discussed below, various state and federal agencies have concluded that the project would not offer substantial benefits for salmon or other wildlife and would actually make conditions worse for anadromous fish survival in some water years. NRDC and others reached the same conclusion in comments on the DEIS, and the FEIS repeats the DEIS' flawed analysis in virtually all respects. As a result, it is clearly erroneous for the Report to conclude that that nearly half of the construction costs should be assigned to fish and wildlife enhancement, and the conclusion regarding economic feasibility is unsupported for that reason, too.

II. The Bureau has violated NEPA:

NRDC's comments on the draft environmental impact statement identified numerous violations of NEPA, which have not been cured in the final EIS. In addition to the violations of NEPA raised in those prior comments, the FEIS tiers to the 15-year-old CALFED Record of Decision in violation of NEPA.

The FEIS makes a complete about-face from the DEIS and includes throughout various analyses and responses to comments claims that the SLWRI's environmental review is "tiered" from the programmatic EIS (PEIS) published for the CALFED Record of Decision (ROD) in 2000. These statements wholly depart from statements in the DEIS, which explicitly stated that, while the "CVPIA and the overall goals and objectives of the CALFED were considered throughout the SLWRI study process and during development of this DEIS," the analyses in the DEIS "consider[d] but *d[id]* not tier from the assessments in the CVPIA Final Programmatic EIS (Reclamation 1999b) and *CALFED Final Programmatic EIS/Environmental Impact Report (EIR) (CALFED 2000b).*" DEIS at 1-36 (emphasis added). While NEPA's implementing regulations provide for "tiering" of environmental review documents under certain circumstances, the FEIS's post-comment-period claim of "tiering" of the EIS documents for the SLWRI violates the statute for several reasons.

The CALFED PEIS and ROD were published in the summer of 2000, 15 years ago. While the ROD includes references to Shasta Lake as one of 12 potential surface reservoir sites identified for potential *investigation* as sites for increased storage, the project described in that document is entirely distinct from the potential Shasta "enlargement" investigation project analyzed programmatically in the SLWRI EIS documents. CALFED Programmatic ROD, August 28, 2000, at 43. The investigation described in the ROD is of a 6.5-foot raising of the dam – the lowest raise among the proposed alternatives analyzed in the SLWRI EIS. *See id.*, at 47; *see also*, CALFED ROD, at Attachment 6a, Programmatic Endangered Species Act ("ESA") Section 7 Biological Op., submitted by the U.S. Fish and Wildlife Service, at 19, 34. Further, where this investigation "project" is mentioned, a clear timeframe is consistently associated with its execution. The ROD made clear that it envisioned full resolution of legal issues, completion of

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feasibility studies and environmental review, and construction to be completed by 2007. CALFED ROD at 47; Attachment 6b, Programmatic ESA Section 7 Biological Op., submitted by the National Marine Fisheries Service, at 25. Nowhere in the ROD or its numerous attachments is there a description of a proposal to raise the Shasta Dam 18.5 feet, as described in the SLWRI EIS.

There are several independent reasons why the tiering belatedly claimed in the FEIS fails to comply with NEPA's requirements. First, there have been many significant changes in circumstances in the past decade and a half that render the analysis of water and biological impact issues conducted for the CALFED program outdated and inaccurate. *Ass'n of Pub. Agency Customers, Inc. v. Bonneville Power Admin.*, 126 F.3d at 1184 (holding that intervening changes that occur with passage of time between initial and subsequent NEPA analyses raise staleness concerns regarding earlier analysis). These changes require an updated, detailed analysis to be conducted in the EIS for the Shasta Dam raise proposal.<sup>1</sup> See e.g., *NRDC v. U.S. Forest Ser.*, 421 F.3d 797, 812 (9th Cir. 2005) ("Where changed circumstances affect the factors relevant to the development and evaluation of alternatives, the [agency] must account for such change in the alternatives it considers"). Second, the PEIS and ROD for the CALFED program conducted only a general, *limited* review of a potential Shasta Dam raise. Because the review conducted in the CALFED PEIS was of a much smaller raise of the dam than that currently proposed, and because the analysis was based on a distinct timeframe that has long passed, the broad programmatic review of a potential 6.5-foot Shasta raise conducted in the CALFED PEIS cannot cure the FEIS's otherwise insufficient impacts and alternatives analyses. *Klamath Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 997-998 (9th Cir. 2004) ("tiering" to an EIS that lacks information about specific impacts of the proposed project is improper).

Procedurally, the FEIS's claim of "tiering" after the close of public comment, in the face of clear statements in the DEIS that the analyses in that document were *not* tiered to the CALFED PEIS, violates NEPA's instruction that agencies seriously consider public comment and input in the environmental

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<sup>1</sup> Since the publication of the CALFED PEIS and ROD, there have been many significant changes in the legal and physical environments impacting water, biological resources, and ecosystem management issues in the Sacramento River watershed. These include the pelagic organism decline in the Delta identified in the early years of the new century, the unprecedented drought conditions of the past four years, and the massive die-off of salmon in the artificially connected Klamath watershed in 2002, none of which was analyzed in the 2000 PEIS for the CALFED program. In addition, biological opinions concerning the impacts of Central Valley Project-State Water Project operations on salmonid, green sturgeon, and delta smelt populations in the waters downstream from Shasta Dam and requiring numerous protective actions were issued in 2008 and 2009. While the FEIS acknowledges that "conditions have changed since the CALFED Programmatic ROD was issued," the FEIS appears to dismiss any such changed conditions by stating that "the Bay-Delta problems for which the (CALFED) alternatives were formulated persist today." FEIS at 1-28. But Bay-Delta conditions are now significantly worse than in 2000. In claiming to tier from the 2000 CALFED EIS, the FEIS unlawfully ignores the many changes that have occurred over the past 15 years.

decision-making process. See 40 C.F.R. §§1500.1(b), 1500.2(d). Had the public been informed of the purported tiering from the CALFED PEIS in the SLWRI DEIS, concerned citizens would have had an opportunity to point out the fatal flaws in this approach. For this reason alone, the FEIS should be withdrawn, redrafted, and recirculated for public comment and agency review, because the public has never been given an opportunity to comment upon the many significant issues associated with the EIS's eleventh hour claim of "tiering" from the CALFED PEIS. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (S. Ct. 1989) (EIS's role in providing springboard for public comment is essential component of NEPA).

III. The Bureau has violated the Fish and Wildlife Coordination Act:

Finally, the Bureau of Reclamation has violated the Fish and Wildlife Coordination Act by failing to incorporate the views of state and federal fish and wildlife agencies, including a final Fish and Wildlife Coordination Act Report, in Reclamation's report to Congress. The Bureau of Reclamation's July 29, 2015 press release states that the agency transmitted the final feasibility report and FEIS for this project to Congress. However, in so doing, Reclamation has violated the Fish & Wildlife Coordination Act, because the report to Congress could not include a final report from U.S. Fish and Wildlife Service on the impacts to fish and wildlife from the project, given that the Service has not finalized this report. See 16 U.S.C. § 662(b). In addition, that Act requires the report to Congress to include the report from the California Department of Fish and Wildlife on the impacts of the proposed project. *Id.*

Staff from the U.S. Fish and Wildlife Service recently confirmed that they have not yet finalized the Fish & Wildlife Coordination Act report for this project. However, the November 24, 2014 revised Fish and Wildlife Coordination Act report concluded that,

Based on the Service's evaluation of the information available, as contained in this report, as well as evaluations contained in the EIS and associated documents provided by Reclamation, the Service has determined that the proposed project does not provide substantial benefits to fish and wildlife resources within the Shasta Lake pool or the adjacent upland habitats. The Service has also determined that the proposed project does not provide any substantial benefit to anadromous fish downstream of the RBPP and provides only minimal benefit to anadromous fish (winter- and spring-run Chinook salmon) upstream of the RBPP. It is the Service's opinion that based on the existing information; the proposed action, by further restricting high water flows, will result in additional losses of salmonid rearing and riparian habitat, and adversely affect the recruitment and natural succession of riparian forest along the Sacramento River and bypasses. **Upon consideration of the information provided to date, the level of potential impacts to fish and wildlife resources, and the lack of specificity on potential mitigation and compensation measures the Service is unable to support adoption of any of the proposed action alternatives.**

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U.S. Fish and Wildlife Service, November 24, 2014 at xiii (emphasis added). The Revised Report rejected Reclamation’s findings and conclusions regarding impacts to fish and wildlife in numerous respects, recommended specific mitigation and compensation measures that were not adopted, and provided substantial evidence that the FEIS is inadequate under NEPA.

In addition, on February 13, 2015, the California Department of Fish and Wildlife submitted comments to Reclamation on the Coordination Act Report (“CAR”), which state that, “[t]he Department agrees with the conclusions drawn in the CAR” and that the Department “questions the validity of continuing to use Anadromous Fish Survival as one of the two primary objectives of the SLWRI” because of the lack of substantial benefits to salmon. See Letter from the California Department of Fish and Wildlife to U.S. Bureau of Reclamation dated February 13, 2015 (attached hereto as Exhibit A).

IV. Conclusion:

Raising Shasta Dam as proposed by Reclamation would flood portions of the protected McCloud River in violation of state law (which also precludes water districts from paying for the cost of constructing the project), and the FEIS and Final Feasibility Report violate NEPA and other federal laws. This project has significant adverse impacts on Native American sacred sites and cultural resources, as well as on fish and wildlife. For these reasons, the Department should withdraw the FEIS and Final Feasibility Report and terminate this project.

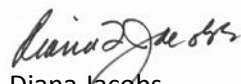
Sincerely,



Doug Obegi  
Natural Resources Defense Council



John McManus  
Golden Gate Salmon Association



Diana Jacobs  
Sacramento River Preservation Trust



Rachel Zwillinger  
Defenders of Wildlife



Tim Sloane  
Pacific Coast Federation of Fishermen’s Associations



Ron Stork  
Friends of the River

**Exhibit A:** Letter from the California Department of Fish and Wildlife to U.S. Bureau of Reclamation dated February 13, 2015

cc: Estevan Lopez, Commissioner  
Mike Connor, Assistant Secretary of the Interior

**From:** [Denning, MICHELLE](#)  
**To:** [Ren Lohofener](#); [Alexandra Pitts](#); [Dan Castleberry](#); [David Murillo](#); [Jason Phillips](#); [Erin Curtis](#)  
**Subject:** Fwd: California Department of Fish and Wildlife Comments on the U.S. Department of the Interior, USFWS, Fish and Wildlife Coordination Act Report for the Proposed Shasta Dam Enlargement Project/Shasta Lake Water Resources Investigation  
**Date:** Saturday, February 14, 2015 10:04:37 AM  
**Attachments:** [SLWRI Comment Letter USFWS CAR CDFW 020215.pdf](#)

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FYI. It looks like Littlefield did not notify DFW that the report had been rescinded to allow for higher level review. I suspect the attached comment letter will be shared externally. DFW was included on monthly planning meetings until we determined that there were no imminent CEQA compliance activities for raising Shasta Dam and Reservoir. Without a CEQA nexus, the relationship is through the Fish and Wildlife Coordination Act.

Michelle

----- Forwarded message -----

**From:** **Wildlife R1 Correspondence** <[R1Correspondence@wildlife.ca.gov](mailto:R1Correspondence@wildlife.ca.gov)>  
**Date:** Fri, Feb 13, 2015 at 2:32 PM  
**Subject:** California Department of Fish and Wildlife Comments on the U.S. Department of the Interior, USFWS, Fish and Wildlife Coordination Act Report for the Proposed Shasta Dam Enlargement Project/Shasta Lake Water Resources Investigation  
**To:** "[mdenning@usbr.gov](mailto:mdenning@usbr.gov)" <[mdenning@usbr.gov](mailto:mdenning@usbr.gov)>, "[rganzfried@usbr.gov](mailto:rganzfried@usbr.gov)" <[rganzfried@usbr.gov](mailto:rganzfried@usbr.gov)>, "[mark\\_littlefield@fws.us](mailto:mark_littlefield@fws.us)" <[mark\\_littlefield@fws.us](mailto:mark_littlefield@fws.us)>, "[Rocky\\_montgomery@fws.gov](mailto:Rocky_montgomery@fws.gov)" <[Rocky\\_montgomery@fws.gov](mailto:Rocky_montgomery@fws.gov)>, "[dmyers01@fs.fed.us](mailto:dmyers01@fs.fed.us)" <[dmyers01@fs.fed.us](mailto:dmyers01@fs.fed.us)>, "[jknelson@fs.fed.us](mailto:jknelson@fs.fed.us)" <[jknelson@fs.fed.us](mailto:jknelson@fs.fed.us)>, "Alston, Naseem@NOAA" <[Naseem.Alston@noaa.gov](mailto:Naseem.Alston@noaa.gov)>, "Woodward, Phil@Waterboards" <[Phil.Woodward@waterboards.ca.gov](mailto:Phil.Woodward@waterboards.ca.gov)>, "Babcock, Curt@Wildlife" <[Curt.Babcock@wildlife.ca.gov](mailto:Curt.Babcock@wildlife.ca.gov)>, "Milliron, Curtis@Wildlife" <[Curtis.Milliron@wildlife.ca.gov](mailto:Curtis.Milliron@wildlife.ca.gov)>, "Zezulak, Dave@Wildlife" <[Dave.Zezulak@wildlife.ca.gov](mailto:Dave.Zezulak@wildlife.ca.gov)>, "Dibble, Chad@Wildlife" <[Chad.Dibble@wildlife.ca.gov](mailto:Chad.Dibble@wildlife.ca.gov)>, "Roberts, Jason@Wildlife" <[Jason.Roberts@wildlife.ca.gov](mailto:Jason.Roberts@wildlife.ca.gov)>, "Cantrell, Scott@Wildlife" <[Scott.Cantrell@wildlife.ca.gov](mailto:Scott.Cantrell@wildlife.ca.gov)>, "Henderson, Brad@Wildlife" <[Brad.Henderson@wildlife.ca.gov](mailto:Brad.Henderson@wildlife.ca.gov)>, "Harris, Michael R.@Wildlife" <[Michael.R.Harris@wildlife.ca.gov](mailto:Michael.R.Harris@wildlife.ca.gov)>, "Bratcher, Patricia@Wildlife" <[Patricia.Bratcher@wildlife.ca.gov](mailto:Patricia.Bratcher@wildlife.ca.gov)>, "Kovacs, Karen@Wildlife" <[Karen.Kovacs@wildlife.ca.gov](mailto:Karen.Kovacs@wildlife.ca.gov)>, "Bartlett, Tina@Wildlife" <[Tina.Bartlett@wildlife.ca.gov](mailto:Tina.Bartlett@wildlife.ca.gov)>, "Cobb, Donna@Wildlife" <[Donna.Cobb@wildlife.ca.gov](mailto:Donna.Cobb@wildlife.ca.gov)>

Please see attached. All service is by e-mail.

Nancy Rich





State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
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Redding, CA 96001  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

*EDMUND G. BROWN JR., Governor*  
*CHARLTON H. BONHAM, Director*



February 13, 2015

Ms. Michelle Denning  
Bureau of Reclamation, Planning Division  
2800 Cottage Way, MP-720  
Sacramento, CA 95825-1893

Mr. Mark Littlefield  
U.S. Fish and Wildlife Service  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825-1846

**Subject: California Department of Fish and Wildlife Comments on the U.S. Department of the Interior, U.S. Fish and Wildlife Service, Fish and Wildlife Coordination Act Report for the Proposed Shasta Dam Enlargement Project/Shasta Lake Water Resources Investigation**

Dear Ms. Denning and Mr. Littlefield:

The California Department of Fish and Wildlife (Department) received the U.S. Department of the Interior, U.S. Fish and Wildlife Service (USFWS) Coordination Act Report (CAR) for the Proposed Shasta Dam Enlargement Project/Shasta Lake Water Resources Investigation (SLWRI) on December 4, 2014. Pursuant to our discussions with you in June 2014 regarding the CAR, the Fish and Wildlife Coordination Act (FWCA) requires consultation with the USFWS and the fish and wildlife agencies of states.

The FWCA provides a basic procedural framework for the orderly consideration of fish and wildlife conservation and enhancement measures in federally constructed, permitted, or licensed water development projects. The FWCA provides that whenever any water body is proposed to be controlled or modified *"for any purpose whatever"* by a federal agency or by any *"public or private agency"* under a federal permit or license, the action agency is required first to consult with the wildlife agencies, *"with a view to the conservation of fish and wildlife resources in connection with that project."* The FWCA authorizes preparation of reports and recommendations by the Secretary of the Interior (and/or Commerce) and the head of the State agency responsible for the administration of fish and wildlife resources to be submitted to the action agency. That report, if prepared, must be made available to the Congress or other authorizing agents when decisions are made to authorize a project.

While the Department participated in the SLWRI in its current iteration since 2000 and is a member of the SLWRI Project Coordination Team, we were not aware of the development of a new alternative, CP4A. The lack of detailed information on Alternative CP4A, now the preferred alternative, hampered our ability to provide a thorough review of the CAR. Our review and comments are therefore based solely on the content of the CAR, with the acknowledgement that additional information may have affected our response. In addition, the CAR repeatedly states that, *"...there is insufficient information provided ... to analyze the effects..."*, or *"...the Service is unable to analyze the effects..."* due to insufficient information

*Conserving California's Wildlife Since 1870*

Ms. Michelle Denning, Bureau of Reclamation  
Mr. Mark Littlefield, U.S. Fish and Wildlife Service  
February 13, 2015  
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on project details. Because of this, an additional CAR may be needed to allow the USFWS and the Department to fully analyze the impacts of the complete SLWRI, including Alternative CP4A.

The Department agrees with the conclusions drawn within the CAR.

The Department provides the following additional information, clarification, and comments.

**State role:** As discussed above, the CAR should recognize the role of the State, as identified in the FWCA.

**Analysis Area:** While the CAR does identify the need to assess certain wildlife species, it is not clear regarding State and federally listed species that have large home ranges, such as northern spotted owl (*Strix occidentalis caurina*) and Pacific fisher (*Martes pennanti pacifica*). If a suitable stand of habitat utilized for reproduction or foraging of these species is fragmented by a rise in reservoir elevation or other project activity, its impacts can extend beyond just loss of acreage; the function of the habitat can be negatively affected and rendered unusable. In this context, the Department encourages the development of a sufficiently-sized analysis area that will allow for the complete analysis of impacts to State fish, wildlife, and botanical resources.

In addition, the CAR identifies the need to include the lower reaches of the tributaries to the Sacramento River between Keswick Dam and Red Bluff Pumping Plant (RBPP), not only for the reasons stated in the CAR but also due to the already documented impacts of the dam on these tributaries. Channel incision and bank erosion in both the main channel and tributaries commonly occurs below dams. Problematic channel incision has largely been documented in Clear Creek, Cow Creek, Bear Creek, and Cottonwood Creek. Additional analysis is needed to assess the effects of proposed operations and flows on these and other critical tributaries below Keswick Dam. This impact warrants further investigation including consideration of mitigation measures such as gravel augmentation, bank stabilization, and riparian restoration to reduce potential erosion.

**Primary Objectives of SLWRI:** Based upon previous analyses and the conclusions drawn in the CAR, the Department questions the validity of continuing to use Anadromous Fish Survival as one of the two primary objectives of SLWRI. As stated in the CAR, only one alternative (CP4) provides any substantial benefit to anadromous fish survival; however, in the majority of years Alternative CP4 would result in either negligible or slightly negative impacts to Chinook salmon survival overall. In about 90 percent of the years, there would be no benefit to anadromous fish survival. Even in CP4, the benefits of an enlarged cold water pool for each of the four runs of Chinook salmon are limited to a few critical and dry water years representing 6 to 16 percent of the water years, based on the 1922 - 2002 period of simulation. In addition, the 2013 Public Draft of the Environmental Impact Statement on the SLWRI (Bureau of Reclamation [BOR] 2013) did not provide a net impact analysis on anadromous fish which would show the negative and positive impacts of the project within its entire area of potential impact (from Shasta Dam to the Sacramento-San Joaquin Delta).

**Use of the Dedicated Pool, Alternatives CP4 and CP4A:** The 2008 Planning Aid Memorandum (PAM) (USFWS 2008) identified an earlier recommendation from the USFWS, the Department, and National Marine Fisheries Service (NMFS) for “dedicated environmental water” to be included in a SLWRI alternative, in the amount of 378,000 acre-feet in

Alternative CP4. This water was to be adaptively managed and used at the discretion of the federal and State fisheries resource agencies. At its earliest inception, this water was to be used not only for fish resources but potentially for other natural resource needs, including but not limited to cottonwood regeneration, floodplain management/restoration, bird habitat creation, and habitat needs of species identified in the CALFED Multi Species Conservation Strategy (CALFED Bay Delta Program 2000). The Department encourages further discussion on this project attribute to proactively develop a plan to utilize this water.

**Minimum flows on the Sacramento River:** The Department agrees with the recommendation to consider increasing the minimum flows on the upper Sacramento River from the current 3,250 cubic feet per second (cfs) to a higher flow (the CAR mentions two flows: 4,000 and 4,200 cfs). The Department also encourages analyzing consistent flows in the fall to minimize the potential effect of redd dewatering during this period, which has negatively impacted fall-run Chinook (*Oncorhynchus tshawytscha*). In this context, the analysis of daily flows as opposed to monthly flow data, which is addressed as well in the CAR, is critical. The Department and its partner, the Pacific States Marine Fisheries Council, who have been monitoring redd dewatering and juvenile salmonid stranding as a result of flow fluctuations, plan to continue to provide information on these two issues to more effectively address this in the future given the importance of the upper Sacramento River to anadromous fish, particularly winter-run Chinook, which only spawn in the section above RBPP.

**Modelling:** The Department agrees that additional modelling and analysis is needed to address the potential impacts to special status species and habitats. FWCA identifies various tools to use to analyze impacts, including the Habitat Evaluation Procedure. In general, evaluation methodologies should be quantitative, scientifically based, and repeatable. Such techniques may be used in conjunction with establishing the project boundary, determining baseline values, establishing the future with and future without the project scenarios, and determining net change between the two (Smalley 2004). The Mitigation Policy as identified in the FWCA calls for evaluation using habitat-based evaluation techniques wherever possible. Other available "standard" techniques that may be applicable include the Habitat Evaluation System and Wetland Evaluation Technique (WET) developed by the Corps of Engineers, and the Hydromorphologic Methodology under development by the Corps of Engineers. Where instream flows are involved, the USFWS's Instream Flow Incremental Methodology may be able to provide information in making mitigation recommendations (Smalley 2004). There are also other evaluation tools developed specifically for the upper Sacramento River which should be utilized, including the Nature Conservancy's SAC Ecological Flows Tool.

**Species listing:** Western yellow-billed cuckoo (*Coccyzus americanus*) is now listed as Threatened under the federal Endangered Species Act (ESA) and Pacific fisher is Proposed threatened, although they are listed as Candidate species in the CAR. The document needs to be updated to reflect the potential impact to these species as per ESA review requirements. The document also should reflect the dual listing status in the narrative where applicable (i.e., winter-run Chinook, spring-run Chinook, and western yellow-billed cuckoo all have dual listing status under ESA and the California Endangered Species Act [CESA]).

**Southern Distinct Population Segment (DPS), Green Sturgeon:** The CAR superficially addresses the Southern DPS of green sturgeon (*Acipenser medirostris*). The principal factor in the decline of the Southern DPS is the reduction of the spawning area to a limited section of the Sacramento River. In April 2006, the Southern DPS of North American Green Sturgeon was listed as threatened under ESA. The listing was due in part to the degradation

of the primary spawning habitat in the Sacramento River and the declining numbers of green sturgeon. A jeopardy determination was made in the 2009 OCAP Biological Opinion on Central Valley Project operations (NMFS 2009) on the species and its Critical Habitat, upon which the Department prepared a consistency determination. Available information on green sturgeon indicates that as with winter-run Chinook, the mainstem Sacramento River may be the last viable spawning habitat for the Southern DPS of Green Sturgeon. The CAR should clearly identify the issues facing this species and also mention the reasonable and prudent alternatives identified in the OCAP BO (NMFS 2009). In addition, the Department recommends discussions between BOR, USFWS, NMFS, and the Department to identify and incorporate any additional conservation measures, as well as address ESA and CESA analysis processes.

**Neotropical Migratory Birds:** The Department would like to emphasize the importance of adequately addressing impacts to neotropical migratory birds, which are the subject of numerous environmental laws and regulations, including the federal Neotropical Migratory Bird Act. Some of these species have special status and depend more on the Sacramento River for their recovery than other riverine systems in California, including the Western yellow-billed cuckoo. The second largest proposed critical habitat unit is on the Sacramento River, second only to the Colorado River (USFWS 2014). The bank swallow (*Riparia riparia*), which is a neotropical migrant and also listed as Threatened under CESA, is also highly dependent on the Sacramento River for its recovery; 70 to 90 percent of the populations known in California lie along the Sacramento River. To recover the bank swallow population in California, natural river processes will have to be restored on a significant portion of the Sacramento River and its tributaries. Many of the current flood management activities will have to be modified and replaced with more sustainable ones, and past habitat modification will have to be reversed. Spring and summer flow regimes that inundate or erode active colonies will have to be modified (Bank Swallow Technical Advisory Committee 2013). While the CAR mentions the importance of neotropical migratory birds, the Department stresses the need to address these species in the context of flow management for impact minimization.

**Water Quality Impacts:** As stated on page 89 of the CAR, the potential impacts to water quality as a result of inundating abandoned mines and contaminated tailings piles is at issue. It appears that this potentially huge and severe impact was inadequately addressed in the 2013 public draft of the SLWRI EIS (BOR 2013); sufficient information was not provided to the USFWS to completely address this impact in the CAR. The Department encourages BOR to begin and facilitate discussions with the water quality regulatory agencies, including the Department, the State Water Resources Control Board, and the U.S. Environmental Protection Agency to address these and other water quality issues.

**McCloud River:** The Department appreciates the inclusion of the McCloud River as an issue that needs resolution prior to additional steps taken on the SLWRI. Raising the water level behind Shasta Dam will convert part of the McCloud River into reservoir habitat, changing the free-flowing condition of the McCloud River. As per the California Wild and Scenic Rivers Act, the determination of adverse effect as a result of this change is made by the Secretary of the State of California's Resource Agency, currently known as the Natural Resource Agency (Public Resource Code §5093.60). BOR should request an effects determination from the California Natural Resources Agency, if it has not already done so.



**Other Department-related regulations:** The Department would like to take the opportunity to bring the following Fish and Game Code (FGC) sections to your attention that were not mentioned in the CAR, in the context of coordination as per FWCA:

- FGC 1505, regarding spawning areas management and protection, from Keswick to Squaw Hill Bridge near Vina, California
- FGC 1600, regarding lake or stream alteration
- FGC 5650, regarding water pollution
- FGC 5900-5904, regarding development of water resources projects
- FGC 5930-5948, regarding dams and impacts to fish resources

**Definition of Suitable Habitat and Species Analyses:** In numerous locations, acres of suitable habitat were shared in the CAR without a clear definition of how that habitat was defined. The Department would like to discuss this further. In addition, some species were lumped together in the CAR analysis which the Department would like to discourage. For example, bat species were lumped as a group when many are known to have very different habitat preferences. This makes it impossible to know if these species were adequately addressed in the CAR, which is particularly troubling given the special status of some of these species. The same comment holds true for State Fully Protected species, for which incidental take cannot be allowed or permitted.

**Bald Eagle:** Given its protection under the Eagle Protection Act, its listing as a State Endangered species and State Fully Protected species, and its role as a national symbol, the impacts of SLWRI on bald eagle (*Haliaeetus leucocephalus*) are significant. Of the 28 nests that occur around Shasta Lake, four nests, or 14 percent, are anticipated to be lost as a result of an 18.5 ft. raise, the preferred alternative. As mentioned above, take cannot be authorized by the State for Fully Protected species. The Department encourages additional, pro-active discussion about the impacts to this species, as well as the other seven species that may be considered under Section 4 of ESA, as addressed on page 163 of the CAR. This includes Shasta snow wreath (*Neviusia cliftonii*), which is believed to have been severely impacted by the initial construction of the dam, and which would be further impacted significantly by a dam raise. In the spirit of FWCA, we would like to find solutions to these issues in a cooperative manner with BOR and the USFWS as soon as possible.

**American and Feather Rivers:** As mentioned in the CAR on page 131, there is an anticipated decreased flow on the American and Feather rivers as a result of reoperations created by a raised Shasta Dam. Absent a review of modelling results, the Department is unclear if there is a proposal for reoperation of the American or Feather rivers due to Shasta enlargement for the preferred alternative, and if there is an increase in Shasta releases to meet Bay-Delta Water Quality Objectives or the Coordinated Operations Agreement (COA) requirements. The proposed flow reductions on the American River may cause significant impacts to resources, and needs to be analyzed.

**Mitigation Policy:** Starting on page 132, the USFWS Mitigation Policy is addressed. While the Department acknowledges the USFWS process in this context, the habitat types listed as being present are too general, resulting in a loss of the ability to address certain unique habitats that are critical to the recovery of certain species. For example, limestone outcrop within the habitat type "Barren" is a unique habitat type important for Shasta salamander (*Hydromantes shastae*), listed as Threatened by the State of California.

The Department identifies general and species-specific minimization measures that have been shown to significantly reduce a particular project's impacts of taking species listed under CESA. Because these measures reduce the amount and extent of direct take, inclusion of these measures has reduced the scope and extent of other required actions to achieve full mitigation for these projects. Modifying or reducing a project footprint is often used to reduce the level of take which reduces the amount of compensatory mitigation. The Department relies on an accurate and complete understanding of the types and extent of impacts on the listed species. This understanding has facilitated the Department's determination of the types and amount of mitigation necessary to offset all incidental take-related impacts for those projects.

The value of the impacted habitat to species range-wide is another important consideration. Impacts to essential breeding habitat, movement/dispersal corridors, and foraging habitats are also assessed. Acreage-based assessments consider the total amount of habitat lost or degraded and the extent to which the project reduces habitat suitability, and how a project has affected species habitat on a landscape scale. Factors considered are total acreage lost; habitat degradation related to changes in structure and resource availability, community constituents (e.g., invasive species), disturbance, new access roads, staging or storage areas and other facilities; the amount of fragmentation/edge being created; and the distance to other suitable habitat. Temporal considerations include determining the duration of a listed species' habitat being lost or degraded and the length of time the species would be subjected to activities causing impacts, to characterize the impact on essential behaviors or life requirements of the covered species. Considerations include permanent versus temporary impacts, the duration of restoration/recovery, the duration of impacts to generation time, movement, and other relevant aspects of the life history of the listed species.

To meet CESA standards, unavoidable impacts of the taking that remain after minimization measures have been employed need to be fully mitigated by management of the affected species, typically through a combination of on-site restoration, off-site creation/restoration/enhancement, and/or off-site acquisition and protection. Each of these components typically carries a monitoring, management, and financial responsibility.

California lawmakers have identified a public interest in protecting and maintaining the State's wetland and riparian habitats (FGC §§1385 and 2780). In 1993, Executive Order W-59-93 established a comprehensive wetlands policy for the State that sought no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values. The Fish and Game Commission also has adopted a Wetlands Resources Policy, which recognizes the habitat values of wetlands and the damage to fish and wildlife resources from projects resulting from net loss of wetland acreage or habitat values (Fish and Game Commission 2013).

The Fish and Game Commission expects the Department to apply the wetland policy and the implementing procedures in a manner which assures the protection and enhancement of California's wetland resources.

All wetland and riparian habitat types listed in the CAR under the Mitigation Policy section should be therefore listed as either Resource Category 1 or 2. While the Sacramento River may appear to have a lot of riparian habitat especially when compared to some other river systems, less than 2 percent of riparian habitat remains when compared to its historical extent (Katibah 1984 and Greco 1999, as cited in Stillwater Sciences 2007). Extant riparian habitat associated with the Sacramento river includes some of the best remaining examples of

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certain habitat types, such as Valley Oak riparian woodland, that are found in California. This heightens its importance as a resource and draws attention to its critical condition.

**Land Acquisition associated with the SLWRI:** Other provisions of the FWCA relate to the acquisition and use of project lands and waters for fish and wildlife purposes, the evaluation of project effects including benefits and costs, and related matters. For example, section 4 of the FWCA provides that lands made available to the Secretary of the Interior for management of migratory birds may be managed by the Secretary of the Interior or made available to the states for management; these lands could be made available without cost to the state. If lands are to be acquired as part of the SLWRI, the Department requests to be informed at the earliest convenience in order to assess future management of said lands.

This concludes our comments. If you have further questions regarding our comments, please contact Senior Environmental Scientist Patricia Bratcher at [Patricia.Bratcher@wildlife.ca.gov](mailto:Patricia.Bratcher@wildlife.ca.gov) or (530) 225-3845. Thank you for your time and consideration.

Sincerely,



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