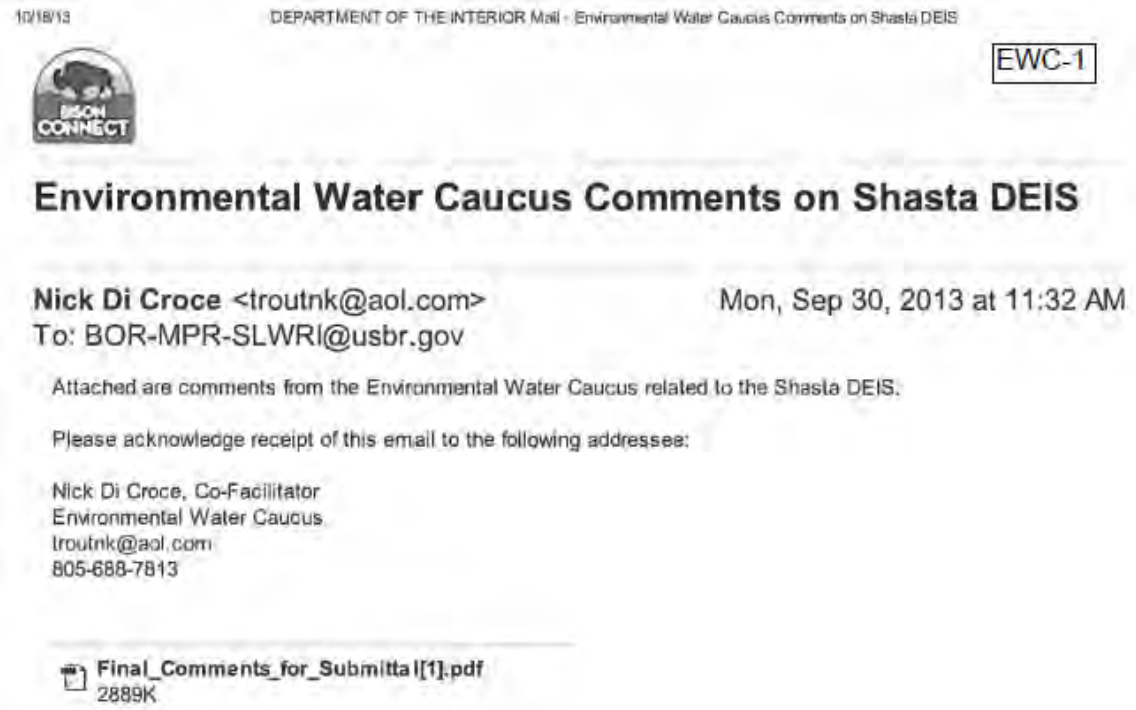
33.10.12 Environmental Water Caucus



10/18/13 DEPARTMENT OF THE INTERIOR Mail - Environmental Water Caucus Comments on Shasta DEIS

EWC-1

Environmental Water Caucus Comments on Shasta DEIS

Nick Di Croce <troutnk@aol.com> Mon, Sep 30, 2013 at 11:32 AM
To: BOR-MPR-SLWRI@usbr.gov

Attached are comments from the Environmental Water Caucus related to the Shasta DEIS.

Please acknowledge receipt of this email to the following addressee:

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2889K

ENVIRONMENTAL WATER CAUCUS RESPONSE LETTER TO THE U.S. BUREAU OF RECLAMATION FOR THE SHASTA LAKE WATER RESOURCES INVESTIGATION DEIS SEPTEMBER 30, 2013


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Conservancy


Butte Environmental Council
Protecting Butte County's Land, Air & Water Since 1975


CA Save Our Streams Council
Lower Sherman Island Duck Hunters Association


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NORTHERN
CALIFORNIA COUNCIL
FEDERATION OF
FLY FISHERS


The Fish Sniffer

September 30, 2013

Katrina Chow, Project Manager
Shasta Lake Water Resources Investigation
United States Department of the Interior
Bureau of Reclamation, Mid-Pacific Region
2800 Cottage Way, MP-700
Sacramento, CA 95825

By email to: BOR-MPR-SLWRI@usbr.gov

Subject: Comments on Draft Environmental Impact Statement dated June 2013

The Environmental Water Caucus is submitting the following comments based on a review of the SLWRI DEIS.

EWC-1 We find the project a waste of public money, providing little additional water yield for an exorbitant price tag and which would be a travesty for American taxpayers.

EWC-2 In addition, the beneficial effect on salmon populations is illusionary

EWC-3 and amounts to an attempt to shift the cost burden to the public instead of having the real beneficiaries pay for their water supply.

EWC-4 In short, the project is a fraud and should be abandoned.

EWC-5 A recent Interior Department Inspector General Report found that under current repayment contractual terms, CVP agricultural service contractors would never pay off their debt for construction of the CVP. Approximately 52% of the CVP debt has been repaid with a remaining amount of $674 million.

EWC-6 If the entire $1.1 billion cost of enlarging Shasta Dam 18.5 feet were properly allocated to CVP customers instead of the taxpayers for illusory salmon benefits, this project would more than double the remaining repayment obligations of the CVP for a mere 88,000 acre-feet of additional CVP firm yield.

EWC-7 The stated purpose of enlarging Shasta Dam is to meet the two primary project objectives of increased survival of Sacramento River anadromous fish populations and to increase

3

EWC-7 CONTD water supply reliability for CVP agricultural, M&I, and environmental purposes. However, preferred alternative CP-4 and the other alternatives are fundamentally flawed in that they will not increase survival of anadromous fish in any substantial way, especially given the cost and the plethora of other viable projects recommended by the fishery agencies but not evaluated by Reclamation. Enlargement of Shasta Dam is not mentioned as one of over a thousand recommendations from the National Marine

EWC-8 Fisheries Service in the Draft Central Valley Salmon Recovery Plan. The proposed project is based on inflated and illusory benefits for natural salmon production in the

EWC-9 Sacramento River, as described in the attached comments, and cannot be justified as proposed.

EWC-10 The claimed benefits to salmon allow two thirds of the billion dollar project cost to be shifted to taxpayers and not the true beneficiaries – the CVP water contractors. The clear favorite and most "cost effective" Alternative CP- 4 is projected to produce 813,000

EWC-11 salmon smolts, which at a return rate of .13% will result in 1,057 adult salmon annually at a cost to the taxpayers of $654.9 million! That cost is a clear demonstration of the absurdity of undertaking this project.

Furthermore, Enlarging Shasta Reservoir by raising the dam from 6.5 to 18.5 feet will flood public lands managed by the Forest Service, encompassing segments of the upper Sacramento, McCloud, and Pit Rivers, Salt Creek, and several small tributary streams,

EWC-12 triggers several requirements and mandates in the National Wild & Scenic Rivers Act. Although the DEIS attempts to address Wild & Scenic River issues in Chapter 25, it fails to recognize the actual requirements of the Act and the true implications of the reservoir enlargement in regard to previous Forest Service studies and commitments made in the

EWC-13 1994 Shasta-Trinity National Forests Plan. Nor does the DEIS adequately address the impacts of reservoir enlargement and the legal implications of violating the California Public Resources Code.

The raising of Shasta Dam is a threat to the very existence of the Winnemem Wintu Tribe and the ability to bring back the salmon and a way of life that the Creator gave to the Tribe. The Winnemem Wintu's efforts are about preserving a beautiful natural world,

EWC-14 with abundant salmon, clean water, and ecologically healthy and diverse forests, that has been and continues to be flooded, logged, cut up by roads, mined, subdivided, sold, and destroyed acre by precious acre. The raising of Shasta Dam would, again, bring great harm to the World as the Winnemem Wintu know it. The DEIS fails to assess and acknowledge the full scope of the devastating and irreparable impacts this Project would have on the Winnemem Wintu Tribe.

EWC-15 Additionally, we find the following major issues that are explained in detail in the attached comments letter:

- Realistic and much more cost effective alternatives to meet the primary objectives

4

EWC-15 CONTD

are not considered or fully evaluated.

EWC-16

- Substantial funding for water conservation and recycling, retirement of drainage-problem lands, reoperation of Shasta Dam and Reservoir, and a host of projects recommended by the public and U.S. Fish and Wildlife Service were either not considered or rejected due to Reclamation's bias toward justifying an enlarged Shasta Dam.

EWC-17

- Failure to disclose the relationship between the SLWRI and BDCP and to accomplish an adequate cumulative impact analysis.

EWC-18

- Failure to provide information on water rights for use by the SWRCB.

EWC-19

- Failure to perform an adequate Benefit-Cost Analysis without inflated fishery benefits which would show a negative benefit value for the project.

EWC-20

- Failure to disclose the Bureau's petitions to the State Water Resources Control Board to extend the deadlines for compliance with water rights permits and for licensing of the water rights of the Central Valley Project.

EWC-21

- Failure to disclose the effects of the San Joaquin and Sacramento River outflows.

EWC-22

- Failure to disclose the Bureau's water transfer program (from north of Delta sellers to south of Delta contractors) and its reliance upon groundwater substitution by water right-holding transferors.

EWC-23

We request that you abandon this ill-conceived project and save the dollars, the environmental damage, and the affront to Native American interests that this project would generate if pursued by the Bureau of Reclamation.

David Nesmith
Co-Facilitator

Rick DeCrow
Co-Facilitator

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EWC SPECIFIC COMMENTS ON SLWRI DEIS

Purpose and Need

Our organizations believe that it is egregiously wasteful of public taxpayer funds and other scarce resources including water by investing in the raising of Shasta Dam.

EWC-24

The proposed project for enlarging Shasta Dam has two primary project objectives: 1. To increase survival of Sacramento River anadromous fish populations, and; 2. To increase water supply reliability for CVP agricultural, M&I, and environmental purposes. These objectives appear to be merely acceptable pretenses for creating more storage capacity that would be used by the Bureau of Reclamation to try to meet Central Valley Project water service contract obligations. By its own numbers, the project will spend large sums of taxpayer funds to increase deliveries by only very small amounts. This makes the project's supply yield extremely expensive. Compared to other supply investments that could be made with these funds, this project is expensive and wasteful.

EWC-25

Figures 1 and 2 below document the quandary of chronic shortfalls in deliveries to contractors of California's state and federal water systems. In 1960, the California Department of Water Resources (DWR) announced its approach to the Delta and to providing additional imported water supplies. The Department announced then that the Delta had about an average of 3 million acre-feet annually available for export to state and federal water contractors of the San Joaquin Valley and southern California. This amount would hold until about 1981, according to DWR, by which it planned to build reservoirs on North Coast rivers like the Mad, the Van Duzen, the Eel, and the Trinity. About 5 million acre-feet was thought to come from those reservoirs for export to the Sacramento Valley to increase flows to the "Delta pool." From that "pool," surplus water could, DWR argued, be safely exported from the Delta.

EWC-26

Only the Trinity River Division of the CVP was completed. The other streams are now designated as wild and scenic and development of their flows for diversion has long been off the table.

Figure 1 below summarizes CVP south of Delta deliveries between 1985 and 2010. This chart also presents a line at the top that represents 3,488,246 acre-feet, the total amount of "annual entitlements" reported in the Bureau's Draft Hydrology, Hydraulics, and Water Management Technical Report.[1] There is a substantial gap between the amounts that

[1] US Bureau of Reclamation, Hydrology, Hydraulics, and Water Management Technical Report, Shasta Lake Water Resources Investigation, California, June 2013, Table 1-25, pp. 1-35 through 1-37

represent deliveries to contractors during this period and the original "annual entitlements" claimed by the parties to the CVP water service contracts. The average difference between contract "entitlements" and actual deliveries south of the Delta exceeds 1.119 million acre-feet per year.

EWC-26
CONTD

Figure 1. Source: US Bureau of Reclamation delivery data from the Central Valley Projects Operations Office online.

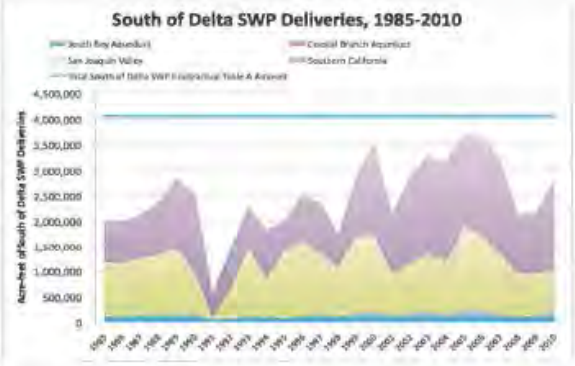

Figure 2. Source: California Department of Water Resources, Bulletin 132, various years.

Figure 2 summarizes State Water Project south of Delta deliveries between 1985 and 2010. This chart, similar to Figure 1, presents a line at the top that represents 4,056,205 acre-feet, the total Table A amounts in State Water Project contracts for deliveries south of the Delta. Here too there is a substantial gap between the amounts that represent deliveries to contractors during this period and the original "Table A" amounts claimed

7

EWC-26 CONTD

by the parties to State Water Project contracts. The average difference between total Table A amounts for south of Delta contractors and their actual deliveries exceeds 1.593 million acre-feet.

EWC-27

In addition, the California Water Impact Network has shown that total consumptive water rights claims for the Sacramento and Trinity River basins exceed annual average unimpaired flows by a factor of 5.6 acre-feet of claims per acre-foot of flow.[2] A similar ratio occurs in the San Joaquin River Basin. In order to meet Delta water quality standards, temperature control and flow needs of fish upstream, the paramount rights of the San Joaquin River Exchange Contractors south of the Delta, and in-basin entitlements of Sacramento Valley water rights holders, water in storage at Shasta is stretched thin at best, and is deficient of supply at worst.

EWC-28

While Shasta Lake is a federally-owned and operated facility, long-standing agreements for coordinated operations of both the state and federal projects, as well as for "joint point of diversion" by both projects' south Delta pumping plants, mean that operationally Shasta is used to help the State Water Project serve its customers. This is why it is relevant to include discussion of State Water Project contractor delivery performance. These coordinated operations are also reflected in the DEIS's discussion of impacts affecting both projects from raising Shasta Dam and enlarging Shasta Lake.

EWC-29

After 40 years of operation for the State Water Project and over 70 years of south of Delta exports for the Central Valley Project, the Bureau and DWR still have not fulfilled their contracts. Nor would any member groups of the Environmental Water Caucus want them to develop the North Coast rivers to enable these contracts to be fulfilled. Combined, the state and federal projects fail to meet on average about 2.7 million acre-feet of paper water every year; in dry or drought years, this figure increases dramatically.

Therefore, the most important purpose of the enlargement of Shasta Lake is to increase water deliveries to Central Valley Project customers south of the Delta. But this project does a poor job of that, as our comments indicate.

The Proposed Project Will Not Help Fish

EWC-30

However, the favored alternative CP-4 and the other alternatives are fundamentally

[2] Stroshane,T., *Testimony on Water Availability Analysis for Trinity, Sacramento, and San Joaquin River Basins Tributary to the Bay-Delta Estuary*, Submitted by the California Water Impact Network on behalf of California Sportfishing Protection Alliance, and AquAlliance on October 26, 2012, for Workshop #3: Analytic Tools for Evaluating Water Supply, Hydrodynamic, and Hydropower Effects of the Bay-Delta Plan. Accessible online at http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/comments111312/tim_stroshane.pdf

EWC-27 CONTD

EWC-30 CONTD flawed in that they will not increase survival of anadromous fish in any substantial way, especially given the cost and the plethora of viable projects recommended by the fishery agencies that do not involve dam enlargement.

EWC-31 Numerous realistic and much more cost effective alternatives to meet the primary objectives to increase survival of Sacramento River anadromous fish populations and to increase water supply reliability for CVP agricultural, M&I, and environmental purposes are not considered or fully evaluated. Substantial funding for water conservation and recycling, retirement of drainage-problem lands, reoperation of Shasta Dam and Reservoir, and a host of projects recommended by the public and U.S. Fish and Wildlife Service were either not considered or rejected due to Reclamation's bias toward enlarging Shasta Dam.

EWC-32 Additionally, the alleged benefits to the anadromous salmon fish populations downstream of Keswick Dam from higher cold water carryover storage on October 1 are not enforceable. Nowhere in the document does Reclamation commit that the additional water stored for salmon will be under the control of the National Marine Fisheries Service, the California Department of Fish and Wildlife and/or the California State Water Resources Control Board.

EWC-33 Based on past experience, the modeling in the DEIS will not resemble actual operations and the additional storage will simply be used to provide larger water allocations for CVP contractors during any given year.

Shasta Dam Enlargement is Not a Salmon Recovery Action

EWC-34 The DEIS and Feasibility Study have both found that Alternative CP-4, raising Shasta Dam 18.5' and dedicating 378,000 of the additional storage to the cold water pool, is the most cost effective alternative.

EWC-35 While no environmentally-preferred alternative has been selected, it is clear that Reclamation supports CP-4 as the best justification for the project because putting two thirds of the costs on the taxpayers makes the project appear economically justifiable even though it is not.

EWC-36 However, enlarging Shasta Dam is not part of any plan for recovery of Sacramento River salmon. The concept of raising Shasta Dam for salmon benefits is not mentioned anywhere in any plans by the National Marine Fisheries Service, the U.S. Fish and Wildlife Service nor the California Department of Fish and Wildlife. In particular, NMFS' most recent draft Recovery Plan[3] for Sacramento River salmon does not include Shasta Dam enlargement.

EWC-37 The U.S. Fish and Wildlife Service (USFWS) has stated in its draft Fish and Wildlife Coordination Act Report (FWCAR) that: "*In about 90% of the years, there would be no*

EWC-36 CONTD [3] http://swr.nmfs.noaa.gov/recovery/centralvalleyplan.htm

benefit to anadromous fish survival." USFWS goes on to state that temperature-related mortality is only about 9% and that "*Predominate* (sic) *sources of mortality were due to superimposition, habitat constraints, the flushing or dewatering of redds, and entrainment in unscreened diversions. Restoration opportunities that could assist in reducing these causes of mortality have been removed from further consideration, raising the prospect that those species could suffer further declines or, at a minimum, gain no benefit.*"

EWC-37 CONTD

The Draft USFWS FWCAR stated that only Alternative CP-4 provided any fishery benefits, yet Reclamation continued to fully analyze other alternatives with phony salmon production benefits as if they would meet one of the primary goals of increasing survival of Sacramento River anadromous fish populations. All the while Reclamation rejected numerous suggestions from the USFWS to evaluate more viable activities to meet that primary goal of increased salmon survival that do not include enlarging Shasta Dam. USFWS clearly discouraged Reclamation from pursuing a dam enlargement-only list of alternatives and made a strong case[4] that numerous other options will better meet fishery restoration goals for the Sacramento River that are consistent with both the CALFED Record of Decision and the Central Valley Project Improvement Act Anadromous Fishery Restoration Program (CVPIA AFRP).

EWC-38

The USFWS points out that the so-called "benefits" of this project to salmon are largely inconsequential and include only one of many life history impacts to juvenile salmon in the Sacramento River, especially given the huge cost.

EWC-39

Furthermore, there is no enforcement mechanism mentioned anywhere in the large volume of documents about how any cold water pool reserved for salmon under any alternative would be actually reserved for salmon. USFWS also describes the problem in the FWCAR.[5] The description of CP-4 says quite clearly that CVP operational needs will take priority over the cold water for salmon (page 2-49):

EWC-40

"*The adaptive management plan may include operational changes to the timing and magnitude of releases from Shasta Dam to benefit anadromous fish, as long as there are no conflicts with current operational guidelines or adverse impact on water supply.*"

Reclamation makes no mention about including any terms and conditions in its water permits or Biological Opinions that would require reservation of the additional cold water

EWC-38 CONTD

[4] USFWS Draft FWCAR for SLWRI, pages v -viii.

EWC-40 CONTD

[5] Draft USFWS FWCAR for SLWRE, p vi:
"*Clarify whether and quantify the extent that the cold water pool (378,000 af) in CP4 would be used to augment flows to provide additional benefits for fish and wildlife species. Specify the authority for those augmented flows, and identify if those flows would be at the discretion of the Service, National Oceanic and Atmospheric Association, National Marine Fisheries Service (NOAA Fisheries); and California Department of Fish and Game (CDFG).*"

pool for salmon. It will simply become a larger pool of water for delivery in any water year. There is nothing in the DEIS or any of the planning documents to ensure that October 1 carryover storage in Shasta Lake will be any different than the No Action Alternative.

EWC-40 CONTD

It is clear from past experience that the fisheries benefits and modeling performed for this document will have no basis in reality if the project is built because there is no enforcement mechanism to ensure cold water is actually reserved for salmon. The additional storage would simply be provided to CVP water contractors as additional supply during any given year where additional water is stored. The reservoir would therefore have greater fluctuations during wetter years when additional water can be captured from the Dam enlargement and greater impacts than identified to recreation and other resources.

EWC-41

For instance, if extra water is stored in Shasta Lake from early in the season, but it ends up being a dry year, how would Reclamation ensure that San Joaquin Exchange Contractors and Sacramento River Water Right Contractors with priority water contracts would not obtain the cold water reserved for salmon?

EWC-42

This project is therefore, a sham foisted once again upon the taxpayers of the United States to have them pay for the dam enlargement while the beneficiaries do not pay their share. The allocation of $654.9 million in costs (Feasibility Report Table 5.2) on the public because of supposed fishery benefits is a hoax.

EWC-43

The USFWS has indicated that there are a lot of other projects, costing a lot less that would do much more for salmon survival, for example:

EWC-44

"The restoration of spawning and rearing habitat, improving fish passage, increasing minimum flows, and screening water diversions would likely result in greater increases in anadromous fish survival during the 91 percent of the years when temperature is not a limiting factor as well as address the secondary objective of Ecosystem Restoration." [6]

There is also a distinct possibility that Reclamation will operate an enlarged Shasta Dam to store more water in fall because there would be decreased likelihood of subsequent flood control spills. Reduction of fall flows in the Sacramento River below Keswick Dam would further impact fall run and late fall run Chinook spawning and incubation as well as dewater redds. Modeled operations are not the same as actual operations.

EWC-45

EWC-46

In summary, calling enlargement of Shasta Dam a project to increase Sacramento River salmon is simply a dishonest effort to economically justify the project. The problem is that it cannot be justified based on increasing salmon survival and therefore the overall

EWC-47

[6] USFWS FWCAR SLWRI, p. v

EWC-44 CONTD

EWC-47 CONTD

economic justification for enlarging Shasta Dam is not valid either.

Study Area Should Include Trinity River and Lower Klamath River

EWC-48

The Study area only includes the Trinity River above Lewiston Dam. Because the Trinity and Shasta Divisions of the CVP are integrated, the study area should include the Lower Klamath and Trinity rivers. Operations at Shasta Dam directly and indirectly affect the Trinity and Lower Klamath rivers as well as the Hoopa Valley and Yurok tribes which have federally reserved fishing rights held in trust by the Interior Department. The 2013 Flow Augmentation from Trinity and Lewiston dams into the Lower Klamath River is an example of how the two projects are integrated. In December 2012 and January 2013, Trinity River "spills" were redirected to the Sacramento River in lieu of Shasta Dam releases. An enlarged Shasta Lake may reduce Safety of Dams spills from Lewiston Dam into the Trinity River. Operations at Shasta Dam cannot be separated from Trinity River Division operations and should be fully analyzed.

Alternatives Do Not Meet One Primary Purpose – Salmon Survival

EWC-49

The two primary project objectives are to increase survival of Sacramento River anadromous fish populations and to increase water supply reliability for CVP agricultural, M&I, and environmental purposes, with an emphasis on enlarging Shasta Dam. Increasing survival of salmon by enlarging Shasta Dam is like fitting a square peg into a round hole and is not a reasonable justification for the project.

EWC-50

It is very telling that the National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife and the CVPIA Anadromous Fisheries Restoration Program have identified over a thousand projects to increase salmon survival in the Sacramento River, yet none of those recommendations includes raising Shasta Dam for that purpose. On the other hand, the USFWS and others have suggested a variety of other projects to increase salmon survival, yet few were fully analyzed and incorporated into the various alternatives.

EWC-51

For instance, an alternative to retire drainage problem lands in the San Luis Unit of the CVP was never considered as a viable alternative to increase water supply reliability and improve salmon survival. Retirement of nearly 300,000 acres of drainage problem land in the San Luis Unit was analyzed in Reclamation's 2007 Final Environmental Impact Statement evaluation and Record of Decision for the San Luis Drainage Feature Re-evaluation (SLDFR). The CVP Least Cost Yield Increase Plan[7] identified that land fallowing was a "least cost" method of increasing CVP firm yield that could increase supplies by up to 1.2 million AF. Land fallowing could also be used to increase reservoir

EWC-51 CONTD

[7] See http://www.usbr.gov/mp/cvpia/docs_reports/docs/least_cost_cvp_yield_increase_plan.pdf

cold water storage for salmon.

EWC-51 CONTD

Reducing CVP demand by buying out agricultural lands with drainage problems has long been advocated by the California Environmental Water Caucus in our "California Water Solutions Now" and the "Responsible Exports Plan."[8] The National Economic Development Act analysis contained in the SLDFR Final EIS showed that only through land retirement could net economic benefits be realized for the San Luis Unit.[9] All other alternatives to continue irrigated agriculture were net losses to the United States economy.

EWC-52

According to the USFWS's FWCAR, only one alternative, CP-4, would provide any benefits to Sacramento River salmon. However, Reclamation analyzed four other alternatives; not one actually meets one of two primary project objectives, except to the extent that they provide minor benefits and minimal spending (compared to dam enlargement) on Sacramento River spawning gravel replenishment and other minor habitat enhancements.

Conversely, USFWS provided Reclamation with an extensive list of alternatives to enhance salmon survival and habitat without raising Shasta Dam, most of which were rejected.

EWC-53

USFWS Draft FWCAR (p 22):

> *"The Service believes that Reclamation should evaluate among the SLWRI alternatives the capability of improving flow and temperature conditions for anadromous fish in the Sacramento River between Keswick Dam and RBDD without raising Shasta Dam. This could be accomplished through operational changes at Shasta Dam combined with modifications to the TCD."*

EWC-54

As stated previously, none of the alternatives analyzed would provide actual salmon benefits because there is no enforcement mechanism to ensure that the additional cold water storage would actually be dedicated to salmon. No authority is given to fishery and regulatory agencies to determine use of the cold water pool reserved for salmon. Existing contractual commitments to senior CVP water contractors, including but not limited to Sacramento River Water Rights Contractors and San Joaquin River Exchange Contractors would have a priority over use of the additional storage, regardless of how Reclamation analyzes use of the additional cold water in this DEIS. Pressure would continue for Reclamation to provide increased water allocations to other CVP contractors because of increased available storage.

EWC-51 CONTD

[8] See http://www.ewccalifornia.org/home/index.php

[9] See Appendix N for Final EIS for San Luis Drainage Feature Re-evaluation, Table N-1-, p N-17, accessed at http://www.usbr.gov/mp/nepa/documentShow.cfm?Doc_ID=2240

EWC-55

It is clear that the alternatives analyzed by Reclamation were a series of straw men to make enlargement of Shasta Dam under CP-4 appear cost effective at meeting primary project objectives by using phony benefits to salmon. The real costs fall upon the taxpayers and the salmon will not benefit to any substantial extent. Therefore, Reclamation should select the No Action Alternative as the most cost effective and environmentally preferred alternative.

Impacts Of Reservoir Enlargement On Potential Wild & Scenic Rivers

EWC-56

Enlarging Shasta Reservoir by raising the dam from 6.5 to 18.5 feet will flood public lands managed by the Forest Service encompassing segments of the upper Sacramento, McCloud, and Pit Rivers, Salt Creek, and several small tributary streams triggers several requirements and mandates in the National Wild & Scenic Rivers Act. Although the DEIS attempts to address Wild & Scenic River issues in Chapter 25, it fails to recognize the actual requirements of the Act and the true implications of the reservoir enlargement in regard to previous Forest Service studies and commitments made in the 1994 Shasta-Trinity National Forests Plan. Nor does the DEIS adequately address the impacts of reservoir enlargement and the legal implications of violating the California Public Resources Code.

EWC-57

The National Wild & Scenic Rivers Act requires consideration by all federal agencies of federal Wild & Scenic River protection for the McCloud, upper Sacramento, and Pit Rivers, and other reservoir tributaries as an alternative to the federal proposal to raise the dam and expand the reservoir.

Section 5(d)(1) of the National Wild & Scenic Rivers Act states:

"*In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic, and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic, and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved.*"

This section of federal law clearly requires the Bureau of Reclamation to go beyond the simple reporting of past state and federal considerations of Wild & Scenic protection for the river segments affected by the SLWRI. It specifically requires consideration of Wild & Scenic protection in the context of and as an alternative to the proposed dam raise and reservoir enlargement, not only for the McCloud, but also for the upper Sacramento and Pit Rivers, and all other streams on public lands tributary to Shasta Reservoir. No such

EWC-57 CONTD

comprehensive assessment of Wild & Scenic Rivers is provided in the DEIS.

EWC-58

The Bureau should work with the Forest Service to include in a revised DEIS a comprehensive assessment specifically addressing the impacts of the dam raise and reservoir enlargement on the free flowing character and outstanding values of all rivers and streams tributary to the reservoir and include a range of alternatives that proposes Wild & Scenic protection with and without various reservoir enlargement alternatives.

For example, the Forest Service in the 1994 Shasta-Trinity National Forests Draft Plan found the upper Sacramento River from Box Canyon Dam to the Whiskeytown-Shasta-Trinity National Recreation Area to be eligible for federal protection, but the agency did not recommend it because of land ownership patterns along the river. But the river was also not actively threatened by reservoir expansion at that time. The Wild & Scenic Rivers Act requires the Forest Service and the Bureau to revisit potential Wild & Scenic protection of the upper Sacramento River in the context of the project outlined in the revised DEIS, as well as for other rivers and streams that may be affected by reservoir expansion.

EWC-59

The Bureau of Reclamation has previously recognized the clear mandate of the National Wild & Scenic Rivers Act to consider and evaluate potential Wild & Scenic Rivers as potential alternative uses to water and related land resources in the planning for water development. As part of its planning and study of the Auburn Dam project on the North and Middle Forks of the American River, the Bureau convened a multi-agency interdisciplinary team that determined segments of the river that would be flooded by the dam proposal to be eligible for Wild & Scenic protection in 1993 (letter dated March 17, 1993 from Susan E. Hoffman, Division of Planning and Technical Services Chief, U.S. Bureau of Reclamation Mid-Pacific Region). The study to determine if the eligible segments were suitable for designation was scheduled for Phase II and III of the American River Water Resources Investigation. This part of the study was never completed because soon after the eligibility finding, Congress rejected authorization of the Auburn Dam project.

The National Wild & Scenic Rivers Act requires consideration of federal Wild & Scenic River protection for the segments of the lower Sacramento River with significant federal lands downstream of Shasta Dam as an alternative to the federal proposal to raise the dam and expand the reservoir.

EWC-60

The lower Sacramento River between Anderson and Colusa has several segments with substantial federal public lands managed by the Bureau of Land Management (the Sacramento River Bend Area) and the U.S. Fish and Wildlife service (USFWS). Because the Shasta Dam raise and reservoir expansion will significantly modify flows through these segments and the DEIS notes that flow modification from the dam raise may have potentially significant impacts on the river's riparian and aquatic ecosystems and fish and

15

EWC-60 CONTD

wildlife, the project triggers the section 5(d)(1) requirement that the federal segments of the lower river be studied and considered for potential federal protection as an alternative to the proposed water resources project. It should be noted that the BLM has already determined a 20-mile segment of the Sacramento River between Balls Ferry and Red Bluff to be eligible for federal protection. The revised DEIS should include Wild & Scenic studies of all the federal segments of the lower river.

EWC-61

The DEIS admits that all alternatives to raise the Shasta Dam and expand its reservoir will adversely affect the McCloud River's eligibility as a National Wild & Scenic River and will specifically harm the river's free flowing character, water quality, and outstandingly remarkable values.

In Chapter 25, the DEIS documents that raising Shasta Day by 6.5-18.5 feet will flood from 1,470 feet to 3,550 feet of the segment of the McCloud River eligible for National Wild & Scenic River protection. The DEIS also admits that this flooding will adversely affect the McCloud's free flowing character, water quality, and outstandingly remarkable Native American cultural, wild trout fishery, and scenic values.

EWC-62

The Environmental Water Caucus believes that even more of the eligible segment of the McCloud River will be harmed by all of the dam raise alternatives because the Bureau incorrectly identifies elevation 1,070 feet as the terminus of the McCloud segment identified by the Forest Service. In fact, the terminus of the eligible McCloud segment is simply defined by the Forest Service as "Shasta Lake". (LRMP FEIS, Appendix pgs. E-4, E-13) The Forest Service's map depicting the eligible segment of the McCloud shows that eligible segment ends at the McCloud River Bridge (FEIS Appendix E pg. 3-36). There is no mention of elevation 1,070 as the terminus of the eligible segment nor is there any reference in the LRMP to the McCloud's so called "transition reach". Hence, the impact of the dam raise and reservoir expansion is larger than documented in the DEIS.

EWC-63

Flooding the McCloud River violates the 1995 Shasta-Trinity National Forests Land and Resource Management Plan and Record of Decision in regard to protecting the McCloud River's eligibility as a potential National Wild & Scenic River.

The Forest Service recommended Wild & Scenic River protection for the McCloud River in its 1990 draft of the Shasta-Trinity National Forests Land and Resource Management Plan (LRMP). In response to concerns of river-side landowners, the Forest Service chose to pursue protection of the McCloud River's free flowing character and outstandingly remarkable values through a Coordinated Resource Management Plan (CRMP) developed by the Forest Service and other federal and state agencies and the riverside landowners. This decision is reflected in the 1995 final Shasta-Trinity National Forests LRMP and Record of Decision (ROD), which states:

"A Coordinated Resource Management Plan (CRMP) has been adopted for long

term management of the Lower and Upper McCloud River and Squaw Valley Creek. This agreement is between private land owners, the Forest Service, Pacific Gas & Electric, Nature Conservancy, CalTrout, and the DFG. This plan will effectively maintain the outstandingly remarkable values of this potential wild and scenic river. If for any reason the terms of the CRMP are not followed and the wild and scenic river eligibility is threatened, the Forest Service will recommend these segments for Federal Wild and Scenic designation." (1995 Final LRMP, page 3-23)

EWC-63 CONTD

"*If, after a period of good faith effort at implementation, the CRMP fails to protect the values which render the river suitable for designation then the Forest Service will consider recommendation to the national Wild and Scenic River System.*" (1995 ROD page 17)

EWC-64

The DEIS admits that raising the dam will periodically flood 1,470 feet of the eligible segment of the McCloud River, which would make the flooded segment ineligible for federal Wild & Scenic protection. (DEIS pg. 25-26) The EWC and its members believe that more of the eligible river would be flooded (see discussion below about the actual terminus of the eligible McCloud). Regardless, it is clear that the Bureau's proposal to raise Shasta Dam and expand its reservoir directly violates the intent of the CRMP and constitutes failure of the CRMP, and it also violates the protective management proposed in the LRMP. Therefore, the Forest Service is bound by its own ROD to consider and recommend federal protection for the river. This requirement is not reflected in the DEIS and it should be included in the revised DEIS.

EWC-65

EWC-66

The Bureau is misleading the public when it claims that raising the dam and expanding the reservoir will not conflict with the Shasta-Trinity National Forests LRMP because the portion of the McCloud that would be flooded is private land and not National Forest land. The Forest Service has the authority to study and recommend the river within its reservation boundary, as it did so in the 1990 draft LRMP. It has the authority to determine that expanding the reservoir and flooding an eligible segment of the McCloud reflect a de-facto failure of the CRMP and therefore triggers Forest Service reconsideration of its Wild & Scenic River recommendation for the McCloud. This important protection is a fundamental component of the LRMP, which means that the Bureau's proposal violates the LRMP.

EWC-67

All dam raise/reservoir enlargement alternatives violate the California Public Resources Code 5093.542 prohibiting the construction of a reservoir that would harm the McCloud's free flowing condition and extraordinary wild trout fishery upstream of the McCloud River Bridge.

In 1989, the California Legislature passed and the Governor signed legislation declaring that the McCloud River possesses extraordinary resources, including one the of the finest

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wild trout fisheries in the state, and that continued management of river resources in their existing natural condition represents the best way to protect the unique fishery of the McCloud, and that maintaining the McCloud in its free-flowing condition to protect its fishery is the highest and most beneficial use of the waters of the river.

EWC-67 CONTD

The legislation specifically prohibited any dam, reservoir, diversion, or other water impoundment on the McCloud River upstream of the McCloud River Bridge. It also prohibited any state agency cooperation, participation, or support for any dam, reservoir, diversion, or other water impoundment facility that could have an adverse effect on the free flowing condition of the McCloud River or on its wild trout fishery. These prohibitions and conditions are now memorialized in the California Public Resources Code (PRC) 5093.542.

EWC-68

The DEIS admits that all dam raise alternatives will have a significant unmitigated impact on the McCloud's free flowing condition and will have a potentially significant impact on the river's wild trout fishery (DEIS pg. 25-40). The DEIS suggests that the wild trout fishery impacts could be mitigated to less than significant levels but these mitigations remain to be determined.

EWC-69

Regardless, all the dam alternatives in the DEIS clearly violate state law. This has been recognized by the California Legislature and the Governor, which passed and signed water bond legislation prohibiting use of the bond funds to raise Shasta Dam.

SLWRI Environmental Justice, And American Indian Cultural Resources

EWC-70

We sing to the water. We sing to the fish.
We have done so since life began.
Pay attention to our ways.
You might just learn how
to save yourselves
from yours.

– Chief Caleen Sisk, Winnemem Wintu

EWC-71

The rights and interests of low-income communities, people of color communities, and Native American tribes, at times all one-in-the-same, must not be sacrificed wholesale at the mantle of corporate profit and unsustainable practices.

EWC-72

Environmental justice began as an idea, a reaction to a pattern of placing environmental burdens and negative land uses disproportionately in low-income, people of color communities that, through an era of formal racial apartheid, had been set up as sacrifice zones to be used for whatever purpose was most expedient to those who wielded greater power in the political system. Environmental justice became a social movement – a

movement of, for, and by the People – to challenge the status quo and assert the rights of all communities to a clean and healthy environment and self-determination. Notwithstanding that the finest principles to be born out of the Environmental Justice movement have not been wholly incorporated into the rule of law, using the regulatory framework that does exist, the DEIS rightly identifies a host of impacts to low-income, people of color communities, most especially Native American communities, for which there is no mitigating. (See Table 24-2 at 24-29.)

EWC-72 CONTD

Environmental justice dictates the right of every person to live, work, and play in a safe, healthy, and sustainable environment. Environmental justice demands that low-income, people of color and tribal communities participate as equal players in decisions that affect their local environment and health

However, in the context of Native American communities, most especially the Winnemem Wintu tribe, the concept of environmental justice is not wholly adequate to capture the insidious character of the loss that raising the Shasta Dam, in any of its proposed manifestations, would impose.(See 14-11: 6-14 [acknowledging the potential, permanent loss of at least an estimated 155 village sites ancestral to the Winnemem Wintu].) What is proposed here is something much deeper and we must call it out for what it is, for it harkens back to one of the most odious episodes in our Nation's history, marked by Native American dispossession and genocide as European settlers made their way Westward, often accompanied, if not preceded, by the U.S. military.

EWC-73

EWC-74

The Winnemem Wintu

The Winnemem Wintu Tribe is an historic, non-gaming Native California Tribe. The Winnemem Wintu's traditional territory includes the east side of the upper Sacramento River watershed, the McCloud River and Squaw Creek watersheds, and approximately 20 miles of the Pit River from the confluence of the McCloud River, Squaw Creek and Pit River up to Big Bend. Salmon, which have been eliminated upstream of the Shasta Dam since its construction, are an essential component of Winnemem Wintu culture and, once a staple food, remain an important source of protein, when accessible. Although 90 percent of the Winnemem Wintu's traditional lands are now submerged under the McCloud Reservoir and Shasta Reservoir, and salmon no longer breed upstream of Shasta Dam, the Winnemem Wintu Tribe have continuously maintained their spiritual, cultural, and traditional connection to their remaining accessible traditional tribal lands and waters.

EWC-75

In the years following statehood for California, the Winnemem Wintu lands were appropriated for resource exploitation. The Winnemem Wintu people omitted as a Federal recognition tribe, lack the economic infrastructure to address the extreme poverty that affects many of their members, and live with high unemployment, inadequate access to education and health care, and a host of other social problems. The ability of the

EWC-76

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EWC-76 CONTD

Winnemem Wintu Tribe to maintain cultural distinctiveness and cohesion is impacted adversely by their lack of access to tribal territory and lack of Federal recognition and would be impacted further still by losing access to their ceremonial grounds and sacred pools.

EWC-77

In 1851, the federal government and representatives from the Winnemem Wintu Tribe and other California Indian tribes signed the Treaty at Cottonwood Creek, ceding vast tribal lands to the federal government in exchange for reservation land, food, and clothing. Though this treaty was never ratified by the United States Senate, the federal government considered the land ceded, and began granting land, mineral, and resource rights to private parties in the Winnemem Wintu's historical homeland with no compensation to the Winnemem Wintu. Eventually, some of the Winnemem Wintu received Indian allotments that allowed them to remain on the McCloud River and other traditional sites. However, the majority of habitable allotments were flooded when Reclamation constructed Shasta Dam.

EWC-78

In 1941, Congress passed 55 Stat. 612, which gave the United States the right to take title to all tribal lands needed for the Central Valley Project and related infrastructure. The Act also promised that the Indians would be paid "just and equitable compensation" for the land taken, and that the sites of any "relocated cemeteries shall be held in trust by the United States for the appropriate tribe, or family." 55 Stat. 612 §§ 2, 4.

EWC-79

The Winnemem Wintu people were never provided "just and equitable compensation" for the United States government's massive appropriation of land for Shasta Reservoir. Even the Winnemem Wintu's sacred gravesites were violated. Reclamation moved approximately 183 Winnemem Wintu graves within a short two months from the impact area of the Shasta Dam to a new site, styled the "Shasta Reservoir Indian Cemetery," and violated 55 Stat. 612 by failing to hold this site in trust for the Winnemem Wintu. Since the Winnemem Wintu were never compensated for their land allotments that were taken by the government and flooded by the Shasta Dam, the Winnemem Wintu still own that land. Reclamation cannot proceed with any plans that would enlarge the Shasta reservoir without first settling the ownership of the land already flooded.

EWC-80

Due in large part to Reclamation's repeated violation of 55 Stat. 612, the Department of the Interior failed to include the Winnemem Wintu when the Department published its list of "federally recognized" tribes in 1978. In 2008, the California Legislature passed Assembly Joint Resolution 39, which urges Congress to restore federal recognition to the Winnemem Wintu, but Congress has failed to act on this request. Adding insult to injury, Reclamation cited the Winnemem Wintu's lack of federal recognition as a tribe to justify Reclamation's exclusion of the Winnemem Wintu from Reclamation's decision-making process, notwithstanding that Reclamation's proposal to raise Shasta Dam would have a disproportionate and devastating effect on the Winnemem Wintu, again.

EWC-81 The federal government's repeated uncompensated takings of Winnemem Wintu lands and destruction of their primary staple – the McCloud River's salmon – coupled with its unconscionable efforts to stymie the participation in the decision making process, demonstrates this injustice.

EWC-82 For the Winnemem Wintu, the raising of Shasta Dam is not just an intellectual issue of water allocation that affects farmers in the Valley or housing development in the South. Nor is it simply the power struggle between private development and public agencies charged with protecting public trust resources including fish, wildlife, and recreation. Instead, the raising of Shasta Dam is a threat to the very existence of the Winnemem Wintu Tribe and the ability to bring back the salmon and a way of life that the Creator gave to the Tribe. The Winnemem Wintu's efforts are about preserving a beautiful natural world, with abundant salmon, clean water, and ecologically healthy and diverse forests, that has been and continues to be flooded, logged, cut up by roads, mined, subdivided, sold, and destroyed acre by precious acre.

EWC-83 The raising of Shasta Dam would, again, bring great harm to the World as the Winnemem Wintu know it. The DEIS fails to assess and acknowledge the full scope of the devastating and irreparable impacts this Project would have on the Winnemem Wintu Tribe.

Indigenous Peoples' Rights Demand An End To The Shasta Lake Dam Raise

The United Nations' Declaration on the Rights of Indigenous Peoples (Declaration) recognizes and affirms the rights of indigenous peoples to their cultural, religious, and spiritual practices, to have private access to sacred sites (Arts. 12(1), 11(1)), as well as to maintain and strengthen their spiritual relationship with their traditionally held lands, territories, waters and coastal seas and other resources (Art. 25). With the Declaration, Native peoples have rights acknowledged by the international community of nations, including rights to sacred places both within existing reservation or territorial boundaries and beyond.

EWC-84 The United Nations Declaration on the Rights of Indigenous Peoples ("Declaration of Indigenous Rights") affirms that indigenous communities have the right to participate in the development or use of their traditional territories and resources.[10] Although the Declaration of Indigenous Rights is not binding on Reclamation, since it was nearly unanimously endorsed, it represents customary international law. It mandates that Reclamation and other government agencies cooperate in good faith with the Winnemem

[10]*See generally* U.N. Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, art. 3, U.N. GAOR, 61st Sess., 107th plen. mtg., U.N. Doc. A/RES/61/295 (Sept. 13, 2007). Although the United States voted no, all but four of the U.N. member states voted in 2007 to support the Declaration of Indigenous Rights. In 2010, the State Department announced "support" for the Declaration of Indigenous Rights, but that support was qualified, as the United States proposed a different definition of "free, prior informed consent" than that laid out in the Declaration. *See* Announcement of U.S. Support for the United Nations Declaration of the Rights of Indigenous Peoples, *available at* http://www.state.gov/documents/organization/153223.pdf

EWC-84 CONTD

Wintu and other First Peoples. The Declaration further states that all indigenous peoples have a right to self-determination (art. 3), a right to their lands and natural resources (art. 26), a right to the conservation and protection of their environment (art. 29), and the right to maintain, develop, and participate in decisions regarding development on their lands (arts. 20, 23). It also mandates that countries obtain the "free and informed consent" of indigenous communities prior to approving any project that will affect that community's territory or resources. (See Declaration of Indigenous Rights, art. 32.) Reclamation should consider these factors and abide by these principles in its decision making process.

Impacts To Irreplaceable Cultural Resources Should Prevent Any Proposal To Raise Shasta Dam

EWC-85

Were the Shasta Dam raised to any of the heights currently under consideration, such a move would submerge the historic and present-day cultural and ceremonial land of the Winnemem Wintu Tribe. This would be yet another manifestation of discrimination against the Winnemem Wintu people; it would further displace the Winnemem Wintu people and place still more and, possibly, insurmountable obstacles in the way of the Winnemem Wintu people's spiritual and cultural practices, and, properly characterized, would be part and parcel of the cultural genocide perpetrated against the California Tribal population that claims the area now inundated by Shasta Lake as a result of the construction of Shasta Dam, of which the Winnemem Wintu people are part.

EWC-86

The Winnemem Wintu *must* have continued access to their historic communal sites for cultural and spiritual practices because their culture is inextricably tied to the land and waters; sites cannot simply be moved or replaced.[11] What is considered "abiotic" by the Western world is deeply and vibrantly alive for the Winnemem Wintu. Over many millennia, community members have developed intimate relationships with particular stones, mountains, meadows, and pools along the McCloud River that hold benevolent healing spirits.

EWC-87

Although 90 percent of the Winnemem Wintu's traditional lands are now submerged under Shasta Lake Reservoir, the Winnemem Wintu have continuously maintained their spiritual and cultural connections to their remaining unsubmerged lands. Ceremonial, medicinal and social activities linked to specific Winnemem Wintu sacred sites include the blessing and healing of sexually and physically abused women, training and initiation of traditional medicine people, the SudiSawal traditional hydrotherapy purification ceremony, the Blessing of the Hands ceremony, introduction of children to the spiritual worlds at Children's Rock, traditional place-specific baptism of Winnemem babies, traditional marriage ceremonies, fasting rituals, the Coming of Age ceremony for young women, the initiation rites for young men, the blessing of the acorn caps for young

EWC-86 CONTD

[11]Declaration of Indigenous Rights art. 25 recognizes the right of indigenous peoples "to maintain and strengthen their distinctive spiritual relationship" with their traditional territories.

EWC-87 CONTD

women, the traditional Spring Dekas ceremony, the ceremonial burial of babies' placentas and of hair during times of mourning, the traditional practice of gathering medicinal teas, foods and cooking materials at places of great sentiment and long-standing tradition, pilgrimages to sacred prayer rocks, the transmission of Coyote Stories from generation to generation and the visitation of ancestral dwelling places, burial grounds and massacre sites. These cultural practices form the foundation of the Winnemem Wintu's identity as a distinct people, and are anchored to the earth in specific places that will be affected by the proposed dam enlargement.

EWC-88

The DEIS mentions potential impacts to cultural resources, but Reclamation does not actually place much importance on protecting the Winnemem Wintu culture. Reclamation seems to think that the disproportionate adverse effects the dam raise would have on the Winnemem Wintu and their cultural resources are justified by benefits that will accrue *elsewhere*. This contemplated sacrifice of the Winnemem's culture for the benefits claimed for others is shocking in its disdain for the Winnemem Wintu community. The Reclamation fails to acknowledge that there is nowhere else in the world where Winnemem Wintu can learn to be Winnemem Wintu. The Winnemem Wintu have a right to sustainable traditional food sources and a right to practice their culture in their traditional territory. Reclamation must rectify its failure to address the

EWC-89

potential destruction of most of the Winnemem Wintu's remaining cultural sites by evaluating alternatives and mitigation measures that would prevent such losses, not one of which is identified in the DEIS.

What BOR is doing by ignoring the Winnemem Wintu's concerns and destruction of culture is the very definition of cultural genocide and environmental injustice.

EWC-90

Conclusion for SLWRI Environmental Justice, And American Indian Cultural Resources

In summary, raising the Shasta Dam is unconscionable because doing so would render the indigenous Winnemem Wintu tribes' sacred ceremonial land inaccessible, thereby, furthering the cultural genocide proscribed by international legal norms and our modern-day sense of what is moral and just and right.

Rare and Endangered Species

EWC-91

The No Action Alternative is the only alternative that protects existing habitat for a larger variety of rare, endemic, threatened, and endangered species. All of the action alternatives will cause significant impact to the limited remaining habitat for rare, threatened, endangered, and endemic species and their habitats.

For instance, the endemic Shasta Salamander, a California threatened species and an USFS sensitive and Survey and Manage species, only breeds in limestone caves, some of which will be within the inundation zone.

The Shasta Snow-Wreath, an endemic species that only has 21 occurrences, will lose 9 sites within the new inundation zone (43% of known occurrences). No amount of mitigation can make up for that lost habitat that exists only in that place on this planet Earth.

EWC-91 CONTD

The USFWS' FWCAR, (p. 176) summed it up succinctly as follows:

"The SLWRI would inundate the limited habitat of 8 rare species (e.g., Shasta snow-wreath, Shasta salamander, Shasta sideband snail, Wintu sideband snail, Shasta chaparral snail, Shasta hesperian snail, Shasta huckleberry, and western purple martin) 7 of which are endemic to the vicinity of Shasta Lake. Additional habitat would be disturbed by the relocation of campgrounds, roads, bridges, and facilities beyond the Inundation Zone. Thus, the raising of Shasta Dam and implementation of the SLWRI would result in the loss, degradation, and fragmentation of habitat and as a result, may require further evaluation by the Service of the factors threatening these 8 species pursuant to section 4 of the ESA. Additionally, the reduction in winter flows with the raising of Shasta Dam would result in adverse effects to riparian habitat along the Sacramento River and to sensitive aquatic species in the Delta."

Acid Mine Drainage/Water Quality

In addition to destroying limited remaining habitat for a number of species including California Fully Protected Species such as ringtail and rough sculpin, the inundation zone includes acid mine tailings with toxic levels of metals (zinc, cadmium, copper and lead) and other contaminants that will further expose remaining sensitive populations and water supplies to pollution.

EWC-92

USFWS FWCAR (p. 25):

"The raising of Shasta Dam could further exacerbate loading of acid mine drainage into Shasta Lake by inundating or elevating the water table near other abandoned mines and mine tailings. The inundation could increase the rate of loading of copper, cadmium, zinc, and mercury into the water column. During a site visit at Shasta Lake, acid mine drainage with a pH of 2 was observed near the Bully Hill Mine within the Inundation Zone of the SLWRI (P. Uncapher, NSR, pers. comm. 2007). Further loading of acid mine drainage and mercury into Shasta Lake would result in greater increases in toxic cadmium, copper, zinc, and mercury in fish and invertebrates in the lake. These toxic elements would then bioaccumulate within sensitive wildlife raptor species such as the

bald eagle and osprey that prey on fish in Shasta Lake. Shasta Lake has the highest concentration of breeding bald eagles in California and should be protected from the adverse affects of acid mine drainage."

EWC-92 CONTD

"The increased loading of cadmium, copper, zinc, and mercury in Shasta Lake could then be transferred downstream through Keswick Dam and into the only known spawning habitat for the endangered winter-run Chinook salmon (Moyle 2002). Of even greater concern is the potential effect that raising Shasta Dam could have on the ability of Keswick Reservoir to dilute acid mine drainage and mercury from the Iron Mountain Mine Superfund site (D. Welsh, Service, pers. comm. 2007). The dilution of acid mine drainage in Keswick Reservoir is essential to preserving vitally important spawning habitat downstream from Keswick Dam. Changes in the operation of Shasta Dam and Keswick Dam in the SLWRI could result in the release of cadmium, copper, zinc, and mercury from sediments in Keswick Reservoir into the water column and the transport of these toxic elements downstream into the Sacramento River (Finlayson et al. 2000; D. Welsh, Service, pers. comm. 2007). Increased levels of these toxic elements in the Sacramento River would be transported downstream into the Southern California water supply and into the Delta which is already impaired by high concentrations of mercury and other toxic heavy metals."

EWC-93

Considering that the benefits to the environment from enlarging Shasta Dam are weak at best, destruction of additional habitat for endemic, rare, threatened, and endangered species and degradation of water quality with toxic metals is not justified. Reclamation should select the No Action Alternative.

Central Valley Project Repayment

EWC-94

The economic justification for this project is based on unrealistic repayment assumptions, especially for CVP agricultural service contractors such as the Westlands Water District, which holds one of the largest single CVP water contracts. A recent Interior Department Inspector General Report found that under current repayment contractual terms, Westlands and other CVP agricultural service contractors would never pay off their debt for construction of the CVP.[12]

"We found that USBR's water rate setting policies do not ensure that an appropriate share of capital costs and prior-year funding deficits are repaid annually. Water deliveries to the CVP contractors have been highly variable from year to year. When

[12] Central Valley Project, California: Repayment Status and Payoff, Report No.: WR-EV-BOR-0003-2012. U.S. Department of Interior Inspector General, March 2013. http://www.doi.gov/oig/reports/upload/WR-EV-BOR-0003-2012Public.pdf

EWC-94 CONTD

actual water deliveries are less than projected deliveries, revenues are insufficient to recover the Federal investment in the project. When actual water deliveries exceed projected deliveries, however, existing contract provisions stipulate that excess revenues collected by USBR must be refunded to the contractors. As a result, USBR has not demonstrated steady progress toward recovery of Federal investments in the CVP."

EWC-95

The assumptions and conclusions that CVP agricultural service contractors will pay off their share of enlarging Shasta Dam is but one more fiction in this economically infeasible project. Increasing the debt of CVP water contractors to pay for a portion of this project is putting good money after bad- it will never be repaid.

EWC-96

The No Action Alternative will involve the smallest cost to society and should be selected as the Environmentally Preferred Alternative.

Presently, CVP water contractors lag on repaying the costs of existing CVP facilities, according to a March 2013 review by the US Department of the Interior, Office of Inspector General (IG).[13] The IG found:

- The current rate-setting process contributes to repayment uncertainty.[14]
- Contract provisions limit repayment of project costs.[15]
- By 2030, when CVP capital facilities are required by Congress to be paid off, repayment could be short by between $330 million to $390 million.[16]
- Municipal and industrial contractors face an annual operating and maintenance deficit of about $55 million annually by 2030 as well.[17]

EWC-97

- Power customers "will pay any costs above the irrigation contractors' ability to pay," meaning that when irrigation revenues fail to cover costs (such as when actual deliveries are less than projected deliveries), revenues from power sales within the CVP are used to reduce or eliminate those deficits.[18]

Table 1 summarizes the change in status of San Joaquin Valley water contractors repaying their allocated share of project costs. A 2008 study for the Delta Vision Blue Ribbon Task Force found that nearly $1.3 billion is owed by CVP contractors for the capital facilities

[12]Ibid.

[14]DOI, CVP Repayment Status, p. 4.

13

[16]Ibid., p. 5.

[17]Ibid., pp. 6-7.

[18]Ibid., p. 7

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of the project. Of this amount, San Joaquin Valley and Sacramento contractors have together repaid about 21.5 percent of this cost.

Table 1
San Joaquin Valley Central Valley Project Repayment
Change in Status
2008 to 2013 ($Millions)

Year	Allocated Capital Cost to Repay	Repayments as of 9/30/2006 and 9/30/2011	Cumulative Capital Relief	Net Capital Costs (i.e., remaining to be repaid)	Percent of Costs Repaid
(columns)	A	B	C	D = (A - B - C)	E = (B/A * 100)
Irrigation Contractor Totals					
2008	$955	$185	$1	$769	19.4%
2013	$1,004	$485	$2	$518	48.3%
Municipal & Industrial Contractor Totals					
2008	$38	$10	$0	$28	26.3%
2013	$92	$63	$0	$30	67.7%
San Joaquin Valley Totals					
2008	$993	$195	$1	$797	19.6%
2013	$1,096	$547	$2	$548	49.9%
Grand Totals, CVP					
2008	$1,285	$277	$33	$975	21.5%
2013	$1,323	$602	$47	$674	48.3%

Sources: Entrix, Inc., *Overview on Central Valley Project Financing, Cost Allocation, and Repayment Issues*, provided to the Delta Vision Blue Ribbon Task Force, September 18, 2008, Table 4, p. 17. Accessible online 15 July 2013 at http://deltavision.ca.gov/ConsultantReports/CVP_Financing_and_Repayment_Summary_9-18-08.pdf; US Department of Interior, Bureau of Reclamation, Mid-Pacific Region Office, "Schedule of Construction Costs Allocation by Contractor," Schedule A-2Bb, December 2012.

EWC-97
CONTD

Table 1 reveals a shifting picture of CVP cost repayment by the contractors. Just five years ago, San Joaquin Valley irrigation contractors had repaid just 19.4 percent of their allocated costs of $955 million, but within five years, Bureau accounting records indicate that collectively they have now repaid nearly half of their project costs (48.3 percent)

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even though their allocated capital costs rose to just over $1 billion. The surge in repayments was led by Friant-Kern and Madera Canal-area contractors, neither of who would benefit directly from Shasta Dam raise supplies.

By contrast, CVP irrigation contractors on the west side of the San Joaquin Valley continue to lag on repayment of their allocated CVP costs. The irrigators of the Delta-Mendota Canal and Pool units, the San Luis unit (both Fresno and Tracy), and the Cross Valley Canal in Kern County all have repaid less than 27 percent of allocated project costs, though facilities like the Delta Mendota Canal and the San Luis Canal have existed since the 1950s and 1960s. This appears to be the case despite the fact that irrigation contractors with these CVP units by law pay no interest on their contracts (while municipal and industrial contractors do).

EWC-97 CONTD

Along the San Luis Canal where Westlands Water District is the primary irrigation contractor, just 22.7 percent of the nearly $460 million in allocated capital costs for the Canal unit have been repaid, leaving about 77 percent that must be repaid by 2030 under congressional repayment requirements, now just 18 years away. This amounts to about $355 million, or about $20 million per year between now and 2030.

Mitigation

Under the National Environmental Policy Act, mitigation is required to be identified, but it is not required to be implemented. For instance the Trinity River Mainstem Fishery Restoration EIS/EIR and Record of Decision (Interior 2000) identified that increased drawdown of Trinity Lake would require mitigation in the form of extended boat ramps. However, despite the best efforts of Trinity Lake recreational users and residents, no boat ramps have ever been extended, nor are there plans to implement any such projects. Mitigation from Reclamation is a hollow promise.

EWC-98

Therefore, another part of this project is phantom mitigation- impacts that are identified and promises to mitigate those impacts are the same as the promises made to the Winnemem Wintu for federal recognition and compensation for loss of land below the existing inundation zone.

EWC-99

Recreation

All of the alternatives involve relocation of key recreational facilities. In the case of CP-4, it will involve modifying or replacing 9 marinas, 6 public boat ramps, 6 resorts, 328 campsites/day-use sites/RV sites, 2 USFS facilities, 11.6 miles of trail, and 2

EWC-100

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EWC-100 CONTD

trailheads.

EWC-101

The DEIS concludes that by relocating those facilities, impacts will be insignificant. However, the conclusion is based on an assumption that the annual fluctuation in the reservoir will remain the same, with higher minimum and maximum levels, on average.

EWC-102

The assumption of a similar drawdown rate cannot be supported because there is no mechanism to ensure that water reserved in the reservoir for salmon or other purposes will remain there. Existing contractual commitments to senior CVP water contractors, including but not limited to Sacramento River Water Rights Contractors and San Joaquin River Exchange Contractors would have a priority over use of the additional storage, regardless of how Reclamation analyzes use of the additional cold water in this DEIS.

EWC-103

Pressure would continue for Reclamation to provide increased water allocations to other CVP contractors because of increased available storage.

EWC-104

Therefore, the relocation of a significant portion of Shasta Lake's recreational facilities to higher ground will cause significant impacts because of increased fluctuation in reservoir levels.

EWC-105

Additionally, the disruption from relocation of numerous key facilities and the period during construction and transition will result in decreased visitor days and decreased recreational benefits that could last for years.

EWC-106

Reclamation should select the No Action Alternative as the most cost effective and least damaging to recreation. There are no recreational benefits from enlarging Shasta Dam.

Shasta/BDCP Operations

EWC-107

The Shasta Dam Draft EIS fails to provide any analysis of the proposed project's relationship to the Delta Tunnels project. While the Draft EIS, in Chapter 3, Table 3-1, lists the Bay Delta Conservation Plan as one of many "qualitative assessment actions related to water/natural resource management and restoration" in its cumulative impacts analysis, the Delta Tunnels project should be analyzed as part of the "quantitative" projects in the list. For one thing, the Bay Delta Conservation Plan (BDCP) process has invested in countless modeling exercises that look at many quantitative variables. BDCP's Conservation Measure 1 also contains quantitative water quality and flow parameters for modeling its performance under a wide variety of circumstances.

EWC-108

This omission is crucial, because together the Shasta Raise project along with the Delta Tunnels project explains the main purpose and need for the Shasta Raise project. Together, their most important impacts may be on the Delta and on the effort to improve water supply reliability of the Central Valley Project and the State Water Project.

EWC-109

The Delta Tunnels project would have three 3,000 cfs intakes along the Sacramento River in the north Delta between the communities of Courtland and Hood that would deliver better-quality (lower salinity) Sacramento River into two 40 foot-diameter tunnels that would extend 35 miles directly to the Banks Pumping Plant where these flows would be lifted into the California Aqueduct, or via intertie (or via Joint Point of Diversion operations) to the Delta Mendota Canal for south of Delta delivery. In short, the Delta Tunnels project would add a new point of diversion in the Delta to the State Water Project's Banks Pumping Plant. BDCP documents make clear that the Delta Tunnels project would be owned and operated as part of the State Water Project. When there is capacity in the Tunnels, however, BDCP documents state DWR's intention that the Bureau could have DWR "wheel" water deliveries to its CVP contractors through the Tunnels.

EWC-110

The Hydrology, Hydraulics, and Water Management chapter makes no mention of this possibility. The Bureau should clearly analyze in this Draft EIS the "hydraulics" and "water management" impacts of the interrelationship of the Shasta Dam Raise and the Delta Tunnels projects. Shasta Dam operations govern a majority of the flows that occur in the Sacramento River Basin (along with Oroville and Folsom dams); the Delta Tunnels would divert water from the Sacramento for export.

EWC-111

If the Bureau intends to avoid incorporating the Delta Tunnels project from its cumulative impact analysis for improved salmon performance and water supply reliability, then the agency should state its reasons for omitting such a logical and timely analysis.

California Environmental Quality Act Jurisdiction

Our organizations recognize that the Draft EIS states that "This document has been prepared in accordance with the California Environmental Quality (CEQA) and could be used by State of California (State) permitting agencies that would be involved in reviewing and approving the project."

EWC-112

The DEIS mentions in Chapter 2 and in other "subject" chapters how NEPA requirements differ from CEQA requirements when it comes to the comparative baseline, and even incorporates both "existing conditions" as 2005 conditions into some aspects of the analysis, even though NEPA only requires a No Action (Project) Alternative. The impact analyses of each chapter in the DEIS however treat only the No Action Alternative. At best, this is confusing.

EWC-113

Why has the Bureau of Reclamation chosen not to make this Draft EIS also a formal Draft Environmental Impact Report under the California Environmental Quality Act? In the interests of full disclosure, we believe a clear explanation of the Bureau's reasoning on this point is warranted.

EWC-114

The California Environmental Water Caucus (EWC) appreciates that the Bureau makes the effort to prepare the document as though it is an EIR, and that the Bureau believes the document could be used by state permitting agencies that must review and approve the project, such as the State Water Resources Control Board. Our organizations are skeptical that the document will adequately fulfill the Board's needs for information, especially as it pertains to the Bureau's Shasta Dam water rights permits.

Hydrology, Hydraulics, and Water Management

EWC-115

The Bureau concludes in this chapter that the five comprehensive plans and the No Action Alternative would have either no impact, impacts that are less than significant, or even beneficial.

EWC-116

However, this chapter fails utterly to disclose:

- It is largely San Joaquin River flows that are exported at the South Delta pumps; it is questionable that Shasta flows are used for export.

EWC-117

- The Bureau of Reclamation's Shasta Dam water rights permits are part of overall Central Valley Project time extension requests that the State Water Board will consider as part of
- Phase 4 (Implementation phase) of the Bay-Delta Water Quality Control Plan process now under way, and

EWC-118

- The relevance of the Bay Delta Conservation Plan and its proposed Delta Tunnels project as a well-known and reasonably foreseeable project to Shasta Dam operations.

These failures are described in detail in the following sections:

EWC-119

Failure To Disclose How Rarely The San Joaquin River Reaches Delta Outflow And Is Routinely Exported Through State And Federal Pumps Near Tracy, And Conversely, How Most Of Delta Outflow And Western Delta Salinity Control Is The Domain Of Sacramento River Flows Controlled By Upstream Sacramento River Basin Reservoir Operations.

EWC-120

Omitted from the affected environment section of this chapter is any account of the known hydrodynamic fate of San Joaquin River flows in the presence of Delta export pumping by the federal Central Valley Project and the State Water Project. The fate issue affects the Bureau's understanding of the San Joaquin River's actual hydraulic connection or connectivity to the rest of Delta inflows and Delta outflow. These hydraulic relationships in turn affect the dynamic size of the low salinity zone on which many listed species in the Bay-Delta Estuary depend. They also affect the volume of Delta outflow, rates of fish entrainment and death at the export pumps, survival of migrating salmon

smolts and the survival of sensitive open water (pelagic) fish like longfin smelt, Delta smelt, and threadfin shad.

EWC-120 CONTD

Two different modeling studies show that the fate of San Joaquin River flows during late winter into spring months is in the hands of the Delta export pumps. Both studies show that less than 1 percent of San Joaquin River water passing Vernalis ever reaches Chipps Island as part of Delta outflow. Well over 80 to 90 percent of San Joaquin River flows are instead exported at the state and federal pumps near Tracy.[19]

EWC-121

Omission of information about the fate of existing San Joaquin River flows means the public cannot discern from the Draft EIS on the Shasta Dam Raise and Reservoir Enlargement whether the San Joaquin River is hydraulically connected to the rest of the Bay-Delta Estuary and eventually whether the Board's proposed flow objectives for the River's tributaries will actually protect fish beneficial uses once they pass Vernalis.

EWC-122

This also means that the public cannot discern what actual hydraulic and hydrodynamic role the Sacramento River, and consequently Shasta Dam operations, plays in the Delta now and in the future.

EWC-123

A third study by the California Department of Water Resources was performed as part of complying with a modified Cease and Desist Order before the State Water Resources Control Board in 2011. The Department agreed to study "low head pumping" as a method for controlling salinity at key compliance monitoring stations during the summer irrigation season when interior South Delta salinity objectives must be met. The goal for the study was to determine what flows and at which locations low head pumping would significantly reduce or eliminate the salinity objective violations by the Department and the Bureau.

The most important factor in South Delta salinity, the Department acknowledged, was the sources of water reaching each south Delta compliance monitoring site. From modeling results, the Department found that 83 to 93 percent of the salty water reaching the interior South Delta compliance monitoring sites originated from the San Joaquin River.[20] These

EWC-120 CONTD

[19] Flow Science Incorporated, Evaluation of the fate of San Joaquin River Flow, Water Years 1964 and 1988, prepared for the San Joaquin River Group Authority, June 2, 2005, Table 2 and Figures 1 through 4; and Jim Wilde, Michael Mierzwa, and Bob Suits, Using Particle Tracking to Indicate Delta Residence Time, poster presentation for the CalFed Science Conference, October 23-25, 2006, Step 2 data for June 15, 2003 through July 23, 2003. Accessible online at http://baydeltaoffice.water.ca.gov/modeling/deltamodeling/presentations/DeltaResidenceTimeMethodology_wildej.pdf.

EWC-123 CONTD

[20] California Department of Water Resources, Low Head Pump Salinity Control Study, prepared to meet requirements of the State of California State Water Resources Control Board, Water Rights Order WR 2010-0002, Condition A.7, April 2011, Tables III.3 through III.6 and Figures III.5 and III.6; cost data shown in Tables ES.1 and ES.2. Accessible online at: http://www.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/docs/lhscs_rpt.pdf.

EWC-123 CONTD

compliance points are in close proximity to both the Central Valley Project's Jones Pumping Plant and the State Water Project's Banks Pumping Plant.

EWC-124

Yet the Bureau's Shasta Dam Raise Draft EIS strongly implies, without demonstrating, that the water stored in Shasta Lake is important to South of Delta export deliveries to CVP and even State Water Project contractors south of the Delta for deliveries. This suggests a paradox: On one hand, the San Joaquin River is by far the major source of all exports from the south Delta pumping plants (in-Delta return flows are the other, much smaller component); neither Sacramento River flows nor San Francisco Bay tidal flows account for more than 1 percent in DWR's analysis. On the other hand, the EWC asks the Bureau to please explain in Chapter 6 (Hydrology, Hydraulics and Water Management) of the DEIS how Shasta Dam releases, including those from enlarged reservoir alternatives, are related to Delta exports to CVP and SWP service areas, particularly during the irrigation season.

Failure to disclose the direct quantitative relationship between enlarged Shasta Dam operations and the proposed Delta Tunnels project contained in the proposed Bay Delta Conservation Plan; this means that the cumulative impact analysis is inadequate.

EWC-125

The Bureau of Reclamation is among the proponents of the Bay Delta Conservation Plan (BDCP), together with the California Department of Water Resources, and several CVP and SWP water contractors. BDCP is a proposed habitat conservation plan under the state and federal endangered species acts. Its centerpiece water facility is the Delta Tunnels Project (sometimes referred to as the "Twin Tunnels project").

EWC-126

Failure To Provide Information In The Draft EIS On The Shasta Dam Raise That Would Facilitate Review By The State Water Resources Control Board Of Both Shasta Dam Water Rights Permits And The Relationship Of Those Permits To Other Storage, Diversion, And Rediversion Permits Of The CVP And Even Of The SWP.

EWC-127

Because the individual water facilities comprising both the federal Central Valley Project and the State Water Project are operated as a coordinated whole, any changes to their operations such as introduction of the Delta Tunnels project and the raising of Shasta Dam would necessitate review by the State Water Resources Control Board of the Bureau's Central Valley Project water rights permits.

EWC-128

The Hydrology, Hydraulics, and Water Management chapter correctly identifies the State Water Resources Control Board as the agency responsible for regulating water rights and water quality in the Delta and Central Valley basins. But the chapter and the rest of the Draft EIS fail utterly to identify the specific water rights issues that could arise in association with each and every comprehensive plan alternative.

33

The State Water Board summarized its water rights role when it commented recently on the 2013 administrative draft of the Bay Delta Conservation Plan EIR/EIS, and into which the Environmental Water Caucus introduce some relevant paraphrasing:

"Before the State Water Board may approve a change in a water right permit or license...including a change in the point of diversion specified in the permit or license, the Board must find that the change will not injure any legal user of water. (Water Code § 1702.) Information concerning the extent, if any to which fish and wildlife would be affected by the change shall also be considered. (Water Code § 1701.2.) The State Water Board has an independent obligation to consider the effect [of a proposed water facility, in this case the Shasta Dam Raise and the Delta Tunnels project] on public trust resources and to protect those resources where feasible (National Audubon Society v. Superior Court (1983), 33 Cal. 3d 419), and to prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water (Cal. Const., art. X, § 2; Water Code § 275). Pursuant to its authority under the Water Code the State Water Board may request additional information outside of the CEQA process to meet the State Water Board's public trust and other obligations. Accordingly, while [interested] parties may determine that CEQA does not require an analysis of all of the issues pertaining to water right change petition approval (including impacts to other legal users of water and public trust resources), it would assist the State Water Board in its consideration [of the proposed projects, Shasta Dam Raise and the Delta Tunnels] if the [environmental impact document] discussed these issues."[2]

EWC-129

EWC-130 The Bureau of Reclamation is surely well aware that it is settled law that the Bureau is to obey California water rights law through the operations of its water facilities and projects within state boundaries.

EWC-131 So while the Bureau claims its Draft EIS is written to comply with CEQA for use by state permitting authorities, it is clear that the absence of any water rights implications from the analysis anywhere in the Draft EIS is inadequate for the needs of analyzing water rights.

EWC-132 **Failure To Disclose The Bureau's Petitions To The State Water Resources Control Board To Extend The Deadlines For Compliance With Water Rights Permits And For Licensing Of The Water Rights Of The Central Valley Project.**

EWC-133 California's appropriative water rights doctrine requires that all holders of appropriative water rights, including those issued as permits and licenses by the State Water Board, be put to beneficial use diligently and continuously. In 2009, the Bureau submitted and the

EWC-134

EWC-129 CONTD [2] State Water Resources Control Board, Comments on the Second Administrative Draft Environmental Impact Report/Environmental Impact Statement for the Bay-Delta Conservation Plan, July 5, 2013, p.2.

EWC-134 CONTD

Board began processing petitions to extend the deadline for CVP water rights, including those for Shasta Dam and Reservoir.

EWC-135

Many parties protested the Bureau's petitions to the State Water Board, including petitions from EWC member groups Friends of the River, California Water Impact Network, California Sportfishing Protection Alliance, and AquAlliance. Among the issues raised in the protests were:

- Full application of the pumping rates as found in the permits would exacerbate poor fishery conditions.

EWC-136

- Full collection to storage in the project reservoirs would exacerbate harm to habitat conditions.

EWC-137

- Full application of water service to permitted places-of-use in the western San Joaquin Valley would exacerbate poor water quality conditions and may hasten irreversible salinization of downslope agricultural lands.

EWC-138

- Reclamation has been "cold storaging" a portion of its water rights.

EWC-139

The Board has also written the Bureau in 2009 that the Bureau should avoid piecemealing its time extension requests. The Board expressed at that time its preference that the

EWC-140

Bureau and DWR present a comprehensive environmental document that would cover both the Bay Delta Conservation Plan and the time extension request petitions.[22]

EWC-141

It is evident from the absence of water rights considerations in the Shasta Lake Draft EIS relevant to the time extension petitions for CVP water rights that the Bureau is not mindful of the protests of its CVP permits and the State Water Board's concerns for timely processing of the petitions. For the Bureau to have the Draft EIS on the Shasta Dam Raise be useful before the State Water Board, it must also address all water rights protest issues.

EWC-142

Failure To Disclose The Bureau's Water Transfer Program (From North Of Delta Sellers To South Of Delta Contractors) And Its Reliance Upon Groundwater Substitution By Water Right-Holding Transferors.

EWC-140 CONTD

[22] "Reclamation should collaborate with DWR regarding preparation of a comprehensive document. The environmental analysis required for the petitions is an evaluation of potential changes in operation of the CVP facilities, impacts to cold water pools, potential impacts to required downstream flows for maintenance of public trust resources, water quality, etc., associated with diverting the full face value of Reclamation's permits. It should become apparent within the next 180 days whether the BDCP EIR/EIS will evaluate these issues. If the required evaluation is not included in that document, Reclamation will need to timely enter into a Memorandum of Understanding (MOU) to prepare an appropriate CEQA document." Letter of Victoria A. Whitney, Deputy Director for Water Rights, to Richard J. Woodley, US Bureau of Reclamation, Permitted Applications 5625, et al., of US Bureau of Reclamation, Central Valley Project, December 23, 2009, p. 2.

EWC-143

Shasta operations are integral to the Bureau's water transfer programs. When the Bureau and DWR establish and operate water transfer programs during dry years (as they did in 2013), they rely heavily on senior water rights holders and "settlement contractors" of the Sacramento River Basin. Arranged transfers occur when these water right holders or settlement contractors forego diverting surface flows from the Sacramento River released from Shasta Dam. Those waters flow on to the Delta where a "like amount" is diverted at the CVP and/or SWP pumps as capacity permits for buyers of the water south of the Delta.

In 2013 (a dry water year in the Sacramento Basin and a "critically dry" year in the San Joaquin River Basin), these transfers result in "like amounts" of groundwater pumping by the water sellers in the Sacramento River Basin so that they can still irrigate crops they had otherwise planned to water with surface supplies.

EWC-144

The Draft EIS fails to acknowledge and incorporate into its analysis of project impacts the documented relationship of surface and subsurface water resources in the Sacramento River Basin.

EWC-145

The California Environmental Water Caucus is deeply concerned that the combined purpose and needs for Shasta Dam Raise and the Delta Tunnels project are intended not only to increase water supply reliability for water contractors under ordinary circumstances, but also to facilitate water transfers that require exporting of Sacramento River surface supplies from the Delta to complete the transfers. This strategy is short-sighted because in a sustained dry period, continuing groundwater substitution water transfers could result in local or region-wide severing of the connection of groundwater supplies and flows with surface flows in Sacramento River basin streams. This could result in gaining streams (that is, rivers and creeks fed by groundwater) becoming losing streams (where surface flows seek a new hydraulic gradient by percolating underground to the falling water table).

EWC-146

The risk of permanent dependence on groundwater substitution water transfers, especially in long-run drought conditions, is that this severing will become permanent and catastrophic for Sacramento River basin water resources, fish populations, and riparian ecosystems generally.

EWC-147

At a minimum, the Hydrology chapter's cumulative impact analysis should address the potential for groundwater supply (overdraft) resulting from reliance on groundwater substitution transfer programs in forecasted extended 21st century dry periods that appear in the Climate Change Modeling appendix.

Air Quality and Climate

EWC-148 Chapter 5 (Air Quality and Climate) of the Draft EIS is inadequate. It asserts there are no sensitive receptors for air quality in the vicinity, but fails to demonstrate that is the case. Sensitive receptors are defined by the Air Resources Board:

> Sensitive individuals refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses
>
> Where sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses).[23]

EWC-149

EWC-150 First, the Bureau's analysis of air quality impacts fails to define a radius or compass rose of wind directional tendencies within which sensitive receptors might be affected by construction effects of the proposed project. Second, Chapter 5 fails to characterize what sensitive receptors are in the vicinity of the Primary Study Area. Third, it fails to show where they are located to indicate that they are or are not within the Primary Study Area. Fourth, it fails to state how far from Shasta Dam's construction and other land-clearing operational sites the sensitive receptors are, and d) fails to state why they are far enough away from the project site to warrant no significant impacts or mitigation needs.

EWC-151 The analysis is also inadequate because it fails to facilitate ready comparison of air quality criteria used by Shasta County Air Quality Management District with construction-generated emissions from each comprehensive plan alternative and then fails to show how many days of violations (if any) would occur based on construction activity. Simply incorporating the criteria recommended for use in impact analysis by SCAQMD, as shown on page 5-29 of the DEIS would solve this problem.

EWC-152 Chapter 5 correctly recognizes that there are no established criteria of significance for greenhouse gas (GHG) emissions under CEQA or NEPA practices. This means that the Bureau cannot rule out the possibility that emission of any greenhouse gases (GHGs) during construction of the Shasta Dam Raise. The Bureau summarizes on page 5-22 a number of thresholds and criteria that could be used to assess the GHG impacts of construction and operation activities of the Shasta Dam Raise. They include:

- Zero (i.e., all emissions are significant)
- 900 metric tons of carbon dioxide equivalent (MT CO_2e) per year (which would capture about 90 percent of residential and nonresidential discretionary development)

EWC-149 CONTD [23] California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective. April 2005, p. 13. Accessible online 29 August 2013 at http://www.arb.ca.gov/ch/handbook.pdf.

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EWC-156 CONTD

Table 2
Annualized Unit Cost of Shasta Dam Raise Alternatives

	CP1	CP2	CP3	CP4	CP5
Total Capital Cost ($ millions)	$967	$1,068	$1,242	$1,250	$1,272
Total Annualized Cost ($ millions)	$44	$51	$54	$56	$61
Total Production of Fish (thousands of fish)	61	379	207	813	378
Acre-feet of Storage Capacity (TAF)	256	443	634	634	634
Acre-feet of Supply Yield (TAF)	47.3	77.8	63.1	47.3	113.5
Ratio of New Yield to New Capacity	0.18	0.18	0.10	0.07	0.18
Cost of Annual Yield per Acre-foot	$930	$656	$856	$1,184	$537

Source: US Bureau of Reclamation, Draft Plan Formulation Appendix, Shasta Lake Water Resources Investigation, California, June 2013, Tables 5-9 and 5-10, pp. 5-110 and 5-111; and California Environmental Water Caucus.

EWC-152 CONTD

- 10,000 MT CO_2e per year (a potential Air Resources Board mandatory reporting level for California's cap-and-trade program)25,000 MT CO_2e per year (currently ARB's mandatory reporting level for the statewide emissions inventory program).

The Bureau opts to use the most relaxed criterion, 25,000 MT CO_2e per year as its criterion for evaluating GHG emissions from Shasta Dam Raise construction activity.

EWC-153

Chapter 5 underestimates GHG emissions in the construction phase of the proposed alternatives. The air quality impact analysis fails to incorporate all relevant greenhouse gas emissions associated with cement production needed for the dam. This information should be readily available from other sources and should be incorporated, along with estimates of how much concrete each alternative will need poured how much GHGs in carbon dioxide equivalents would be generated. Without it, the Bureau fails to disclose a complete and reasonable estimate of how much concrete would be needed in the Dam Raise's construction and of GHG emissions associated with each alternative, and the current analysis is therefore inadequate.

EWC-154

In addition, Chapter 5 also inflates greenhouse gas emission savings by using fossil fuel power plants as analytic offsets but fails to acknowledge that fossil fuel plants provide baseline loads while hydropower tends to meet peak time load needs because hydro generation can be easily ramped up to meet heavy load peaks.

Costs/Benefits

EWC-155

Unit Costs. The Shasta Lake Water Resources Investigation report states that the costs of project alternatives will range from $967 million to $1.27 billion, and that annualized costs of the project (amortized over 100 years, according to the Bureau[24]) will range between $44 million and $61 million.

EWC-156

As shown in Table 2, the expanded reservoir these amounts are intended to purchase range from an additional 256,000 acre-feet to 634,000 acre-feet of new storage capacity. Supply yields from the additional storage capacity are considerably less, ranging from 47,300 acre-feet for comprehensive plans 1 and 4 up to 113,500 acre-feet per year on average for CP 5. Table 1 calculates a ratio of the new supply yield to the new storage capacity for each comprehensive plan. These ratios range between 0.07 to 0.18, meaning that yield from this project represents about 7 to 18 percent of new storage created.[25]

EWC-158

Table 1 shows that the unit cost of the supply yielded by the proposed project would range between $537 per acre-foot for CP2 to $1,184 per acre-foot for CP4. The Bureau's fish production modeling (SALMOD) in the analysis of the proposed project, shows that fish do better when they have more water of appropriate temperatures flowing to benefit them. But this is still an expensive way to encourage fish production and stimulate recovery of one of Nature's more important natural services to society.

EWC-159

State and federal laws already exist requiring that the migratory fish populations of the federal Anadromous Fish Restoration Program be doubled over the 1967-1991 population average for each species and salmonid run using already available AFRP recovery plans.[26] Instead of using technology, money and engineering, we should be using our governments' police power to require that salmon be produced toward full recovery.

EWC-160

Funds for the Shasta Dam raise and reservoir enlargement should be reprogrammed to Bureau programs that assist local cities, communities, and water districts with investing

EWC-155 CONTD

[24] US Bureau of Reclamation, Draft Attachment 1 Cost Estimates for Comprehensive Plans, Engineering Summary Appendix, Shasta Lake Water Resources Investigation, California, June 2013, Cost summaries for each comprehensive plan, Attachment pages 1-1 through 1-6.

EWC-157

[25] This could make investment in expanded reservoir capacity nearly as bad a purchase by the Bureau as was New Melones Dam and reservoir in the 1970s. The Bureau recently reported that actual carryover storage at New Melones occurs just 39 percent of the time, and averages 21,048 acre-feet per year, less than 1 percent of New Melones' 2.4 million acre-feet of storage capacity. See United States Department of the Interior, Comments: Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay-Sacramento/San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality (SED), March 29, 2013, pp. 3-4. Accessible online 26 August 2013 at http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/baydelta_pdsed/docs/comments032913/amy_aufdemberge.pdf.

EWC-159 CONTD

[26] California Fish and Game Code Section 6902(a); and the Central Valley Project Improvement Act of 1992, Section 3406(b)(1), accessible online 30 August 2013 at .

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EWC-160 CONTD

in water supply projects that will help the State of California meet the goals contained in the Delta Reform Act of 2009.[27]

Net Economic Benefits of the Project Under Climate Change The Climate Change Modeling Appendix relies on five basic ensemble climate change scenarios (Q1 through Q5) that were assembled from 112 general circulation models recommended by the Intergovernmental Panel on Climate Change. These models have been "downscaled" for use at the regional level to estimate a range of potential impacts on the potential of the proposed project to improve water supply reliability. The analysis relies on Comprehensive Plan 5 as the alternative to be tested in the climate change comparisons.

EWC-161

The Appendix's authors analyze future impacts of the project by distilling down climate change scenarios to three, thereby attempting to bracket the range of potential climate change outcomes.[28]

To evaluate some of the economic impacts of climate change trends on the state's water system (CVP and SWP) with and without the enlargement of Shasta reservoir, four models were employed. Figures 3-100 through 3-103 summarize each model's estimation of the change in net economic benefits from Comprehensive Plan 5. For three of the four models, the outlook is at best mixed. In Silicon Valley, net benefits could range from no change under a slow growth and cooler/wetter scenario (SGQ4) to $37 million per year in a fast-growth and drier/hotter climate scenario (EGQ2).

EWC-162

It is unclear from the DEIS what effect the $1.2 billion price tag of CP5 will have on rates for contractors within the San Felipe Project (which include Santa Clara Valley Water District and San Benito County Water District). They receive their water from the west end of San Luis Reservoir. Santa Clara Valley Water District is working on a "low point" intake project to lower the

EWC-163

[27] California Water Code Section 85021, stating: "The policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts."

EWC-160 CONTD

[28] It should be pointed out that just 13 years into the 21st century, none of the 15 downscaled models in the Bureau's climate change methodology are ruled out. The Bureau has produced a simplified analysis (Q1 through Q5) that themselves represent "central tendencies" of the 112 models in each quadrant of possible climate outcomes. So there is equal probability drier/hotter climate results in the future as wetter/cooler. Q5 is a central tendency grouping of the other four quadrants. It is sometimes referred to in the text of the Climate Change Modeling Analysis as a "consensus" climate scenario, but there is really no basis for a consensus here. Q5, because of its emphasis on the central tendencies of the four quadrant scenarios, really approximates "current trends" without climate change—which has the problem of approximating "stationarity" in the climate results. Stationarity in this context means that "natural systems fluctuate within an unchanging envelope of variability, a staple assumption of water resource engineering. Scientists have demonstrated that stationarity "has long been compromised by human disturbances in river basins" and now anthropogenic climate change and oceanic-scale temperature oscillations make stationarity untenable as an assumption about future climate conditions. P.C.D. Milly, Julio Betancourt, Malin Falkenmark, Robert M. Hirsch, Zbigniew W. Kundzewicz, Dennis P. Lettenmaier, and Ronald J. Stouffeer, "Stationary is Dead: Whither Water Management?" Science, 319: 573-574, 1 February 2008.

EWC-161 CONTD

EWC-163 CONTD

elevation at which the San Felipe Project takes water from San Luis. The Shasta Raise project will be an added expense for which San Felipe Project contractors will be responsible in the years ahead. Elsewhere in the Climate Change Modeling Appendix, CVP San Luis storage performance is shown to worsen in the years to come to the point of "dead pool" (water inaccessible with existing reservoir intakes or by gravity release), with or without the raising of Shasta Dam.

EWC-164

The climate change scenarios (where change is really at work in the modeling process in EGQ2 and SGQ4) show that, in Figure 3-144 (p. 3-116), "avoided water quality costs for Silicon Valley will have small negative benefits (i.e., net costs) over the long term. In Figure 3-145, agricultural net revenues in the Central Valley service areas of the CVP and SWP see only a modest range of net benefits from about negative $300,000 (i.e., a net cost) per year in the near term to a high of $6 million per year in net benefits in the long run of a high-growth and drier/hotter climate scenario. California's agricultural economy is about $30 to $40 billion in overall size, so this net benefit to agricultural customers of the CVP and SWP is only about one-one-thousandth (1/1000) of one percent of the California's agricultural economy—vanishingly small, in other words.

EWC-165

Other findings for the economic net benefits of the Shasta Dam Raise and Reservoir Enlargement project are similarly vanishingly small, yet would likely involve rate increases to both CVP urban and agricultural customers that they may prefer to avoid.

EWC-166

These findings also strongly suggest that were an honest and adequate Benefit-Cost Analysis performed on this proposed project (for which CP4 appears to be the Bureau's preferred alternative), its ratio of benefits to costs would be well under 1.0. This would be strong grounds for rejecting the project and spending scarce taxpayer funds on other more cost-effective alternatives.

EWC-167

The California Environmental Water Caucus urges the Bureau to perform an honest and adequate Benefit-Cost Analysis of the CP5 alternative.

Climate Change, the State's Water System, and the Shasta Dam Raise Project

EWC-168

Tables 3 through 6 below distill climate change modeling results from the Climate Change Modeling Appendix concerning statewide water system operations, unmet water demand, and Delta water quality compliance effects of Comprehensive Plan 5. These tables, based on graphical interpretation of probability exceedances plots in the Bureau's Climate Change Modeling Appendix, reveal that:

EWC-169

- The Shasta Dam Raise project (CP5) will not implement a "big gulp/little sip" hydraulic strategy that has been discussed widely. In half of all years, the ranges of reservoir storage for water supply and carryover, and for Delta export pumping actually decrease by increasing at the bottom and decreasing at the top of the

EWC-169 CONTD

range. These findings suggest modest increases in system-wide water supply reliability (but they come at the expense of the top end of most reservoir storage and Delta export ranges), especially in drier years. Storage increases that are found are nowhere near the amounts needed to meet unmet demand found elsewhere in the Appendix. (See Tables 3, 4, and 6.)

EWC-170

- The Shasta Dam Raise project (CP5) will contribute only slightly to reduction of unmet water demand. Climate change scenarios without the proposed project show a range of unmet demand from 2.7 to 8.2 million acre-feet. With the Shasta Dam Raise project, the Modeling Appendix forecasts a reduction ranging between 5,000 and 33,000 acre-feet per year. This range is generally just a fraction of 1 percent of the overall unmet water demand. (See Table 5.)

EWC-171

- The Shasta Dam Raise project will only marginally decrease the risk of "dead pool" storage conditions at the state water system's reservoirs, and actually increases the risk of dead pools in south-of-Delta reservoirs. Dead pools occur when water levels in reservoirs become inaccessible by existing reservoir intakes or by gravity release. Dead pool conditions without the Shasta Dam Raise project are expected in the Modeling Appendix at all state water system reservoirs except for Oroville. However, with the Shasta Dam Raise project, the Modeling Appendix suggests only marginal decreases in dead pool storage risks at the end of September, including Oroville. And the risk of dead pools for both state and federal portions of San Luis Reservoir actually increase. (See Table 5.)

EWC-172

EWC-173

EWC-174

The Bureau fails in the Draft EIS to provide a clear statement of the Shasta Dam Raise project's ability to meet both its stated objective of improving water supply reliability, and if so, by how much. The Bureau has done analysis that can only be applied to one of the five alternatives. If the best this project can accomplish is to reduce unmet water demand by 5,000 to 33,000 acre-feet in the 21st century, that increment of water will be extremely costly to provide through the Shasta Dam Raise project. (Recall from Table 1 above that CP5 costs over $1.2 billion with an annualized capital and operating cost of $61 million per year.) The incremental cost of reducing this unmet demand with CP5 would lie somewhere between $1,800 and $12,000 per acre-foot, an extraordinarily expensive source of new water for attempting to drought-proof the state's modern water system.

Table 3

Climate Change Effects on California Water System Storage

End of May (Water Supply Availability)

State Water System Component	Climate Change Modeled Effect Without Shasta Dam Raise	Climate Change Modeled Effect With Shasta Dam Raise
Shasta	Half the time: 2.2 to 4.55 MAF; median range between 3.6 to 4.55 MAF	Half the time: 2.75 to 5.2 MAF/ median range between 3.7 to 5.2 MAF
Folsom	490 to 800 TAF/ median range between 660 to 800 TAF	560 to 800 TAF/ media range between 660 to 780 TAF
Oroville	1.8 to 3.4 MAF/ median range between 2.3 to 3.3 MAF	1.9 to 3.4 MAF/ median range between 2.5 to 3.3 MAF
New Melones	650 TAF to 2.15 MAF/ median range between 1.25 to 2.0 MAF	700 TAF to 2.25 MAF/ median range between 1.3 to 2.0 MAF
Millerton	350 to 520 TAF/ median range between 420 to 520 TAF	360 to 520 TAF/ median range between 460 to 500 TAF
CVP San Luis	410 to 820 TAF/ median range between 5380 to 730 TAF	420 to 800 TAF/ median range between 5380 to 620 TAF
SWP San Luis	490 to 890 TAF/ median range between 600 to 780 TAF	490 to 870 TAF/ median range between 650 to 750 TAF

Note: Initial range of reservoir storage volumes are graphical interpretations of exceedance plots presented in the climate change modeling appendix. They represent the range of water volumes attainable between the lowest exceedance plot and the highest plot for each climate change scenario occurring between the 25th and 75th percent exceedances (in other words, half of all years examined in the model runs). Thus, what is reported here are water volumes and X2 positions that span the climate change scenarios in half of all years. The median values reported in this table are simply the range of medians from the same exceedance plots from lowest to highest. For median values of these exceedance plots, half of plot's values will be above the median and half will be below.

Source: Graphical interpretation of Figures 3-61 through 3-83; and Figures 3-119 through 3-140, in US Bureau of Reclamation, *Shasta Lake Water Resources Investigation, Draft Climate Change Modeling Appendix*, June 2013.

Table 4

Climate Change Effects on California Water System Storage End of September (Carryover Supplies)

State Water System Component	Climate Change Modeled Effect Without Shasta Dam Raise	Climate Change Modeled Effect With Shasta Dam Raise
Shasta	Half the time: 750 TAF to 3.75 MAF; median range between 2.2 to 3.75 MAF	1.4 to 4.3 MAF/ median range between 2.5 to 4.3 MAF
Folsom	150 TAF to 800 TAF/ median range between 460 to 800 TAF	280 to 800 TAF/ median range between 500 to 800 TAF
Oroville	900 TAF to 3.2 MAF/ median range between 1.4 to 2.6 MAF	1.1 to 3.1 MAF/ median range between 1.6 to 2.5 MAF
New Melones	400 TAF to 2.0 MAF/ median range between 1.4 to 1.8 MAF	600 TAF to 1.95 MAF/ median range between 1.2 to 1.7 MAF
Millerton	150 to 240 TAF/ median range between 175 to 220 TAF	160 to 240 TAF/ median range between 175 to 220 TAF
CVP San Luis	40 TAF (Dead pool) to 230 TAF/ median range between 40 TAF (Dead pool) to 100 TAF	40 TAF (Dead pool) to 220 TAF/ median range between 40 TAF (Dead pool) to 110 TAF.
SWP San Luis	160 to 550 TAF/ median range between 280 to 450 TAF	170 to 540 TAF/ median range between 310 to 460 TAF

Note: Initial range of reservoir storage volumes are graphical interpretations of exceedance plots presented in the climate change modeling appendix. They represent the range of water volumes attainable between the lowest exceedance plot and the highest plot for each climate change scenario occurring between the 25th and 75th percent exceedances (in other words, half of all years examined in the model runs). Thus, what is reported here are water volumes and X2 positions that span the climate change scenarios in half of all years. The median values reported in this table are simply the range of medians from the same exceedance plots from lowest to highest. For median values of these exceedance plots, half of plot's values will be above the median and half will be below.

Source: Graphical interpretation of Figures 3-61 through 3-83; and Figures 3-119 through 3-140, in US Bureau of Reclamation, *Shasta Lake Water Resources Investigation, Draft Climate Change Modeling Appendix*, June 2013.

Table 5
Comparison of Climate Change Modeling Effects on Dead Pool Storage Conditions and Impact of Shasta Dam Raise

State Water System Component	Climate Change Modeled Effect Without Shasta Dam Raise	Climate Change Modeled Effect With Shasta Dam Raise
Unmet Demand	2.7 to 8.2 million acre-feet/year (DEIS, Figure 3-83, p. 3-73)	Reduction in unmet demand of 5,000 to 33,000 acre-feet/year (DEIS Figure 3-141, p. 3-114)
Storage Performance		
Shasta	Dead pool at end of September 3% to 22% of the time (i.e., up to one in every five years)	Dead pool at end of September 3% to 16% of the time (i.e., up to one in every six years)
Folsom	Dead pool at end of September 3% to 22% of the time (i.e., up to one in every five years)	Dead pools at end of September 2% to 13% of time (i.e., up to one in every eight years)
Oroville	No dead pool conditions expected.	Dead pool at end of September no more than about 2 percent of the time.
New Melones	Dead pool at end of May 2% to 6% of the time; dead pool at end of September up to 12% of the time (one in eight years on average)	Dead pools at end of May up to about 5 percent of the time; dead pools at end of September up to about 8 percent of the time (i.e., up to about one in every 12 years)
Millerton	Dead pool at end of September between 4% and 13% of the time (i.e., up to one in every eight years on average)	Dead pool at end of September 4% to 8% of the time.
CVP San Luis	Dead pool at end of September between 25% and 50% of the time (i.e., one in every two to four years) under most climate scenarios	Dead pool at end of September about 25 to 73% of the time (i.e., from about one in four to about three in every four years)
SWP San Luis	Dead pool at end of September between 2% and 4% of the time.	Dead pool about 4 percent of the time.

Note: Initial range of reservoir storage volumes are graphical interpretations of exceedance plots presented in the climate change modeling appendix. They represent the range of water volumes attainable between the lowest exceedance plot and the highest plot for each climate change scenario occurring between the 25th and 75th percent exceedances (in other words, half of all years examined in the model runs). Thus, what is reported here are water volumes and X2 positions that span the climate change scenarios in half of all years. The median values reported in this table are simply the range of medians from the same exceedance plots from lowest to highest. For median values of these exceedance plots, half of plot's values will be above the median and half will be below.

Source: Graphical interpretation of Figures 3-61 through 3-83; and Figures 3-119 through 3-140, in US Bureau of Reclamation, *Shasta Lake Water Resources Investigation, Draft Climate Change Modeling Appendix*, June 2013.

Table 6
Comparison of Climate Change Modeling Effects on Delta Export Operations,
Delta Outflow, Salinity Control, and Impact of Shasta Dam Raise

Delta Facility or Compliance Point	Climate Change Modeled Effect Without Shasta Dam Raise	Climate Change Modeled Effect With Shasta Dam Raise
Banks Pumping Plant Exports (SWP)	1.4 MAF to 3.6 MAF in half of all years (i.e., 25th to 75th exceedance probabilities); median exports of between 1.8 MAF to 3.0 MAF per year.	1.6 MAF to 3.4 MAF in half of all years; median exports of between 2.1 to 2.9 MAF
Jones Pumping Plant Exports (CVP)	1.3 MAF to 2.75 MAF in half of all years; median exports of between 2.0 to 2.6 MAF	1.7 to 2.4 MAF in half of all years; median exports of between 2.1 to 2.6 MAF
Combined Exports to South of Delta	2.7 MAF to 6.35 MAF in half of all years; median exports of between 3.8 to 5.6 MAF	3.3 MAF to 5.8 MAF in half of all years; median exports of between 4.2 to 5.3 MAF
Delta Outflow	5 MAF to 29 MAF in half of all years; median Delta outflow of between 7 and 15 MAF	6 MAF to 28 MAF in half of all years; media Delta outflow of between 7.5 to 15 MAF
X2 Position (i.e., location of 2.0 EC salinity in kilometers east of Golden Gate, measuring position of the low-salinity zone of the Delta estuary)	61 km to 83 km in half of all years; median X2 position of between 65 and 78 km	62 km to 82 km in half of all years; median X2 position of between 65 to 77 km.

Note: Initial range of export and outflow volumes and X2 positions are graphical interpretations of exceedance plots presented in the climate change modeling appendix. They represent the range of water volumes attainable between the lowest exceedance plot and the highest plot for each climate change scenario occurring between the 25th and 75th percent exceedances (in other words, half of all years examined in the model runs). Thus, what is reported here are water volumes and X2 positions that span the climate change scenarios in half of all years. The median values reported in this table are simply the range of medians from the same exceedance plots from lowest to highest. For median values of these exceedance plots, half of plot's values will be above the median and half will be below.

Source: Graphical interpretation of Figures 3-61 through 3-83; and Figures 3-119 through 3-140, in US Bureau of Reclamation, *Shasta Lake Water Resources Investigation, Draft Climate Change Modeling Appendix*, June 2013.

EWC-175

The following Environmental Water Caucus affiliated organizations support the comments and recommendations shown in the attached letter to the US Bureau of Reclamation on the Shasta Lake Water Resources Investigation DEIS dated June, 2013.

The corresponding logos are shown at the front of this document.

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Policy Director
California Coastkeeper

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AquAlliance

Bob Wright
Senior Counsel
Friends of the River

EWC-175

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Responses to Comments from Environmental Water Caucus

EWC-1: Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest, and Master Comment Response GEN-5, "Some People Support Dam Raise and Others Oppose Dam Raise."

EWC-2: Chapter 11, "Fisheries and Aquatic Ecosystems," Section 11.3.3, "Direct and Indirect Effects" describes in detail the impacts and benefits to the fisheries in the Sacramento River and Delta.

Please refer to Master Comment Response GEN-2, "Unsubstantiated Information."

EWC-3: A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4). Many comment authors expressed personal opinions, histories or experiences which are not appropriately addressed as part of the NEPA process. This comment will be included as part of the record and made available to decision makers before a final decision on the proposed project.

This comment is related to the preliminary cost allocation analysis completed for the Draft Feasibility Report (which was released to the public in February 2012).

Please refer to Master Comment Response COST/BEN-5, "Potential Project Financing."

EWC-4: Please refer to Master Comment Response GEN-5, "Some People Support Dam Raise and Others Oppose Dam Raise."

EWC-5: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

EWC-6: A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4). Many comment authors expressed personal opinions, histories or experiences which are not appropriately addressed as part of the NEPA process. This comment will be included as part of the record and made available to decision makers before a final decision on the proposed project.

This comment is related to the preliminary cost allocation analysis completed for the Draft Feasibility Report (which was released to the public in February 2012). Please refer to Master Comment Response COST/BEN-5, "Potential Project Financing."

EWC-7: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

EWC-8: Please refer to Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report," Master Comment Response DSFISH-3, "Fish Habitat Restoration," Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan,

Anadromous Fish Restoration Program Doubling Goals and Biological Opinions."

EWC-9: Reclamation acknowledges that there are multiple stressors to anadromous fish populations that the project does not - and cannot - address, and that the project alone is not sufficient to ensure the viability of anadromous fish populations. However, the project does provide benefits to fish at critical times, and as such could be an important part of the larger restoration effort. In particular, modeling results show that CP4 provides significant benefits to anadromous fish in critical and dry years, when Chinook populations are at greatest risk of temperature related mortality. By increasing production in these years, relative to the base conditions, the risk of extirpation of listed species is greatly reduced, and the project therefore provides a significant benefit to the species/run.

Please refer to Master Comment Response GEN-2, "Unsubstantiated Information."

EWC-10: This comment appears to be related to allocation of costs to project beneficiaries, which is outside the scope of the DEIS. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4(b)). As described in Master Comment Response COST/BEN-5, "Potential Project Financing," an updated cost allocation was included in the SLWRI Final Feasibility Report. This comment was included as part of the record and made available to decision makers before a final decision on the proposed project.

Please refer to Master Comment Response GEN-4, "Best Available Information."

EWC-11: This comment appears to be related to allocation of costs to project beneficiaries, which is outside the scope of the DEIS. Per, NEPA 40 CFR 1502.23, "…the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." Accordingly, the DEIS does not identify a most "cost effective" alternative. As described in Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," and Master Comment Response COST/BEN-5, "Potential Project Financing," updated evaluations related to economic feasibility and cost allocation was included in the SLWRI Final Feasibility Report. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR 1503.4(b)). This comment will be included as part

of the record and made available to decision makers before a final decision on the proposed project.

EWC-12: Please refer to Master Comment Response WASR-1, "Eligibility of the McCloud River as a Federal Wild and Scenic River," and Master Comment Response WASR-3, "The Shasta-Trinity National Forest LRMP and Protection of the Eligibility of the McCloud River as a Wild and Scenic River."

EWC-13: Please refer to Master Comment Response WASR-6, "Protections of the Lower McCloud River as Identified in the California Public Resources Code, Section 5093.542."

EWC-14: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources," and Master Comment Response CR-8, "Native American Connection to Salmon."

EWC-15: Please refer to Master Comment Response ALTR-1, "Range of Alternatives General," Master Comment Response P&N-1, "Purpose and Need and Objectives."

EWC-16: Please refer to Master Comment Response ALTD-1, "Alternative Development- Water Supply Reliability," Master Comment Response P&N-1, "Purpose and Need and Objectives."

EWC-17: Please refer to Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan," and Master Comment Response EI-7, "Bay Delta Conservation Plan Too Speculative to Provide Meaningful Quantitative Cumulative Analysis in SLWRI EIS."

EWC-18: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-19: Please refer to Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," and Master Comment Response GEN-4, "Best Available Information."

EWC-20: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-21: All operations simulation modeling in the DEIS was performed with the latest version of the CalSim-II simulation model, the best available tool for modeling joint CVP/SWP system operations in California. The assumptions in the modeling used in support of this document included the NMFS 2009 *BO and Conference Opinion on the Long-Term Operations of the CVP and SWP* (2009 NMFS BO) and USFWS 2008 *Formal Endangered Species Act Consultation on the*

Proposed Coordinated Operations of the CVP and SWP (2008 USFWS Biological Opinion (BO)) as well as the most recent versions of all other regulatory conditions. Specific details of the assumptions included in the CalSim-II modeling are included in the Modeling Appendix. In the modeling many other water supply and water quality requirements must be met to allow exports. Delta wide requirements are met with the additional releases from the enlarged Shasta reservoir allowing additional pumping. The results of this modeling include the system response to the project including changes in reservoir storages, releases, stream flows, and Delta exports. These results are summarized in the EIS Chapter 6, "Hydrology, Hydraulics, and Water Management," Section 6.3.1, "Environmental Consequences and Mitigation Measures," and text with full results included in the Modeling Appendix.

EWC-22: None of the action alternatives evaluated in the DEIS would have any effect on the water transfer program between north of Delta and south of Delta contractors and therefore is not evaluated in the DEIS.

EWC-23: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record," and Master Comment Response GEN-5, "Some People Support Dam Raise and Others Oppose Dam Raise."

EWC-24: Comment noted.

Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest."

EWC-25: Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest," Master Comment Response COST/BEN-3, "Estimated Increased Water Supply Reliability Under Action Alternatives," Master Comment Response WSR-1, "Water Supply Demands, Supplies, and Project Benefits," and Master Comment Response P&N-1, "Purpose and Need and Objectives."

EWC-26: Please refer to Master Comment Response WSR-1, "Water Supply Demands, Supplies, and Project Benefits."

EWC-27: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-28: The CVP operates in conjunction with the SWP according to the Coordinated Operations Agreement (COA) between Reclamation and DWR, which is described in the DEIS Chapter 6, "Hydrology, Hydraulics, and Water Management," Section 6.2, "Regulatory Framework." As described in the DEIS, COA defines how Reclamation

and DWR share their joint responsibility of meeting Delta water quality standards and the water demands of senior water right holders, and how the agencies share surplus flows. Operations related to the Joint Point of Diversion (JPOD), referring to the CVP and SWP use of each other's pumping facilities in the south Delta, are also described in DEIS Chapter 6, "Hydrology, Hydraulics, and Water Management," Section 6.2, "Regulatory Framework." DWR prepares State Water Project Delivery Reliability Reports that are updated biannually and published on DWR's Bay-Delta Office website at http://baydeltaoffice.water.ca.gov/swpreliability/. The most recent finalized version of this report is the "State Water Project Final Delivery Reliability Report 2011," which was released in June 2012. As described in the SWP Reliability Report and evidenced by COA and the JPOD, Reclamation and DWR work closely to coordinate their operations to make the most efficient use of the common water supply available to the CVP and SWP to meet regulatory requirements and optimize delivery capability for both projects.

EWC-29: Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest," and Master Comment Response P&N-1, "Purpose and Need and Objectives."

EWC-30: Effects to Chinook salmon, including beneficial effects, are discussed in EIS Chapter 11, "Fisheries and Aquatic Ecosystems," Section 11.3.3, "Direct and Indirect Effects." As described in the EIS, all action alternatives would generally result in improved flow and water temperature conditions for Chinook salmon in the upper Sacramento River downstream from Shasta Dam. This would benefit anadromous fish survival in the upper Sacramento River. Potential benefits of SLWRI action alternatives are described in EIS Chapter 2, "Alternatives," Section 2.3, "Action Alternatives," and Section 2.5, "Summary of Potential Benefits of Action Alternatives.

Please refer to Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," and Master Comment Response ALTR-1, "Range of Alternatives General," Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report," and Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest."

EWC-31: Please refer to Master Comment Response ALTD-1, "Alternative Development- Water Supply Reliability," Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," Master Comment Response P&N-1, "Purpose and Need and Objectives," Master Comment Response ALTS-1, "Alternative Selection," Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest," and Master Comment

Response WSR-1, "Water Supply Demands, Supplies, and Project Benefits."

EWC-32: Please refer to Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions," and Master Comment Response GEN-7, "Rules and Regulations for Water Operations under Action Alternatives."

EWC-33: Water supply reliability benefits of each action alternative were estimated using CalSim-II, which is the best tool available, using standard methodologies that are consistent with the current regulatory framework. For information related to the CalSim-II model used for evaluations in the EIS, please see EIS Chapter 6, "Hydrology, Hydraulics, and Water Management," Section 6.3.1, "Methods and Assumptions," and the Modeling Appendix, Chapter 2, "CalSim-II." Please refer to Master Comment Response DSFISH-2, "Fisheries Models and Tools," and Master Comment Response GEN-4, "Best Available Information."

EWC-34: Per, NEPA 40 CFR 1502.23, "…the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations. Accordingly, the Draft EIS does not identify a "most cost effective" alternative. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4). As described in Master Comment Response COST/BEN-2 - "Comments Related to the SLWRI Feasibility Report," evaluations related to economic feasibility was included in the SLWRI Final Feasibility Report. This comment was included as part of the record and made available to decision makers before a final decision on the proposed project.

Please refer to Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report."

EWC-35: This comment appears to be related to allocation of costs to project beneficiaries, which is outside the scope of the DEIS. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4(b)). As described in Master Comment Response COST/BEN-5, "Potential Project Financing," an updated cost allocation was included in the SLWRI Final Feasibility Report. This comment was included as part of the record and made available to decision makers before a final decision on the proposed project.

Please refer to Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," and Master Comment Response ALTS-1, "Alternative Selection."

EWC-36: Please refer to Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions," and Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report."

EWC-37: Please refer to Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report."

EWC-38: Please refer to Master Comment Response ALTD-1, "Alternative Development- Water Supply Reliability," Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," Master Comment Response ALTR-1, "Range of Alternatives General," Master Comment Response ALTS-1, "Alternative Selection," Master Comment Response DSFISH-3, "Fish Habitat Restoration," Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements," Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report," and Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions."

EWC-39: Please refer to Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report."

EWC-40: Please refer to Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions," Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements," and Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report."

EWC-41: Please refer to Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions," Master Comment Response DSFISH-2, "Fisheries Models and Tools," and Master Comment Response REC-9, "Relationship Between Recreation and Shasta Lake Water Levels."

EWC-42: CP4 and CP4A are alternatives with a dedicated cold water pool. A detailed discussion on management of the cold-water pool for anadromous fish is presented in Chapter 2, "Alternatives," Section 2.3.6,

"CP4 and CP4A – 18.5-Foot Dam Raise, Anadromous Fish Focus with Water Supply Reliability." It is explained in the EIS that Reclamation would work cooperatively with the SRTTG (Sacramento River Temperature Task Group) to determine the best use of the cold-water pool each year under an adaptive cold water management plan. Reclamation would manage the cold-water pool and operate Shasta Dam each year based on recommendations from the SRTTG. Because adaptive management is predicated on using best available science and new information to make decisions, a monitoring program would be implemented as part of the adaptive management plan. SRTTG members would conduct monitoring, develop monitoring protocols, and set performance standards to determine the success of adaptive management actions."

EWC-43: Please refer to Master Comment Response COST/BEN-5, "Potential Project Financing," and Master Comment Response GEN-4, "Best Available Information."

EWC-44: Please refer to Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," Master Comment Response FISHPASS-1, "Fish Passage Above Shasta Dam," and Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report."

EWC-45: Please refer to Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements."

EWC-46: All operations simulation modeling in the DEIS was performed with the latest version of the CalSim-II simulation model, the best available tool for modeling joint CVP/SWP system operations in California. For information related to the CalSim-II model used for evaluations in the EIS, please see EIS Chapter 6, "Hydrology, Hydraulics, and Water Management," Section 6.3.1, "Methods and Assumptions," and the Modeling Appendix, Chapter 2, "CalSim-II." While it is impossible to accurately predict the future the "modeled" results of any specific simulation, as included in the analysis, represent the best available set of anticipated system operations under the assumed set of hydrology, water demands, physical facilities, and regulatory conditions included in the simulation.

Please refer to Master Comment Response GEN-4, "Best Available Information," and Master Comment Response ALTR-1, "Range of Alternatives General."

EWC-47: Please refer to Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," and Master Comment Response GEN-4, "Best Available Information."

EWC-48: CALSIM is the best available tool to represent CVP/SWP operations. Operations modeling was performed using the CalSim II simulation model, the best available tool for predicting CVP/SWP system-wide water operations. Details on the CalSim II model and the assumptions included in all simulations can be found in the Modeling Appendix, Chapter 2, "CalSim-II." The CalSim-II model includes simulation of Trinity and Lewiston Lakes and the Clear Creek diversion from Lewiston Lake to the Sacramento River basin. Table 6-7 in Chapter 6, "Hydrology, Hydraulics and Water Management," shows changes in Trinity River flows simulated using CalSim-II, under the project alternatives in both existing and future conditions. On a long-term average basis, there would be a marginal increase in Trinity River flows under the project alternatives as shown in Table 6-7. For detailed information on project operational impacts to fisheries in the Trinity River please review Section 11.3.3, "Direct and Indirect Effects" in Chapter 11, "Fisheries and Aquatic Ecosystems."

EWC-49: Comment noted.

EWC-50: Please refer to Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," and Master Comment Response ALTR-1, "Range of Alternatives General."

EWC-51: Please refer to Master Comment Response ALTD-1, "Alternative Development- Water Supply Reliability," Master Comment Response ALTD-2, "Alternative Development –Anadromous Fish Survival," and Master Comment Response GEN-1, "Comment Included as Part of the Record."

EWC-52: Each of the alternatives provide benefits, to varying degrees, to anadromous fish in critical and dry years, when Chinook populations are at greatest risk of mortality. By increasing production in these years, relative to the base conditions, the risk of extirpation of listed species is reduced. In addition, the alternatives development process considered multiple additional proposals for improving conditions for anadromous fish. Refer to Chapter 11, "Fisheries and Aquatic Ecosystems," Section 11.3.3, "Direct and Indirect Effects" for additional details.

Please refer to Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," Master Comment Response DSFISH-3, "Fish Habitat Restoration," and Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report."

EWC-53: The SLWRI has two primary coequal objectives that must be met, and neither must impede or harm the other objective. While the SLWRI is not the only way to improve anadromous fish survival, the most efficient way to meet both primary objectives is to enlarge Shasta Reservoir. Under the SLWRI, Shasta Reservoir cannot be reoperated to benefit anadromous fisheries without impacting water supply reliability, and vice versa.

Please refer to Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," Master Comment Response P&N-1, "Purpose and Need and Objectives," and, Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report."

EWC-54: Shasta will continue to be operated under the required guidelines, as defined in the NMFS 2009 BO that includes working with the four Fisheries and Operation Technical Teams (including the Sacramento River Temperature Task Group) responsible for adjusting operations to meet contractual obligations for water deliveries and to minimize adverse effects on listed anadromous fish species. These groups provide recommendations to the Water Operations Management Team (WOMT), which then considers recommendations from multiple work teams to inform changes in water operations.

The SLWRI has two primary coequal objectives that must be met, and neither must impede or harm the other objective. While the SLWRI is not the only way to improve anadromous fish survival, the most efficient way to meet both primary objectives is to enlarge Shasta Reservoir. Under the SLWRI, Shasta Reservoir cannot be reoperated to benefit anadromous fisheries without impacting water supply reliability, and vice versa.

Please refer to Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," Master Comment Response ALTR-1, "Range of Alternatives General."

EWC-55: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record," Master Comment Response GEN-4, "Best Available Information," and Master Comment Response ALTS-1, "Alternative Selection."

EWC-56: Please refer to Master Comment Response WASR-3, "The Shasta-Trinity National Forest LRMP and Protection of the Eligibility of the McCloud River as a Wild and Scenic River," Master Comment Response WASR-8, "Effects to the Eligibility of Rivers for Inclusion in the Federal Wild and Scenic River System," and Master Comment Response WASR-6, "Protections of the Lower McCloud River as Identified in the California Public Resources Code, Section 5093.542."

EWC-57: Please refer to Master Comment Response WASR-8, "Effects to the Eligibility of Rivers for Inclusion in the Federal Wild and Scenic River System."

EWC-58: Please refer to Master Comment Response WASR-1, "Eligibility of the McCloud River as a Federal Wild and Scenic River," and Master Comment Response WASR-3, "The Shasta-Trinity National Forest LRMP and Protection of the Eligibility of the McCloud River as a Wild and Scenic River."

EWC-59: Please refer to Master Comment Response WASR-8, "Effects to the Eligibility of Rivers for Inclusion in the Federal Wild and Scenic River System."

EWC-60: Please refer to Master Comment Response WASR-8, "Effects to the Eligibility of Rivers for Inclusion in the Federal Wild and Scenic River System."

EWC-61: Please refer to Master Comment Response WASR-1, "Eligibility of the McCloud River as a Federal Wild and Scenic River."

EWC-62: Please refer to Master Comment Response GEN-4, "Best Available Information."

EWC-63: Please refer to Master Comment Response WASR-3, "The Shasta-Trinity National Forest LRMP and Protection of the Eligibility of the McCloud River as a Wild and Scenic River," and Master Comment Response WASR-4, "CRMP's Responsibilities to Maintain the ORVs of the McCloud River."

EWC-64: Please refer to Master Comment Response WASR-1, "Eligibility of the McCloud River as a Federal Wild and Scenic River," Master Comment Response GEN-2, "Unsubstantiated Information."

EWC-65: Please refer to Master Comment Response WASR-3, "The Shasta-Trinity National Forest LRMP and Protection of the Eligibility of the McCloud River as a Wild and Scenic River," and Master Comment Response WASR-4, "CRMP's Responsibilities to Maintain the ORVs of the McCloud River."

EWC-66: Please refer to Master Comment Response WASR-3, "The Shasta-Trinity National Forest LRMP and Protection of the Eligibility of the McCloud River as a Wild and Scenic River," and Master Comment Response WASR-4, "CRMP's Responsibilities to Maintain the ORVs of the McCloud River."

EWC-67: Please refer to Master Comment Response WASR-6, "Protections of the Lower McCloud River as Identified in the California Public Resources Code, Section 5093.542."

EWC-68: Please refer to Master Comment Response WASR-1, "Eligibility of the McCloud River as a Federal Wild and Scenic River," and Master Comment Response CMS-1, "EIS Mitigation Plan."

EWC-69: Please refer to Master Comment Response WASR-6, "Protections of the Lower McCloud River as Identified in the California Public Resources Code, Section 5093.542."

EWC-70: A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4). Many comment authors expressed personal opinions, histories or experiences which are not appropriately addressed as part of the NEPA process. This comment will be included as part of the record and made available to decision makers before a final decision on the proposed project.

EWC-71: Please refer to Master Comment Response CR-5, "Environmental Justice."

EWC-72: Please refer to Master Comment Response EJ-1, "Potential Effects to Disadvantaged Communities."

EWC-73: Please refer to Master Comment Response CR-5, "Environmental Justice," and Master Comment Response CR-15, "National Historic Preservation Act Section 106 Consultations."

EWC-74: Please refer to Master Comment Response CR-3, "Current Effects to Cultural Resources," and Master Comment Response CR-2, "Federal Recognition."

EWC-75: Please refer to Master Comment Response CR-2, "Federal Recognition," Master Comment Response CR-3, "Current Effects to Cultural Resources," Master Comment Response CR-8, "Native American Connection to Salmon," and Master Comment Response CR-11, "Cultural Resources and NEPA."

EWC-76: Please refer to Master Comment Response CR-3, "Current Effects to Cultural Resources," and Master Comment Response CR-2, "Federal Recognition."

EWC-77: Please refer to Master Comment Response CR-2, "Federal Recognition."

EWC-78: Please refer to Master Comment Response CR-3, "Current Effects to Cultural Resources," and Master Comment Response CR-2, "Federal Recognition."

EWC-79: Please refer to Master Comment Response CR-3, "Current Effects to Cultural Resources," and Master Comment Response CR-2, "Federal Recognition."

EWC-80: Please refer to Master Comment Response CR-2, "Federal Recognition," and Master Comment Response CR-5, "Environmental Justice."

EWC-81: Please refer to Master Comment Response CR-2, "Federal Recognition," and Master Comment Response CR-15, "National Historic Preservation Act Section 106 Consultations."

EWC-82: Chapter 1, "Introduction," Section 1.6, "Areas of Controversy," of the DEIS acknowledges that Native American concerns and cultural resources remain an area of controversy. The Record of Decision on the SLWRI will include the plan formulation evaluation as well as the FEIS, comments on the DEIS and responses to comments on the DEIS. The decision-maker will have a full picture of the public interests involved in the selection of an alternative to recommend to Congress for authorization.

As stated in Chapter 1, "Introduction," Section 1.1.1, "Project Purpose andObjectives" of the Final EIS, the Project purpose is to improve operational flexibility of the Sacramento-San Joaquin Delta watershed system to meet specified primary and secondary project objectives including increasing survival of anadromous fish populations in the Sacramento River and increasing water supply and water supply reliability for agricultural, M&I, and environmental purposes, to help meet current and future water demands (primary objectives); and to conserve, restore and enhance ecosystem resources in the Shasta Lake area and the upper Sacramento River, reduce flood damage downstream, develop additional hydropower generation capabilities at Shasta Dam, maintain and increase recreation opportunities at Shasta Lake and maintain or improve water quality conditions downstream (secondary objectives). The DEIS examines the full range of impacts on the human environment of five action alternatives and a no action alternative.

Chapter 14, "Cultural Resources" identifies impacts from inundation of Traditional Cultural Properties and Sacred Land Filings, which include Winnemem Wintu places of traditional, ceremonial, and sacred uses. See "Impact Culture-2" in Section 14.3.4, "Mitigation Measures" for "CP1," "CP2," "CP3," "CP4," and "CP5," which are identified as significant and unavoidable, with no feasible mitigation identified.

Please refer to Master Comment Response CR-8, "Native American Connection to Salmon," and Master Comment Response CR-2, "Federal Recognition."

EWC-83: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources," and Master Comment Response CR-15, "National Historic Preservation Act Section 106 Consultations."

EWC-84: Please refer to Master Comment Response CR-6, "United Nations Declaration on "The Rights of Indigenous Peoples."

EWC-85: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources," and Master Comment Response CR-5, "Environmental Justice."

EWC-86: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources," and Master Comment Response CR-6, "United Nations Declaration on "The Rights of Indigenous Peoples."

EWC-87: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources."

EWC-88: Chapter 1, "Introduction," Section 1.6, "Areas of Controversy," of the DEIS acknowledges that Native American concerns and cultural resources remain an area of controversy. The Record of Decision on the SLWRI will include the plan formulation evaluation as well as the FEIS, comments on the DEIS and responses to comments on the DEIS. The decision-maker will have a full picture of the public interests involved in the selection of an alternative to recommend to Congress for authorization.

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Please refer to Master Comment Response CR-5, "Environmental Justice."

EWC-89: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources," and Master Comment Response CR-11, "Cultural Resources and NEPA."

EWC-90: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources," and Master Comment Response CR-5, "Environmental Justice."

EWC-91: The Botanical Resources and Wetlands Technical Report and Chapter 12, "Botanical Resources and Wetlands," include updated information on Shasta snow-wreath. Surveys were completed to map population sizes and locations to accurately quantify the impacts to Shasta snow-wreath populations from the dam raise and lake inundation. Chapter 12, Section 12.3.4, "Direct and Indirect Effects," Impact Bot-2: Loss of MSCS Covered Species and Impact BOT-3: Loss of USFS Sensitive, BLM Sensitive, or CRPR Species include the analysis of impacts to Shasta snow-wreath. Mitigation measures were developed in cooperation with the USFWS, USFS, and BLM, and were updated in Section 12.3.5, "Mitigation Measures," of the EIS.

The Wildlife Resources Technical Report – Attachment 10, "Terrestrial Mollusk Survey Report," contains information on terrestrial mollusk surveys including the level of effort, methods, and results. In Chapter 13, "Wildlife Resources," of the EIS, Section 13.3.4, "Direct and Indirect Effects," Impact Wild-12: Impacts on Special-Status Mollusks (Shasta Sideband, Wintu Sideband, Shasta Chaparral, and Shasta Hesperian) and Their Habitat includes the analysis of impacts to special-status terrestrial mollusks. In addition, the EIS was revised to enhance the impact analysis and mitigation measures in Section 13.3.5 for special-status terrestrial mollusks.

The Wildlife Resources Technical Report Attachment 3, "Breeding Bird Survey Results – Breeding Bird Surveys 2007-2014," includes information on purple martin surveys including the level of survey effort, methods, and results. The Wildlife Resources Technical report was revised to enhance the discussion of purple martin. In Chapter 13, "Wildlife Resources," of the EIS, Section 13.3.4, "Direct and Indirect

Effects," Impact Wild-7: Impact on the Purple Martin and its Nesting Habitat includes the revised analysis of impacts to purple martin. In addition, the EIS was revised to enhance the mitigation measures in Section 13.3.5 for purple martin and its nesting habitat.

Impact Wild-1: Take and Loss of Habitat for the Shasta Salamander in Chapter 13 addresses impacts to Shasta Salamander. In the Final EIS, mitigation measures were enhanced to reduce impacts to Shasta salamander. Where surveys for special status species have not been completed to meet established protocols, Reclamation's approach is to assume presence of these species within areas of potential habitat. The Final EIS was revised to include an enhanced discussion of the affected environment, impact analysis, and mitigation measures.

The Botanical Resources and Wetlands Technical Report Attachment 6, "Botanical Survey Report 2002-2014," includes information on Shasta snow-wreath (*Neviusia cliftonii*) and Shasta huckleberry (*Vaccinium* sp.) surveys.

EWC-92: Chapter 7, "Water Quality," and the associated Water Quality Technical; Report provide a comprehensive discussion of the nature and location of historic mining activities and existing features as they relate to heavy metals and other water quality constituents. Under the No-Action Alternative, the existing mine drainage issues will continue consistent with abatement efforts of land owners and managers. With the exception of an isolated area near the Bully Hill mine complex, there are no abandoned or active mines that would be subject to inundation or disturbance if the SLWRI project is authorized.

The discussion of fisheries impacts in Chapter 11, "Fisheries and Aquatic Ecosystems," referenced by the commenter is specific to impacts to cold water habitat. Discussion of water quality impacts on beneficial uses (e.g., cold water habitat) is provided in Chapter 7, "Water Quality," specifically Impacts WQ-3 and WQ-6.

EWC-93: Please refer to Master Comment Response EI-1, "Intent of NEPA Process to Provide Fair and Full Discussion of Significant Environmental Impacts."

EWC-94: Please refer to Master Comment Response COST/BEN-5, "Potential Project Financing."

EWC-95: This comment is related to historical CVP repayment and potential project beneficiaries' payment capacity. Please see Master Comment Response COST/BEN-5, "Potential Project Financing."

EWC-96: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

EWC-97: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

EWC-98: Please refer to Master Comment Response EI-1, "Intent of NEPA Process to Provide Fair and Full Discussion of Significant Environmental Impacts," Master Comment Response GEN-1, "Comment Included as Part of the Record," and Master Comment Response CMS-1 "EIS Mitigation Plan."

EWC-99: Please refer to Master Comment Response CMS-1, "EIS Mitigation Plan," and Master Comment Response CR-2, "Federal Recognition."

EWC-100: Please refer to Master Comment Response REC-4, "Relocation of Recreation Facilities."

EWC-101: Please refer to Master Comment Response REC-9, "Relationship Between Recreation and Shasta Lake Water Levels."

EWC-102: A detailed discussion on management of the cold-water pool for anadromous fish is presented in Chapter 2, "Alternatives," Section 2.3.6, "CP4 and CP4A – 18.5-Foot Dam Raise, Anadromous Fish Focus with Water Supply Reliability." It is explained that Reclamation would work cooperatively with the SRTTG (Sacramento River Temperature Task Group) to determine the best use of the cold-water pool each year under an adaptive cold water management plan. Reclamation would manage the cold-water pool and operate Shasta Dam each year based on recommendations from the SRTTG. Because adaptive management is predicated on using best available science and new information to make decisions, a monitoring program would be implemented as part of the adaptive management plan. SRTTG members would conduct monitoring, develop monitoring protocols, and set performance standards to determine the success of adaptive management actions.

Please refer to Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions."

EWC-103: The No-Action Alternative and action alternatives do not include changes to existing CVP or SWP contract terms or existing water rights. SLWRI does not supersede existing laws or regulations and does not exempt any actions from compliance with applicable laws, including NEPA or ESA. The Federal, State, and local regulatory framework for the SLWRI is generally described in Chapter 3, "Considerations for Describing Affected Environment and Environmental Consequences," Section 3.4, "Regulatory Framework," of the DEIS. Chapters 4-25 contain more detailed discussions of the

"Regulatory Framework" by resource area. In addition, Chapter 26, "Other Required Disclosures," further describes the Federal and State laws, rules and regulations, Executive Orders, and compliance requirements that may be required if an alternative is selected for implementation.

EWC-104: The number of facilities affected can be found in the DEIS Chapter 18, "Public Access and Recreation," Table 18-4, 18-7, and 18-9 "Talley of Shasta Lake Recreation Facilities Substantially Affected by (CP1-CP3)" respectively. Recreation facility relocation would occur to coincide with the filling of the enlarged lake to minimize recreation facilities outages. While there may be short periods of outages at a particular facility, these outages would be planned such that at least one or more of each type of facility would remain open at any one time. Mitigation Measure REC-2 "Provide Information About and Improve Alternate Recreation Access and Opportunities to Mitigate the Temporary Loss of Recreation Access and Opportunities During Construction at Shasta Dam" would allow for notification to the public of outages during construction. Overall, short –term construction impacts are balanced against the long-term improvement in recreation opportunities to provide an increase in recreation opportunities at a cost of some disruption during constructing and filling of an enlarged Shasta Lake. After the project is completed the reservoir fluctuation will remain similar to current conditions.

Please refer to Master Comment Response REC-9, "Relationship Between Recreation and Shasta Lake Water Levels," Master Comment Response RAH-1, "Available Water to Fill an Enlarged Reservoir," and Master Comment Response RAH-2, "Reservoir Surface Area with Reservoir Enlargement."

EWC-105: Please refer to Master Comment Response REC-3, "Effects to Tourism at Shasta Lake," Master Comment Response SOCIOECON-1, "Socioeconomic Effects to Shasta Lake Vicinity," and Master Comment Response REC-1, "Effects to Recreation at Shasta Lake."

EWC-106: Please refer to Master Comment Response REC-1, "Effects to Recreation at Shasta Lake."

EWC-107: Please refer to Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan," and Master Comment Response EI-7, "Bay Delta Conservation Plan Too Speculative to Provide Meaningful Quantitative Cumulative Analysis in SLWRI EIS."

EWC-108: Please refer to Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan."

EWC-109: Please refer to Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan," and Master Comment Response EI-7, "Bay Delta Conservation Plan Too Speculative to Provide Meaningful Quantitative Cumulative Analysis in SLWRI EIS."

EWC-110: Please refer to Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan," and Master Comment Response EI-7, "Bay Delta Conservation Plan Too Speculative to Provide Meaningful Quantitative Cumulative Analysis in SLWRI EIS."

EWC-111: Please refer to Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan," and Master Comment Response EI-7, "Bay Delta Conservation Plan Too Speculative to Provide Meaningful Quantitative Cumulative Analysis in SLWRI EIS."

EWC-112: Chapter 2, "Alternatives," describes the baselines for comparison. Multiple baselines are used to allow for informed decision-making by describing the 1) differences in the no-action/no-project alternative as compared to the action alternatives and 2) existing conditions as compared to the action alternatives. Efforts were made to simplify the document as much as feasible while meeting the needs to disclose environmental effects to the extent required to meet current legal requirements for full disclosure, including multiple baselines.

Please refer to Master Comment Response CEQA-1, "CEQA Compliance."

EWC-113: Please refer to Master Comment Response CEQA-1, "CEQA Compliance."

EWC-114: Please refer to Master Comment Response CEQA-1, "CEQA Compliance."

EWC-115: Comment noted.

EWC-116: Please refer to Master Comment Response TA-1, "Interrelationship Between Shasta Dam Operations, San Joaquin River Flows, and Delta Exports."

EWC-117: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-118: Please refer to Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan," and Master Comment Response EI-7, "Bay Delta Conservation Plan Too

Speculative to Provide Meaningful Quantitative Cumulative Analysis in SLWRI EIS."

EWC-119: The purpose of this EIS is to disclose and evaluate potential impacts to the environment from project implementation. In the Delta the environment is the flow and salinity at any given time and location and not the source of the water molecules that happen to be present.

The Sacramento- San Joaquin delta is a complex system of inter-connected channels. These channels are hydraulically connected with flows driven by inflows from the Sacramento, San Joaquin and other rivers and streams, CVP/SWP and numerous other in-delta exports, and ocean tidal stage from the outlet to the Pacific Ocean. A mass balance analysis of CalSim-II results shows that Sacramento River water is frequently exported, particularly in July-December when exports are relatively high, and San Joaquin River flows are relatively low. The citation provided ("Using Particle Tracking to Indicate Delta Residence Time") also shows that Sacramento River water passing by Freeport is exported, both supporting the fact that the Sacramento River is hydraulically connected to the entire delta, including the South delta and the CVP/SWP export pumps. The existing flow and salinity standards recognize this fact and do not specify the source of the water molecules at any specific location only that the molecules that are at that location meet the standards and provide the desired level of protection to the ecosystem.

All system operations modeling was performed using the CalSim II CVP/SWP simulation model, the best available tool for predicting system-wide water operations throughout the Central Valley. Details on the CalSim-II model and the assumptions included in all simulations can be found in the Modeling Appendix, Chapter 2, "CalSim-II." As described in the Modeling Appendix, Chapter 2, "CalSim-II," the CalSim-II model includes an Artificial Neural Network (ANN) that is based on the DSM2 simulation model, the best available model of the hydrodynamic and salinity conditions in the Delta. DSM2 is also described in the Modeling Appendix, Chapter 7, "Delta Hydrodynamic Model." In the ANN, as in DSM2, additional inflows from the Sacramento River and the CVP/SWP exports from the south Delta affect flows and salinities throughout the delta. This process recognizes and applies the hydraulic connectivity between the delta channels to determine system operations that meet the flow and salinity standards at all location in the delta.

The results of the analysis show that additional Sacramento River inflow from Shasta Reservoir enlargement allows for increases in exports while still meeting all applicable flow, salinity, and stage requirements at

various locations throughout the Delta, and maintaining the level of protection implicit in the formulation of the standards.

Please refer to Master Comment Response TA-1, "Interrelationship Between Shasta Dam Operations, San Joaquin River Flows, and Delta Exports."

EWC-120: The purpose of this EIS is to disclose and evaluate potential impacts to the environment from project implementation. In the Delta the environment is the flow and salinity at any given time and location and not the source of the water molecules that happen to be present. The referenced studies do not address the overall hydrodynamics and salinity of the Sacramento-San Joaquin Delta system, the studies simply address of the issue of the source of the specific water molecules that make up the CVP and SWP exports. This type of analysis was not performed in support of the EIS as it is not relevant to the impact analysis.

The Sacramento- San Joaquin Delta is a complex system of inter-connected channels. These channels are hydraulically connected with flows driven by inflows from the Sacramento, San Joaquin and other rivers and streams, CVP/SWP and numerous other in-delta exports, and ocean tidal stage from the outlet to the Pacific Ocean. A mass balance analysis of CalSim-II results shows that Sacramento River water is frequently exported, particularly in July-December when exports are relatively high, and San Joaquin River flows are relatively low. The citation provided ("Using Particle Tracking to Indicate Delta Residence Time") also shows that Sacramento River water passing by Freeport is exported, both supporting the fact that the Sacramento River is hydraulically connected to the entire delta, including the South delta and the CVP/SWP export pumps. The existing flow and salinity standards recognize this fact and do not specify the source of the water molecules at any specific location only that the molecules that are at that location meet the standards and provide the desired level of protection to the ecosystem.

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flows and salinities throughout the delta. This process recognizes and applies the hydraulic connectivity between the delta channels to determine system operations that meet the flow and salinity standards at all location in the delta.

The results of the analysis show that additional Sacramento River inflow from Shasta Reservoir enlargement allows for increases in exports while still meeting all applicable flow, salinity, and stage requirements at various locations throughout the Delta, and maintaining the level of protection implicit in the formulation of the standards.

Please refer to Master Comment Response TA-1, "Interrelationship Between Shasta Dam Operations, San Joaquin River Flows, and Delta Exports."

EWC-121: The purpose of this EIS is to disclose and evaluate potential impacts to the environment from project implementation. In the Delta the environment is the flow and salinity at any given time and location and not the source of the water molecules that happen to be present.

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described in the Modeling Appendix, Chapter 7, "Delta Hydrodynamic Model." In the ANN, as in DSM2, additional inflows from the Sacramento River and the CVP/SWP exports from the south delta affect flows and salinities throughout the delta. This process recognizes and applies the hydraulic connectivity between the delta channels to determine system operations that meet the flow and salinity standards at all location in the delta.

The results of the analysis show that additional Sacramento River inflow from Shasta Reservoir enlargement allows for increases in exports while still meeting all applicable flow, salinity, and stage requirements at various locations throughout the Delta, and maintaining the level of protection implicit in the formulation of the standards.

Please refer to Master Comment Response TA-1, "Interrelationship Between Shasta Dam Operations, San Joaquin River Flows, and Delta Exports."

EWC-122: Please refer to Master Comment Response TA-1, "Interrelationship Between Shasta Dam Operations, San Joaquin River Flows, and Delta Exports."

EWC-123: Please refer to Master Comment Response TA-1, "Interrelationship Between Shasta Dam Operations, San Joaquin River Flows, and Delta Exports."

EWC-124: All operations simulation modeling in the DEIS was performed with the latest version of the CalSim-II simulation model, the best available tool for modeling joint CVP/SWP system operations in California. The assumptions in the modeling used in support of this document included the 2008/2009 BO's as well as the most recent versions of all other regulatory conditions. Specific details of the assumptions included in the CalSim-II modeling are included in Table 2-1 in Chapter 2, "CALSIM," of DEIS Modeling Appendix. In the modeling many other water supply and water quality requirements must be met to allow exports. These Delta wide requirements are met with the additional releases from the enlarged Shasta reservoir allowing additional pumping. The results of this modeling include the system response to the project including changes in reservoir storages, releases, stream flows, and Delta exports. These results are summarized in the text with full results included in Chapter 6, "Hydrology, Hydraulics and Water Management."

Please refer to Master Comment Response GEN-4, "Best Available Information," and Master Comment Response EI-7, "Bay Delta Conservation Plan Too Speculative to Provide Meaningful Quantitative Cumulative Analysis in SLWRI EIS."

EWC-125: Thank you for your comment. Please see Master Comment Response Gen-1, "Comment Included as Part of the Record." DWR, Reclamation, USFWS, and NMFS jointly prepared the Draft EIR/EIS for the BDCP, which was released to the public on December 13, 2013. As described in the Executive Summary of the BDCP Draft EIS/EIR, BDCP proponents include only DWR and six SWP and CVP water contractors.

EWC-126: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-127: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-128: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-129: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-130: Please refer to Master Comment Response WR-1, "Water Rights"

EWC-131: Please refer to Master Comment Response WR-1, "Water Rights," and Master Comment Response CEQA-1, "CEQA Compliance."

EWC-132: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-133: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-134: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-135: Please refer to Master Comment Response WR-1, "Water Rights."

EWC-136: Chapter 13, "Wildlife Resources," Section 13.3.4, "Direct and Indirect Effects," describes impacts to downstream wildlife resources from each of the action alternatives.

Please refer to Master Comment Response WR-1, "Water Rights."

EWC-137: As stated in DEIS Chapter 10, "Agricultural Resources," Section 10.1.2, "Important Farmland," the San Joaquin Valley lost 66 percent of its irrigated farmland to long-term land idling in Fresno,

Kings, and Kern counties. The Fresno County decrease—more than 56,000 acres—was particularly notable and is associated with salinity and drought-related land retirement on the west side of the valley. As stated in Chapter 10, Section10.3.4 "Direct and Indirect Effects," the action alternatives would help reduce estimated future agricultural water shortages in the CVP/SWP service areas by increasing dry and critical year water supplies for agricultural deliveries. Chapter 7, "Water Quality," Section 7.1 "Overview of Water Quality Conditions," describes that soil salinity is an issue in the CVP service areas.

EWC-138: Reclamation is exercising its water rights in accordance with the terms and conditions of its water right permits, applicable water rights decisions, and state and federal law.

EWC-139: Comment noted.

EWC-140: Please refer to Master Comment Response BDCP-1, “Relationship of the SLWRI to the Bay Delta Conservation Plan,” and Master Comment Response WR-1, “Water Rights.”

EWC-141: Reclamation works with the State Board on all issues related to its water right petitions, including protests.

Please refer to Master Comment Response WR-1, “Water Rights.”

EWC-142: Chapter 6, “Hydrology, Hydraulics, and Water Management,” Section 6.2, “Regulatory Framework” of the DEIS describes how State Water Resources Control Board (SWRCB) approval policies require water transfers from north of Delta to south of Delta be consistent with the Joint Point of Diversion and D-1641 Water Rights Decisions. Water transfers are regulated by the SWRCB and must comply with the California Water Code Sections 1725-1732 and transferees must demonstrate that there is no harm to other users in the Basin, including fish and wildlife resources. None of the action alternatives evaluated in the DEIS would have any effect on the water transfer program between north of Delta and south of Delta contractors and therefore is not evaluated in the DEIS.

EWC-143: Please refer to Master Comment Response GEN-1, “Comment Included as Part of the Record.”

EWC-144: Chapter 6, “Hydrology, Hydraulics, and Water Management,” Section 6.1.7 “Groundwater Resources” of the DEIS describes groundwater levels and budget and groundwater quality for the Shasta Lake and vicinity, the Upper Sacramento River area, the Lower Sacramento River and Delta area, and the CVP/SWP service areas. Chapter 6 “Hydrology, Hydraulics, and Water Management,” Section 6.2.1 “Regulatory Framework” of the DEIS describes the Federal, State,

and local regulatory framework for the SLWRI, as it relates to that resource area. Chapter 6 “Hydrology, Hydraulics, and Water Management,” Section 6.3.2 “Criteria for Determining Significance of Effects” of the DEIS describes the manner in which potential impacts on groundwater resources are evaluated. As described in Chapter 6, “Hydrology, Hydraulics, and Water Management,” Sections 6.3.3, “Direct and Indirect Effects,” and 6.3.4, “Mitigation Measures,” of the DEIS, no groundwater resources mitigation measures are proposed for the action alternatives because no potentially significant impacts have been identified (Impact H&H-12 “change in groundwater levels”). Impact H&H-13 (“change in groundwater quality") could result in beneficial impacts, so no mitigation is needed.

EWC-145: Chapter 6 “Hydrology, Hydraulics, and Water Management,” Section 6.2 “Regulatory Framework” of the DEIS describes how State Water Resources Control Board (SWRCB) approval policies require water transfers from north of Delta to south of Delta be consistent with the Joint Point of Diversion and D-1641 Water Rights Decisions. Water transfers are regulated by the SWRCB and must comply with the California Water Code Sections 1725-1732 and transferees must demonstrate that there is no harm to other users in the Basin, including fish and wildlife resources. None of the action alternatives evaluated in the DEIS would have any effect on the water transfer program between north of Delta and south of Delta contractors and therefore is not evaluated in the DEIS.

EWC-146: Chapter 6 “Hydrology, Hydraulics, and Water Management,” Section 6.2 “Regulatory Framework” of the DEIS describes how State Water Resources Control Board (SWRCB) approval policies require water transfers from north of Delta to south of Delta be consistent with the Joint Point of Diversion and D-1641 Water Rights Decisions. Water transfers are regulated by the SWRCB and must comply with the California Water Code Sections 1725-1732 and transferees must demonstrate that there is no harm to other users in the Basin, including fish and wildlife resources. None of the action alternatives evaluated in the DEIS would have any effect on the water transfer program between north of Delta and south of Delta contractors and therefore is not evaluated in the DEIS.

EWC-147: The Climate Change Modeling Appendix provides an assessment of the potential to achieve the objectives of the SLWRI under projected future climate change. See Master Comment Response CC-1, “Climate Change Uncertainty and Related Evaluations,” for a description of the differences between the Appendix and the information used in the DEIS chapters. Please refer to Master Comment Response NEPA-2, “Cumulative Impacts.”

EWC-148: The potential exposure to sensitive receptors to substantial pollutant concentrations is discussed under Impact AQ-3 (CP1), in Chapter 5, "Air Quality and Climate." The analysis explains "there are no sensitive receptors near the dam raise areas" and recognizes that "there may be sensitive receptors near the some of the lands that would be cleared before inundation by the expanded reservoir." On the same page the analysis states, "There are no sensitive receptors within one-half mile of the dam site, and sensitive receptors would not be exposed to diesel PM from that source" (i.e., construction activity at the dam site).

The commenter provides no evidence that any particular sensitive receptor was overlooked. The commenter also provides no evidence that the air quality effects at specific, more-distance sensitive receptors should have been analyzed in greater detail.

EWC-149: The commenter provides ARB's definition of air quality sensitive receptors.

EWC-150: The commenter provides no suggestion about the approach that should be followed or a source of wind data representative of meteorological conditions at the project site. Page 1-3 of the Air Quality and Climate Technical Report in the Physical Resources Appendix explains that "the predominant wind direction and speed, measured at the Red Bluff Station, is from the north-northwest at 9 miles per hour (ARB 1994)." It is questionable, however, whether the wind conditions at the project site are similar to those in Red Bluff given the varying topography and surface roughness characteristics. To the knowledge of Reclamation and its consultants, there is no wind data collected in closer proximity to the project site. Thus, there is no data Reclamation could use to define a radius or wind rose of wind directional tendencies representative of the project site.

The commenter also states that the air quality analysis fails to indicate whether sensitive receptors are located in the Primary Study Area. Whether receptors are located inside or outside the Primary Study Area is less important than their proximity to activities that generate TAC emissions. Because it would not make sense to apply the same study area for all resource topics (i.e., air quality, noise, geology, agriculture), page 5-1 the EIS explains that the primary study area for the air quality analysis has two primary study areas—local and regional. The area of local concern includes areas proximate to where high levels of construction activity would occur. The area of regional concern is defined by the affected air basins and Figure 5-1 shows the locations of both the air basins and Shasta County Air Quality Management District's (SCAQMD) jurisdiction.

The commenter also argues that the analysis fails to show the precise locations of sensitive receptors and substantiate why they are far enough from the emissions sources to warrant a less-than-significant impact conclusion. Impact AQ-3 (CP1), which begins on page 5-41 of the DEIS, discusses the potential for construction activities to expose sensitive receptors to substantial concentrations of CO, PM10, PM2.5, and toxic air contaminants (TAC). The analysis focuses on the intensity in which emissions would be generated and the effectiveness of the required dust control measures, as well as the exhaust control measures that would be required by SCAQMD Rule 2:7. Because it was determined that the emissions sources would be adequately controlled a detailed examination of the particular locations of the nearest sensitive receptors and dispersion characteristics of the area is not needed.

The commenter provides no evidence that any particular sensitive receptor was overlooked. The commenter also provides no evidence that the air quality effects at specific, more-distance sensitive receptors should have been analyzed in greater detail.

EWC-151: The commenter claims that the analysis fails to show a ready comparison between the levels of construction-generated emissions for the project and the air quality criteria used by SCAQMD.

The analysis of criteria air pollutants and precursors generated during construction activity under CP1 is in Chapter 5, "Air Quality and Climate," Section 5.3.4, "Direct and Indirect Effects," of the Draft EIS. Daily mass emission levels are estimated for each project element of CP-1 and summarized in Table 5-4. Chapter 5 states, "As seen in Table 5-4, ROG, NOX, and PM emissions for several of the individual project elements could exceed applicable Shasta County thresholds, which would result in a significant impact." Thus, the mass emission thresholds recommended by SCAQMD and the Tehama County Air Pollution Control District (TCAPCD) shown in Chapter 5 were used to determine significance.

The commenter also claims that the analysis fails to show how many days of violations, if any, would occur based on construction activity. The precision in which the analysis can estimate the number of days mass emission thresholds would be exceeded is limited based on the accuracy of the projected construction schedule for each CP. Nonetheless, Figures 5-2 through 5-8 show how the maximum daily construction emissions of each criteria air pollutant and precursor are projected to change over the course of the construction schedule.

EWC-152: The commenter questions why the GHG analysis uses the mass emission threshold of 25,000 MT CO_2e/year after providing a review of some other, smaller mass emission thresholds that are

discussed in a 2008 white paper by the California Air Pollution Control Officers Association (CAPCOA 2008). There are multiple reasons why the GHG analysis applied a threshold of 25,000 MT CO_2e/year. First, in the disclaimer to its white paper CAPCOA openly states, "This paper is intended as a resource, not a guidance document. It is not intended, and should not be interpreted, to dictate the manner in which an air district or lead agency chooses to address greenhouse gas emissions in the context of its review of projects under CEQA" (CAPCOA 2008). CAPCOA's disclaimer further states, "This paper is intended as a resource, not a guidance document. It is not intended, and should not be interpreted, to dictate the manner in which an air district or lead agency chooses to address greenhouse gas emissions in the context of its review of projects under CEQA." This statement accurately reflects the fact that the approaches and project-specific thresholds for evaluating GHGs by government agencies and CEQA practitioners have rapidly evolved since the passage of AB 32 and continues to do so. Also, CAPCOA's publication specifically focuses on the use of various thresholds for CEQA documents and includes no mention of NEPA. This distinction is important given that Reclamation wrote the DEIS primarily to comply with NEPA.

The Council on Environmental Quality (CEQ) has provided draft guidance for federal lead agencies, such as Reclamation, to address impacts of GHG emissions in NEPA analyses. CEQ's draft guidelines include the following section:

If a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO2 equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. For long-term actions that have annual direct emissions of less than 25,000 metric tons of CO2 equivalent, CEQ encourages federal agencies to consider whether the action's long-term emissions should receive similar analysis. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs (CEQ 2010: p. 1-2).

While CEQ suggests that an emissions level that 25,000 MT CO2e/year is "an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public," Reclamation has decided to apply this level as the threshold for determining whether the net change in GHG emissions associated with project alternatives would be significant.

Furthermore, the commenter does not provide any evidence or reasoning to suggest that a smaller mass emission threshold would be more appropriate for this particular project or projects of this type.

EWC-153: Please refer to Master Comment Response AQ-4, "Greenhouse Gas Emissions Associated with Cement Production."

EWC-154: The commenter challenges the assumption in the GHG analysis that fossil fuel based-power plants would be used to generate electricity if the increase in hydropower generation does not occur. The commenter suggests this assumption is invalid because "fossil fuel plants provide baseline loads while hydropower tends to meet peak time load needs because hydro generation can be easily ramped up to meet heavy load peaks." While it is true that most baseload generation is provided by fossil fuel-based power it is also true that most peaker power plants, which are power plants that generally run only when there is a high demand, are fossil fuel-based. According to the recent list of operational power plants in California provided by the CEC, there are 1,237 operating power plants in California (0.1 MW or greater) and all 49 of the listed peaker plant are powered by natural gas or diesel (CEC 2013). (Also, none of the 366 listed hydroelectric plants are listed as peaker plants.) Please refer to Master Comment Response AQ-1, "Offsetting Greenhouse Gas Emissions with Increased Hydropower," for an explanation about why it was assumed that fossil fuel-based power would be generated but for the increased hydropower production at Shasta Dam.

EWC-155: Comment noted.

EWC-156: This comment appears to be related to allocation of costs to project beneficiaries, which is outside the scope of the DEIS. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4(b)). The commenter's calculation of "Cost of Annual Yield per Acre-foot" is inconsistent with the cost allocation process described in the Federal planning process identified in the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (P&G). As described in Master Comment Response COST/BEN-5, "Potential Project Financing," an updated cost allocation was included in the SLWRI Final Feasibility Report. This comment was included as part of the record and made available to decision makers before a final decision on the proposed project.

EWC-157: Comment noted.

EWC-158: Please refer to Master Comment Response ALTD-1, "Alternative Development- Water Supply Reliability," Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," Master Comment Response P&N-1, "Purpose and Need and Objectives," Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions," and Master Comment Response DSFISH-3, "Fish Habitat Restoration."

EWC-159: Please refer to Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions."

EWC-160: SLWRI alternatives include measures to reduce reliance on the Delta. SLWRI action alternatives include a water conservation program, under the "Reduce Demand" management measure common to all action alternatives. This program would help reduce reliance on imported water supplies, including those from the Delta. The water conservation program would be for new water supplies that would be created by the project to augment current water use efficiency practices. The proposed program would consist of a 10-year initial program to which Reclamation would allocate approximately $1.6 million to $3.8 million to fund water conservation efforts. Funding would be proportional to additional water supplies delivered and would focus on assisting project beneficiaries (agencies receiving increased water supplies because of the project), with developing new or expanded urban water conservation, agricultural water conservation, and water recycling programs. Program actions would be a combination of technical assistance, grants, and loans to support a variety of water conservation projects, such as recycled wastewater projects, irrigation system retrofits, and urban utilities retrofit and replacement programs. The program could be established as an extension of existing Reclamation programs, or as a new program through teaming with cost-sharing partners. Combinations and types of water use efficiency actions funded would be tailored to meet the needs of identified cost-sharing partners, including consideration of cost-effectiveness at a regional scale for agencies receiving funding.

SLWRI will not alter current reliance on the Delta in regards to water contracts and regulations. Water operations under SLWRI action alternatives are described in DEIS in Chapter 2, "Alternatives," Section 2.3, "Action Alternatives." SLWRI action alternatives do not include changes to any rules and regulations that govern operations at Shasta Dam in the form of flood control requirements, flow requirements, water quality requirements, and water supply commitments that govern operations at Shasta Dam. Also SLWRI action alternatives do not include increases in CVP or SWP water contract amounts.

Estimated increases in water supply deliveries under SLWRI action alternatives would be due to an increase in the reliability of CVP and SWP water supplies resulting in a reduction in previously unmet contract amounts.

Please refer to Master Comment Response ALTD-1, "Alternative Development- Water Supply Reliability," Master Comment Response P&N-1, "Purpose and Need and Objectives," and Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest."

EWC-161: The Q5 climate projections is not the "central tendencies of the four quadrant scenarios" rather it is formed from ensemble members not included in the other 4 quadrant scenarios. (See appendix reference Reclamation (2013) for a detailed explanation of the methods used to develop socioeconomic-climate scenarios used in the sensitivity analyses). The purpose of forming the Q1 through Q5 ensemble informed projections is to address a wide range of potential future climates so that the effects of future climate uncertainty can be addressed in the sensitivity analysis. The socioeconomic-climate scenarios employed in the Climate Change Modeling appendix are non-stationary projections of future conditions. Please refer to figures 3-1 through 3-6 in the Climate Change Modeling Appendix for examples of non-stationary socioeconomic scenarios and figure 3-9 for an example of non-stationary climate projections. Because inter-annual variability is not well simulated by GCMs, the inter-annual variability present in the climate projections was based on the variability present in the historical hydrology sequence. See Reclamation (2011a) for more detailed discussions of GCM projection limitations.

Three bracketing socioeconomic climate scenarios were presented in the appendix however all projections plus a no climate change projection were simulated. The five ensemble informed climate projections are formed from independent groups of individual projections. The "central tendency" projection includes those projections bounded by the 25th to 75th percentiles of all projections for changes in temperature and precipitation. The remaining 4 representative projections were formed from the 10 near projections to the 10th and 90th percentiles of projections of changes in temperature and precipitation. For more details on the methods used to develop the climate projections see Reclamation (2013) in the Climate Change Modeling appendix. The socioeconomic-climate scenarios employed in the Climate Change Modeling appendix are non-stationary projections of future conditions. See figures 3-1 through 3-6 for examples of non-stationary socioeconomic scenarios and figure 3-9 for an example of non-stationary climate projections. Because inter-annual variability is not well simulated by GCMs, the inter-annual variability present in the

climate projections was based on the variability present in the historical hydrology sequence. See Reclamation (2011a) for more detailed discussions of GCM projection limitations.

Please refer to Master Comment Response CC-2, "Climate Change Projections."

EWC-162: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

EWC-163: Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest," Master Comment Response COST/BEN-5, "Potential Project Financing," and Master Comment Response CC-1, "Climate Change Uncertainty and Related Evaluations."

EWC-164: The comment appears to be based on numbers extracted from the Climate Change analysis. The purpose of the climate change analysis is to address a wide range of potential future climates so that the effects of future climate uncertainty can be addressed in the sensitivity analysis. The results presented in the document were developed using a different set of assumptions, input data, and modeling tools and should not be directly compared to results of the modeling and analysis performed to support impact analysis in the EIS.

The socioeconomic-climate scenarios employed in the Climate Change Modeling appendix are non-stationary projections of future conditions. Please refer to figures 3-1 through 3-6 in the Climate Change Modeling Appendix for examples of non-stationary socioeconomic scenarios and figure 3-9 for an example of non-stationary climate projections. Because inter-annual variability is not well simulated by GCMs, the inter-annual variability present in the climate projections was based on the variability present in the historical hydrology sequence. See Reclamation (2011a) for more detailed discussions of GCM projection limitations.

Three bracketing socioeconomic climate scenarios were presented in the appendix however all projections plus a no climate change projection were simulated. The five ensemble informed climate projections are formed from independent groups of individual projections. The "central tendency" projection includes those projections bounded by the 25th to 75th percentiles of all projections for changes in temperature and precipitation. The remaining 4 representative projections were formed from the 10 near projections to the 10th and 90th percentiles of projections of changes in temperature and precipitation. For more details on the methods used to develop the climate projections see Reclamation (2013) in the Climate change Modeling Appendix. The

socioeconomic-climate scenarios employed in the Climate Change Modeling appendix are non-stationary projections of future conditions. See figures 3-1 through 3-6 for examples of non-stationary socioeconomic scenarios and figure 3-9 for an example of non-stationary climate projections. Because inter-annual variability is not well simulated by GCMs, the inter-annual variability present in the climate projections was based on the variability present in the historical hydrology sequence. See Reclamation (2011a) for more detailed discussions of GCM projection limitations.

Please refer to Master Comment Response CC-2, "Climate Change Projections."

EWC-165: Please refer to Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," Master Comment Response COST/BEN-5, "Potential Project Financing."

EWC-166: As described in Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," evaluations of economic feasibility were not included in the DEIS, because they are not required under NEPA. Accordingly, a cost-benefit analysis was not included in the DEIS. Additionally, a preferred alternative was not identified in the DEIS, and is not required under NEPA. A preliminary cost-benefit analysis was included in the SLWRI Draft Feasibility Report, which was released to the public in February 2012. Estimated costs and benefits of action alternatives presented in the Draft Feasibility Report were determined by comparison of the with-project (action alternative) and without-project (No-Action Alternative) conditions, consistent with the Federal planning process identified in the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (P&G). Evaluations in the SLWRI Final Feasibility Report, including economic feasibility evaluations, were updated based on alternatives refinements and updated CVP and SWP operational assumptions included in the SLWRI DEIS, including the 2008 Long-term Operation BA, 2008 USFWS BO, and 2009 NMFS BO. Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest," Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," and Master Comment Response GEN-4, "Best Available Information."

EWC-167: As described in Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," evaluations in the SLWRI Final Feasibility Report were updated based on alternatives refinements and updated CVP and SWP operational assumptions included in the SLWRI DEIS, including the 2008 Long-Term Operation BA, 2008 USFWS BO, and 2009 NMFS BO. Updated cost-benefit

analyses for all comprehensive plans, including CP5, will be included as part of these updated evaluations. Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest," and Master Comment Response GEN-4, "Best Available Information."

EWC-168: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

EWC-169: Please refer to Master Comment Response WSR-8, "Action Alternatives Don't Meet All Water Demands."

EWC-170: The comment appears to be based on numbers extracted from the Climate Change analysis. The purpose of the climate change analysis is to address a wide range of potential future climates so that the effects of future climate uncertainty can be addressed in the sensitivity analysis. The results presented in the document were developed using a different set of assumptions, input data, and modeling tools and should not be directly compared to results of the modeling and analysis performed to support impact analysis.

The socioeconomic-climate scenarios employed in the Climate Change Modeling appendix are non-stationary projections of future conditions. Please refer to figures 3-1 through 3-6 in the Climate Change Modeling Appendix for examples of non-stationary socioeconomic scenarios and figure 3-9 for an example of non-stationary climate projections. Because inter-annual variability is not well simulated by GCMs, the inter-annual variability present in the climate projections was based on the variability present in the historical hydrology sequence. See Reclamation (2011a) for more detailed discussions of GCM projection limitations.

Three bracketing socioeconomic climate scenarios were presented in the appendix however all projections plus a no climate change projection were simulated. The five ensemble informed climate projections are formed from independent groups of individual projections. The "central tendency" projection includes those projections bounded by the 25th to 75th percentiles of all projections for changes in temperature and precipitation. The remaining 4 representative projections were formed from the 10 near projections to the 10th and 90th percentiles of projections of changes in temperature and precipitation. For more details on the methods used to develop the climate projections see Reclamation (2013) in the Climate change Modeling Appendix. The socioeconomic-climate scenarios employed in the Climate Change Modeling appendix are non-stationary projections of future conditions. See figures 3-1 through 3-6 for examples of non-stationary socioeconomic scenarios and figure 3-9 for an example of non-

stationary climate projections. Because inter-annual variability is not well simulated by GCMs, the inter-annual variability present in the climate projections was based on the variability present in the historical hydrology sequence. See Reclamation (2011a) for more detailed discussions of GCM projection limitations.

Please refer to Master Comment Response CC-2, "Climate Change Projections."

EWC-171: The operations of enlarged Shasta have little effect on storage conditions in the south-of-Delta reservoirs. Please refer to figures 3-125 through 3-132 in the Climate Change Modeling Appendix. Both CVP and SWP San Luis Reservoir storage is slightly less with enlarged Shasta in both May and September because enlarged Shasta reservoir operations are intended to maintain higher storage levels in enlarged reservoir to increase the cold water pool in Shasta for the benefit of anadromous fish in the upper Sacramento River. Consequently, with less water generally available for south-of Delta export, CVP & SWP San Luis storage levels tend to be reduced.

EWC-172: Please refer to Master Comment Response P&N-1, "Purpose and Need and Objectives," and Master Comment Response ALTR-1, "Range of Alternatives General."

EWC-173: Please refer to Master Comment Response ALTR-1, "Range of Alternatives General," and Master Comment Response EI-1, "Intent of NEPA Process to Provide Fair and Full Discussion of Significant Environmental Impacts."

EWC-174: It appears that the "5,000 to 33,000 acre-feet" referenced by the commenter may be based on evaluations in the DEIS Climate Change Modeling Appendix. As described in Master Comment Response CC-1, "Climate Change Uncertainty and Related Evaluations, evaluations," included in the Climate Change Modeling Appendix were conducted for sensitivity analysis purposes only, and do not form the basis of any quantitative or qualitative direct or indirect effect evaluations, including evaluations of beneficial effects, in each resource area chapter. Estimated non-monetized benefits of action alternatives are presented in DEIS Chapter 2, "Alternatives," Section 2.3, "Action Alternatives," and Section 2.5, "Summary of Potential Benefits of Action Alternatives." Estimated non-monetized benefits presented in the DEIS were determined by comparison of the with-project condition to the No-Action Alternative, consistent with the Federal planning process identified in the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (P&G). As described in the DEIS, estimated increases in average annual CVP and SWP deliveries during

dry and critical years under SLWRI action alternatives range from about 47,300 acre-feet (for CP1) to about 113,500 acre-feet (for CP5). Estimated increases in average annual CVP and SWP deliveries under SLWRI action alternatives range from about 31,000 acre-feet (for CP1) to about 75,900 acre-feet (for CP5).

It also appears that this comment is related to allocation of costs to project beneficiaries, which is outside the scope of the DEIS. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4(b)). As described in Master Comment Response COST/BEN-5, "Potential Project Financing," an updated cost allocation were included in the SLWRI Final Feasibility Report.

EWC-175: Comment Noted.

33.10.13 Friends of the Delta Watershed

FOTDW1

Fwd: Thank you for signing the "Please Save the Delta Watershed and Submit Public Comments to Stop the Raising of Shasta Dam" petition

KATRINA CHOW <kchow@usbr.gov> Wed, Oct 23, 2013 at 1:10 PM
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Sent from my iPhone

Begin forwarded message:

From: Rose Flame <mysecretfires@gmail.com>
Date: September 30, 2013, 7:25:31 PM PDT
To: Victoria Robinson <robinson.victoria@epa.gov>
Cc: Katrina Chow <kchow@usbr.gov>, Pete Lucero <plucero@usbr.gov>, Michael Connor <mlconnor@usbr.gov>, "hswriter@frontiernet.net" <hswriter@frontiernet.net>, Anhthu Hoang <hoang.anhthu@epa.gov>, Jeff <jkiser@ci.anderson.ca.us>, Les Baugh <lbaugh@co.shasta.ca.us>, Gary Cadd <white.bear@sbcglobal.net>, Charles Alexander <sushibar007@hotmail.com>, Kevin Bundy <kbundy@biologicaldiversity.org>, <news@khsltv.com>, news <news@krcrtv.com>, "Kelly Frost, Sr" <Kelly@reddingradio.com>, "Ross, Bruce" <bross@redding.com>, Damon Arthur <darthur@redding.com>, "Frank J. Strazzarino, Jr." <info@reddingchamber.com>, <antlersrvpark@campingshastalake.com>, <Lesa@lakeshasta.com>, Gracious A Palmer <graciouspalmer2009@yahoo.com>, Rosy Kalfus <rosy.kalfus@moveon.org>, Eric Lundy <Eric.Lundy@moveon.org>, <organizations@moveon.org>, Liz Warren <LizWarrenMail@earthlink.net>, S Young <mahalo3366@yahoo.com>, Omer Shalev <Shalev.Omer@epa.gov>
Subject: Fwd: Thank you for signing the "Please Save the Delta

Watershed and Submit Public Comments to Stop the Raising of Shasta Dam" petition

http://www.winnememwintu.us/

Dear Victoria Robinson,

FOTDW1-1 Please help us ask the Bureau of Reclamation to extend the public comment period for the Shasta Lake Water Resource Investigation Draft Environmental Impact Statement (EIS) . The citizens of Shasta County have been recognized as an environmental justice community by the Environmental Appeals Board. That status gains us consideration from your Office of Environmental Justice regarding this Draft EIS. Again, please help us; by working with the Bureau of Reclamation to assist in outreach with our affected community your office will be promoting democracy and benefiting humanity.

Celeste Draisner
Friends of the Delta Watershed
530-223-0197

---------- Forwarded message ----------
From: **Carla Thompson** <carla.thompson2008@att.net>
Date: Mon, Sep 30, 2013 at 9:08 AM
Subject: Re: Thank you for signing the "Please Save the Delta Watershed and Submit Public Comments to Stop the Raising of Shasta Dam" petition
To: "mysecretfires@gmail.com" <mysecretfires@gmail.com>

Good Morning:

FOTDW1-2 I just wanted to let you know I pulled up all of the DEIR documents that are on the CD we received from BOR.
The main body of the DEIR is 2,668 pages. The appendices and attachments to the DEIR total 8,699 pages! This is a total of 11,367 pages of technical data, and some of the studies reference other information that is not included in the attachments.
c

From: Celeste Draisner <petitionshare@moveon.org>
To: Carla Thompson <carla.thompson2008@att.net>

Sent: Monday, September 30, 2013 8:59 AM
Subject: Thank you for signing the "Please Save the Delta Watershed and Submit Public Comments to Stop the Raising of Shasta Dam" petition

Thank you for signing my petition, *Please Save the Delta Watershed and Submit Public Comments to Stop the Raising of Shasta Dam.*

As of now, the petition has received 209 signatures! To really make a difference, we need a lot more people to join in. Can you share this petition with all your friends?

Click here to share it on Facebook:

Share on Facebook

Then, forward the email below to everyone you know.

Thanks!

—Celeste Draisner

FOTDW1-3

Here's a sample message to send to your friends:

Hi,

My friends and I are concerned about the Bureau of Reclamation (Mid-Pacific Region) plan to raise Shasta Dam. The raising of Shasta Dam will flood sacred native sites, destroy existing resorts and marinas, dislocate the town of Lakehead, CA and impact our local economy in a negative manner.

That's why I signed a petition to Bureau Of Reclamation, which says:

"Please extend the public comment period on the plan to raise Shasta Dam until after the holidays (January 2014). It is unfair to expect citizens to review approximately 6,000 pages of technical data in three months, as part of your SLWRI Draft Environmental Impact Statement."

Will you sign the petition too? Click here to add your name:

http://petitions.moveon.org/sign/please-save-the-delta?source=s.fwd&r_by=8916274

Thanks!

You're receiving this message because you signed the *Please Save the Delta Watershed and Submit Public*

10/23/13 DEPARTMENT OF THE INTERIOR Mail - Fwd: Thank you for signing the "Please Save the Delta Watershed and Submit Public Comments to Stop the R...

Comments to Stop the Raising of Shasta Dam petition on the MoveOn.org petition website. MoveOn Civic Action does not endorse the contents of this email or the petitions posted on MoveOn's public petition website. If you don't want to receive e-mail about this petition, click here to unsubscribe.

https://mail.google.com/mail/u/0/?ui=2&ik=20581cb21c&view=pt&search=inbox&th=141e6f07a99aef9d 4/4

Responses to Comments from Friends of the Delta Watershed

FOTDW1-1: Please refer to Master Comment Response COMMENTPERIOD-1, "Extend Comment Period."

FOTDW1-2: The SLWRI DEIS is a complex document with an extensive geographic scope and complexity of issues. However, efforts

were made to simplify the document as much as feasible while meeting the needs to disclose environmental effects to the extent required to meet current legal requirements for full disclosure, including documenting the absence of significant effects on sensitive resources. The DEIS includes a table of contents and index, and it was extensively edited by professional editors as noted in Chapter 29, "List of Preparers." All authors were given instructions to prepare the material using common language and to avoid jargon. In addition, the DEIS is available in an electronic format that allows the reader to search of the whole document. In addition, an Executive Summary was included in the DEIS which summarizes the information and impact analysis of the DEIS to make it easier for the public to review.

FOTDW1-3: Please refer to Master Comment Response COMMENTPERIOD-1, "Extend Comment Period."

33.10.14 Friends of the Delta Watershed

Fwd: Official Public Comment - SLWRI Draft EIS - Bureau of Reclamation

KATRINA CHOW <kchow@usbr.gov> Wed, Oct 23, 2013 at 1:15 PM
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Sent from my iPhone

Begin forwarded message:

From: Rose Flame <mysecretfires@gmail.com>
Date: September 30, 2013, 11:48:20 PM PDT
To: Katrina Chow <kchow@usbr.gov>
Cc: Michael Connor <mlconnor@usbr.gov>, Pete Lucero <plucero@usbr.gov>, Peter Griggs <pgriggs@shastacollege.edu>, <organizations@moveon.org>, "Ross, Bruce" <bross@redding.com>, Rosy Kalfus <rosy.kalfus@moveon.org>, Ross Bell <rebell@co.shasta.ca.us>, "hswriter@frontiernet.net" <hswriter@frontiernet.net>, Matt Davison <mbdavison@yahoo.com>, Kevin Bundy <kbundy@biologicaldiversity.org>, Lorraine Dechter <ldechter01@gmail.com>, "gomauro ." <mauro@signaloflove.org>, Charles Alexander <sushibar007@hotmail.com>, S Young <mahalo3366@yahoo.com>, "Kelly Frost, Sr" <Kelly@reddingradio.com>, Liz Warren <LizWarrenMail@earthlink.net>, David Kehoe <dkehoe@co.shasta.ca.us>
Subject: Official Public Comment - SLWRI Draft EIS - Bureau of Reclamation

Dear Katrina Chow,

I hope this attachment makes it to you, but in case it does not open, I am submitting this report in the public record, in plain

text form.

Thank you,

Celeste Draisner

Friends of the Delta Watershed Report of March 7, 2013

Expert Presentation (Ichthyology) - Redding Library

Hosted by the Sierra Club - Mother Lode Chapter

Speaker: Tricia Parker Hamelberg

Fish Biologist for the U.S. Fish & Wildlife (Red Bluff Office)

Program Manager Anadromous Fish Restoration Program - northern
Specializing in watershed plans, fish passage, and salmon
(salmonids) & steelhead habitat restoration

FOTDW2-1

Report Prepared/Written by

Celeste Drsisner, citizen activist

Friends of the Delta Watershed

530-223-0197

Fish Biologist, Tricia Parker Hamelberg, Speaks on Behalf of the Salmon

U.S. Fish and Wildlife Service representative Tricia Parker

Hamelberg, "spoke out" on behalf of salmon at the Redding Library in Northern California. She presented information to the public on "Salmon Population Monitoring & Habitat Restoration Activities" in the Northern Sacramento River.

FOTDW2-1 CONTD

As one of twenty-five people in attendance, I learned that fish populations are in trouble in California, and folks need to raise awareness.

FOTDW2-2

It is extremely important that the mainstem Sacramento River flows out of Shasta/Keswick Dams are kept as constant as possible *throughout the October to March spawning/incubation period* so that naturally spawned salmon can thrive.

FOTDW2-3

The primary reason for the noticeable lack of fish in the Sacramento River is.... Shasta Dam itself. In the 1940's when Keswick and Shasta Dams were constructed, they blocked access to 200 miles of salmon spawning habitat. When these valuable habitats were made inaccessible, there was a significant decline in the numbers of naturally spawned fish.

Coleman National Fish Hatchery on Battle Creek was constructed as a mitigation facility (to somewhat) make up for lost salmon habitat. Since our state now relies on water management provided by Shasta Dam, we also need this hatchery to protect the remaining Sacramento River salmon ecosystem.

FOTDW2-4

Tricia works with salmon habitat restoration programs that try to restore as much of the remaining habitat, as possible. She described the Clear Creek and Battle Creek Restoration Programs. Currently, willing local landowners are contributing to positive outcomes for salmon and steelhead populations.

The second major impact on fish populations in the upper Sacramento River is the Red Bluff Diversion Dam. In 1964, before the dam blocked upstream passage, 94% of the salmon population spawned above this marker. Creating this diversion ended that.

FOTDW2-5 Some salmon will not breed in the Sacramento River. Instead, many salmon migrate to the smaller streams and tributaries that feed into the Sacramento River near Redding, where conditions exist that are favorable to reproduction.

The good news is that the Red Bluff Diversion Dam has been decommissioned. The dam structure remains, but the gates are now kept permanently open, so fish returning from the ocean can swim upstream without any delay. These fish spawn in the areas that are still suitable below Shasta/Keswick Dams.

Tricia Parker Hamelberg spoke eloquently on her favorite subject – ichthyology (the study of fish). She talked from the heart, explaining how her interest in wildlife started in childhood. She grew up near Kodiak Island in Alaska, amidst all the raw, natural beauty a child could want.

FOTDW2-6

She talked about the drought of 1976-1977, where the Sacramento River level was so low that Shasta Lake looked like a small stream under the Bridge Bay (I-5) bridge. During the drought, people in California gained a heightened awareness of water levels and how these levels impacted the environment.

FOTDW2-7

There exists a Native American historical perspective to the

salmon. At one time, salmon populations were plentiful in Northern California. Representatives of the Winnemem Wintu, who appeared at the meeting, suggested that Shasta Dam could be removed (that is if anyone was asking).

FOTDW2-7 CONTD

The Winnemem Wintu are a traditional tribe. They inhabit ancestral territory from Mt. Shasta down the McCloud River watershed. When Shasta Dam was constructed during World War II, it flooded their homes and blocked the salmon runs.

The salmon are an integral part of the Winnemem Wintu spiritual tradition. Their tribe believes that when the last salmon is gone, humans will be gone, too. Their fight to return the salmon to the McCloud River is also a fight to save their tribe and all peoples everywhere.

FOTDW2-8

Tricia spoke of the economic history of salmon. In 1864, the first commercial cannery in the Pacific Northwest was located on the Sacramento River. Many people earned their living from the vibrant salmon populations in Northern California. Now, the commercial harvest of salmon on the Sacramento River is long past. (Commercial fishing in the oceans still occurs along the coast of California, Oregon and Washington).

FOTDW2-9

The building of Shasta Dam ended the plentiful salmon runs. The building of Keswick Dam and Whiskeytown Lake further disrupted healthy salmon populations.

FOTDW2-10

Tricia Parker Hamelberg advocated for money to be allocated for monitoring fish habitat and fish population levels. The more data

FOTDW2-10 CONTD

that can be made available to scientists, she argued, the more likely a positive outcome can be reached. She gave credit to many of her co-workers whose efforts were reflected in the photographs and data shown (e.g. Doug Killam, Tricia Bratcher, Sarah Giovanetti, Laurie Early, Bill Poytress, and Matt Brown).

FOTDW2-11

Fish are sensitive to adverse conditions when they are young, developing eggs. They need clean gravel, with flowing water. When baby fish first come out of the gravel, they "button up." They have a yolk sac attached to their baby bellies, which they later absorb. Apparently, this is *super cute*.

The point, from what I could gather, was that, we need to increase river flows to protect naturally produced juvenile fish populations.

FOTDW2-12

As citizens concerned about our environment, we must encourage that enough water be made available for both fish and farmers. A balanced approach is required, one that takes competing interests into account in a fair manner.

FOTDW2-13

Conservation of water can never be understated. More water would be available if we managed this resource effectively.

FOTDW2-14

Please help protect fish populations. Please help raise awareness so the pressing concerns of adequate water allocation during the *critical October to March spawning/incubation periods* can be addressed.

Tricia Parker Hamelberg spearheads the "Battle Creek Salmon and Steelhead Restoration Project" (1999 to Present) on behalf of the salmon. This project is set to restore approximately 48 miles off habitat in Battle Creek and its tributaries, to facilitate the safe passage for naturally -produced anadromous fish populations, including spring Chinook salmon, steelhead and possibly winter Chinook salmon. Methods employed include older dam decommisioning and removal, fish screen/fish ladder improvements and increased instream flows.

Tricia Parker Hamelberg's extensive education includes:

Humboldt State University

Master of Science, Natural Resources: Fisheries

1987 – 1990

University of California, Davis

Bachelor of Science, Water & Soil Resources

1984 – 1987

Other sources used in this report:

http://www.nmfs.noaa.gov/pr/species/fish/chinooksalmon.htm

http://en.wikipedia.org/wiki/Chinook_salmon

http://www.fws.gov/species/species_accounts/bio_salm.html

http://en.wikipedia.org/wiki/Ichthyology

http://www.winnememwintu.us/2013/09/27/save-salmon-and-sacred-sites-speak-out-against-the-shasta-dam-raise-by-sept-30/

http://www.linkedin.com/pub/tricia-parker-hamelberg/22/313/b2b

Report on the fish - Delta Watershed.docx
22K

Friends of the Delta Watershed Report of March 7, 2013
Expert Presentation (Ichthyology) - Redding Library
Hosted by the Sierra Club - Mother Lode Chapter
Speaker: Tricia Parker Hamelberg
Fish Biologist for the U.S. Fish & Wildlife (Red Bluff Office)
Program Manager Anadromous Fish Restoration Program - northern
Specializing in watershed plans, fish passage, and salmon (salmonids)/ steelhead habitat restoration

Report Prepared/Written by
Celeste Drsisner, citizen activist
Friends of the Delta Watershed
530-223-0197

Fish Biologist, Tricia Parker Hamelberg, Speaks on Behalf of the Salmon

U.S. Fish and Wildlife Service representative Tricia Parker Hamelberg, "spoke out" on behalf of salmon at the Redding Library in Northern California. She presented information to the public on "Salmon Population Monitoring & Habitat Restoration Activities" in the Northern Sacramento River.

As one of twenty-five people in attendance, I learned that fish populations are in trouble in California, and people need to raise their awareness.

It is extremely important that the mainstem Sacramento River flows out of Shasta/Keswick Dams are kept as constant as possible *throughout the October to March spawning/incubation period* so that naturally spawned salmon can thrive.

The primary reason for the noticeable lack of fish in the Sacramento River is.... Shasta Dam itself. In the 1940's when Keswick and Shasta Dams were constructed, they blocked access to 200 miles of salmon

spawning habitat. When these valuable habitats were made inaccessible, there was a significant decline in the numbers of naturally spawned fish.

Coleman National Fish Hatchery on Battle Creek was constructed as a mitigation facility (to somewhat) make up for lost salmon habitat. Since our state now relies on water management provided by Shasta Dam, we also need this hatchery to protect the remaining Sacramento River salmon ecosystem.

Tricia works with salmon habitat restoration programs that try to restore as much of the remaining habitat, as possible. She described the Clear Creek and Battle Creek Restoration Programs. Currently, willing local landowners are contributing to positive outcomes for salmon and steelhead populations.

The second major impact on fish populations in the upper Sacramento River is the Red Bluff Diversion Dam. In 1964, before the dam blocked upstream passage, 94% of the salmon population spawned above this marker. Creating this diversion ended that.

Some salmon will not breed in the Sacramento River. Instead, many salmon migrate to the smaller streams and tributaries that feed into the Sacramento River near Redding, where conditions exist that are favorable to reproduction.

The good news is the Red Bluff Diversion Dam has been decommissioned. The dam structure remains, but the gates are now kept permanently open, so fish returning from the ocean can swim upstream without any delay. These fish spawn in the areas that are still suitable below Shasta/Keswick Dams.

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want.

She talked about the drought of 1976-1977, where the Sacramento River level was so low that Shasta Lake looked like a small stream under the Bridge Bay (I-5) bridge. During the drought, people in California gained a heightened awareness of water levels and how these levels impacted the environment.

There exists a Native American historical perspective to the salmon. At one time, salmon populations were plentiful in Northern California. Representatives of the Winnemem Wintu, who appeared at the meeting, suggested that Shasta Dam could be removed (that is if anyone was asking).

The Winnemem Wintu are a traditional tribe. They inhabit ancestral territory from Mt. Shasta down the McCloud River watershed. When Shasta Dam was constructed during World War II, it flooded their homes and blocked the salmon runs.

The salmon are an integral part of the Winnemem Wintu spiritual tradition. Their tribe believes that when the last salmon is gone, humans will be gone, too. Their fight to return the salmon to the McCloud River is also a fight to save their tribe and all peoples everywhere.

Tricia spoke of the economic history of salmon. In 1864, the first commercial cannery in the Pacific Northwest was located on the Sacramento River. Many people earned their living from the vibrant salmon populations in Northern California. Now, the commercial harvest of salmon on the Sacramento River is long past. (Commercial fishing in the oceans still occurs along the coast of California, Oregon and Washington).

The building of Shasta Dam ended the plentiful salmon runs. The building of Keswick Dam and Whiskeytown Lake further disrupted healthy salmon populations.

Tricia Parker Hamelberg advocated for money to be allocated for monitoring fish habitat and fish population levels. The more data that can be made available to scientists, she argued, the more likely a positive outcome can be reached. She gave credit to many of her co-workers whose efforts were reflected in the photographs and data shown (e.g. Doug Killam, Tricia Bratcher, Sarah Giovanetti, Laurie Early, Bill Poytress, and Matt Brown).

Fish are sensitive to adverse conditions when they are young, developing eggs. They need clean gravel, with flowing water. When baby fish first come out of the gravel, they "button up." They have a yolk sac attached to their baby bellies, which they later absorb. Apparently, this is *super cute.*

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As citizens concerned about our environment, we must encourage that enough water be made available for both fish and farmers. A balanced approach is required, one that takes competing interests into account in a fair manner.

Conservation of water can never be understated. More water would be available if we managed this resource effectively.

Please help protect fish populations. Please help raise awareness so the pressing concerns of adequate water allocation during the critical October to March spawning/incubation periods can be addressed.

Tricia Parker Hamelberg spearheads the "Battle Creek Salmon and Steelhead Restoration Project" (1999 to Present) on behalf of the salmon. This project is set to restore approximately 48 miles off habitat in Battle Creek and its tributaries, to facilitate the safe passage for

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Other sources used in this report:

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http://en.wikipedia.org/wiki/Chinook_salmon

http://www.fws.gov/species/species_accounts/bio_salm.html

http://en.wikipedia.org/wiki/Ichthyology

http://www.winnememwintu.us/2013/09/27/save-salmon-and-sacred-sites-speak-out-against-the-shasta-dam-raise-by-sept-30/

http://www.linkedin.com/pub/tricia-parker-hamelberg/22/313/b2b

Responses to Comments from Friends of the Delta Watershed

FOTDW2-1: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

FOTDW2-2: Please refer to Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements."

FOTDW2-3: Please refer to Master Comment Response DSFISH-6, "Historic Dam Effects on Fisheries."

FOTDW2-4: Comment noted.

FOTDW2-5: Comment noted.

FOTDW2-6: Comment noted.

FOTDW2-7: Please refer to Master Comment Response CR-8, "Native American Connection to Salmon."

FOTDW2-8: Comment noted.

FOTDW2-9: Please refer to Master Comment Response DSFISH-6, "Historic Dam Effects on Fisheries."

FOTDW2-10: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

FOTDW2-11: Please refer to Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements."

FOTDW2-12: Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest."

FOTDW2-13: Please refer to Master Comment Response ALTD-1, "Alternative Development- Water Supply Reliability."

FOTDW2-14: Please refer to Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements."

33.10.15 Friends of the Delta Watershed

 FOTDW3

Fwd: Official Public Comment on THP 2-12-026-SHA ~ Friends of the Delta Watershed

KATRINA CHOW <kchow@usbr.gov> Wed, Oct 23, 2013 at 1:16 PM
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Sent from my iPhone

Begin forwarded message:

From: Rose Flame <mysecretfires@gmail.com>
Date: October 2, 2013, 2:54:27 PM PDT
To: <reddingpubliccomment@fire.ca.gov>
Cc: "hswriter@frontiernet.net" <hswriter@frontiernet.net>, "gomauro ." <mauro@signaloflove.org>, Marily Woodhouse <marily-lobo@hotmail.com>, Katrina Chow <kchow@usbr.gov>, Kevin Bundy <kbundy@biologicaldiversity.org>, <Kevin@lakeshasta.com>, Rob Simpson <rob@redwoodrob.com>
Subject: Official Public Comment on THP 2-12-026-SHA ~ Friends of the Delta Watershed

Dear Mike Bacca,

Please include the following document in your review of THP 2-12-026-SHA "Reynolds Flat."

FOTDW3-1 I have already entered this report into the record for the proposed rasing of Shasta Dam; a project described in the SLWRI Draft EIS being conducted by the Bureau of Reclamation.

Please address the impacts of what you are considering here in this THP in light of the proposals in the SLWRI Draft EIS.

Thank you,

Celeste Draisner
Friends of the Delta Watershed
530-223-0197

R
Friends of the Delta Watershed Report of March 7, 2013

Expert Presentation (Ichthyology) - Redding Library

Hosted by the Sierra Club - Mother Lode Chapter

Speaker: Tricia Parker Hamelberg

Fish Biologist for the U.S. Fish & Wildlife (Red Bluff Office)

Program Manager Anadromous Fish Restoration Program - northern
Specializing in watershed plans, fish passage, and salmon (salmonids) & steelhead habitat restoration

Report Prepared/Written by

Celeste Drsisner, citizen activist

Friends of the Delta Watershed

530-223-0197

****
****

FOTDW3-2

Fish Biologist, Tricia Parker Hamelberg, Speaks on Behalf of the Salmon

U.S. Fish and Wildlife Service representative Tricia Parker Hamelberg, "spoke out" on behalf of salmon at the Redding Library in Northern California. She presented information to the public on "Salmon Population Monitoring & Habitat Restoration Activities" in the Northern

Sacramento River.

FOTDW3-2 CONTD. As one of twenty-five people in attendance, I learned that fish populations are in trouble in California, and folks need to raise awareness.

FOTDW3-3 It is extremely important that the mainstem Sacramento River flows out of Shasta/Keswick Dams are kept as constant as possible throughout the October to March spawning/incubation period so that naturally spawned salmon can thrive.

FOTDW3-4 The primary reason for the noticeable lack of fish in the Sacramento River is.... Shasta Dam itself. In the 1940's when Keswick and Shasta Dams were constructed, they blocked access to 200 miles of salmon spawning habitat. When these valuable habitats were made inaccessible, there was a significant decline in the numbers of naturally spawned fish.

Coleman National Fish Hatchery on Battle Creek was constructed as a mitigation facility (to somewhat) make up for lost salmon habitat. Since our state now relies on water management provided by Shasta Dam, we also need this hatchery to protect the remaining Sacramento River salmon ecosystem.

FOTDW3-5 Tricia works with salmon habitat restoration programs that try to restore as much of the remaining habitat, as possible. She described the Clear Creek and Battle Creek Restoration Programs. Currently, willing local landowners are contributing to positive outcomes for salmon and steelhead populations.

FOTDW3-6 The second major impact on fish populations in the upper Sacramento River is the Red Bluff Diversion Dam. In 1964, before the dam blocked upstream passage, 94% of the salmon population spawned above this marker. Creating this diversion ended that.

Some salmon will not breed in the Sacramento River. Instead, many salmon migrate to the smaller streams and tributaries that feed into the Sacramento River near Redding, where conditions exist that are favorable to reproduction.

The good news is that the Red Bluff Diversion Dam has been

FOTDW3-6 CONTD

decommissioned. The dam structure remains, but the gates are now kept permanently open, so fish returning from the ocean can swim upstream without any delay. These fish spawn in the areas that are still suitable below Shasta/Keswick Dams.

FOTDW3-7

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She talked about the drought of 1976-1977, where the Sacramento River level was so low that Shasta Lake looked like a small stream under the Bridge Bay (I-5) bridge. During the drought, people in California gained a heightened awareness of water levels and how these levels impacted the environment.

There exists a Native American historical perspective to the salmon. At one time, salmon populations were plentiful in Northern California. Representatives of the Winnemem Wintu, who appeared at the meeting, suggested that Shasta Dam could be removed (that is if anyone was asking).

FOTDW3-8

The Winnemem Wintu are a traditional tribe. They inhabit ancestral territory from Mt. Shasta down the McCloud River watershed. When Shasta Dam was constructed during World War II, it flooded their homes and blocked the salmon runs.

The salmon are an integral part of the Winnemem Wintu spiritual tradition. Their tribe believes that when the last salmon is gone, humans will be gone, too. Their fight to return the salmon to the McCloud River is also a fight to save their tribe and all peoples everywhere.

FOTDW3-9

Tricia spoke of the economic history of salmon. In 1864, the first commercial cannery in the Pacific Northwest was located on the Sacramento River. Many people earned their living from the vibrant salmon populations in Northern California. Now, the commercial harvest of salmon on the Sacramento River is long past. (Commercial fishing in the oceans still occurs along the coast of California, Oregon and Washington).

FOTDW3-10 The building of Shasta Dam ended the plentiful salmon runs. The building of Keswick Dam and Whiskeytown Lake further disrupted healthy salmon populations.

FOTDW3-11 Tricia Parker Hamelberg advocated for money to be allocated for monitoring fish habitat and fish population levels. The more data that can be made available to scientists, she argued, the more likely a positive outcome can be reached. She gave credit to many of her co-workers whose efforts were reflected in the photographs and data shown (e.g. Doug Killam, Tricia Bratcher, Sarah Giovanetti, Laurie Early, Bill Poytress, and Matt Brown).

FOTDW3-12 Fish are sensitive to adverse conditions when they are young, developing eggs. They need clean gravel, with flowing water. When baby fish first come out of the gravel, they "button up." They have a yolk sac attached to their baby bellies, which they later absorb. Apparently, this is super cute.

The point, from what I could gather, was that, we need to increase river flows to protect naturally produced juvenile fish populations.

FOTDW3-13 As citizens concerned about our environment, we must encourage that enough water be made available for both fish and farmers. A balanced approach is required, one that takes competing interests into account in a fair manner.

FOTDW3-14 Conservation of water can never be understated. More water would be available if we managed this resource effectively.

FOTDW3-15 Please help protect fish populations. Please help raise awareness so the pressing concerns of adequate water allocation during the critical October to March spawning/incubation periods can be addressed.

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Tricia Parker Hamelberg spearheads the "Battle Creek Salmon and Steelhead Restoration Project" (1999 to Present) on behalf of the salmon. This project is set to restore approximately 48 miles off habitat in Battle Creek and its tributaries, to facilitate the safe passage for naturally -produced anadromous fish populations, including spring

Chinook salmon, steelhead and possibly winter Chinook salmon. Methods employed include older dam decommisioning and removal, fish screen/fish ladder improvements and increased instream flows.

Tricia Parker Hamelberg's extensive education includes:

Humboldt State University

Master of Science, Natural Resources: Fisheries

1987 – 1990

University of California, Davis

Bachelor of Science, Water & Soil Resources

1984 – 1987

Other sources used in this report:

http://www.nmfs.noaa.gov/pr/species/fish/chinooksalmon.htm

http://en.wikipedia.org/wiki/Chinook_salmon

http://www.fws.gov/species/species_accounts/bio_salm.html

http://en.wikipedia.org/wiki/Ichthyology

http://www.winnememwintu.us/2013/09/27/save-salmon-and-sacred-sites-speak-out-against-the-shasta-dam-raise-by-sept-30/

http://www.linkedin.com/pub/tricia-parker-hamelberg/22/313/b2b

Responses to Comments from Friends of the Delta Watershed

FOTDW3-1: Comment Noted.

FOTDW3-2: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

FOTDW3-3: Please refer to Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements."

FOTDW3-4: Comment noted.

FOTDW3-5: Comment noted.

FOTDW3-6: Comment noted.

FOTDW3-7: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

FOTDW3-8: Please refer to Master Comment Response CR-8, "Native American Connection to Salmon."

FOTDW3-9: Comment noted.

FOTDW3-10: Please refer to Master Comment Response DSFISH-6, "Historic Dam Effects on Fisheries."

FOTDW3-11: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

FOTDW3-12: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

FOTDW3-13: Please refer to Master Comment Response COST/BEN-1, "Intent of EIS and Process to Determine Federal Interest."

FOTDW3-14: Please refer to Master Comment Response ALTD-1, "Alternative Development- Water Supply Reliability."

FOTDW3-15: Please refer to Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements."

33.10.16 Friends of the Delta Watershed

BISON CONNECT

Fwd: [CENTER-STAFF] Anyone working on Shasta Dam?

KATRINA CHOW <kchow@usbr.gov> Wed, Oct 23, 2013 at 1:10 PM
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Sent from my iPhone

Begin forwarded message:

From: Rose Flame <mysecretfires@gmail.com>
Date: September 30, 2013, 7:28:45 PM PDT
To: Katrina Chow <kchow@usbr.gov>
Cc: Pete Lucero <plucero@usbr.gov>, Michael Connor <mlconnor@usbr.gov>, Shanna Cannon <scannon@redding.com>, "hswriter@frontiernet.net" <hswriter@frontiernet.net>, Marily Woodhouse <marily-lobo@hotmail.com>, Charles Alexander <sushibar007@hotmail.com>
Subject: Fwd: FW: [CENTER-STAFF] Anyone working on Shasta Dam?

Dear Katrina,

FOTDW4-1 Please include this in the record, for consideration.

Thank you,
Celeste Draisner
citizen activist

---------- Forwarded message ----------
From: **Kevin Bundy** <kbundy@biologicaldiversity.org>
Date: Mon, Sep 30, 2013 at 10:33 AM
Subject: FW: [CENTER-STAFF] Anyone working on Shasta Dam?
To: Rose Flame <mysecretfires@gmail.com>

Celeste,

I forwarded your question around to some of my colleagues; one response is below. Best of luck with this!

Kevin

Hi Kevin,

The person writing comments on behalf of Winneman Wintu contributed a big section to the EWC (enviro water caucus) comments, so Celeste should ask that person (Colin Bailey) for the latest (I don't have the final draft.)

FOTDW4-2

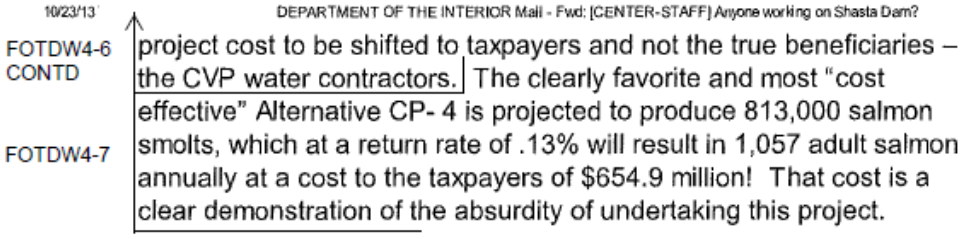
The info requested re waste of money to restore fish is in the EWC cover letter; here's the draft text, please forward:

FOTDW4-3 The stated purpose of enlarging Shasta Dam is to meet the two primary project objectives of increased survival of Sacramento River anadromous fish populations and to increase water supply reliability for CVP agricultural, M&I, and environmental purposes. However, preferred alternative CP-4 and the other alternatives are fundamentally flawed in that they will not increase survival of anadromous fish in any substantial way, especially given the cost and the plethora of other viable projects recommended by the fishery agencies but not evaluated by Reclamation. Enlargement of Shasta Dam is not mentioned as one of numerous recommendations from the National Marine Fisheries Service in the Draft Central Valley Salmon Recovery Plan. The proposed project is based on inflated and illusory benefits for natural salmon production in the Sacramento River, as described in the attached comments, and cannot be justified as proposed.

FOTDW4-4

FOTDW4-5

FOTDW4-6 The claimed benefits to salmon allow two thirds of the billion dollar


10/23/13 DEPARTMENT OF THE INTERIOR Mail - Fwd: [CENTER-STAFF] Anyone working on Shasta Dam?

FOTDW4-6 CONTD

project cost to be shifted to taxpayers and not the true beneficiaries – the CVP water contractors. The clearly favorite and most "cost effective" Alternative CP- 4 is projected to produce 813,000 salmon

FOTDW4-7

smolts, which at a return rate of .13% will result in 1,057 adult salmon annually at a cost to the taxpayers of $654.9 million! That cost is a clear demonstration of the absurdity of undertaking this project.

https://mail.google.com/mail/u/0/?ui=2&ik=20581cb21c&view=pt&search=inbox&th=141e6f08da85ec40 3/3

Responses to Comments from Friends of the Delta Watershed

FOTDW4-1: Comment Noted.

FOTDW4-2: Comment Noted.

FOTDW4-3: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

FOTDW4-4: Modeling results show that CP4 significantly improves production during those critical and dry years when the cold water pool is depleted under current conditions, which is when Chinook populations are at greatest risk. By increasing production in these years, relative to the base conditions, the risk of extirpation of listed species is greatly reduced, and therefore provides a significant benefit to the species/run.

Please refer to Master Comment Response ALTD-2, "Alternative Development- Anadromous Fish Survival," Master Comment Response DSFISH-8, "National Marine Fisheries Service Recovery Plan, Anadromous Fish Restoration Program Doubling Goals and Biological Opinions," and Master Comment Response DSFISH-5, "Fish and Wildlife Coordination Act Report."

FOTDW4-5: Please refer to Master Comment Response GEN-5, "Some People Support Dam Raise and Others Oppose Dam Raise."

FOTDW4-6: This comment appears to be related to allocation of costs to project beneficiaries, which is outside the scope of the DEIS. As described in Master Comment Response COST/BEN-5, "Potential Project Financing," updated evaluations related to economic feasibility and cost allocation were included in the SLWRI Final Feasibility Report. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4(b)). This comment was included as part of the record and made available to decision makers before a final decision on the proposed project.

FOTDW4-7: This comment appears to be related to allocation of costs to project beneficiaries, which is outside the scope of the DEIS. Additionally, the SLWRI DEIS does not include evaluations related to economic feasibility because it is not required under NEPA. Accordingly, the DEIS does not identify a most "cost effective" alternative. As described in Master Comment Response COST/BEN-2, "Comments Related to the SLWRI Feasibility Report," and Master Comment Response COST/BEN-5, "Potential Project Financing," updated evaluations related to economic feasibility and cost allocation was included in the SLWRI Final Feasibility Report. A response to this comment is not required under NEPA because the comment does not raise a significant environmental issue (NEPA Regulations 40 CFR Part 1503.4(b)). This comment will be included as part of the record and made available to decision makers before a final decision on the proposed project.

33.10.17 Friends of the River

FOTR1

From: **Bob Center** <bcenter7210@att.net>
Date: Wed, Jul 31, 2013 at 7:58 PM
Subject: RE: Sources of Graphs Shown at Sacramento Public Workshop, July 16
To: "CHOW, KATRINA" <kchow@usbr.gov>

Katrina,

FOTR1-2 Since I last wrote to you I discovered that your graphic of Shasta stage is seriously in error. You have the 1977 drought displaced earlier by two or three years from it; the 1990-1-2 drought is depicted about 7 years earlier than it actually occurred. In a meeting yesterday among environmentalists and the CA Department of Water Resources (DWR) regarding Bay Delta Conservation Plan (BDCP) modeling and broader subjects, I asked DWR modelers and managers for a "sanity check" regarding the your graphic. They agreed that the Bureau of Reclamation Shasta stage-storage graphic in the attached is seriously incorrect.

FOTR1-3 Once again, I request of you the source graphic, and the underlying data, which is probably in Excel or HEC-DSS form.

I do not have your immediate superior's email; could you forward this to him / her, and send a CC to me?

Sincerely,

Bob Center
Executive Director, Friends of the River
1418 20th Street, Suite A
Sacramento, CA 95811
Cell: 530 263 8800

From: CHOW, KATRINA [mailto:kchow@usbr.gov]
Sent: Tuesday, July 23, 2013 10:22 AM
To: Bob Center
Subject: Re: Sources of Graphs Shown at Sacramento Public Workshop, July 16

Bob,

We will working to post the all the graphics that were displayed on easels in the room in our website. Thanks

Katrina
--
Katrina Chow
Project Manager/Civil Engineer
Bureau of Reclamation, Sacramento
2800 Cottage Way, Sacramento, CA 95825

916-978-5067
kchow@usbr.gov

On Fri, Jul 19, 2013 at 4:11 PM, Bob Center <bcenter7210@att.net> wrote:
With attachment.

From: Bob Center [mailto:bcenter7210@att.net]
Sent: Friday, July 19, 2013 3:55 PM
To: 'kchow@usbr.gov'
Subject: Sources of Graphs Shown at Sacramento Public Workshop, July 16

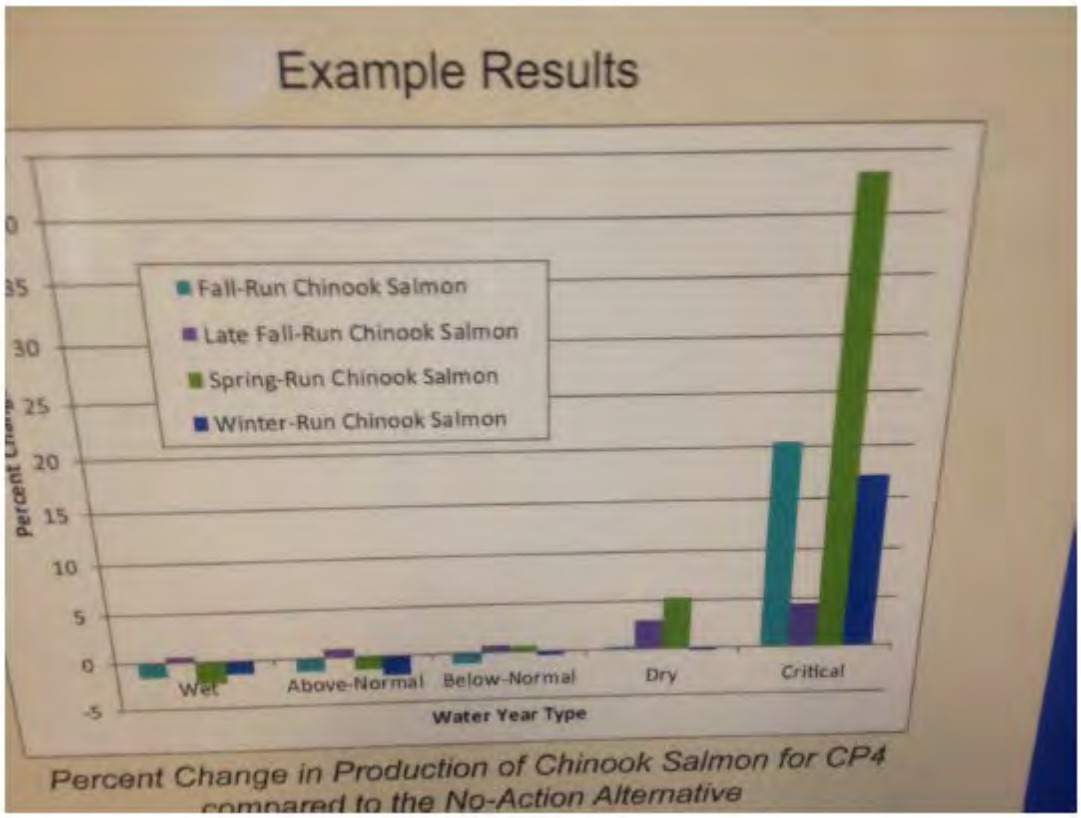
Katrina,

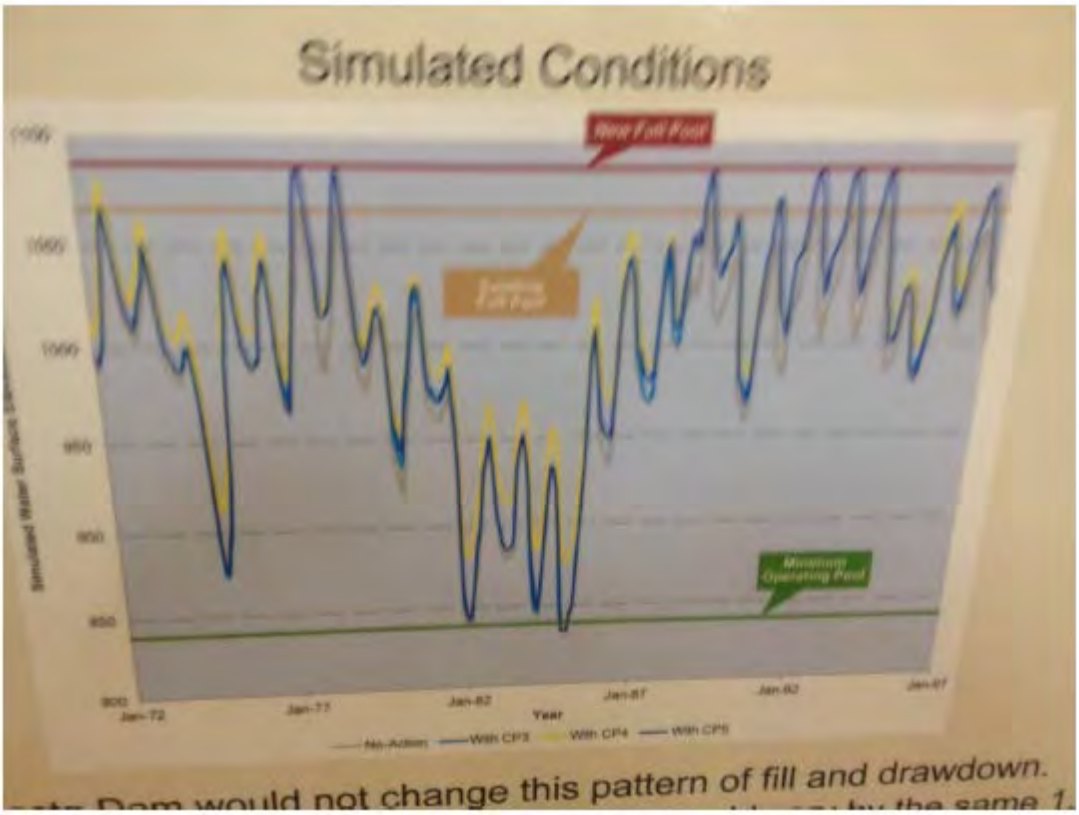
FOTR1-1

I attended your workshop in Sacramento last Wednesday. Could you tell me where I could find the Power Point presentation, and also the graphics that were displayed on easels in the room? In particular, could you tell me where I can find the two attached graphics, and the underlying data and calculations that produced the graphics?

There is a great deal of information on your website, but finding these specific graphs is akin to finding a needle in a haystack.

Thanks,
Bob Center
530 263 8800





Responses to Comments from Friends of the River

FOTR1-1: The SLWRI poster ("Shasta Reservoir Fill and Drawdown") used at the July 2013 Public Workshops was revised and displayed at the September 2013 Public Hearing. The PowerPoints and posters from the Public Workshops are available on the Reclamation website at http://www.usbr.gov/mp/slwri/documents.html.

FOTR1-2: The SLWRI poster ("Shasta Reservoir Fill and Drawdown") used at the July 2013 Public Workshops was revised and displayed at the September 2013 Public Hearing. The PowerPoints and posters from the Public Workshops are available on the Reclamation website at http://www.usbr.gov/mp/slwri/documents.html.

FOTR1-3: The SLWRI poster ("Shasta Reservoir Fill and Drawdown") used at the July 2013 Public Workshops was revised and displayed at the September 2013 Public Hearing. The PowerPoints and posters from the Public Workshops are available on the Reclamation website at http://www.usbr.gov/mp/slwri/documents.html.

33.10.18 Friends of the River

FOTR2

(Corrected--Use This One) Friends of the River SLWRI DEIS Comments vol 2

Bob Center <bcenter7210@att.net> Mon, Sep 30, 2013 at 2:42 PM
To: BOR-MPR-SLWRI@usbr.gov

Dear Ms Chow,

Attached is an additional set of comments from Friends of the River

Best Regards,

Bob Center

Executive Director, Friends of the River

530 263 8800

130930 FOR SLWRI DEIS Comments Vol 2.docx
1883K

Bob Center <bcenter7210@att.net> Mon, Sep 30, 2013 at 3:47 PM
To: BOR-MPR-SLWRI@usbr.gov
Cc: Bob Center <bcenter7210@att.net>

Ms Chow,

Did you get this email and the attached document?

I am having trouble with my email; I cannot tell if it sends emails with large

attachments, or not.

Thanks,

Bob

From: Bob Center [mailto:bcenter7210@att.net]
Sent: Monday, September 30, 2013 2:43 PM
To: 'BOR-MPR-SLWRI@usbr.gov'
Subject: (Corrected--Use This One) Friends of the River SLWRI DEIS Comments vol 2

[Quoted text hidden]

FRIENDS OF THE RIVER

September 30, 2013

Ms. Katrina Chow
SLWRI Project Manager
Bureau of Reclamation Planning Division
2800 Cottage Way
Sacramento, CA 95825-1893
Fax: (916) 978-5094
Email: BOR-MPR-SLWRI@usbr.gov

RE: Public Review and Comment on the Draft Environmental Impact Statement for Shasta Lake Water Resources Investigation

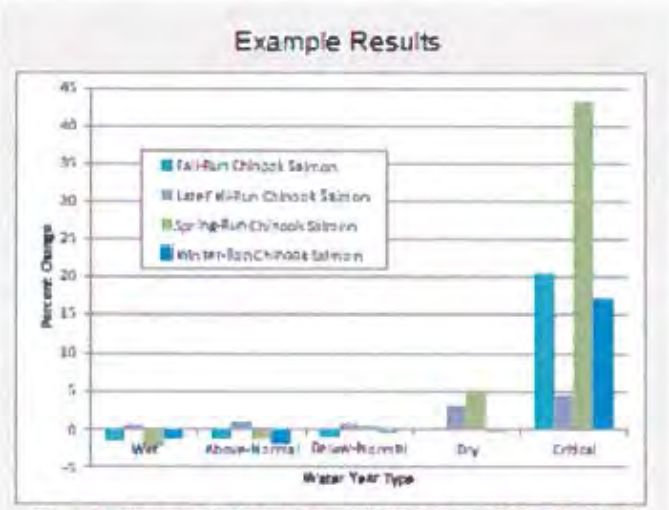
Dear Ms. Chow
Thank you for accepting our comments concerning the Shasta Lake Water Resources Investigation's Draft Environmental Impact Statement (SLWRI DEIS). Friends of the River would like to make it clear that

FOTR2-1 we are opposed to the raising of Shasta Dam.

Critique of the Fish Benefit claimed by the Shasta Lake Water Resources Invistigation (SLWRI)

FOTR2-2 The graphic in Figure 1 claims that the 18.5' dam raise will improve production of Chinook salmon in dry and critically dry years. (Presumably the direct mechanism of such improvement would be deeper water keeping cold water colder, and more cold water for release in late summera and early fall.) The only way that additional storage volume, at the top of the dam, can improve conditions for salmon in dry and critically dry years is for the additional storage to fill, or partially fill, in the year pror to the dry or critically dry year.

Figure 1

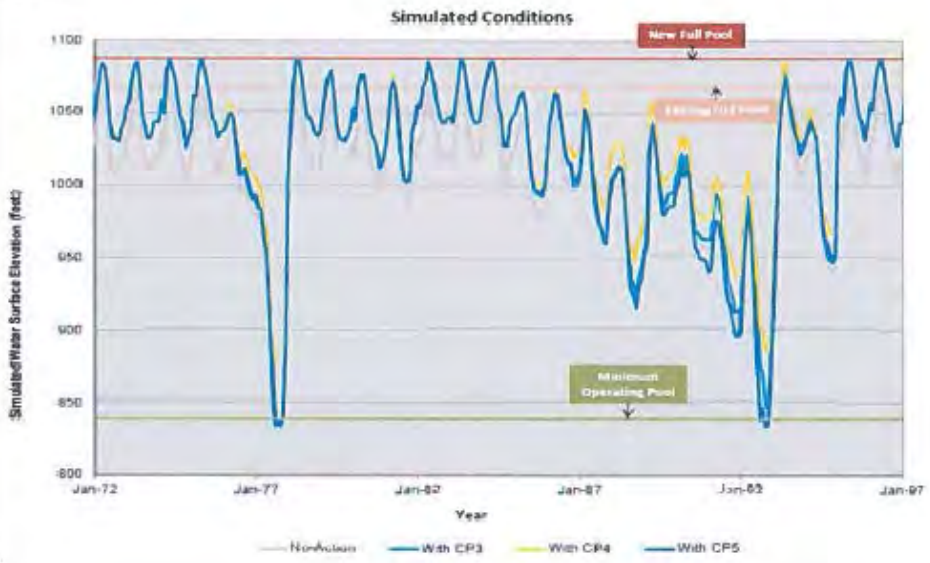


Percent Change in Production of Chinook Salmon for CP4 compared to the No-Action Alternative

FOTR2-2 CONTD

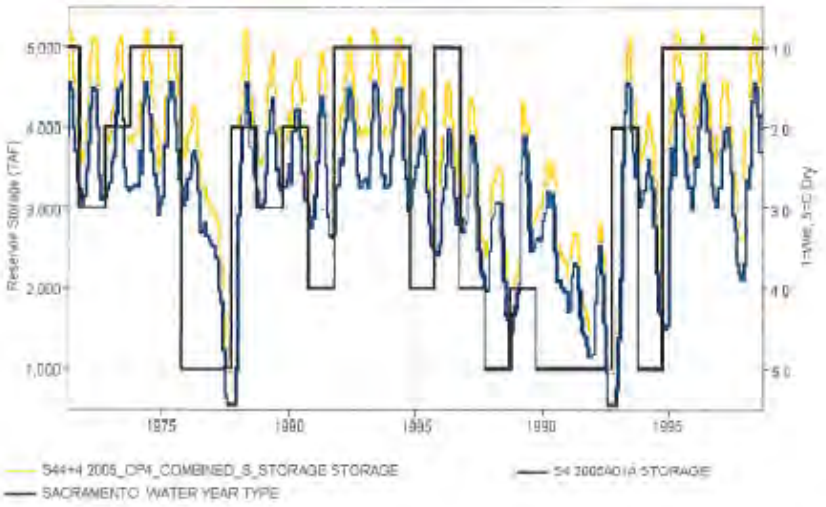
Figure 2 shows water surface elevation at Shasta for various operating scenarios, including CP4, the alternative that claims the greatest salmon benefit. Figure 3 shows the no action alternative, CP4 and water year type.

Figure 2



2

Figure 3



FOTR2-2 CONTD

The preceding two graphics show that from 1972 until 1997, there were 11 dry and critically dry years. In 1975 the additional storage could have filled, and could have provided some benefit to salmon in 1976. In 1993 the new storage could have partially filled, and could have provided some benefit to salmon in 1994. For the rest of the dry and critically dry years, 1977,1981, 1985, 1987, 1988, 1989, 1990, 1991, and 1992 the new storage would not have filled the year before, and so could have provided no benefit to Chinook Salmon in the dry or critically dry year.

So where does the significant claimed benefit to salmon come from?

In the nine out of eleven dry and critically dry years, **ALL** benefits to salmon come from operating the reservoir at a significantly higher level (some of the benefit in 1976 and 1994 would have come from re-operation, also). This re-operation of the reservoir surface elevation has nothing at all to do with raising the dam. It is spurious to attribute any salmon benefit to the raised dam for 9 out of 11 dry and critically dry years.

FOTR2-3

While the proposed re-operation would not require a higher dam, it would run up against many constraints that stem from the system being over-allocated, and subject to laws, regulations, standards, plans and contracts, including some or all of the following:

Federal

The following Federal laws, regulations, standards, and plans are discussed as part of the regulatory setting:

•NMFS 1993 and 2004 Winter-Run Chinook salmon Biological Opinion (BO) (NMFS 1993, NMFS 2004)

3

FOTR2-3 CONTD

- Central Valley Project Improvement Act (CVPIA) (Reclamation 1999)
- CVP long-term water service contracts
- Trinity River Record of Decision (ROD) (Reclamation 2000)
- Flow objective for navigation (Wilkins Slough)
- Flood management requirements

State

The following State laws, regulations, standards, and plans are discussed as part of the regulatory setting:

- SWRCB Orders 90-05 and 91-01
- 1960 DFG-Reclamation Memorandumof Agreement (DFG 1960)
- Water Quality Control Plan (WQCP) for the San Francisco Bay/San Joaquin Delta Estuary (SWRCB 1995)
- SWRCB Revised Water Right Decision 1641 (RD-1641) (SWRCB 2000)
- Coordinated Operations Agreement (COA) (Reclamation and DWR 1986)
- Groundwater regulations

USBR makes it clear that such constraints would take precedence over salmon habit improvement. The Bureau states in the DEIS on page 2-49:

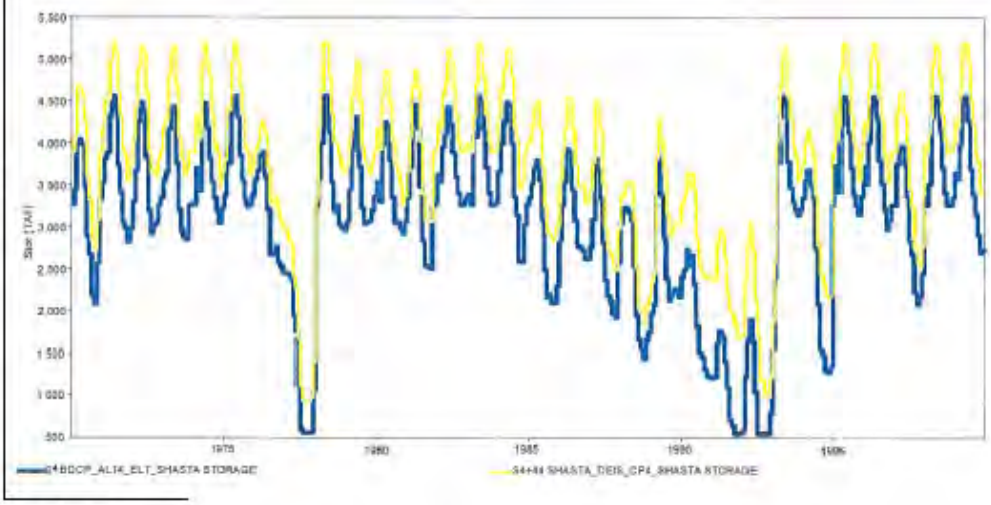
> The adaptive management plan (for the proposed cold water pool created by the raised dam/enlarged reservoir) *may* include operational changes to the timing and magnitude of releases from Shasta Dam to benefit anadromous fish, *as long as there are no conflicts with operational guidelines or adverse impacts on water supply reliability.* (*Emphasis* ours)

FOTR2-4

In addition to being probably impossible under current constraints, Figure 4 shows that operating Shasta at a higher level is contrary with the preferred BDCP alternative.

FOTR2-4 CONTD

Figure 4



Conclusion

FOTR2-5 The SLWRI claims that raising Shasta by 18.5' could have improved salmon production significantly in dry and critically dry years. USBR's own hydrological and modeling data show this claim to be questionable, if not outright bogus. In 9 of 11 dry and critically years all of the benefit would have been derived from operating the reservoir at a higher level.

FOTR2-6 But operating the reservoir at a higher level without somehow violating or altering a myriad of existing constraints, and also changing the BDCP preferred operations, cannon be done.

FOTR2-7 So the promise of salmon benefit from raising Shasta is both dodgy and hollow.

Bob Center

Robert McCenter

Executive Director, Friends of the River
1418 20th Street, Suite A
Sacramento, CA 95811

530 263 8800

5

Responses to Comments from Friends of the River

FOTR2-1: Please refer to Master Comment Response GEN-5, "Some People Support Dam Raise and Others Oppose Dam Raise."

FOTR2-2: The SLWRI has two primary coequal objectives that must be met, and neither must impede or harm the other objective. While the

SLWRI is not the only way to improve anadromous fish survival, the most efficient way to meet both primary objectives is to enlarge Shasta Reservoir. The existing Shasta Reservoir cannot be reoperated to benefit anadromous fisheries without impacting water supply reliability.

Please refer to Master Comment Response RAH-1, "Available Water to Fill an Enlarged Reservoir."

FOTR2-3: Please refer to Master Comment Response GEN-7, "Rules and Regulations for Water Operations under Action Alternatives."

FOTR2-4: It appears that the referenced "Figure 4," which was provided as part of the commenter's letter, shows simulated storage levels in Shasta Reservoir under the CEQA preferred BDCP alternative (blue) and under the SLWRI DEIS action alternative CP4 (yellow). It is unclear if the simulated storage levels in Shasta Reservoir under the BDCP alternative were based on outputs from modeling related to the BDCP DEIS. It is also unclear whether these storage levels are intended to represent existing or future conditions for each project.

As described in Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan," operation of new conveyance facilities and/or flow patterns proposed under the BDCP would require changes in existing CVP operations. Similarly, operation of additional storage and/or flow patterns proposed under the SLWRI would also require changes in existing CVP operations. Reclamation's action in relation to both projects would be to adjust CVP operations in coordination with SWP operations and the Coordinated Operations Agreement.

FOTR2-5: Please refer to Master Comment Response DSFISH-4, "Maintaining Sacramento River Flows to Meet Fish Needs and Regulatory Requirements."

FOTR2-6: It appears that the referenced "Figure 4," which was provided as part of the commenter's letter, shows simulated storage levels in Shasta Reservoir under the CEQA preferred BDCP alternative (blue) and under the SLWRI DEIS action alternative CP4 (yellow). It is unclear if the simulated storage levels in Shasta Reservoir under the BDCP alternative were based on outputs from modeling related to the BDCP DEIS. It is also unclear whether these storage levels are intended to represent existing or future conditions for each project. As described in Master Comment Response BDCP-1, "Relationship of the SLWRI to the Bay Delta Conservation Plan," operation of new conveyance facilities and/or flow patterns proposed under the BDCP would require changes in existing CVP operations. Similarly, operation of additional storage and/or flow patterns proposed under the SLWRI would also

require changes in existing CVP operations. Reclamation's action in relation to both projects would be to adjust CVP operations in coordination with SWP operations and the Coordinated Operations Agreement.

FOTR2-7: Please refer to Master Comment Response GEN-5, "Some People Support Dam Raise and Others Oppose Dam Raise."

33.10.19 International Organization for Self-Determination and Equality

Public Comment re Shasta Dam Raise

India reed bowers <india.bowers@gmail.com> Tue, Oct 1, 2013 at 12:25 AM
To: BOR-MPR-SLWRI@usbr.gov

Please see attached.

Kind regards,

India Reed Bowers
B.A. Cultural Anthropology, Brown University (USA)
LL.M. International Law of Human Rights & Criminal Justice, Utrecht University (Netherlands)

Independent freelance consultant
Founder & Director, *International Organization for Self-Determination and Equality* (IOSDE)
www.iosde.org / info@iosde.org / india.bowers@iosde.org

2 attachments

IOSDE Letter against the Shasta Dam Raise.docx
173K

IOSDE Letter against the Shasta Dam Raise.pdf
142K

International Organization for Self-Determination and Equality (IOSDE)

Kopparslagargränd 2
83151 Östersund, Sweden
ph: +46 (0) 70 283 4808
info@iosde.org
www.iosde.org

September 30, 2013

Katrina Chow - Project Manager
US Bureau of Reclamation
Planning Division,
2800 Cottage Way
Sacramento, CA 95825-1893

Re: Public comment regarding the raising of the Shasta Dam

Dear Bureau of Reclamation:

IOSDE-1

The International Organization for Self-Determination and Equality (IOSDE) opposes the proposed raising of the height of the Shasta Dam by 6.5-18.5 feet. Due to such a raise in the Dam height the Winnemem Wintu tribe would see an additional 39 of their sacred sites flooded, including Puberty Rock. A major aspect of the tribe's ability to practice their culture and religion would be lost.

IOSDE-2

As IOSDE expressed to the United States Forest Service earlier this summer of 2013 in support of the protection of the Winnemem Wintu Balas Chonas puberty ceremony (performed at a Winnemem sacred site, amongst others, that would be flooded by the proposed Shasta Dam raise), IOSDE recognizes the Winnemem Wintu as a self-determining Indigenous People practicing their traditional culture, family, inheritance and religion amongst other human and Indigenous customs and values and land rights therein. Such customs and values are Rights of Indigenous Peoples under International Law, as well as being Human Rights in general. The United States and its National- and state-governing and administrative mechanisms are beholden to these International Laws that support Indigenous Peoples and Indigenous and Human Rights, including the rights of the Winnemem Wintu Tribe.

IOSDE-3

The Winnemem Wintu are an Indigenous People with Human and Indigenous Rights as per International Law, including but not limited to those rights contained within the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), adopted by the United Nations General Assembly in 2007, as well as the United Nations International Covenant on Civil and Political Rights (ICCPR) and the United Nations International Covenant on Economic, Social and Cultural Rights (ICESCR), both adopted by the United Nations General Assembly in 1966, the United Nations Convention on the Rights of the Child (CRC), adopted by the United Nations General Assembly in 1989, the United Nations International Convention on the Elimination of All Forms of Racial Discrimination (CERD), adopted by the United Nations General Assembly in 1966, and the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), adopted by the United Nations General Assembly in 1979, United Nations Universal Declaration of Human Rights (UDHR), adopted by the United Nations General Assembly in 1948, and the Charter of the United Nations, of which the Unites States of American is a Member, and which came into force in 1945.

IOSDE-4

Specifically, The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), endorsed by the United States of America in 2010, supports the needs and requests of the Winnemem Wintu as an Indigenous People. The following articles of the UNDRIP, amongst others, would be violated in light of the destruction to Winnemem Wintu sacred and cultural sites were the Shasta Dam to be raised:

Article 8
1. Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture.

Article 11
1. Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artifacts, designs, ceremonies, technologies and visual and performing arts and literature.
2. States shall provide redress through effective mechanisms, which may include restitution, developed in conjunction with indigenous peoples, with respect to their cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs.

Article 12
1. Indigenous peoples have the right to manifest, practise, develop and teach their spiritual and religious traditions, customs and ceremonies; the right to maintain, protect, and have access in privacy to their religious and cultural sites; the right to the use and control of their ceremonial objects; and the right to the repatriation of their human remains.
[...]

IOSDE-4 CONTD

Article 19
States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.

Article 25
Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.

Article 26
1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.
2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.
3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.

Article 27
States shall establish and implement, in conjunction with indigenous peoples concerned, a fair, independent, impartial, open and transparent process, giving due recognition to indigenous peoples' laws, traditions, customs and land tenure systems, to recognize and adjudicate the rights of indigenous peoples pertaining to their lands, territories and resources, including those which were traditionally owned or otherwise occupied or used. Indigenous peoples shall have the right to participate in this process.

Article 31
1. Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions. [...]
2. In conjunction with indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.

Article 32

IOSDE-4 CONTD

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.
2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.
3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.

Article 34
Indigenous peoples have the right to promote, develop and maintain their institutional structures and their distinctive customs, spirituality, traditions, procedures, practices and, in the cases where they exist, juridical systems or customs, in accordance with international human rights standards.

Article 38
States, in consultation and cooperation with indigenous peoples, shall take the appropriate measures, including legislative measures, to achieve the ends of this Declaration.

IOSDE-5

As IOSDE also expressed to the United States Forest Service earlier this summer of 2013, and now expresses to the United States Bureau of Reclamation, these Human and Indigenous Rights apply to the Winnemem Wintu Tribe as an Indigenous People. That the authoritative bodies of the United States and its National and state and local mechanisms have not yet thoroughly learned of and/or applied these Indigenous and Human Rights to their methods of functioning and decision-making is a problem whose cost falls of the dignity and well-being Indigenous Peoples themselves, such as the Winnemem Wintu, resulting in ongoing undignified hardships and compounded traumatic memories of violation and experiences of trauma for the Indigenous persons and People(s) involved. In an era where violence against Indigenous Peoples, and in particular Indigenous girls and women, still exists, and after centuries of surviving genocide and colonialism, and in light of the ongoing cultural genocide faced by Indigenous Peoples in their loss of land and sacred and cultural sites, the Winnemem Wintu have the Indigenous and Human Rights by International Law to their full engagement in and protection of their traditions, religions and cultures and related traditional lands therein, as they so chose, for the continuation of their traditions, Peoples, and self-determination.

For this reason, the International Organization for Self-Determination and Equality (IOSDE) opposes raise the height of Shasta Dam.

Sincerely,

India Reed Bowers, B.A. LL.M.
(U.S. Citizen & California voter)
Founder & Director,
International Organization for Self-Determination and Equality (ISODE)

International Organization for Self-Determination and Equality (IOSDE)

Kopparslagargränd 2
83151 Östersund, Sweden
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info@iosde.org
www.iosde.org

September 30, 2013

Katrina Chow - Project Manager
US Bureau of Reclamation
Planning Division,
2800 Cottage Way
Sacramento, CA 95825-1893

Re: Public comment regarding the raising of the Shasta Dam

Dear Bureau of Reclamation:

The International Organization for Self-Determination and Equality (IOSDE) opposes the proposed raising of the height of the Shasta Dam by 6.5-18.5 feet. Due to such a raise in the Dam height the Winnemem Wintu tribe would see an additional 39 of their sacred sites flooded, including Puberty Rock. A major aspect of the tribe's ability to practice their culture and religion would be lost.

As IOSDE expressed to the United States Forest Service earlier this summer of 2013 in support of the protection of the Winnemem Wintu Balas Chonas puberty ceremony (performed at a Winnemem sacred site, amongst others, that would be flooded by the proposed Shasta Dam raise), IOSDE recognizes the Winnemem Wintu as a self-determining Indigenous People practicing their traditional culture, family, inheritance and religion amongst other human and Indigenous customs and values and land rights therein. Such customs and values are Rights of Indigenous Peoples under International Law, as well as being Human Rights in general. The United States and its National- and state-governing and administrative mechanisms are beholden to these International Laws that support Indigenous Peoples and Indigenous and Human Rights, including the rights of the Winnemem Wintu Tribe.

The Winnemem Wintu are an Indigenous People with Human and Indigenous Rights as per International Law, including but not limited to those rights contained within the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), adopted by the United Nations General Assembly in 2007, as well as the United Nations International Covenant on Civil and Political Rights (ICCPR) and the United Nations International Covenant on Economic, Social and Cultural Rights (ICESCR), both adopted by the United Nations General Assembly in 1966, the United Nations Convention on the Rights of the Child (CRC), adopted by the United Nations General Assembly in 1989, the United Nations International Convention on the Elimination of All Forms of Racial Discrimination (CERD), adopted by the United Nations General Assembly in 1966, and the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), adopted by the United Nations General Assembly in 1979, United Nations Universal Declaration of Human Rights (UDHR), adopted by the United Nations General Assembly in 1948, and the Charter of the United Nations, of which the Unites States of American is a Member, and which came into force in 1945.

Specifically, The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), endorsed by the United States of America in 2010, supports the needs and requests of the Winnemem Wintu as an Indigenous People. The following articles of the UNDRIP, amongst others, would be violated in light of the destruction to Winnemem Wintu sacred and cultural sites were the Shasta Dam to be raised:

Article 8
1. Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture.

Article 11
1. Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artifacts, designs, ceremonies, technologies and visual and performing arts and literature.
2. States shall provide redress through effective mechanisms, which may include restitution, developed in conjunction with indigenous peoples, with respect to their cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs.

Article 12
1. Indigenous peoples have the right to manifest, practise, develop and teach their spiritual and religious traditions, customs and ceremonies; the right to maintain, protect, and have access in privacy to their religious and cultural sites; the right to the use and control of their ceremonial objects; and the right to the repatriation of their human remains.
[...]

Article 19
States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.

Article 25
Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.

Article 26
1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.
2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.
3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.

Article 27
States shall establish and implement, in conjunction with indigenous peoples concerned, a fair, independent, impartial, open and transparent process, giving due recognition to indigenous peoples' laws, traditions, customs and land tenure systems, to recognize and adjudicate the rights of indigenous peoples pertaining to their lands, territories and resources, including those which were traditionally owned or otherwise occupied or used. Indigenous peoples shall have the right to participate in this process.

Article 31
1. Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, [...]
2. In conjunction with indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.

Article 32

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.
2. States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.
3. States shall provide effective mechanisms for just and fair redress for any such activities, and appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact.

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Article 38
States, in consultation and cooperation with indigenous peoples, shall take the appropriate measures, including legislative measures, to achieve the ends of this Declaration

As IOSDE also expressed to the United States Forest Service earlier this summer of 2013, and now expresses to the United States Bureau of Reclamation, these Human and Indigenous Rights apply to the Winnemem Wintu Tribe as an Indigenous People. That the authoritative bodies of the United States and its National and state and local mechanisms have not yet thoroughly learned of and/or applied these Indigenous and Human Rights to their methods of functioning and decision-making is a problem whose cost falls of the dignity and well-being Indigenous Peoples themselves, such as the Winnemem Wintu, resulting in ongoing undignified hardships and compounded traumatic memories of violation and experiences of trauma for the Indigenous persons and People(s) involved. In an era where violence against Indigenous Peoples, and in particular Indigenous girls and women, still exists, and after centuries of surviving genocide and colonialism, and in light of the ongoing cultural genocide faced by Indigenous Peoples in their loss of land and sacred and cultural sites, the Winnemem Wintu have the Indigenous and Human Rights by International Law to their full engagement in and protection of their traditions, religions and cultures and related traditional lands therein, as they so chose, for the continuation of their traditions, Peoples, and self-determination.

For this reason, the International Organization for Self-Determination and Equality (IOSDE) opposes raise the height of Shasta Dam.

Sincerely,

India Reed Bowers, B.A. LL.M.
(U.S. Citizen & California voter)
Founder & Director,
International Organization for Self-Determination and Equality (ISODE)

IOSDE an equal future starts with an equal now

Responses to Comments from International Organization for Self-Determination and Equality

IOSDE-1: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources."

IOSDE-2: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources," and Master Comment Response CR-6, "United Nations Declaration on, 'The Rights of Indigenous Peoples.'"

IOSDE-3: Please refer to Master Comment Response CR-6, "United Nations Declaration on, 'The Rights of Indigenous Peoples,'" and Master Comment Response CR-5, "Environmental Justice."

IOSDE-4: Please refer to Master Comment Response CR-6, "United Nations Declaration on, 'The Rights of Indigenous Peoples,'" and Master Comment Response CR-2, "Federal Recognition."

IOSDE-5: Please refer to Master Comment Response CR-1, "Potential Effects to Cultural Resources," and Master Comment Response CR-6, "United Nations Declaration on, 'The Rights of Indigenous Peoples.'"

33.10.20 Dale La Forest & Associates

 LAFO

DLA Comments - Shasta Dam Raising DEIS 9-30-13 - errata.pdf --- corrected 10/3/13

Lily Evans <lilylily@mail.com> Thu, Oct 3, 2013 at 4:20 PM
To: BOR-MPR-SLWRI@usbr.gov

Dear Ms. Katrina Chow:
10/3/13

We just discovered that the DEIS no longer is titled "Preliminary" DEIS.
The newly attached, revised comment letter has been corrected by removing "Preliminary" or the "P" before DEIS.

That is the only change in this comment letter; please substitute this errata, corrected version for the one submitted on 9/30/13.

Thank you,
Lily Evans

==========
Dear Ms. Katrina Chow, Project Manager, US Bureau of Reclamation, Planning Division, Sacramento, CA

9/30/13

Please accept the attached public comment letter that addresses the noise impacts of the proposed Shasta Dam Raising Project.
This comment letter is submitted in reference to the Shasta Lake Water Resources Investigation and preliminary draft EIS.

If you have any questions, please let me know and I will forward them to Mr. La Forest.

Thank you sincerely,

Lily Evans
Assistant to Dale La Forest

DLA Comments - Shasta Dam Raising DEIS_9-30-13 -errata.pdf
1040K

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SIGNIFICANT NOISE IMPACTS
SHASTA DAM RAISING PROJECT
Shasta Lake Water Resources Investigation
Draft Environmental Impact Statement

(Corrected 10/3/13)
September 30, 2013

Dear Ms. Chow:

LAFO-1 I submit this comment letter on behalf of the residents of Shasta Lake City. This comment letter addresses some of the potentially significant noise impacts that the Shasta Dam Raising Project's construction activities may create in its vicinity. The Shasta Lake Water Resources Investigation's Draft Environmental Impact Statement (DEIS) fails to adequately disclose those noise impacts. It fails to contain a professional and meaningful acoustical study that accurately predicts such noise impacts. An EIS is required to evaluate a project's noise impacts on homes and schools that are considered to be "noise sensitive" so that effective mitigations can be adopted.

LAFO-2 I am a professional planning consultant, architectural designer, and expert acoustical consultant. I have over 20 years of experience in evaluating the environmental noise impacts in California. Projects such as this dam raising construction project can generate significant noise impacts at homes affected by such construction noise or its related off-site transportation noise from increased vehicles and heavy trucking.

LAFO-3 All too often project proponents only focus on noise impacts caused by on-site construction activities. This comment letter focuses on how this Project's off-site traffic will create significant noise impacts that may continue for as long as five years to residents within and near Shasta Lake City and elsewhere. But with a massive, long-lasting construction project like this one, those significant off-site construction traffic impacts can linger so long that they seem nearly permanent to affected residents. This isn't a project that can be tolerated or endured for just a few days or weeks. Exposure to excessive project-related noise levels for years can cause serious health impacts to affected residents, as well as immediate sleep-disturbance impacts.

LAFO-4 There are homes located very near this Project's main haul routes along Lake Boulevard and Shasta Dam Boulevard that could be adversely impacted by this Project's substantial increase in

LAFO-4
CONTD

construction traffic and heavy trucking. Some of these homes appear to be only about 50 feet from the centerline of these roads as described below with some examples.
The DEIS fails to describe in any meaningful detail (i.e. with maps) that residents also live along Shasta Dam Boulevard and Lake Boulevard where heavy truck traffic would deliver construction materials to the Project and where large numbers of construction workers will pass for years.

PHOTOS OF EXISTING HOMES IN SHASTA LAKE CITY AS EXAMPLES OF HOW CLOSE PEOPLE LIVE TO THIS PROJECT'S ARTERIAL ACCESS ROUTES

EXISTING HOMES WITHIN 50 FEET OF CENTERLINE OF SHASTA DAM BOULEVARD

LAFO-4 CONTD

EXISTING HOMES WITHIN 50 FEET OF CENTERLINE OF LAKE BOULEVARD

LAFO-5

The point of showing these photos is to clarify a point missing in the DEIS: that some homes are so close to this Project's access roads that the noise from the large increase in construction traffic will severely impact these residents. There are other homes in Shasta Lake City that are farther from the centerline of these arterial roads that will also be exposed to excessive construction noise levels, even if not as severely as these examples at 50 feet away. The DEIS should have included existing noise level measurements at such adversely impacted homes. Only if one first knows how loud traffic noise is for such homeowners can one calculate whether or not the noise level increase during construction traffic operations will be significant. While the DEIS only purports to estimate that noise levels won't increase by more than 3 dBA, an even lesser increase could still be significant. Or using other relevant standards, if traffic noise levels along Lake Boulevard where homes are nearby are much lower than along Shasta Dam Boulevard, then this Project's heavy trucking and large numbers of employee trips could have a greater relative noise impact.

LAFO-6

As the DEIS states, "where existing traffic noise levels are greater than 65 dB Ldn, a + 1.5 dB Ldn increase will be considered significant." The problem is that the DEIS never applied this more restrictive threshold of significance to the circumstances that exist in Shasta Lake City.

The DEIS also contains no hourly equivalent noise level (L_{eq}) measurements. It defines such L_{eq} measurements on page 8-5, but never bothered to actually acquire such necessary measurements. Without such actual existing hourly equivalent noise levels, the public cannot determine whether this Project complies with the Shasta County's noise standards that include restrictions based upon such L_{eq} noise levels.

LAFO-7

Shasta County Noise Element
Policy N-f – Noise created by new transportation sources shall be mitigated to satisfy the levels specified in Table 8-5 at outdoor activity areas and/or interior spaces of existing noise-sensitive land uses. Transportation noise shall be compared with existing and projected noise levels.

Table 8-5. Noise Level Performance Standards for New Projects Affected by or Including Nontransportation Sources
55 dB Hourly L_{eq}, Daytime (7 a.m. to 10 p.m.)
50 dB Hourly L_{eq} Nighttime (10 p.m. to 7 a.m.)

But no hourly L_{eq} noise level measurements are included in the DEIS. This Project is not apparently being prohibited from operating at nighttime, so it would be required to meet the more restrictive nighttime noise standards. The DEIS fails to disclose that this Project would expose people to and would generate noise levels in excess of local standards and other applicable standards of other agencies.

LAFO-8

THIS PROJECT WOULD GENERATE SUBSTANTIAL AMOUNTS OF CONSTRUCTION TRAFFIC NOISE

As described in either the City of Shasta Lake's comment letter of September 27, 2013, or in the DEIS, Chapter 20, page 20-8, import of fill and construction materials and export of construction waste would result in 122 - 177 truck trips per day for up to 5 years; export of vegetation would result in 52-75 round trips per day for up to 3.5 years; and the construction labor force would add average of 900 daily round trips for up to five years. This increased traffic has the potential to result in significant noise impacts to the residents living near this Project's access routes.

LAFO-9

Since, according to CalTrans, the passing of a single heavy truck can generate as much noise as that of about 28 automobiles, this Project's possible increase of 177 truck trips per day hauling construction aggregates and materials would make as much noise as about 4,956 cars per day. Add to that other medium weight trucks and about 900 auto trips for construction workers, this Project may generate as much traffic noise as if nearly 6,000 extra cars passed by those nearby homes along Lake Boulevard and Shasta Dam Boulevard. Residents of Shasta Lake City should be informed of the true noise impact of such a possible five-year long Project on their lives.

LAFO-10

NIGHTTIME CONSTRUCTION AND TRAFFIC NOISE IMPACTS WILL BE SIGNIFICANT

The DEIS places no restrictions on the hours of the day during which this Project would be allowed to operate or to conduct its off-site transportation activities.[1] The DEIS, p. 8-27,

[1] To quote from the DEIS, "Typical construction would occur during daylight hours Monday through Friday, but the construction contractor may extend the hours and may schedule construction work on weekends if necessary to complete aspects of the work within a given time frame." *(emphasis added.)*

LAFO-10 CONTD

therefore acknowledges that the Project's evening, nighttime and early morning construction activities could create a significant noise impact.[2] The DEIS proposes Mitigation Measure Noise-1 that includes a restriction to limit construction noise at non-dam sites to only during daytime hours of 7 a.m. to 10 p.m., Monday through Friday. But the DEIS places no time-of-day restriction on construction noise at the dam site or along the haul routes leading to the dam. In realistic terms, that guarantees that residents along Shasta Dam Boulevard and Lake Boulevard will be exposed to loud heavy trucking noise before 7 a.m. During the hot summer months, construction activities, worker traffic and material shipments typically begin operating before 7 a.m. to avoid the heat of day. Accordingly, there is no evidence that Mitigation Measure Noise-1 is adequate to reduce this Project's non-daytime construction noise impacts. For example, since the DEIS considers evening (7 p.m. – 10 p.m.) construction noise to be potentially significant, but its mitigation measure does not restrict such evening noise levels, then this Mitigation Measure Noise-1 will not reduce the Project's evening noise impacts to less-than-significant.

MAXIMUM EXISTING TRAFFIC NOISE LEVEL ARE UNDERESTIMATED

LAFO-11

The Project's maximum existing daily traffic noise level on any major access route may also be greater than the average daily traffic noise levels that the DEIS calculates. The DEIS incorrectly estimates existing traffic noise along this Project's access routes. It does so in at least two ways:

1) It uses outdated traffic counts from 2006 and provides no traffic counts whatsoever for some roads sections of Shasta Dam Boulevard where sensitive users exist.
2) It fails to consider the worst case (i.e. loudest) noise levels that traffic generates at some hours of the day. Caltrans[3] instructs that "[a]ll Caltrans highway traffic noise analysis should be done in terms of the worst noise hour L_{eq} (h)," but the worst noise hour is not evaluated in this DEIS. Thus, the Project's maximum existing noise impacts have been underestimated in the DEIS's calculation that is based on average traffic counts, and not maximum hourly counts.

LAFO-12

The consequence of the DEIS having underestimated the current traffic noise levels is that the true severity of this Project's additional construction traffic noise is not being evaluated and mitigated.

LAFO-13

On the other hand, the data the DEIS relies upon does not accurately correlate with the most current CalTrans data. For example, the PDEIR, in Table 8-2, describes a traffic count of 5,500 ADT on SR 151 in Shasta Lake yet no current CalTrans data in the vicinity is that high. The 2012 CalTrans traffic count on Shasta Dam Boulevard to the east of Lake Boulevard is much lower and only about 1,550 AADT.[4] Father east yet along Shasta Dam Boulevard, CalTrans's 2012 traffic count increase to about 2,250 AADT, still only half as much as the DEIS reports from 2006. There are homes within about 50 feet of Shasta Dam Boulevard along this road

LAFO-10 CONTD

[2] In terms of noise impact analysis, the "daytime hours" are considered either to be from 7 a.m. to 10 p.m. (under the L_{dn} standards) or 7 a.m. to 7 p.m. (under the CNEL standards).

LAFO-11 CONTD

[3] See: *Technical Noise Supplement, A Technical Supplement to the Traffic Noise Analysis Protocol*, October 1998, page 44, by California Department of Transportation. Available online at: http://www.dot.ca.gov/hq/env/noise/pub/Technical%20Noise%20Supplement.pdf

LAFO-13 CONTD

[4] See 2012 CalTrans data here for SR-151 online: http://traffic-counts.dot.ca.gov/2012all/Route134-161.htm

LAFO-13 CONTD

section, some of which are pictured above. The DEIS calculates that an existing 5,500 ADT results in an existing traffic noise level 68 dBA L_{dn}. But if the more recent data of 2,250 AADT is used, with less than half as many vehicles, then the existing traffic noise levels along that road section might be about 65 dBA L_{dn} and not 68 dBA L_{dn} as the DEIS calculates. Those are still noise levels that exceed the City's standards, but this Project's heavy traffic and other cumulative traffic would constitute a greater percentage increase and would thus generate a greater traffic noise level increase than the DEIS reports.

NOISE IMPACTS TO MOUNTAIN LAKES HIGH SCHOOL WOULD BE SIGNIFICANT

The DEIS, p. 8-10, inaccurately describes that the nearest school to construction activities is approximately 500 feet away. It totally ignores that another school, the Mountain Lakes High School, is less than about 50 feet away from Lake Boulevard at the Shasta Dam Boulevard intersection where off-site Project-generated construction traffic will pass. Construction traffic is a construction activity, and its noise impacts must be disclosed and mitigated where feasible. The DEIS, in Table 8-7, identifies that the "maximum allowable noise exposure" from transportation noise sources at playgrounds and parks is 70 dBA L_{dn}/CNEL at the property line.

LAFO-14

This outdoor activity area, at the intersection of two roads, may be exposed to noise levels in excess of 70 dBA L_{dn}/CNEL. The DEIS calculates noise levels from just traffic along Shasta Dam Boulevard as being about 68 dBA L_{dn} at 50 feet, and that doesn't include the additional noise from traffic on Lake Boulevard nor future noise from other foreseeable projects. The City of Shasta Lake has an even stricter noise standard to limit the noise level in outdoor activity areas at schools of 60 dBA L_{dn}.[5] The photo below shows just such an outdoor activity area with a tree-shaded picnic table and students using it near the Lake Boulevard property line to the west.

Photo and aerial photo of Mountain Lakes High School:

LAFO-15

The DEIS calculates that the existing noise level along Shasta Dam Boulevard was 68 dBA L_{dn} at a distance of 50 feet from the centerline of that road. That means traffic noise is quite excessive at this school's southern property line also about 50 feet from the centerline where such noise standards apply. That noise level, especially when updated for the increased traffic now some seven years later, will be at least 8 dBA louder than the City's standards allow. This Shasta

LAFO-14 CONTD

[5] See Shasta Dam Area RP Fourth Amendment DEIR, Feb. 2008, Table 6.6-3. (Document accessed online on 9/30/13 at: http://www.ervineg.com/pdf/DEIR-SDARP4A.pdf. A copy will be made available if requested.

LAFO-15 CONTD

Dam Raising Project's construction traffic would expose this school to up to five years of increased heavy trucking noise, raising noise levels at the school even higher. The possible approval of the Moody Flats Quarry near the Shasta Dam would generate an even greater amount of additional, cumulative noise at this school.[6] Such increases in traffic noise would likely exceed 3 dBA during the Shasta Dam Raising Project's construction and would be considered significant. Since the standard however for noise sensitive land already exposed to more than 65 dBA L_{dn} is even lower, where only a 1.5 dBAL/CNEL noise level increase is considered to be significant, there should be no doubt this Shasta Dam Raising Project will create a significant noise impact to users of that school.[7]

LAFO-16

In *Los Angeles Unified School District v. City of Los Angeles* (1997) 58 Cal.App.4th 1019, the Court overturned an approval by the City of Los Angeles of a development that would have exposed an existing school to even higher unacceptable traffic levels. The court ruled that an increase under those circumstances in 1997 that might have been only 2.8 dBA was nonetheless significant. Some of that decision[8] is entirely relevant to this Shasta Dam Raising Project's noise impacts:

> "The EIR is inadequate because it fails to consider the cumulative impact of existing and projected traffic noise at the schools."
>
> "The EIR in the present case concluded there would be no significant impact on the schools from increased traffic noise. The existing ambient noise level of 72.1 dBA already exceeds the Department of Health's recommended maximum of 70 dBA and would only increase by another 2.8--3.3 dBA at build-out, an increase the EIR considered "insignificant." "
>
> "The City ignores the statutory requirement the EIR consider the cumulative effects of the project on the environment. ..."
>
> "We conclude the evidence in the record does not support the EIR's finding the plan will have no significant impact on traffic noise at Canoga Park High School and Parkman Junior High School ..."

The same conclusion now applies to this Shasta Dam Raising Project's DEIS and its construction traffic noise impacts to this Mountain Lakes High School; the cumulative noise impacts will be significant. The DEIS must be revised to correctly include such analysis and noise mitigation.

LAFO-15 CONTD

[6] The proposed Moody Flats Quarry project site is adjacent to the City's northerly city limit, southeast of the Shasta Dam complex. The proposed Quarry would also utilize SR 151 during a portion of its construction operations.

[7] See DEIS: "Where existing traffic noise levels are greater than 65 dB Ldn, a + 1.5 dB Ldn increase will be considered significant."

LAFO-16 CONTD

[8] Court decision in *Los Angeles Unified School District v. City of Los Angeles* is available online here: http://ceres.ca.gov/ceqa/cases/1997/la_unified.html

INAPPROPRIATE THRESHOLD OF SIGNIFICANCE FOR NOISE IMPACTS

LAFO-17

The DEIS, on page 8-28, is inaccurate in reference for this construction project to state that it would typically require a doubling of traffic volumes on area roads in order for the noise level along those roads to increase by 3 dBA. This Shasta Dam Raising Project would not represent not a "typical" situation. Heavy construction vehicles hauling aggregate and materials typically emit much more noise than typical automobiles. The percentage of heavy trucks during these five years of construction would be much greater than occur currently with recreational traffic along these access roads. Each heavy truck produces approximately as much noise when passing a home as 28 automobiles. Thus, a much smaller percentage increase in construction traffic could result in a 3.0 dBA CNEL/L_{dn} noise level increase. The DEIS must be revised to evaluate the actual circumstances with louder heavy trucking noise rather than some irrelevant rules of thumb that greatly understates the noise impacts to nearby homes.

LAFO-18

The DEIS uses the wrong threshold of significance for noise impacts caused by noisy construction-related traffic. It considers the severity of noise level increases of 3.0 dBA L_{dn} or less to be less-than-significant. However the courts in California have ruled that even lesser noise level increases along roads that are already excessively noisy can be significant. For example, in *Grey v. County of Madera* (2008) 167 Cal.App.4th 1099, the court found even a **2.1 dB** increase at a residence due to a project's increased heavy trucking to be significant for a road already exposed to excessive noise levels.[9] The DEIS identifies that one of the major access routes to this Project, Shasta Dam Boulevard, as based on outdated traffic information from 2007, was exposed to noise levels of 68 dBA CNEL at a distance of 50 feet from its centerline. 68 dBA CNEL is excessive noise exposure already because the BLM and Shasta County consider noise levels of 60 dBA CNEL to be limit for acceptable exposure.

LAFO-19

The DEIS, p. 8-9, Table 8-2, fails to measure, predict or describe what noise levels currently exist along Lake Boulevard where existing residences are located to the north of Shasta Dam Boulevard. Construction traffic is allowed to and will also pass along that route. The DEIS Table 8-2's calculation or modeling is also outdated because it relies upon traffic counts from 2006 that are more than 7 years old. The DEIS also fails to state what the average daily volume of traffic is along Lake Boulevard. As such, the DEIS is inadequate and must be revised.

LAFO-18 CONTD

[9] Quote from the Court's decision in *Grey v. County of Madera* (2008) 167 Cal.App.4th 1099, 1122-1123:
"Here, the Madera County General Plan Noise Element establishes that for residential uses affected by transportation noise sources (off-site traffic in this case), 60 dBA Ldn (Day-Night Average Level noise descriptor) is the maximum acceptable noise level. All of the sites tested for SR 41, however, show that existing traffic noise levels are already in excess of this amount. Thus the EIR should consider whether the cumulative noise impact would be significant when increases of up to 2.1 dBA are added to the existing noise level. For example, even though a 2.1 dBA noise in isolation will not be noticeable, when added to an already high noise level, it could cause a tipping point of noise problems for the general public. The EIR, however, does not analyze this issue and merely concludes that it would not be significant because "[I]t is generally recognized that an increase of at least 3 dB is usually required before most people will perceive a change in noise levels." This bare conclusion cannot satisfy the requirement that the EIR serve as an informational document."

LAFO-19 CONTD

The "Shasta Dam Area Redevelopment Plan Fourth Amendment DEIR" states that the 1999 Shasta Lake General Plan EIR identified that Lake Boulevard to the north of Shasta Dam Boulevard had 2,400 average daily trips.[10] That figure shows that residents along Lake Boulevard are exposed to less traffic and therefore less traffic noise than those along Shasta Dam Boulevard (5,500 ADT or more if the reader believes the DEIS). Accordingly, construction traffic noise from this Shasta Dam Raising Project would result in a more noticeable noise impact to residents along Lake Boulevard than this DEIS considers.

LAFO-20

The DEIS fails to describe the existing (2012 or 2013) traffic noise levels on those various streets where Project-related construction traffic will likely pass. Therefore it fails to support with substantial evidence its conclusion that traffic noise from temporary construction vehicles will not increase those noise levels by less than 3 dBA CNEL/L_{dn}.

LAFO-21

Other noise standards that need to be examined are found in federal regulations, in other communities' regulations, and in case law. The County of Shasta has a limited set of noise standards in its General Plan. But those are not the only measures of whether this Project will have a significant noise impact. CEQA allows and requires an agency to examine the full range of significantly harmful noise impacts, even if the agency has not adopted specific noise limits for all types of noise. Under conditions such as is found with Shasta County's limited set of noise standards, this DEIS should examine whether the Project will adversely impact people in other measureable ways.

Some communities examine whether a project will increase the ambient noise level by greater than a specified amount, and if so, then they will deem such a noise increase to be significant. In Oregon, for example, developers of commercial projects are not allowed to increase the ambient noise levels of quiet, previously undeveloped land by more than 10 dBA during any hour of the day. Those noise standards are also applied on the basis of the time of day, and on the basis of how frequently excessive noise occurs within any given hour.[11]

LAFO-22

The A-weighted sound level alone, however, is not sufficient to describe the noise environment at any given location, due to the fact that environmental sound levels tend to change frequently with time. Therefore, an environmental noise descriptor needs to address the length of time sound is present as well as the level of the sound. One environmental noise descriptor used widely throughout the United States is the "Statistical Sound Level." The statistical sound level is given as "L_{xx}," which corresponds to the level exceeded "xx" percent of the specified measurement time. For example, the L_{50} would be that level exceeded 50% of the time during a specified time period. Similarly, the L_{10} is exceeded just 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. The DEIS could fashion effective mitigations by evaluating these types of standards and restricting noise levels with specific numerical limits based upon how often the noise exceeds these levels. This is one

LAFO-19 CONTD

[10] See: http://www.ervincg.com/pdf/DEIR-SDARP4A.pdf as available online

LAFO-21 CONTD

[11] In light of Shasta County's rural character, on the basis of which many of its residents have chosen to make Shasta County their home, the DEIS should consider Oregon's approach to regulating new commercial or industrial noise sources in its agricultural areas. See, http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_035.html.

LAFO-22 CONTD

measurement methodology that is used in some California communities, as well as in Oregon.

THE DEIS CONTAINS NO ANALYSIS OF PROJECT SLEEP-DISTURBANCE IMPACTS

LAFO-23

This Project's traffic noise will likely cause significant sleep-disturbances to residents living elsewhere along the main travel routes to the construction sites. Some people live close enough to Lake Boulevard and Shasta Dam Boulevard that their sleep may be significantly disturbed by this Project's added early morning or nighttime truck traffic. The DEIS is defective for failing to disclose that information. It never even mentions or examines such sleep-disturbing traffic noise impacts.

LAFO-24

The DEIS is also inadequate for failing to evaluate how loud this Project's sleep-disturbing impacts may be. Individual heavy trucks can generate brief but loud noise levels that can awaken people and harm their health and well being. Yet this DEIS never evaluates such noise impacts, as measured with the "single event level" (SEL) descriptor. The court in *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 CA4th 1344 ruled against a project's Environmental Impact Report where the project would generate additional airplane flyovers with up to 61 dB (SEL) impacts. It ruled that a consultant's disclosure of 61 dB SEL was loud enough to disturb the sleep of about 30% of the people under the flight paths. In that case, its EIR disregarded such sleep disturbance impacts and only considered whether the Project was consistent with general plan noise standards. This is the same error that the DEIS is now making. With possible significant noise impacts in this instance for homes at about 50 feet from Shasta Dam Boulevard and Lake Boulevard that are not protected by topographic features, this Project's sleep-disturbing noise from increased passenger vehicles and its construction-related trucking will be louder than 61 dB (SEL) and potentially more disturbing yet.

LAFO-25

The purpose of mitigation measures is to reduce such noise impacts. The DEIS cannot legitimately claim to have mitigated noise impacts unless it can demonstrate the probable effectiveness of such mitigation as it proposes. With respect to noise impacts, it is quite feasible to accurately quantify both anticipated impacts and proposed mitigation. Here, the DEIS does neither.

LAFO-26

That essential error defeats some of NEPA's and CEQA's important objectives—to ensure adequate mitigation in order to limit exposure to impacts, in this case excessive construction noise. At the very least, NEPA and CEQA require even temporary construction-related noise levels to be evaluated, and mitigated if feasible. This DEIS is inadequate in that it establishes no specific maximum noise levels for construction noise, and fails to propose or analyze reasonably feasible mitigation measures.

AN ACOUSTICAL ANALYSIS IS REQUIRED

LAFO-27

The DEIS is inconsistent with the Shasta County requirement that an "acoustical analysis" is required because it fails to include any adequate acoustical analysis. The Shasta County General Plan Noise Element's Policy N-c requires such an acoustical analysis be prepared when this Project would likely produce noise levels that exceed the performance standards on existing noise-sensitive uses. The DEIS itself even acknowledges that construction noise levels will

exceed acceptable limits for some homes. The standards for an acoustical analysis are described in the DEIS, page 8-16, Table 8-6, as copied from the Noise Element. But the DEIS fails to comply with those minimal requirements because:

- It appears not to have been prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics. That is evidenced by the many flaws in the DEIS's chapter 8 regarding noise impacts and its misunderstanding of Federal and California law on this subject of this Project's noise impacts.[12]
- It fails to include any representative noise level measurements to describe the local conditions and predominant noise sources. There is no evidence anywhere in the DEIS that any noise level measurements were taken anywhere related to this Project.

LAFO-27 CONTD

- It fails to estimate the existing and projected (20 years) noise levels at homes affected by this Project and compare them with the policies of the Noise Element. The Project will obviously have short-term construction noise impacts that will be significant. It will also have long-term noise impacts due to increased traffic and altered recreational access that should have been predicted for 20 years in the future.
- It fails to recommend appropriate noise mitigation for homes exposed to excessive heavy trucking noise impacts.
- It does not estimate the noise exposure after the prescribed Mitigation Measures have been implemented.
- It contains no post-project assessment program to evaluate the effectiveness of the proposed Mitigation Measures.

Without a professional acoustical analysis upon which to base its conclusions, the DEIS has no valid support for its determination that the Project's noise impacts will be less-than-significant. Since this DEIS must also comply with the California Environmental Quality Act in evaluating noise impacts on County, and not only on Federal roads, such an acoustical analysis that meets CEQA requirements and case law must be prepared for this Project.

LAFO-28

ADDITIONAL NOISE MITIGATION SHOULD BE CONSIDERED

The DEIS, when revised for additional noise impact analysis, must analyze and could require as conditions of approval a range of common and reasonably feasible noise mitigations to be

[12] This comment that questions the professional qualifications behind the DEIS's noise chapter is not meant to be unduly harsh. There may be other unnamed professionals who contributed to the noise impact chapter of this DEIS who, if identified, might tend to support the credibility of this DEIS study. But for purposes of an EIS or an EIR, the public is entitled to the assurance that the preparer of such noise studies is qualified, accurate and truthful in his reports. The means for an EIS to provide that public assurance is to describe somewhere what personnel worked on the EIS and describe their professional qualifications. As to the qualifications of the preparer of the noise chapter of the DEIS, it only identifies one person, Jake Weirich, having a B.S., Sound Engineering; with 4 years experience, Noise and Vibration, Air Quality and Climate. But the University of Michigan's Bachelor of Science in Sound Engineering does not appear to qualify a person in California for the fields of environmental noise assessment and architectural acoustics, and no substitute qualifications are provided in the DEIS either. (See: http://www.music.umich.edu/departments/pat/bs_curr_d.htm) To comply with the Shasta County General Plan's Noise Element for a required *acoustical analysis*, more information is needed to support that an acoustical analysis has actually been prepared by a "qualified person experienced in the fields of environmental noise assessment and architectural acoustics."

LAFO-27 CONTD

implemented to reduce the Project's noise impacts on its neighbors including:

- Requiring that construction noise levels do not exceed a specific decibel level that is consistent with the current maximum noise levels permitted by the Shasta County General Plan Noise Element and the Shasta Lake City General Plan Noise Element.
- Limiting startup hour to 8 a.m. to lessen the Project's sleep-disturbance to neighbors.
- Prohibit any off-site trucking to or from the Project site except during the approved hours.
- Conditioning the Project such that its trucking would be prohibited from using certain routes where homes are located very close to those roads at times of the day that would exceed allowable noise levels.
- Require a sufficiently tall and continuous noise berm of earth or rock that wraps closely around construction areas to lower the Project's noise transmission to existing distant homes. Earth berms are commonly used to effectively reduce sounds levels. In addition, require as necessary portable on-site noise barriers. Install noise berms or noise walls where off-site trucking would significantly impact existing neighbors near those roads.

LAFO-28 CONTD

- Require better-than-average mufflers on construction equipment, mobile equipment, and haul-trucks to lower their noise emissions by at least 5 dBA lower than typical mufflers.
- Retrofit existing homes nearest to the Project's haul routes with sound-resistant windows and other structural noise-proofing, including air-conditioning for warm summer operations.
- Replace backup alarms or bells with a signaling operator, or use variable level backup alarms that measure the background sound between the beeps and vary the amplitude so as to generate an OSHA-compliant sound level. A feasible mitigation for some noise impacts might include the use of flashing lights instead of backup beepers under low-light conditions during nighttime hours.
- Relocate on-site equipment, or select inherently quieter units.
- Install sound-measuring devices at nearby homes to provide neighbors with information on whether they are being adequately protected.
- Use noise monitoring and inspections to ensure that mitigation measures are in place and operating, and that noise standards are being met.

LAFO-29

Based on these comments, it should be abundantly obvious that the DEIS's discussion and mitigation of the Project's noise impacts is inadequate and fails to comply with NEPA and CEQA. Please revise the DEIS and provide additional opportunity for public review afterward.

Thank you for considering these comments. Please notify me of any additional opportunities there may be to review this Project or its related environmental documents.

Dale La Forest
Professional Planner and Designer
Dale La Forest & Associates

DL&A Public Comments – 9/30/13 - 12 - (Corrected 10/3/13)
Shasta Dam Raising Project – DEIS Shasta Lake Water Resources Investigation

Responses to Comments from Dale La Forest & Associates

LAFO-1: In the opening paragraph of his letter, the commenter is concerned about the noise impact analysis in the DEIS and states that the DEIS "fails to contain a professional and meaningful acoustical study that accurately predicts such noise impacts." This comment alone is a general statement and does not raise any specific issues, but the comment provides introduction to the more specific comments that follow. Potential noise impacts are discussed in Chapter 8, "Noise and

Vibration." Responses to Comments LAFO-2 through LAFO-28 below address these specific comments.

LAFO-2: This comment is a general statement and does not raise any specific issues, but the comment provides introduction to the more specific comments that follow.

Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

LAFO-3: The commenter states the importance of analyzing off-site traffic noise level increases during the multiple-year construction period. The analysis of noise from off-site construction traffic is included within Chapter 8, "Noise and Vibration," and begins on page 8-27 of the DEIS. A more detailed analysis is provided in Master Comment Response NOISE-1, "Traffic Noise Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

The commenter also expresses concern that increased traffic noise levels would result in sleep disturbances. Refer to Master Comment Response NOISE-2 for additional analysis regarding the potential for construction-related haul truck trips to result in sleep disturbance at off-site residences.

LAFO-4: The commenter expresses concern about the levels of noise from construction-related traffic at homes located near the main haul routes along Lake Boulevard (Road 418) and Shasta Dam Boulevard (SR 151). The commenter provides photos of homes located along these roadways. A more detailed analysis of traffic noise increases along these roadways is provided in Master Comment Response NOISE-1, "Traffic Noise Analysis." The traffic modeling performed for Master Comment Response NOISE-1 accounted for the distance between each roadway segment and the nearest residential or commercial land uses. Detailed input parameters used in the modeling are provided in Appendix, "Traffic Noise Modeling." See the table called "Average Annual Traffic Data and Receptor Distances."

LAFO-5: The commenter notes that the traffic noise analysis under Impact NOISE-1 in the DEIS focuses solely on the potential increase in traffic noise due to construction-related traffic and points out that even small increase in traffic noise levels can be considered significant. To address this point additional analysis is provided in Master Comment Response NOISE-1, "Traffic Noise Analysis," This analysis focuses on

whether traffic noise levels during project construction would exceed the transportation noise standards established by the City of Shasta Lake.

LAFO-6: The commenter states that the analysis of off-site traffic noise increases near sensitive receptors should have applied an incremental increase threshold of 1.5 dBA at locations where existing traffic noise levels exceed 65 dBA Ldn. The incremental increase standard of 1.5 dBA is part of Shasta County General Plan Policy N-g, which is provided in Chapter 8, "Noise and Vibration," on page 8-14 of the DEIS. This policy, however, only applies to roadway improvement projects that result in increased traffic volumes or increase travel speeds. Construction- traffic associated with the SLWRI is not considered a roadway improvement project. Also, construction-related traffic would not result in traffic noise increases for the long term as would most roadway improvement projects. Moreover, as stated in Master Comment Response NOISE-1, "Traffic Noise Analysis," the City of Shasta Lake has not established any standards regarding the incremental increase in traffic noise levels.

LAFO-7: Within Chapter 8, "Noise and Vibration," on page 8-14 of the DEIS, Policy N-f from the noise element of the Shasta County General Plan (2004) incorrectly refers to the noise standards in Table 8-5. Policy N-f actually refers to the noise standards in Table N-VI, which is presented as Table 8-7 on page 8-17 of the DEIS. Table 8-7 consists of exterior and interior noise standard using the Ldn and CNEL metrics, as well as some interior noise standards using the hourly Leq metric.

The commenter states that the noise analysis should include some hourly equivalent noise level (Leq) measurements to compare traffic noise levels to the Leq standards displayed in Table 8-5. The Leq standards displayed in Table 8-5, however, only apply to nontransportation noise sources.

Because the routes most heavily travelled by construction-related traffic, particularly haul trucks, would use Shasta Dam Boulevard and Lake Boulevard, which pass by noise-sensitive receptors located in the City of Shasta Lake, a more comprehensive traffic noise analysis using noise standards established by the City of Shasta Lake city is provided in Master Comment Response NOISE-1, "Traffic Noise Analysis."

LAFO-8: The commenter argues that the vehicle trips associated with material hauling and worker commutes during the construction period has the potential to result in significant noise impacts to the residents living near this project's access routes. The commenter specifically notes the number of construction-related trips stated in Chapter 20, "Transportation and Traffic," of the DEIS.

Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis," for a comprehensive analysis of traffic noise impacts during project construction. As stated in Master Response NOISE-1, this analysis used the higher trip generation values provided in Chapter 20, "Transportation and Traffic."

LAFO-9: The commenter states that "according to Caltrans, the passing of a single heavy truck can generate a substantially higher noise level than 28 automobiles." While it is true that heavy truck traffic generates more noise than an equivalent volume of automobile traffic, the commenter does not cite which source from Caltrans states that truck trucks are 28 times as loud, or whether that factor is based on noise levels expressed in hertz or A-weighted decibels.

Nonetheless, the comprehensive analysis of traffic noise impacts provided in Master Comment Response NOISE-1, "Traffic Noise Analysis," takes into account the proportion of construction-generated vehicle trips that will consist of heavy trucks. Also, additional analysis regarding the potential for construction-related haul truck trips to result in sleep disturbance at off-site residences is provided in Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

LAFO-10: The commenter expresses concern that the DEIS places no time-of-day restrictions on when construction-related traffic would occur, citing key text on page 20-25 in the traffic analysis in the DEIS. Mitigation Measure NOISE-1 was revised to reduce the potential impact of single event noise from truck passbys to a less-than-significant level. This analysis and the added restriction concerning nighttime truck trips are discussed in Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors." The analysis also results in a revision to the key text mentioned by the commenter.

The commenter also expresses concern that Mitigation Measure NOISE-1 places no time-of-day restrictions on noise-generating construction activities at the dam site. Please refer to the discussion of construction-generated noise at the dam site, which is included in Chapter 8, "Noise and Vibration," Section 8.3.4, "Direct and Indirect Effects," "Operation of Heavy-Duty Construction Equipment at the Dam" under Noise Impact-1. This analysis explains that noise levels generated by construction activity at the dam site would attenuate, through distance alone, to less than Shasta County's daytime standard of 55 dBA Leq at the nearest noise-sensitive receptors. It also explains that considerably more attenuation would be provided by the change in topography and intervening forest. Thus, construction noise generated at the dam site

would also not expose the nearest noise-sensitive receptors to noise levels that exceed Shasta County's nighttime standard of 50 dBA Leq.

Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

LAFO-11: The commenter suggests that the existing daily traffic noise levels, presented in Table 8-2, are incorrect because they are based on traffic counts from 2006. Traffic volume data from 2006 was used to characterize existing traffic noise conditions because the Notice of Intent to prepare the DEIS was released in October 2005. However, Reclamation and its consultants acknowledge that traffic volumes have changes on some roadway segments since that time and this is why the comprehensive traffic noise analysis presented in Master Comment Response NOISE-1, "Traffic Noise Analysis," uses traffic volume data from 2012, which is the most recent year for which Caltrans provides data at the time of writing the analysis (Caltrans 2014). This approach is conservative given that the analysis focuses on whether project-generated traffic would cause traffic noise levels to exceed applicable standards and 2012 traffic volumes are generally higher than 2006 traffic volumes. The commenter also suggests that the traffic noise analysis should have followed the approach stated in Caltrans's 1998 Technical Noise Supplement, which states that "all Caltrans highway traffic noise analysis should be done in terms of worst noise hour Leq(h)" (Caltrans 1998 :44). Caltrans also makes the statement in the most recent version of this report, its 2013 Technical Noise Supplement (Caltrans 2013:2-47). It is important to note, however, that this document is literally a supplement to Caltrans's Traffic Noise Analysis Protocol (Protocol) and the purpose of the Protocol is to identify the procedures for conducting noise studies and evaluating noise abatement measures of new or reconstructed transportation projects that are funded with Federal aid (Caltrans 2011b :1). Caltrans (as well as the Federal Highway Administration) is not a lead or cooperating responsible agency for the proposed project and the project does not propose any new or modified transportation infrastructure, such as a new roadway, expansion of roadway capacity, or permanent change in traffic volume or fleet mix. Moreover, Caltrans's 2013 Technical Noise Supplement acknowledges that, "Although Caltrans exclusively uses Leq, there are times [when] comparisons need to be made with local noise standards, most of which are in terms of Ldn or CNEL" (Caltrans 2013:2-55).

Another, practical consideration is that construction-related truck trips will have a substantially influence on roadside noise levels than construction related-automobile trips, but it is not known at this time whether truck activity would be noticeably more intense during any

particular period of the day. Thus, identifying which hour of the day is considered the worst-case hour would not be feasible at this time.

For these reasons, a detailed traffic noise analysis was conducted using the Ldn standards established by the City of Shasta Lake and this analysis is provided in Master Response NOISE-1, "Traffic Noise Analysis." Also, the City of Shasta Lake has not established any hourly Leq standards for evaluating traffic noise.

Please also refer to Response LAFO-7 regarding the applicability of hourly noise standards.

LAFO-12: The commenter states, "the consequence of the DEIS having underestimated the current traffic noise levels is that the true severity of this Project's additional construction traffic noise is not being evaluated and mitigated." Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors," for a comprehensive analysis of traffic noise.

LAFO-13: The commenter states that the traffic noise analysis under Impact Noise-1 did not use the most recent available traffic volume data from Caltrans and also points out that some homes are as close as 50 feet to the affected roadways. Please refer to response LAFO-11 and Master Comment Response Noise-1, "Traffic Noise Analysis."

The commenter also expresses concern about the existing noise level of 68 dBA Ldn/CNEL along Shasta Dam Boulevard that, according to Table 8-2 in the DEIS, has an average daily traffic volume of 5,500 vehicles per day that travel at a speed of 45 mph. The commenter is particularly concerned because Shasta Dam Boulevard passes within 50 feet of some classrooms at Mountain Lakes High School and Shasta Lake Elementary School and remarks that, at 68 dBA Ldn/CNEL, the classrooms are exposed to noise levels that exceed applicable standards. However, the noise level listed for Shasta Dam Boulevard in Table 8-2 is the portion of Shasta Dam Boulevard that is just west of Interstate 5. According to the most recent Caltrans traffic volume data (for 2012), the traffic volume on the segment of Shasta Dam Boulevard just east of Lake Boulevard, which is the segment that passes the school, carries average annual daily traffic volume of 1,550 vehicles per day (Caltrans 2014). Also, given the posted speed limit of 25 mph along this segment when children are present, the modeled traffic noise level is 46.8 dBA Ldn. During the construction period the traffic noise level along this roadway segment would increase to 54.5 dBA Ldn and therefore would not exceed the 60 dBA Ldn standard established for schools by City of Shasta Lake. This modeling is summarized in Master Comment Response Noise-1, "Traffic Noise Analysis" and detailed input

parameters, including traffic volume and travel speed, are provided in the Traffic Noise Modeling Appendix. Incidentally, for the segment of Lake Boulevard that passes by the schools, the existing traffic noise level was estimated to be 53.0 dBA Ldn under existing conditions and 59.8 dBA Ldn with the addition of construction traffic. These levels are also less than the 60 dBA Ldn standard established for schools by City of Shasta Lake.

Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis."

LAFO-14: The commenter expresses concern that the noise analysis did not specifically analyze traffic noise impacts at Mountain Lakes High School, which is located at the northeast corner of Shasta Dam Boulevard and Lake Boulevard. This analysis is provided in Master Comment Response NOISE-1, "Traffic Noise Analysis."

The commenter notes that Table 8-7 that identifies that the standard for transportation noise exposure at playgrounds and parks is 70 dBA Ldn/CNEL at the property line. The transportation noise standards in Table 8-7 were established by Shasta County. However, because these two schools are located in the jurisdiction of the City of Shasta Lake, the Ldn standards established by the city were used in the analysis provided in Master Comment Response NOISE-1. Moreover, the analysis provided in Master Comment Response NOISE-1 applied the city's 60 dBA Ldn standard to determine whether traffic noise along Shasta Dam Boulevard and/or Lake Boulevard would result in excessive noise levels at the two schools. For additional detail see Master Comment Response NOISE-1. In addition, Mitigation Measure Trans-1, which is discussed in Chapter 20, "Transportation and Traffic," of the DEIS, will require Reclamation and its primary contractors to prepare and implement a traffic control and safety assurance plan to minimize the simultaneous use of roadways by different construction contractors for worker commute trips, material hauling, and equipment delivery. This will have the added effect of limiting traffic noise on any single roadway, including the segments of roadways that pass by Mountain Lakes High School.

LAFO-15: The commenter expresses concern that Mountain Lakes High School is already exposed to excessive noise because Table 8-2 in the DEIS indicates that the existing traffic noise level along Shasta Dam Boulevard is 68 dBA Ldn. Please refer to Response LAFO-13. The commenter states, "that noise level, especially when updated for the increased traffic now some seven years later, will be at least 8 dBA louder than the City's standards allow." The commenter provides not substantiation for the magnitude of this increase.

The commenter expresses concern that the approval of the proposed Moody Flats Quarry near Shasta Dam would also expose the schools to noise, thereby contributing to a cumulative noise impact. According to the scoping announcement for the proposed quarry, the schools would be located more than 2,500 feet from the southwest corner of the quarry site with many acres of forest in between (Shasta County 2012 :4). Also, because the proposed quarry project would include an access road between the east side of the quarry site and Wonderland Boulevard near the Old Oregon Trail interchange with Interstate 5 (Shasta County 2011 :1) it is not anticipated that quarry-generated vehicle trips would travel on Shasta Dam Boulevard or Lake Boulevard.

The commenter also expresses concern about the size of the traffic noise increase at the school due to construction-related traffic.

Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis," for a detailed analysis of whether traffic noise levels would exceed the applicable noise standards established for schools by the City of Shasta Lake.

LAFO-16: The commenter questions the approach used in the DEIS to analyze traffic noise increases under Impact Noise-1. The commenter cites statements in the court decision of Los Angeles Unified School District v. City of Los Angeles (1997) 58 Cal.App.4th l 019 about why a noise impact determination should not be based solely on whether the magnitude of a traffic noise increase would exceed 3 dBA. For these reasons, a more comprehensive traffic noise analysis is provided in Master Comment Response NOISE-1, "Traffic Noise Analysis," (and additional discussion about traffic noise is added to the cumulative noise impact discussion). The analysis in Master Comment Response NOISE-1, "Traffic Noise Analysis," focuses on whether construction-generated traffic, in combination with existing traffic, would cause traffic noise levels to exceed noise standards established by the City of Shasta Lake.

Moreover, the situation reviewed in the Los Angeles Unified School District v. City of Los Angeles case involved a school that was already exposed to noise levels that exceed the applicable local noise standard under baseline conditions. This is not the case for Mountain Lakes High School because, as stated in Response LAFO-13, the modeled existing traffic noise level along the segment of Shasta Dam Boulevard that passes near the school is 46.8 dBA Ldn. Also stated in Response LAFO-13, the existing traffic noise level along the segment of Lake Boulevard that passes by the schools was estimated to be 53.0 dBA Ldn. These levels are less than the 60 dBA Ldn standard established for schools by the City of Shasta Lake.

LAFO-17: The commenter is critical of the traffic noise analysis under Impact NOISE-1 because it is based on whether traffic volumes on area roadways would double and does not account for the fact that a substantial portion of construction-related traffic would consist of trucks. The commenter also states, "Each heavy truck produces approximately as much noise when passing a home as 28 automobiles." While it is true that heavy truck traffic generates more noise than an equivalent volume of automobile traffic, the commenter does not cite which source from Caltrans states that truck trucks are 28 times as loud, or whether that factor is based on noise levels expressed in hertz or A-weighted decibels.

Nonetheless, the comprehensive analysis of traffic noise impacts provided in Master Comment Response NOISE-1, "Traffic Noise Analysis," takes into account the proportion of construction-generated vehicle trips that will consist of heavy trucks. Also, additional analysis regarding the potential for construction-related haul truck trips to result in sleep disturbance at off-site residences is provided in Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

LAFO-18: The commenter is critical of the traffic noise analysis under Impact NOISE-1 because the significance determination is based solely on whether the magnitude of a traffic noise increase would exceed 3 dBA. The comment claims that this approach is inappropriate if the existing level of noise already exceeds an applicable standard and highlights portions of the court decision in Grey v. County of Madera (2008) 167 Cal.App.4th 1099. As shown in Master Comment Response NOISE-1, "Traffic Noise Analysis," baseline traffic noise levels along all modeled roadway segments do not exceed any of the applicable noise standards established by the City of Shasta Lake. Moreover, the analysis provided in Master Comment Response NOISE-1 indicates that the addition of construction-related traffic would not cause traffic noise levels to exceed the city's noise standards.

LAFO-19: The commenter states that the traffic noise analysis under Impact NOISE-1 does not analysis potential traffic noise increases on Lake Boulevard north of Shasta Dam Boulevard. Analysis of traffic noise along this roadway segment is included in Master Comment Response NOISE-1, "Traffic Noise Analysis." Because it is not known at this time what proportion of construction traffic will travel on Lake Boulevard and Shasta Dam Boulevard, the analysis in Master Comment Response NOISE-1 conservatively assumes that all construction-related trips could use either road.

The commenter suggests that the existing daily traffic noise levels, presented in Table 8-2, are outdated because they are based traffic counts from 2006. Please refer to Response LAFO-11.

The commenter states that the DEIS does not show the existing traffic noise level or any analysis of the segment of Lake Boulevard north of Shasta Dam Boulevard. The commenter states that the average daily traffic volume along this segment is 2,400 vehicles per day, according to the 1999 Shasta Lake General Plan EIR. This volume was used in the traffic analysis presented under Master Comment Response NOISE-1. The web link the commenter provided for the 1999 Shasta Lake General Plan EIR is no longer valid.

Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis."

LAFO-20: Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis."

LAFO-21: The commenter states that "the County of Shasta has a limited set of noise standards in its General Plan" and suggests that additional noise standards shall be used in the noise impact analysis, including a standard applied in Oregon that disallows commercial projects from increasing ambient noise levels by more than 10 dB during any hour of the day. The commenter also suggests that the analysis should apply noise standards based on the time of day.

Shasta County noise-related policies consist of many different types of noise standards using different multiple types of noise metrics. DEIS Table 8-5 on page 8-15 of Chapter 8, "Noise and Vibration," presents hourly noise-equivalent (Leq) standards for both daytime and nighttime hours. Table 8-7 on page 8-17 shows the County's maximum allowable noise exposure standards for transportation noise. These outdoor and indoor standards are expressed in the day-night noise levels (Ldn), which is a 24-hour Leq includes a "penalty" for the noise-sensitive hours between 10 p.m. and 7 a.m. Different Ldn standards are established for different land use types. In addition, Shasta County's noise-related land use compatibility standards are presented in Table 8-8 on page 8-18. The significance determinations made in the noise impact analysis are not limited to the noise standards established by Shasta County. For instance, the analysis of construction-related traffic, which begins on page 8-27, examines whether construction-related traffic noise would exceed any of the applicable noise standards established by Shasta County and whether traffic noise levels increases would exceed 3 dBA. Applying an incremental increase standard of 3 dBA for a short-term noise source is more stringent that the 10 dBA standard suggested by the commenter based on noise practices in Oregon. Also, the following web

link about the 10 dBA standard allegedly used in Oregon is provided by the commenter but it is no longer provides any noise-related information:
http://arcweb.sos.state.or.us/rules/OARs_300/0AR_340/340_035.html.

Moreover, the traffic noise analysis in Master Comment Response NOISE-1, "Traffic Noise Analysis," provides a comprehensive examination of traffic noise levels during project construction and applicable Ldn standards established by the City of Shasta Lake. Also see Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors," for analysis about whether truck passbys would result in sleep disturbance, which employs single event noise standards.

LAFO-22: The commenter suggests that the analysis should apply statistical noise descriptors that "address the length of time sound is present as well as the level of the sound." The commenter is referring to the statistical sound level, LX, which is the noise level exceeded X percent of a specific period of time. (The definition of LX is provided in Chapter 8, "Noise and Vibration," on page 8-5 of the DEIS.) Reclamation and its consultants acknowledge that different jurisdictions use different noise metrics in their noise standards and that some local jurisdictions have standards based on statistical noise descriptors. However, Shasta County, Tehama County, and the City of Shasta Lake do not have standards based on statistical noise descriptors and the Governor's Office of Planning and Research does not recommend any noise standards based on statistical descriptors. The noise standards established by Shasta County, Tehama County, and the City of Shasta Lake include 24-hour metrics (i.e., Ldn and/or CNEL) and/or hourly equivalent noise levels (e.g., Leq standards in Table 8-5 on page 8-15). Furthermore, the commenter provides no evidence that different significance determinations would be made if noise standards based on typical statistical descriptors were applied.

Also see Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors," for analysis about whether truck passbys would result in sleep disturbance, which employs single event noise standards.

The commenter also overlooks the fact that most local jurisdictions in California, as well as other states, exempt construction noise during daytime hours from local noise standards.

LAFO-23: The commenter contends, "This Project's traffic noise will likely cause significant sleep-disturbances to residents living elsewhere along the main travel routes to the construction sites." However, the commenter does not substantiate this determination.

Please refer to Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors," for analysis about whether truck passbys would result in sleep disturbance at nearby residences.

LAFO-24: Citing the ruling in Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners (2001) 91 CA4th 1344, the comment contends that the noise analysis should examine whether truck passbys would result in sleep disturbance at nearby residences.

Please refer to Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors." The analysis under Master Comment Response NOISE-2 includes discussion about the court ruling.

LAFO-25: The commenter contends, "The DEIS cannot legitimately claim to have mitigated noise impacts unless it can demonstrate the probable effectiveness of such mitigation as it proposes." Mitigation for noise impacts is included in Mitigation Measure NOISE-1. As explained in Impact NOISE-1, noise-sensitive receptors could be adversely affected when noise is generated by nighttime operation of heavy-duty construction equipment at construction sites other than the dam site. Mitigation Measure NOISE-1 would eliminate noise exposure during the more noise-sensitive nighttime hours. Mitigation Measure NOISE-1 explicitly states, "Construction activities at non-dam sites will be limited to the less noise-sensitive daytime hours (7 a.m. to 10 p.m., Monday through Friday)." Also, some additional limitations were added to Mitigation Measure NOISE-1, as explained in Master Response NOISE-2, which limits haul trucks from traveling to and from the dam site during the less noise-sensitive daytime hours (7 a.m. to 10 p.m.). These measures are quantifiable in the sense that they are either implemented or they are not.

The other measures included in Mitigation Measure NOISE-1 consist of the standard best management practices required by Shasta County for all construction projects. There is no requirement in NEPA to only include mitigation measures that result in a quantifiable noise reduction.

Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

LAFO-26: The commenter implies that the DEIS is in error for not quantifying noise impacts and noise mitigation. Please refer to Response LAFO-25.

The commenter notes that NEPA and CEQA require that "even temporary construction-related noise levels to be evaluated, and mitigated if feasible." Construction-related noise is evaluated in Chapter 8, "Noise and Vibration," of the DEIS and additional analysis of construction-related traffic noise is provided in Master Comment Response NOISE-1, "Traffic Noise Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

The commenter contends that the DEIS "is inadequate in that it establishes no specific maximum noise levels for construction noise..." Construction noise is analyzed under Impact Nosie-1 in the DEIS and additional analysis of construction-related traffic noise is provided in Master Comment Response NOISE-1 and Master Comment Response NOISE-2. These analyses apply the noise standards established by Shasta County and/or the City of Shasta Lake, depending on the location of the impact. As explained in the analysis, construction-generated noise is primarily a concern during the more noise-sensitive nighttime hours.

The commenter contends that the DEIS "fails to propose or analyze reasonably feasible mitigation measures." Noise mitigation is included in Mitigation Measure NOISE-1. Mitigation Measure NOISE-1 limits noise exposure to noise-sensitive receptors by prohibiting noise-generating construction activity during nighttime hours at locations where nearby noise-sensitive receptors could be adversely affected.

Some additional noise-control measures were added to Mitigation Measure NOISE-1, as stated in Master Comment Response NOISE-2.

Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

LAFO-27: The commenter states, "The DEIS is inconsistent with the Shasta County requirement that an 'acoustical analysis' is required because it fails to include any adequate acoustical analysis" and specifically refers to the requirements listed in Table 8-6 on page 8-16, which originate from Policy N-c of the Shasta County General Plan Noise Element. The commenter also provides a bulleted summary of all the comments made in his comment letter, which is addressed in Responses LAFO-1 through LAFO-29.

Specifically, the commenter contends that the noise analysis was not prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics. In combination with Master Comment Response NOISE-1, "Traffic Noise

Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors," the soundness and adequacy of the noise analysis is demonstrated by Responses LAFO-1 through LAFO-29. Also, the commenter contends that a degree in Sound Engineering and multiple years of experience preparing noise analyses for CEQA and NEPA documents does not qualify someone to prepare noise analyses for CEQA and NEPA documents.

The commenter states that the noise analysis fails to include any representative noise measurements to describe the local conditions and predominant noise sources. The predominant noise sources in the project area consist of traffic noise on nearby freeways and roadways. A summary of modeled existing traffic noise levels is provided in Chapter 8, "Noise and Vibration," Table 8-2 on page 8-9 and greater detail about existing traffic noise levels are provided in Master Comment Response NOISE-1, "Traffic Noise Analysis." The commenter provides no evidence that some other non-transportation noise sources may be the predominant noise source in the project area. Also, refer to Response LAFO-7 regarding the commenter claim that the noise analysis should include some hourly equivalent noise level (Leq) measurements to compare traffic noise levels to the Leq standards displayed in Table 8-5.

The commenter states that the noise analysis "fails to estimate the existing and projected (20 years) noise levels at homes affected by this Project and compare them with the policies of the Noise Element… It will also have long-term noise impacts due to increased traffic and altered recreational access that should have been predicted for 20 years in the future." It is assumed this comment is about traffic noise levels because construction-related noise levels would cease after the 4.5—5 year construction period under all the action alternatives. However, as stated on page 20-25 in Chapter 20, "Transportation and Traffic," "the increase in long-term recreational opportunities and additional visitor days would generate an approximate average of 158 one-way trips per day to Shasta Lake and its tributaries under CP1, 238 one-way trips per day under CP2, 364 one-way trips per day under CP3, 658 one-way trips per day under CP4, and 311 one-way trips per day under CP5." As explained in Impact Trans-1, "these additional trips would be distributed throughout the primary study area to numerous recreational facilities: 6 public boat ramps, 9 commercial marinas, 15 family campgrounds, and various other public and private facilities. These recreational facilities are distributed around Shasta Lake and can be accessed via numerous roadways. Because these trips would be distributed over a large number of roadways throughout a large area, the additional trips are not expected to exceed the existing traffic loads and capacities of the street system." The additional traffic noise modeling for construction-related traffic presented in Master Comment Response NOISE-1, "Traffic Noise

Analysis," was based on traffic volume increase of 700 one-way trips per day by passenger vehicles plus 350 one-way trips per day by haul trucks. Given that these volumes are exceed the volumes projected for additional visitors and consist of much greater portion of louder, heavy-duty trucks, it is not anticipated that the long-term increase in vehicle trips by recreational users, dispersed among the many different recreation facilities around Shasta Lake, would result in an exceedance of applicable noise standards.

The commenter states that the noise analysis "fails to recommend appropriate noise mitigation for homes exposed to excessive heavy trucking noise impacts." Please refer to Master Comment Response NOISE-1, "Traffic Noise Analysis," and Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors," for discussion about the potential noise impact trucks traffic will have on residential land uses and other noise-sensitive receptors. Note that additional measures are added to Mitigation Measure Noise-2 that limit truck passbys, which could result in sleep disturbance at residential land uses, to daytime hours.

The commenter states that the noise analysis "does not estimate the noise exposure after the prescribed Mitigation Measures have been implemented." Please refer to Response LAFO-25.

The commenter states that the noise analysis "contains no post-project assessment program to evaluate the effectiveness of the proposed Mitigation Measures." Mitigation Measure Noise-1, which was revised in Master Comment Response Noise-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors," requires all the listed measures to be implemented by Reclamation and its primary construction. This includes the designation of a disturbance coordinator, with the designated person's telephone number conspicuously posted around the project sites and supplied to nearby residences. The disturbance coordinator will receive all public complaints and be responsible for determining the cause of the complaint and implementing any feasible measures to alleviate the problem. This measure provides the opportunity for potentially affected receptors to request and participate in post-assessment of potential adverse noise affects.

The commenter also contends that the proposed project must also comply with CEQA and the CEQA analysis shall include an acoustical analysis that meets CEQA requirements and case law. Please refer to Master Comment Response CEQA-1, "CEQA Compliance."

LAFO-28: The commenter states that the DEIS must analyze and could require as conditions of approval a range of common and reasonably

feasible noise mitigations to be implemented to reduce the Project's noise impacts and provides a list of 11 different noise reduction measures. Please refer to Response LAFO-25 and LAFO-26 for discussion about why the measures required in Mitigation Measure Noise-1, as amended in Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors," are sufficient for reducing construction-generated noise to a less-than-significant level.

The commenter suggests a mitigation measure that requires that construction noise levels do not exceed a specific decibel level that is consistent with the current maximum noise levels permitted by the Shasta County General Plan Noise Element and the Shasta Lake City General Plan Noise Element. None of the noise standards established by Shasta County directly pertains to noise generated by construction activity. This is revealed by the policies in the Shasta County General Plan Noise Element, as follows:

- Policies N-a, N-e, N-h, and N-n applies to the new development of new noise-sensitive land uses;
- Policies N-b and N-m apply to noise likely to be created by a non-transportation land use;
- Policy N-c applies to noise generated by proposed non-transportation land uses;
- Policies N-d and N-f apply to transportation noise;
- Policy N-g applies to noise exposure of existing noise-sensitive land uses to future roadway improvement projects;
- Policy N-i and N-l pertain to noise mitigation measures;
- Policy N-j applies to railroad noise;
- Policy N-k applies to aircraft noise; and
- Policy N-o concerns county-wide noise contour mapping of transportation noise sources.

None of the policies from Shasta County's Noise Element, and the noise standards they refer to, pertain directly to noise-generated by construction activity. Construction is not a land use. Unlike new land uses or new transportation infrastructure construction is a temporary, intermittent source of noise.

In the same way, the Tehama County Noise Element and the City of Shasta Lake's Noise Element pertain to the development of new noise-sensitive land uses, new noise-generating land uses, transportation noise, and mitigation. Moreover, Tehama County Noise Element, like many cities and counties in California, includes an implementation measure to restrict noise-generating construction activities to daytime hours as determined by the County's Noise Control Ordinance unless an exemption is received from the County to cover special circumstances.

Given that no standards for construction noise have been established by these local jurisdictions, that noise-generating construction activity is not expected to last for an extended period at any location near potentially affected noise-sensitive receptors, and that most jurisdictions in California exempt daytime construction activity from their local noise standards, the noise analysis under Impact Noise-1 focuses on whether construction-generated noise could result in disturbances during noise-sensitive nighttime hours of the day, rather than deriving a specific maximum noise level standard to evaluate construction noise.

The commenter suggests a mitigation measure that would limit startup hour to 8 a.m. to lessen the Project's sleep-disturbance to neighbors. Mitigation Measure Noise-1 limits construction activity at non-dam sites to 7 a.m. to 10 p.m., Monday through Friday. This is consistent with the noise ordinances in most cities and counties in California that prohibit construction noise before 7 a.m. Additional analysis about whether truck passbys would result in sleep disturbance is provided in Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors."

The commenter also suggests mitigation that prohibits any off-site trucking to or from the Project site except during the approved hours and/or prohibiting trucks from using certain routes that pass close to residential land uses. Please refer to Mitigation Measure Noise-1, as amended in Master Comment Response NOISE-2, "Intermittent Single-Event Noise Levels from Trucks Passing Off-Site Sensitive Receptors." As amended, Mitigation Measure Noise-1 requires that all truck deliveries and debris removal trips that use roadways that pass within 50 feet of inhabitable rooms of residential dwellings shall be limited to the less noise-sensitive daytime hours (7 a.m. to 10 p.m.).

The commenter suggests a measure that requires the use of noise berms or walls to protect noise-sensitive receptors from construction noise. Mitigation Measure Noise-1 already requires contractors to install noise berms or noise walls where off-site trucking would significantly impact existing neighbors near those roads.

The commenter suggests a measure that requires better-than-average mufflers on construction equipment, mobile equipment, and haul-trucks to lower their noise emissions by at least 5 dBA lower than typical mufflers. Mitigation Measure Noise-1 already requires that all construction equipment to be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations and that equipment engine shrouds be closed during equipment operation. The commenter provides no definition of the meaning of "average" or indication that such noise-control technology exists without impeding the performance of the equipment or without a substantial increase in cost.

The commenter suggests a measure that requires the retrofitting of existing homes nearest to the Project's haul routes with sound-resistant windows and other structural noise-proofing, including air-conditioning for warm summer operations. Retrofits are generally not feasible for addressing temporary noise sources like construction. Also, the land use compatibility noise standard established by the City of Shasta Lake explicitly state they only apply with windows and doors in the closed position.

The commenter suggests a measure requiring that off-road equipment be installed with backup alarms or bells that include a signaling operator, or use variable level backup alarms that measure the background sound between the beeps and vary the amplitude so as to generate an OSHA-compliant sound level. The commenter also states that a feasible mitigation for some noise impacts might include the use of flashing lights instead of backup beepers under low-light conditions during nighttime hours. The commenter provides no additional detail about this measure would reduce construction-related noise impacts. This type of measure is typically implemented when construction would occur in a densely populated urban area, or when noise-generating construction activity would take place for an extended period of time near the same noise-sensitive receptors. The only location where noise-generating construction activity would take place for an extended period of time is at the dam site but, as discussed in Noise Impact-1, there are no receptors that would be adversely affected by construction noise generated at this site.

The commenter suggests a measure that requires on-site equipment to be located away from receptors. This measure is already included in Mitigation Measure Noise-1, which requires all construction equipment and staging areas to be located at the farthest distance possible from nearby noise-sensitive land uses.

The commenter suggests a measure that requires the use of inherently quieter construction equipment. Mitigation Measure Noise-1 requires that all construction equipment be properly maintained and equipped.

LAFO-29: In a concluding statement to his letter, the commenter states that “the DEIS's discussion and mitigation of the Project's noise impacts is inadequate and fails to comply with NEPA and CEQA.” This comment alone is a general statement and does not raise any specific issues. Responses to Comments LAFO-2 through LAFO-28 address specific comments regarding the adequacy of the noise analysis and mitigation.

33.10.21 Lakehead Community Development Association

LCDA

Lakehead Community Development Association
P.O. Box 322
Lakehead, CA 96051

September 27, 2013

R Duncan
2300 B
to: K Chow

Katrina Chow, Project Manager
Bureau of Reclamation
2800 Cottage Way
Sacramento CA 95825

Re: Response to SLWRI Environmental Impact Statement

LCDA-1 For many years discussions and studies have taken place regarding the possible raising of Shasta Dam to benefit California fish habitat, agriculture an increased population in California. The current EIS by the Bureau of Reclamation sets forth the needs of each of these interests and the benefits each would enjoy which justifies the raising of Shasta Dam. The study defines negative impacts to wildlife, insects, plants, and communities and provides suggested mitigation measures to lessen the impact from raising the dam.

LCDA-2 The study further indicates that many homes and businesses, both on private and US Forest Service leased land will be impacted and that Federal Law provides for financial compensation to the owners of these properties in accordance with Federal law. The majority of the homes and businesses impacted by this project are in the unincorporated community of Lakehead. In numerous meetings with BOR and the US Forest Service we have heard that while private properties on Forest Service land will be provided new Forest Service land to rebuild, no such provision is provided for private property owners, be they homes or businesses to include resorts serving the recreational needs of Shasta Lake.

LCDA-3 The community of Lakehead has a stated population of 550 permanent residents, but perhaps an additional 300-400 part time residents who have summer/ vacation homes in or around the Lakehead area and Lake Shasta. Should the dam be raised and these impacted private homes and businesses be lost, the community of Lakehead will suffer a tremendous loss of citizens, and economic benefit to the community, Shasta County and the recreational users of Lake Shasta. Many have stated that the loss of the residences and businesses due to raising the dam will be the end of Lakehead, just as the area lost the towns of Kennett, Coram, Baird, Heroult, Marley and many more small towns that are now at the bottom of Lake Shasta.

LCDA-4 The major difference here is that the vast majority of these lost properties will not be drowned by higher water, as was the case with the original construction of Shasta Dam. Many of the impacted homes and businesses on private land will just be too close to the new high water mark, thus creating a need for elimination due t

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LCDA-4 CONTD setback requirements by the County, State of Federal agency's. There seems to be no reasonable reason why with the raising of Shasta Dam, the Department of the Interior, Bureau of Reclamation, and US Forest Service should not open up new private property for both residents and business of Lakehead to mitigate the losses as described above.

LCDA-5

LCDA-6 There must have been provisions for private land along the edge of Lake Shasta when the original dam was built as much of Lakehead as seen today was developed in the 50's 60's and 70's subsequent to the dam being built. Many of the homes that will be lost have been here for 50 years or more and to just say to these property owners and the community that we will have no opportunities to rebuild our homes and businesses to serve a thriving community is irresponsible, and should be a valid mitigation consideration.

LCDA-7

LCDA-8 With the EIS stated increased population of the State of California and the need for increased recreation opportunities, it does not make sense that we will have fewer resorts and businesses serving the needs of the visitors to Shasta Lake. The US Forest Service has stated publicly that there will be fewer but bigger resorts. This seems short sighted and a desire for the US Forest Service to control all resorts as they will be on Federal Land vs private.

LCDA-9 When the Draft Environmental Impact Study was released in 2011 the Lakehead Community Development Association formed a Stakeholders Committee made up of Citizens and Business owners to cooperatively work with the Bureau of Reclamation and USFS in the process of this study. While the BOR has been cooperative holding meetings and providing information on the progress of the study, we have not received any cooperation in regard to many of the very important issue that have been raised at these meetings to include losing a significant portion of the town of Lakehead, it's citizens and businesses that have been vital to the success of our community.

LCDA-10 The US Congress, Bureau of Reclamation, and US Forest Service have a tremendous opportunity to mitigate the loss of citizens, businesses, jobs, and economy of both Lakehead and Shasta County with the opening of new private property. The raising of the dam will create a tremendous job of relocating roads, bridges, railroad crossings etc. To add to this project the opening of new private land for citizens to purchase and thus add to the opportunity of Lakehead to recover from the project for its citizens, businesses and economy. This would be both reasonable and responsible mitigation, and bring a positive result for a town that does not have to be devastated.

LCDA-11 The EIS states that there will be a need to relocate roads, bridges, railways, utilities, septic systems etc. but does not address the costs, or impact on additional homes and businesses. Not addressing these issues in the EIS leaves the report incomplete and the true impacts immeasurable. In meetings with the BOR, the need to address

LCDA-12 the major roads, utilities etc. within Lakehead have been loudly stated by the

LCDA-12 CONTD

community, but the response has only been that none of these issues will be addressed prior to the US Congress taking action to move forward with the raising of Shasta Dam. The community believes that the EIS would be in error to not address these issues and their impacts in the study without these issues being addressed.

LCDA-13

- We request that the Bureau of Reclamation and USFS address the negative impacts on the community of Lakehead, its citizens and private business owners to include the socio economic impacts. Further we request that the

LCDA-14

our government make allowances for new private property along the shoreline of Lake Shasta to mitigate the losses described herein. There is no need to lose 170 or more private homes and businesses when an opportunity is present to mitigate these losses by creating new lands, just as the USFS will create for their leased properties.

LCDA-15

- We request that the Bureau of Reclamation and USFS provide replacement lands for any and all lakeside resorts, and not just those on Forest Service leased land.

LCDA-16

- We request that the EIS address the revision of roads, access to homes, businesses, utilities, septic systems etc to show a truer impact on the community of Lakehead, and thus create opportunities for mitigation in its report to Congress.

LCDA-17

- Within the town of Lakehead there are several community water systems that serve neighborhoods. The impacts on these systems as they serve their respective communities needs to be studied, as the loss of numerous homes within a water company will impact their revenue stream for the whole community, or the elimination of wells servicing these communities due to new high water from the raising of Shasta Dam will create environmental impacts which have not been addressed.

LCDA-18

We believe that these issues and our comments for mitigation are reasonable and if responsibly considered will provide further support for the BOR to gain acceptance of raising Shasta Dam by the community of Lakehead.

Sincerely;

Joe Myers, President,
Lakehead Community Development Association

Responses to Comments from Lakehead Community Development Association

LCDA-1: Comment Noted.

LCDA-2: Please refer to Master Comment Response PLAR-1, "Effects to Private Residences and Businesses."

LCDA-3: Please refer to Master Comment Response SOCIOECON-1, "Socioeconomic Effects to Shasta Lake Vicinity."

LCDA-4: Please refer to Master Comment Response PLAR-1, "Effects to Private Residences and Businesses."

LCDA-5: Please refer to Master Comment Response PLAR-1, "Effects to Private Residences and Businesses."

LCDA-6: Please refer to Master Comment Response GEN-1, "Comment Included as Part of the Record."

LCDA-7: Please refer to Master Comment Response PLAR-1, "Effects to Private Residences and Businesses."

LCDA-8: Please refer to Master Comment Response REC-1, "Effects to Recreation at Shasta Lake."

LCDA-9: Please refer to Master Comment Response SOCIOECON-1, "Socioeconomic Effects to Shasta Lake Vicinity."

LCDA-10: Please refer to Master Comment Response REC-5, "Relocation of Private Recreation Facilities" and Master Comment Response PLAR-1, "Effects to Private Residences and Businesses."

LCDA-11: Details regarding the modification and relocations of roads, bridges, railroads, utilities, and septic systems can be found in the DEIS Engineering Summary Appendix, Chapter 4. All costs for the modification and relocations are included in the cost estimates and can be found in the DEIS Appendices Engineering Summary Appendix Chapter 5 and in Attachments 1-4. See also Master Comment Response SOCIOECON-1, "Socioeconomic Effects to Shasta Lake Vicinity."

LCDA-12: Please refer to Master Comment Response REC-5, "Relocation of Private Recreation Facilities," Master Comment Response RBR-2, "Reduced Public Access Around Shasta Lake," and Master Comment Response PLAR-1, "Effects to Private Residences and Businesses."

LCDA-13: Please refer to Master Comment Response SOCIOECON-1, "Socioeconomic Effects to Shasta Lake Vicinity."

LCDA-14: Please refer to Master Comment Response PLAR-1, "Effects to Private Residences and Businesses."

LCDA-15: Please refer to Master Comment Response REC-5, "Relocation of Private Recreation Facilities."

LCDA-16: Please refer to Master Comment Response RBR-2, "Reduced Public Access Around Shasta Lake," and Master Comment Response SOCIOECON-1, "Socioeconomic Effects to Shasta Lake Vicinity."

LCDA-17: Please refer to Master Comment Response UR-1, "Effects to Water and Wastewater Infrastructure around Shasta Lake."

LCDA-18: Comment Noted.